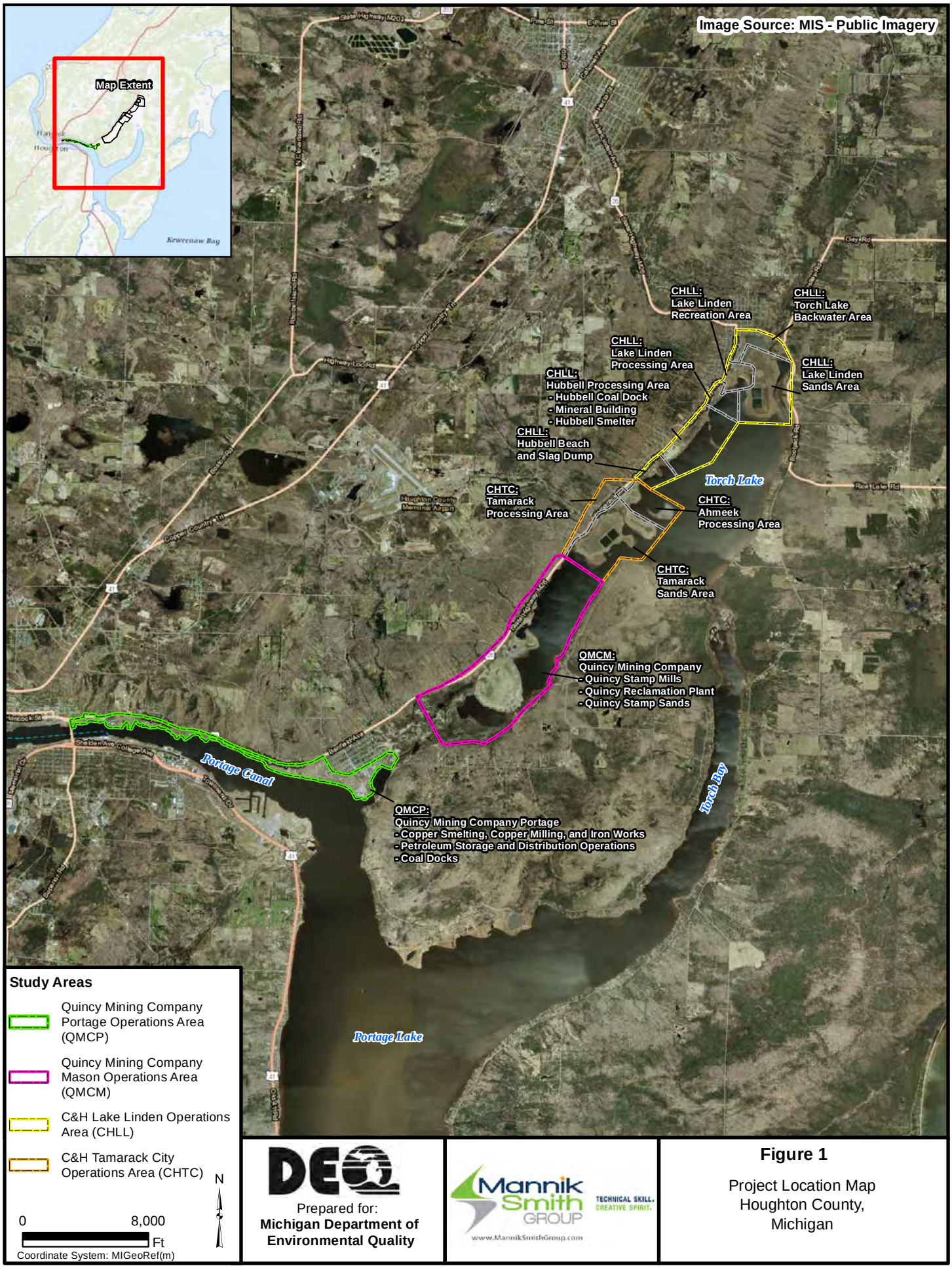

Prepared for:
Michigan Department of Environmental Quality

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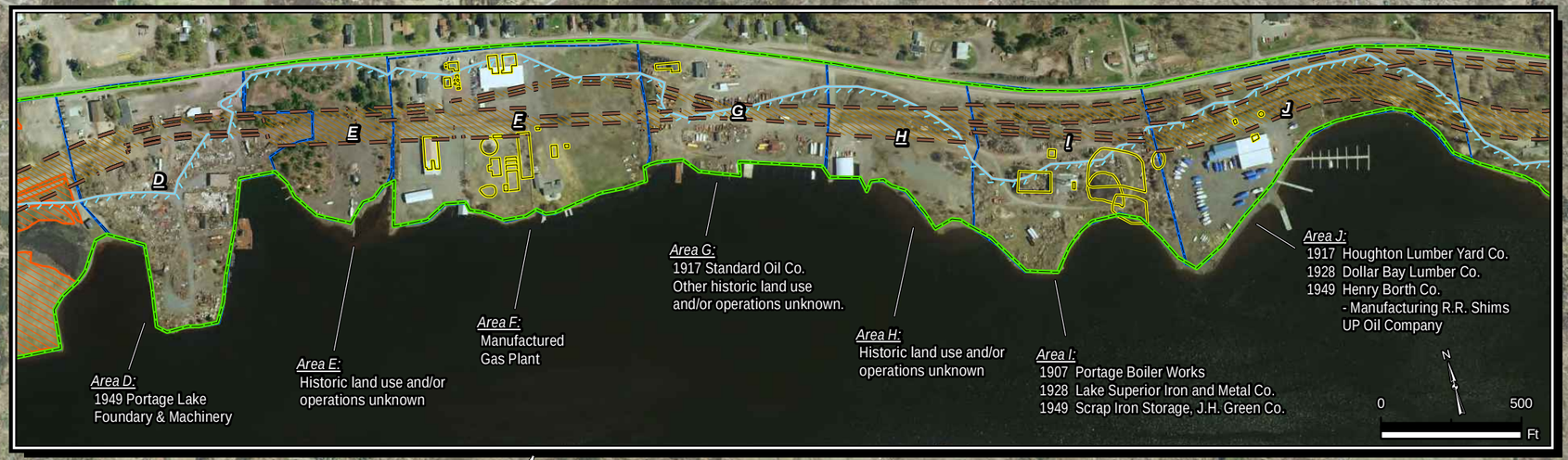
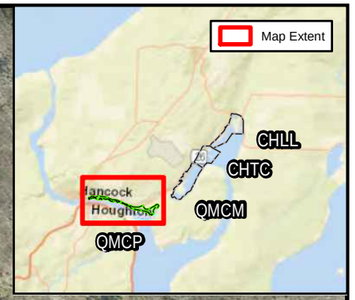
Figure 1

Project Location Map
Houghton County,
Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190102_QMCP_SI_Report\Fig1_QMCP_Project_Location_v20190129.mxd 8:14:40 AM 1/29/2019 amiller

Image Source: MIS - Public Imagery





HANCOCK

RIPLEY

HOUGHTON

DOLLAR BAY

Portage Bridge

Portage Canal

Area C:
Quincy Smelting Works

Area K:
1907 Tamarack & Osceola Mining Co.
1917 Calumet & Hecla Mining Co. Coal Dock

Area L:
Bulk Oil Storage
Other historic land use
and/or operations unknown.

Area M:
1928 Lake Superior Smelting Co.
1949 Ice Houses

Area N:
1907 Tamarack & Osceola Copper Manufacturing Co.
1928 John A Roebling's Sons Copper Manufacturing
1949 Foley Copper Products Co. Copper Wire Mill

Area O:
1907 Dollar Bay Land and Improvement Co.
1917 Dollar Bay Lumber Co.
1949 Dollar Bay Lumber Co. Saw Mill & Lumber Yard
Horner Flooring Co. Wood Flooring Mill

Area P:
1917 Slag Dump,
Lake Superior Smelting Co.

Copper Heritage Trail ROW
1865 Shoreline
QMCP Study Area Boundary
Approximate Parcel Boundaries
Features Identified on Sanborn Maps
EPA Cap Boundary

Notes:
Historic land use and/or operations refer to noted years on available Sanborn Maps.

N
0
1,500
Ft
Coordinate System: MIGeoRef(m)

Prepared for:
Michigan Department of Environmental Quality

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Figure 2
Area Features Map
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190102_QMCP_SI_Report\Fig2_QMCP_Area_Features_Map_v20190207.mxd 9:59:33 AM, 2/7/2019, KBrown

AREA D
- 1949 Portage Lake Foundry & Machinery

DATA SOURCES

Sample IDs	Date Range
1) **QMCP-ASBBLK...**	**September 2018 - July 2019**

-EGLE RRD. *SI results not published.*

- Sample with Asbestos Greater than 1%
- Sample with Asbestos Not Detected

- 1865 Shoreline
- Copper Heritage Trail ROW
- Feature Identified on Sanborn Maps
- Approximate Parcel Boundaries
- EPA Cap Boundary
- QMCP Study Area Boundary
- Updated Aerial Imagery Extent (26 June 2019)

N

0 125 Ft

Coordinate System: MIGeoRef(m)

Notes:
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)

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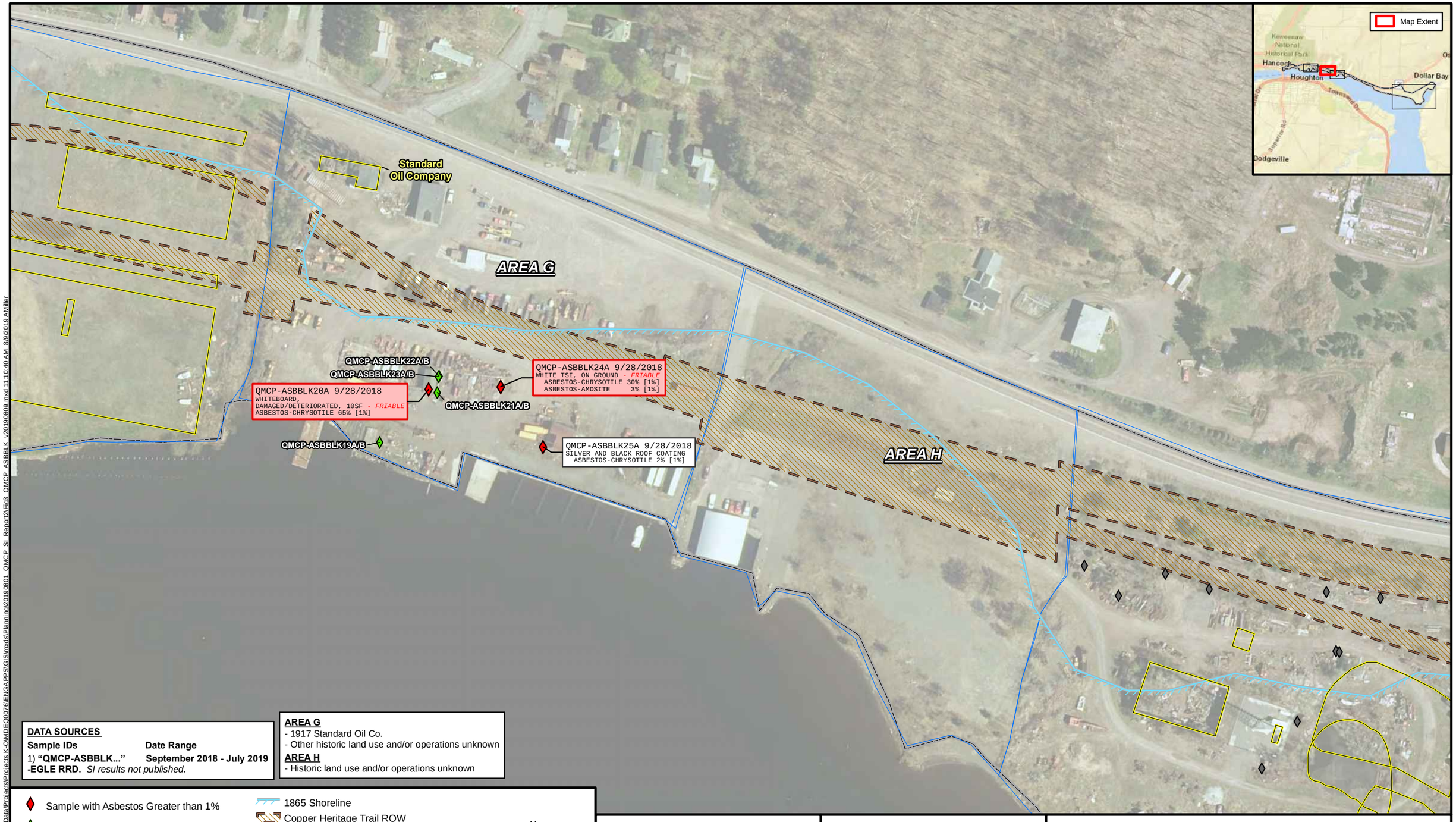
Figure 3-a ***DRAFT***

Sample Analytical Result Map - Suspect Asbestos Containing Material
Area D
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: \\MSGFILESRV\MSGData\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig3_QMCP_ASBBLK_v20190809.mxd 11:09:44 AM 8/9/2019 AMiller



DATA SOURCES

Sample IDs	Date Range
1) **"QMCP-ASBBLK..." -EGLE RRD.** *SI results not published.*	**September 2018 - July 2019**

AREA G
- 1917 Standard Oil Co.
- Other historic land use and/or operations unknown

AREA H
- Historic land use and/or operations unknown

- Sample with Asbestos Greater than 1%
- Sample with Asbestos Not Detected
- Sample Results Displayed on Another Figure

- 1865 Shoreline
- Copper Heritage Trail ROW
- Feature Identified on Sanborn Maps
- Approximate Parcel Boundaries
- QMCP Study Area Boundary

Notes:
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)

N

0 125 Ft

Coordinate System: MIGeoRef(m)

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Figure 3-b ***DRAFT***

Sample Analytical Result Map - Suspect Asbestos Containing Material Areas G-H

Quincy Mining Company Portage Operations Area

Houghton County, Michigan

FILE: \\MSGFILESRV\MSGData\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig3_QMCP_ASBBLK_v20190809.mxd 11:10:40 AM 8/9/2019 AMiller

QMCP-ASBBLK26A 9/28/2018
BLACK AND WHITE PIPE WRAP - *FRIABLE*
ASBESTOS-CHRYSOTILE 30% [1%]

QMCP-ASBBLK28A 9/28/2018
BEIGE TSI, DETERIORATED, 6SF PILE - *FRIABLE*
ASBESTOS-CHRYSOTILE 70% [1%]

QMCP-ASBBLK29A 9/28/2018
GASKET, 3SF
ASBESTOS-CHRYSOTILE 50% [1%]

QMCP-ASBBLK35A 9/28/2018
BLACK CORRUGATED MATERIAL
ASBESTOS-CHRYSOTILE 40% [1%]

QMCP-ASBBLK27A 9/28/2018
GASKET MATERIAL - *FRIABLE*
ASBESTOS-CHRYSOTILE 60% [1%]

QMCP-ASBBLK39A 9/28/2018
TRANSITE TILE
ASBESTOS-CHRYSOTILE 5% [1%]

QMCP-ASBBLK36A/B
QMCP-ASBBLK30A/B
QMCP-ASBBLK31A/B
QMCP-ASBBLK32A/B
QMCP-ASBBLK33A/B
QMCP-ASBBLK34A/B
QMCP-ASBBLK38A/B
QMCP-ASBBLK37A/B

AREA I
AREA J
Fuel
Boiler House
Slag Pile 4'
Furnace
Slag Pile
Slag Pile
Slag Pile 4'
Oil House
Iron Refuse Burner and Spark Arrestor
Dutch Oven

DATA SOURCES

Sample IDs	Date Range
1) **"QMCP-ASBBLK..." -EGLE RRD.**	**September 2018 - July 2019**

SI results not published.

AREA I
- 1907 Portage Boiler Works
- 1928 Lake Superior Iron and Metal Co.
- 1949 A& Scrap Iron Storage, J.H. Green Co.

AREA J
- 1917 Houghton Lumber Yard Co
- 1928 Dollar Bay Lumber Co.
- 1928 Henry Borth Co. Manufacturing R.R. Shims
  UP Oil Company

Sample with Asbestos Greater than 1%
Sample with Asbestos Not Detected
1865 Shoreline
Copper Heritage Trail ROW
Feature Identified on Sanborn Maps
Approximate Parcel Boundaries
QMCP Study Area Boundary

Notes:
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)

N
0 125 Ft
Coordinate System: MIGeoRef(m)

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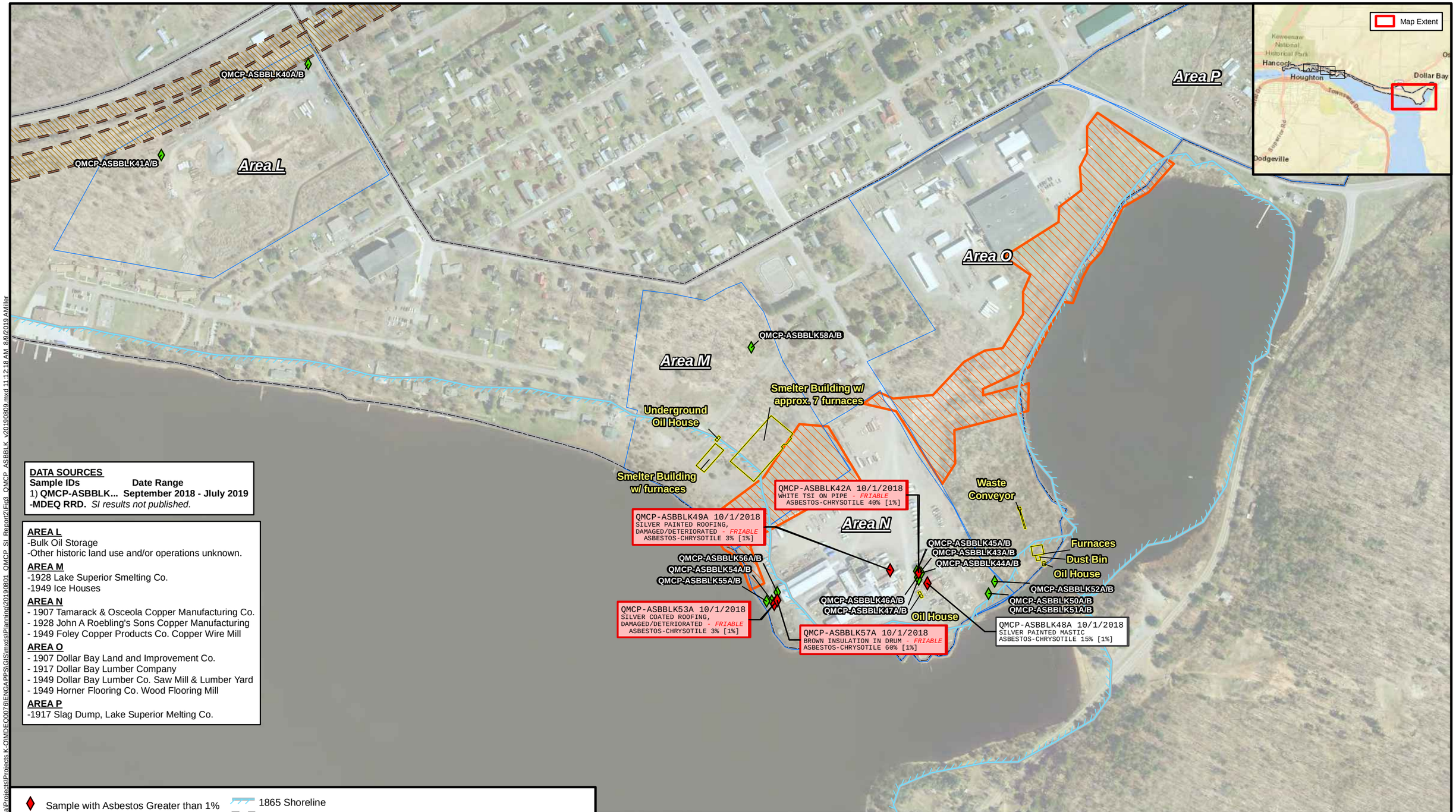
Figure 3-c ***DRAFT***
Sample Analytical Result Map - Suspect Asbestos Containing Material Areas I-J
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: \\MSGFILESRV\MSGData\Projects\Projects K,O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig3_QMCP_ASBBLK_v20190809.mxd 11:11:36 AM, 8/9/2019 AMiller



DATA SOURCES

Sample IDs	Date Range
1) **QMCP-ASBBLK...**	**September 2018 - Jluly 2019**

-MDEQ RRD. *SI results not published.*

AREA L
-Bulk Oil Storage
-Other historic land use and/or operations unknown.

AREA M
-1928 Lake Superior Smelting Co.
-1949 Ice Houses

AREA N
- 1907 Tamarack & Osceola Copper Manufacturing Co.
- 1928 John A Roebling's Sons Copper Manufacturing
- 1949 Foley Copper Products Co. Copper Wire Mill

AREA O
- 1907 Dollar Bay Land and Improvement Co.
- 1917 Dollar Bay Lumber Company
- 1949 Dollar Bay Lumber Co. Saw Mill & Lumber Yard
- 1949 Horner Flooring Co. Wood Flooring Mill

AREA P
-1917 Slag Dump, Lake Superior Melting Co.

- Sample with Asbestos Greater than 1%
- Sample with Asbestos Not Detected
- 1865 Shoreline
- Copper Heritage Trail ROW
- Feature Identified on Sanborn Maps
- Approximate Parcel Boundaries
- EPA Cap Boundary
- QMCP Study Area Boundary

N

0 380 Ft

Coordinate System: MIGeoRef(m)

Notes:
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)

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Figure 3-d ***DRAFT***

Sample Analytical Result Map - Suspect Asbestos Containing Material Areas L-P

Quincy Mining Company Portage Operations Area

Houghton County, Michigan

FILE: \\MSGFILE-SRV\MSGData\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig3_QMCP_ASBBLK_v20190809.mxd 11:12:18 AM 8/9/2019 AMiller

QMCP-RPM03 9/19/2018
(0.5 ft)
ARSENIC 9.2 mg/kg [10]
LEAD 1,000 mg/kg [10,17]
MERCURY 0.35 mg/kg [18,19]

QMCP-RPM01 9/19/2018
(0.5 ft)
TOTAL PCBS 71,000 J ug/kg [10,17]

QMCP-SS284 07/22/19
(0 - 0.25 ft)
TOTAL PCBS 5,000 ug/kg [10,17]
LEAD (TCLP) 6.9 mg/l [20]

QMCP-RPM02 9/19/2018
TOTAL PCBS 10,200 J ug/kg [10,17]

QMCP-DM01 9/28/2018
(0.5 ft)

NAPHTHALENE (SVOC)	4,700 J	ug/kg [2]
BENZENE	3,700	ug/kg [2,4,5,11,18,19]
ETHYLBENZENE	8,000	ug/kg [2,4,11,18,19]
NAPHTHALENE (VOC)	4,700	ug/kg [2]
STYRENE	1,800	ug/kg [2]
TOLUENE	5,900	ug/kg [2,18]
XYLENE - TOTAL	620 J	ug/kg [18]

QMCP-SS278 07/22/19
(0 - 0.25 ft)
LEAD (TCLP) 120 mg/l [20]

QMCP-RPM04 9/28/2018

Julio 12/4/1995

QMCP-RPM05 9/28/2018

ANTHRACENE	85,000 ug/kg [4,11]
BENZO(A)ANTHRACENE	240,000 ug/kg [10,17]
FLUORANTHENE	530,000 ug/kg [2]
PHENANTHRENE	250,000 ug/kg [2,4,6,7,8,11,13,14,15]
PYRENE	510,000 ug/kg [4,11]

AREA A
AREA B (North)
AREA B (South)
AREA C
AREA D
AREA E
AREA F
AREA G
AREA H
AREA I
AREA J

Area A
1-25 gallon containers: 5
55 gallon drums: 3

Area B
AST/USTs: 1

Area C
Abandoned containers not observed.

Area D
1-25 gallon containers: 39
35-40 gallon containers: 5
55 gallon drums: 391
>55 gallon drums: 3
Fuel Tanks: 71
AST/USTs: 102
Pressurized Vessels/Compressed Cylinder: 57

Area E
Abandoned containers not observed.

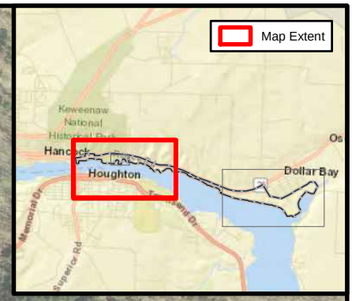
Area F
Abandoned containers not observed.

Area G
1-25 gallon containers: 8
35-40 gallon containers: 9
55 gallon drums: 43
Fuel Tanks: 2
AST/USTs: 6
Pressurized Vessels/Compressed Cylinder: 1

Area H
Abandoned containers not observed.

Area I
55 gallon drums: 16
>55 gallon drums: 1
Fuel Tanks: 7
AST/USTs: 45
Pressurized Vessels/Compressed Cylinder: 1

Area J
Abandoned containers not observed.



DATA SOURCES

Sample IDs	Date Range
1) **QMCP...**	**2018 - 2019**
-EGLE RRD. *SI results not published*	

- RPM Sample with Results Greater than Criteria
- RPM Sample with Results Less than Criteria
- Abandoned Container Sample with Results Greater than Criteria
- Abandoned Container Sample with all Results Less than Criteria
- Waste Sample with Results Greater than Criteria
- Waste Sample with Results Less than Criteria
- Approximate Compressed Cylinder Observation Location
- 1865 Shoreline
- Copper Heritage Trail ROW
- Feature Identified on Sanborn Maps
- Approximate Parcel Boundaries
- EPA Cap Boundary
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *mg/kg = milligrams per kilogram*
- *mg/l = milligrams per liter*
- *ug/kg = micrograms per kilogram*
- RPM = Residual Process Material
- TCLP = Toxicity Characteristic Leaching Procedure
- Underlying Imagery from Michigan Imagery Solution (Houghton - 2013)

N
0 560 Ft
Coordinate System: MIGeoRef(m)

EGLE Part 201 Cleanup Criteria for Response Action
[1]=Statewide Default Background Level
[2]*=Groundwater Surface Water Interface Protection Criteria
[3]=Soil Saturation Concentration Screening Levels
[4]*=Residential Drinking Water Protection Criteria
[5]=Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
[6]=Residential Infinite Source Volatile Soil Inhalation Criteria
[7]=Residential Finite VSIC for 5 Meter Source Thickness
[8]=Residential Finite VSIC for 2 Meter Source Thickness
[9]=Residential Particulate Soil Inhalation Criteria
[10]=Residential Direct Contact Criteria
[11]*=Nonresidential Drinking Water Protection Criteria
[12]=Nonresidential Soil Volatilization to Indoor Air Inhalation
[13]=Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14]=Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]=Nonresidential Finite VSIC for 2 Meter Source Thickness
[16]=Nonresidential Particulate Soil Inhalation Criteria
[17]=Nonresidential Direct Contact Criteria
Volatilization to Indoor Air Interm Action Screening Levels (Aug 2017)
[18]=Soil Residential RIASL (Interim Aug 2017)
[19]=Soil Non-Residential RIASL (Interim Aug 2017)
Title 40 CFR, Chapter 1, Section 261.20-24
[20]=Hazardous Waste Toxicity Screening Values
* Exceedances of criteria 2, 4, and 11 shown for organics and cyanide only
Evaluation based on EGLE Criteria at time of Project completion

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Figure 4-a **DRAFT**
Sample Analytical Result Map - Residual Process Material, Abandoned Container, and Waste - Areas A-J
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190809_QMCP_SI_Report2\Fig4_QMCP_RPM_AC_Waste_v20190809(P1_3of4).mxd 9:17:14 AM 08/09/19 KBrown

FILE: W:\Projects\Projects K-O\MDEQ\0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig4_QMCP_RPM_AC_Waste_v20190809(P1_3o14).mxd 10:54:45 AM 08/09/19 KBrown

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

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Figure 4-a1 *DRAFT*

Sample Analytical Result Map - Residual Process Material, Abandoned Container, and Waste - Area D

Quincy Mining Company Portage Operations Area

Houghton County, Michigan

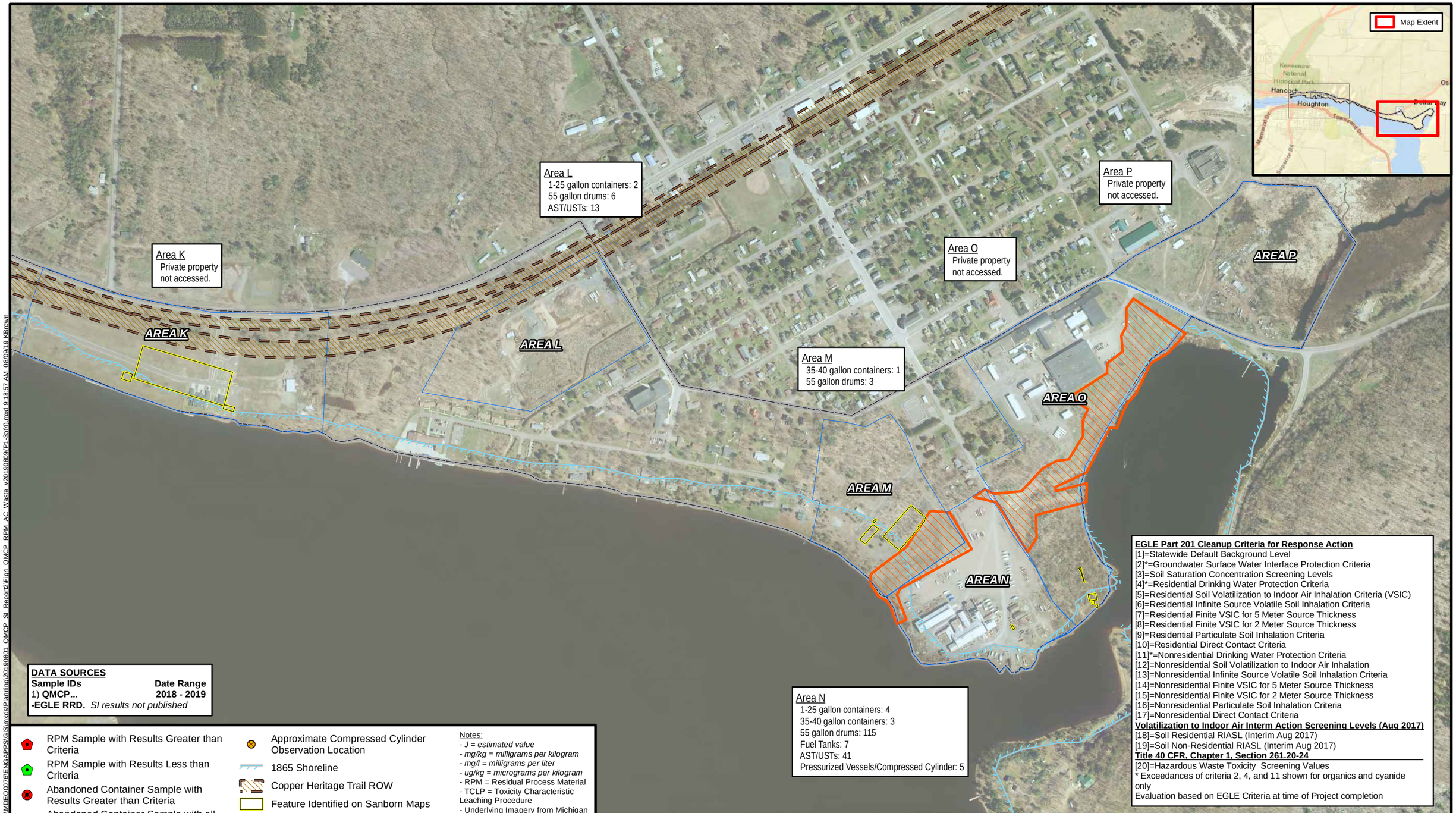

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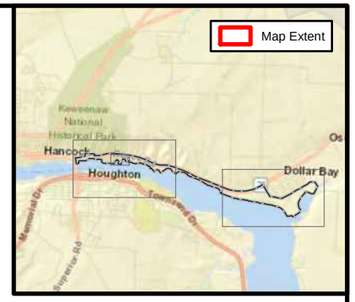
Figure 4-b *DRAFT*

Sample Analytical Result Map - Residual Process Material, Abandoned Container, and Waste - Areas K-O
Quincy Mining Company Portage Operations Area
Houghton County, Michigan



AREA	Year	Historical Operations
A	1907, 1917, 1928, 1949	Copper Range Passenger Depot (to the west)
	1907	Lake Superior Smelting Co. "vacant" (to the east)
	1917	H.S. Goodell Distributing Station for Lubricating Oils
	1928, 1949	H.S. Goodell & Co. Bulk Oil Station
B (South)	1907	Lake Superior Iron Works
	1917, 1928	Portage Lake Foundry & Machinery Co.
	1949	Houghton Co. Road Comission
B (North)	1907, 1917, 1928	Store House, dwellings
	1949	Filling Station
C	1907, 1917, 1928, 1949	QSW
D	1907, 1917, 1928, 1949	Portage Lake Foundry & Machinery
E		Historic land use and/or operations unknown.
F	1907, 1917	Houghton Co. Gas & Coke Co. (to the west)
		Portage Coal & Dock Co. (to the east)
		Ward & Williams Brass Furnace (to the north)
	1928	Michigan Gas & Electric Co. Gas Plant (to the west)
		Portage Coal & Dock Co. (to the east)
		Ward & Williams Brass Furnace (to the north)
	1949	Michigan Gas & Electric Co. Gas Plant (to the west)
		Superior Bottled Gas Co. (to the east)
		Ward Brass Furnace (to the north)
		Standard Oil CO. (to the northeast)
		Filling Station and Bulk Oil Station (to the northwest)
G	1917	Standard Oil Company
		Other historic land use and/or operations unknown.
H		Historic land use and/or operations unknown
I	1907	Portage Boiler Works
	1917, 1928	Lake Superior Iron and Metal Co.
	1949	Scrap Iron Storage, J.H. Green Co. (Scrap Iron Yard)
J	1907, 1917	Houghton Lumber Yard Co
	1928	Dollar Bay Lumber Co.
	1949	Henry Borth Co. Manufacturing R.R. Shims, UP Oil Company
K	1907	Tamarack & Osceola Mining Co.
	1917	Calumet & Hecla Mining Co. Coal Dock
	1928, 1949	not found
L		Bulk Oil Storage
		Other historic land use and/or operations unknown.
M	1907, 1917, 1928	Lake Superior Smelting Co.
	1949	Ice Houses
N	1907	Tamarack & Osceola Copper Manufacturing Co.
	1917, 1928	John A Roebling's Sons Copper Manufacturing
	1949	Foley Copper Products Co. Copper Wire Mill
O	1907	Dollar Bay Land and Improvement Co.
	1917	Dollar Bay Lumber Company
	1928, 1949	Dollar Bay Lumber Co. Saw Mill & Lumber Yard
	1949	Horner Flooring Co. Wood Flooring Mill
P	1917	Slag Dump, Lake Superior Melting Co.

Notes:
- *Historic opeations based on Sanborn Map review*

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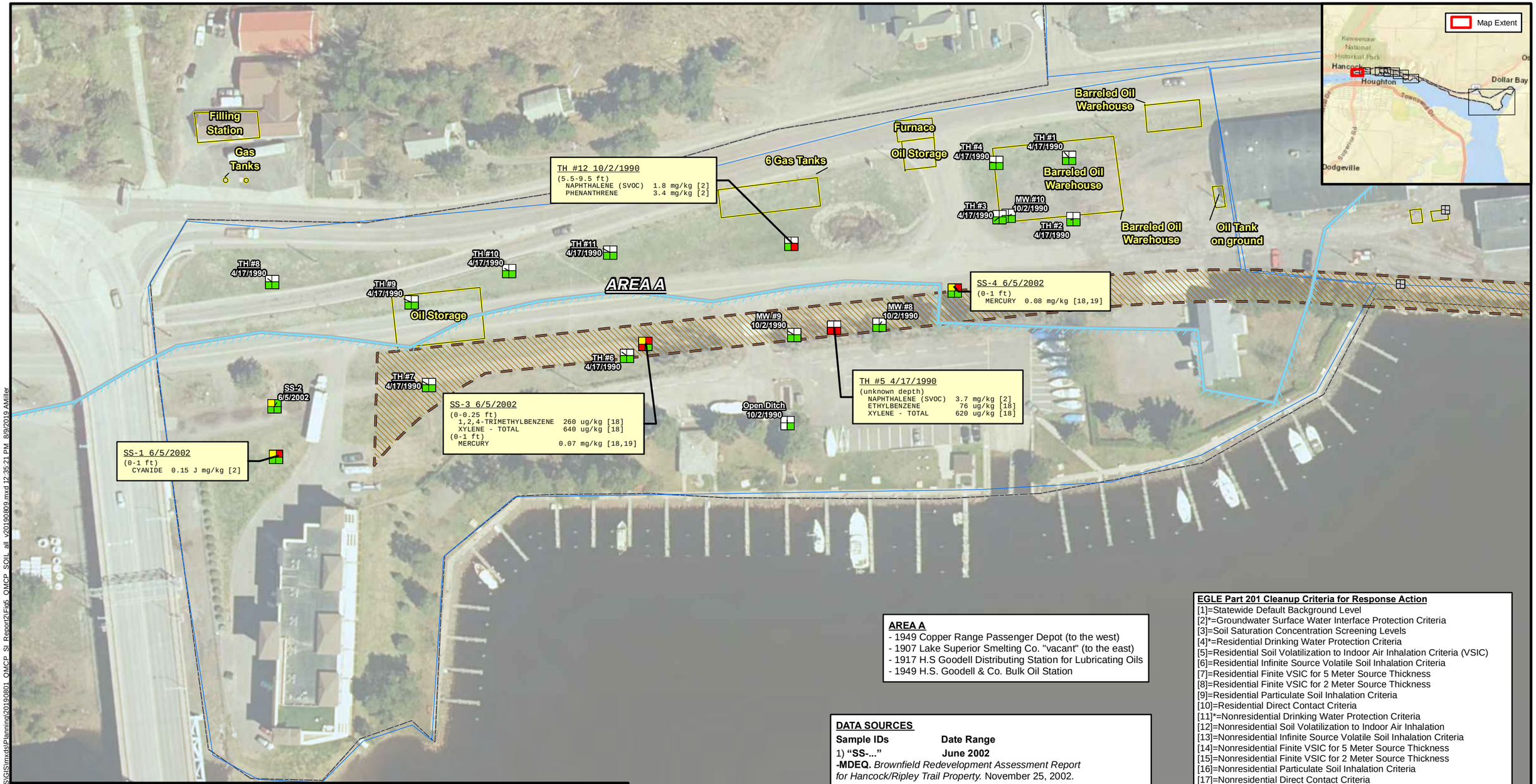
Figure 4-c
Sample Analytical Result Map - Residual Process Material, Abandoned Container, and Waste - Notes
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

DRAFT



PCBs
VOCs
Inorganics / Cyanide
SVOCs

- At Least One Exceedance for Indicated Parameter Group
- No Exceedances for Indicated Parameter Group
- At Least One Detection of PCBs
- PCBs Not Detected
- Indicated Parameter Group Not Analyzed

- Sample Results Displayed on Another Figure
- 1865 Shoreline
- Copper Heritage Trail ROW
- Approximate Parcel Boundaries
- Features Idenitfied on Sanborn Maps
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *mg/kg = milligrams per kilogram*
- *ug/kg = micrograms per kilogram*
- ** = result is from cleanup run*
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)

N
0 90 Ft
Coordinate System: MIGeoRef(m)

AREA A
- 1949 Copper Range Passenger Depot (to the west)
- 1907 Lake Superior Smelting Co. "vacant" (to the east)
- 1917 H.S Goodell Distributing Station for Lubricating Oils
- 1949 H.S. Goodell & Co. Bulk Oil Station

DATA SOURCES

Sample IDs	Date Range
1) **"SS-..."**	**June 2002**

-MDEQ. *Brownfield Redevelopment Assessment Report for Hancock/Ripley Trail Property.* November 25, 2002.

2) **"TH#..."** **April – October 1990**

-M-DOT Geoenvironmental Services Unit Materials & Technology Division. *Michigan Department of Transportation M-DOT M-26, Ripley, Houghton County Hydrogeological Investigation.* April 18, 1991.

EGLE Part 201 Cleanup Criteria for Response Action
[1]=Statewide Default Background Level
[2]*=Groundwater Surface Water Interface Protection Criteria
[3]=Soil Saturation Concentration Screening Levels
[4]*=Residential Drinking Water Protection Criteria
[5]=Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
[6]=Residential Infinite Source Volatile Soil Inhalation Criteria
[7]=Residential Finite VSIC for 5 Meter Source Thickness
[8]=Residential Finite VSIC for 2 Meter Source Thickness
[9]=Residential Particulate Soil Inhalation Criteria
[10]=Residential Direct Contact Criteria
[11]*=Nonresidential Drinking Water Protection Criteria
[12]=Nonresidential Soil Volatilization to Indoor Air Inhalation
[13]=Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14]=Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]=Nonresidential Finite VSIC for 2 Meter Source Thickness
[16]=Nonresidential Particulate Soil Inhalation Criteria
[17]=Nonresidential Direct Contact Criteria
Volatilization to Indoor Air Interm Action Screening Levels (Aug 2017)
[18]=Soil Residential RIASL (Interim Aug 2017)
[19]=Soil Non-Residential RIASL (Interim Aug 2017)
* Exceedances of criteria 2, 4, and 11 shown for organics and cyanide only
Evaluation based on EGLE Criteria at time of Project completion

EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

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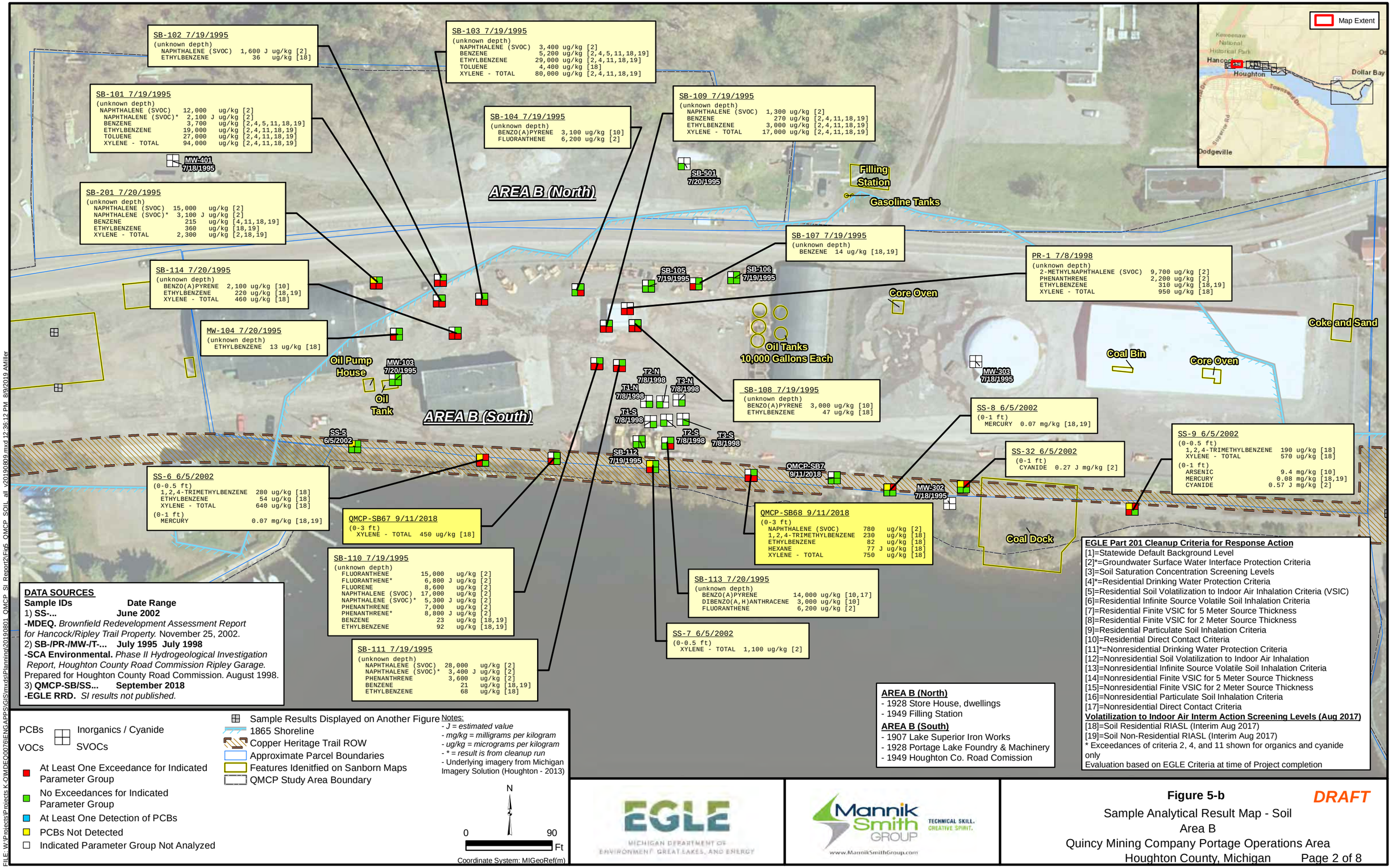
Figure 5-a *DRAFT*

Sample Analytical Result Map - Soil
Area A
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig5_QMCP_SOIL_all_v20190809.mxd 8/9/2019 AMiller



DATA SOURCES

Sample IDs **Date Range**

1) **SS-...** **June 2002**
-MDEQ. *Brownfield Redevelopment Assessment Report for Hancock/Ripley Trail Property.* November 25, 2002.

2) **SB-/PR-/MW-/T-... July 1995 July 1998**
-SCA Environmental. *Phase II Hydrogeological Investigation Report, Houghton County Road Commission Ripley Garage.* Prepared for Houghton County Road Commission. August 1998.

3) **QMCP-SB/SS... September 2018**
-EGLE RRD. *SI results not published.*

PCBs / VOCs / Inorganics / Cyanide / SVOCs

- At Least One Exceedance for Indicated Parameter Group
- No Exceedances for Indicated Parameter Group
- At Least One Detection of PCBs
- PCBs Not Detected
- Indicated Parameter Group Not Analyzed

- Sample Results Displayed on Another Figure
- 1865 Shoreline
- Copper Heritage Trail ROW
- Approximate Parcel Boundaries
- Features Idenitfied on Sanborn Maps
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *mg/kg = milligrams per kilogram*
- *ug/kg = micrograms per kilogram*
- ** = result is from cleanup run*
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)

N
0 90 Ft
Coordinate System: MIGeoRef(m)

AREA B (North)
- 1928 Store House, dwellings
- 1949 Filling Station

AREA B (South)
- 1907 Lake Superior Iron Works
- 1928 Portage Lake Foundry & Machinery
- 1949 Houghton Co. Road Comission

EGLE Part 201 Cleanup Criteria for Response Action
[1]=Statewide Default Background Level
[2]*=Groundwater Surface Water Interface Protection Criteria
[3]=Soil Saturation Concentration Screening Levels
[4]*=Residential Drinking Water Protection Criteria
[5]=Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
[6]=Residential Infinite Source Volatile Soil Inhalation Criteria
[7]=Residential Finite VSIC for 5 Meter Source Thickness
[8]=Residential Finite VSIC for 2 Meter Source Thickness
[9]=Residential Particulate Soil Inhalation Criteria
[10]=Residential Direct Contact Criteria
[11]*=Nonresidential Drinking Water Protection Criteria
[12]=Nonresidential Soil Volatilization to Indoor Air Inhalation
[13]=Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14]=Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]=Nonresidential Finite VSIC for 2 Meter Source Thickness
[16]=Nonresidential Particulate Soil Inhalation Criteria
[17]=Nonresidential Direct Contact Criteria
Volatilization to Indoor Air Interm Action Screening Levels (Aug 2017)
[18]=Soil Residential RIASL (Interim Aug 2017)
[19]=Soil Non-Residential RIASL (Interim Aug 2017)
* Exceedances of criteria 2, 4, and 11 shown for organics and cyanide only
Evaluation based on EGLE Criteria at time of Project completion

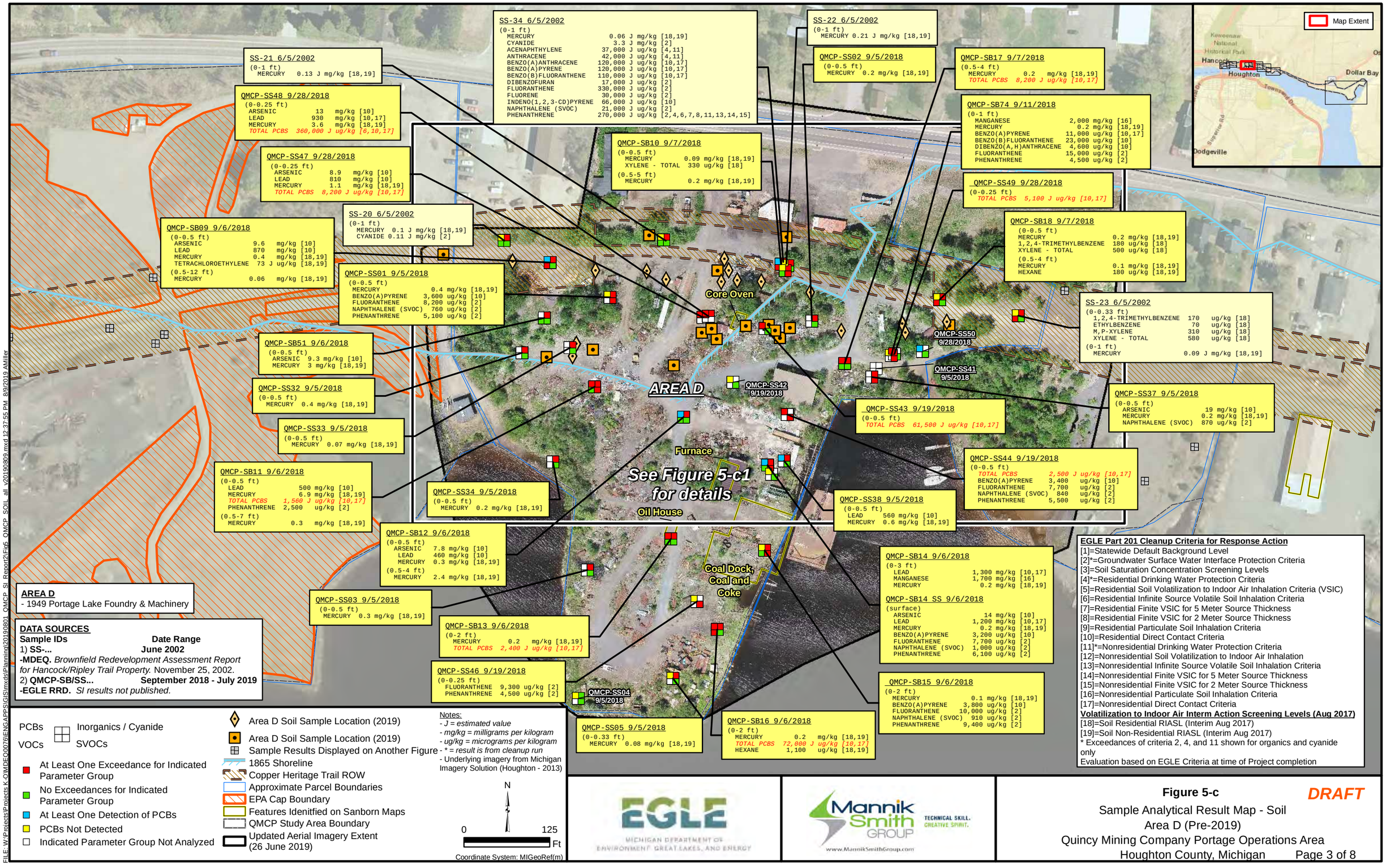
EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

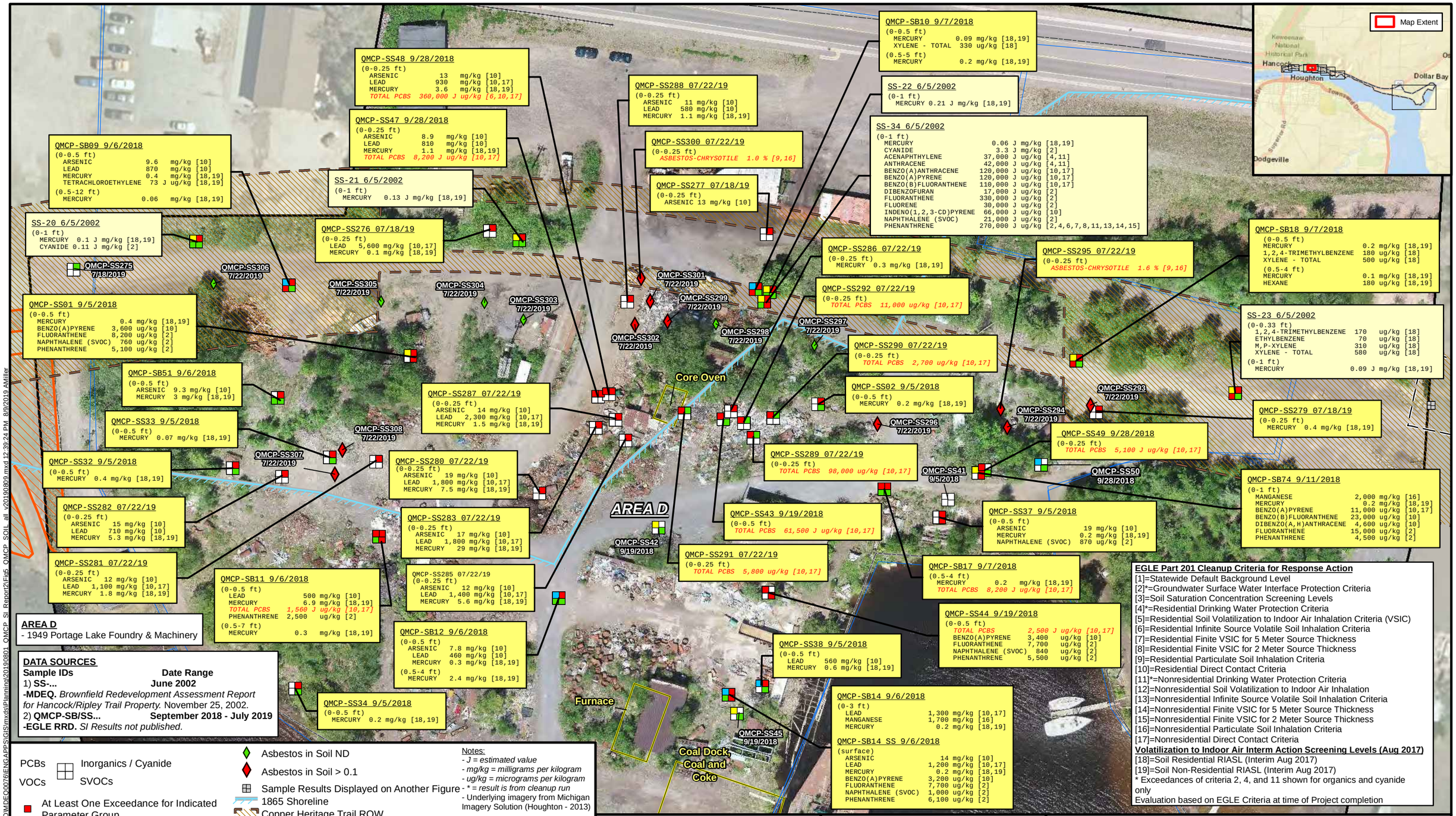
Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT. www.MannikSmithGroup.com

Figure 5-b *DRAFT*

Sample Analytical Result Map - Soil
Area B
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig5_QMCP_SOIL_all_v20190809.mxd 12:36:12 PM 8/9/2019 AMiller


SS-34 6/5/2002
(0-1 ft)
MERCURY 0.06 J mg/kg [18,19]
CYANIDE 3.3 J mg/kg [2]
ACENAPHTHYLENE 37,000 J ug/kg [4,11]
ANTHRACENE 42,000 J ug/kg [4,11]
BENZO(A)ANTHRACENE 120,000 J ug/kg [10,17]
BENZO(A)PYRENE 120,000 J ug/kg [10,17]
BENZO(B)FLUORANTHENE 110,000 J ug/kg [10,17]
DIBENZOFURAN 17,000 J ug/kg [2]
FLUORANTHENE 330,000 J ug/kg [2]
FLUORENE 30,000 J ug/kg [2]
INDENO(1,2,3-CD)PYRENE 66,000 J ug/kg [10]
NAPHTHALENE (SVOC) 21,000 J ug/kg [2]
PHENANTHRENE 270,000 J ug/kg [2,4,6,7,8,11,13,14,15]
SS-22 6/5/2002
(0-1 ft)
MERCURY 0.21 J mg/kg [18,19]
QMCP-SS02 9/5/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]
QMCP-SB17 9/7/2018
(0.5-4 ft)
MERCURY 0.2 mg/kg [18,19]
TOTAL PCBS 8,200 J ug/kg [10,17]
SS-21 6/5/2002
(0-1 ft)
MERCURY 0.13 J mg/kg [18,19]
QMCP-SS48 9/28/2018
(0-0.25 ft)
ARSENIC 13 mg/kg [10]
LEAD 930 mg/kg [10,17]
MERCURY 3.6 mg/kg [18,19]
TOTAL PCBS 360,000 J ug/kg [6,10,17]
QMCP-SB74 9/11/2018
(0-1 ft)
MANGANESE 2,000 mg/kg [16]
MERCURY 0.2 mg/kg [18,19]
BENZO(A)PYRENE 11,000 ug/kg [10,17]
BENZO(B)FLUORANTHENE 23,000 ug/kg [10]
DIBENZO(A,H)ANTHRACENE 4,600 ug/kg [10]
FLUORANTHENE 15,000 ug/kg [2]
PHENANTHRENE 4,500 ug/kg [2]
QMCP-SB10 9/7/2018
(0-0.5 ft)
MERCURY 0.09 mg/kg [18,19]
XYLENE - TOTAL 330 ug/kg [18]
(0.5-5 ft)
MERCURY 0.2 mg/kg [18,19]
QMCP-SS47 9/28/2018
(0-0.25 ft)
ARSENIC 8.9 mg/kg [10]
LEAD 810 mg/kg [10]
MERCURY 1.1 mg/kg [18,19]
TOTAL PCBS 8,200 J ug/kg [10,17]
QMCP-SS49 9/28/2018
(0-0.25 ft)
TOTAL PCBS 5,100 J ug/kg [10,17]
SS-20 6/5/2002
(0-1 ft)
MERCURY 0.1 J mg/kg [18,19]
CYANIDE 0.11 J mg/kg [2]
QMCP-SB18 9/7/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]
1,2,4-TRIMETHYLBENZENE 180 ug/kg [18]
XYLENE - TOTAL 500 ug/kg [18]
(0.5-4 ft)
MERCURY 0.1 mg/kg [18,19]
HEXANE 180 ug/kg [18,19]
QMCP-SB09 9/6/2018
(0-0.5 ft)
ARSENIC 9.6 mg/kg [10]
LEAD 870 mg/kg [10]
MERCURY 0.4 mg/kg [18,19]
TETRACHLOROETHYLENE 73 J ug/kg [18,19]
(0.5-12 ft)
MERCURY 0.06 mg/kg [18,19]
QMCP-SS01 9/5/2018
(0-0.5 ft)
MERCURY 0.4 mg/kg [18,19]
BENZO(A)PYRENE 3,600 ug/kg [10]
FLUORANTHENE 8,200 ug/kg [2]
NAPHTHALENE (SVOC) 760 ug/kg [2]
PHENANTHRENE 5,100 ug/kg [2]
Core Oven
QMCP-SS50 9/28/2018
SS-23 6/5/2002
(0-0.33 ft)
1,2,4-TRIMETHYLBENZENE 170 ug/kg [18]
ETHYLBENZENE 70 ug/kg [18]
M,P-XYLENE 310 ug/kg [18]
XYLENE - TOTAL 580 ug/kg [18]
(0-1 ft)
MERCURY 0.09 J mg/kg [18,19]
QMCP-SB51 9/6/2018
(0-0.5 ft)
ARSENIC 9.3 mg/kg [10]
MERCURY 3 mg/kg [18,19]
QMCP-SS41 9/5/2018
AREA D
QMCP-SS42 9/19/2018
QMCP-SS43 9/19/2018
(0-0.5 ft)
TOTAL PCBS 61,500 J ug/kg [10,17]
QMCP-SS37 9/5/2018
(0-0.5 ft)
ARSENIC 19 mg/kg [10]
MERCURY 0.2 mg/kg [18,19]
NAPHTHALENE (SVOC) 870 ug/kg [2]
QMCP-SS32 9/5/2018
(0-0.5 ft)
MERCURY 0.4 mg/kg [18,19]
QMCP-SS33 9/5/2018
(0-0.5 ft)
MERCURY 0.07 mg/kg [18,19]
Furnace
See Figure 5-c1 for details
Oil House
QMCP-SS44 9/19/2018
(0-0.5 ft)
TOTAL PCBS 2,500 J ug/kg [10,17]
BENZO(A)PYRENE 3,400 ug/kg [10]
FLUORANTHENE 7,700 ug/kg [2]
NAPHTHALENE (SVOC) 840 ug/kg [2]
PHENANTHRENE 5,500 ug/kg [2]
QMCP-SB11 9/6/2018
(0-0.5 ft)
LEAD 500 mg/kg [10]
MERCURY 6.9 mg/kg [18,19]
TOTAL PCBS 1,560 J ug/kg [10,17]
PHENANTHRENE 2,500 ug/kg [2]
(0.5-7 ft)
MERCURY 0.3 mg/kg [18,19]
QMCP-SS34 9/5/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]
QMCP-SS38 9/5/2018
(0-0.5 ft)
LEAD 560 mg/kg [10]
MERCURY 0.6 mg/kg [18,19]
QMCP-SB12 9/6/2018
(0-0.5 ft)
ARSENIC 7.8 mg/kg [10]
LEAD 460 mg/kg [10]
MERCURY 0.3 mg/kg [18,19]
(0.5-4 ft)
MERCURY 2.4 mg/kg [18,19]
Coal Dock, Coal and Coke
QMCP-SB14 9/6/2018
(0-3 ft)
LEAD 1,300 mg/kg [10,17]
MANGANESE 1,700 mg/kg [16]
MERCURY 0.2 mg/kg [18,19]
QMCP-SB14 SS 9/6/2018
(surface)
ARSENIC 14 mg/kg [10]
LEAD 1,200 mg/kg [10,17]
MERCURY 0.2 mg/kg [18,19]
BENZO(A)PYRENE 3,200 ug/kg [10]
FLUORANTHENE 7,700 ug/kg [2]
NAPHTHALENE (SVOC) 1,000 ug/kg [2]
PHENANTHRENE 6,100 ug/kg [2]
QMCP-SS03 9/5/2018
(0-0.5 ft)
MERCURY 0.3 mg/kg [18,19]
QMCP-SB13 9/6/2018
(0-2 ft)
MERCURY 0.2 mg/kg [18,19]
TOTAL PCBS 2,400 J ug/kg [10,17]
QMCP-SB15 9/6/2018
(0-2 ft)
MERCURY 0.1 mg/kg [18,19]
BENZO(A)PYRENE 3,800 ug/kg [10]
FLUORANTHENE 10,000 ug/kg [2]
NAPHTHALENE (SVOC) 910 ug/kg [2]
PHENANTHRENE 9,400 ug/kg [2]
QMCP-SS46 9/19/2018
(0-0.25 ft)
FLUORANTHENE 9,300 ug/kg [2]
PHENANTHRENE 4,500 ug/kg [2]
QMCP-SS04 9/5/2018
QMCP-SS05 9/5/2018
(0-0.33 ft)
MERCURY 0.08 mg/kg [18,19]
QMCP-SB16 9/6/2018
(0-2 ft)
MERCURY 0.2 mg/kg [18,19]
TOTAL PCBS 72,000 J ug/kg [10,17]
HEXANE 1,100 ug/kg [18,19]
Map Extent
Keweenaw National Historical Park
Hancock
Houghton
Dollar Bay
Dodgeville
AREA D
- 1949 Portage Lake Foundry & Machinery
DATA SOURCES
Sample IDs Date Range
1) SS-... June 2002
-MDEQ. Brownfield Redevelopment Assessment Report for Hancock/Ripley Trail Property. November 25, 2002.
2) QMCP-SB/SS... September 2018 - July 2019
-EGLE RRD. SI results not published.
EGLE Part 201 Cleanup Criteria for Response Action
[1]=Statewide Default Background Level
[2]*=Groundwater Surface Water Interface Protection Criteria
[3]=Soil Saturation Concentration Screening Levels
[4]*=Residential Drinking Water Protection Criteria
[5]=Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
[6]=Residential Infinite Source Volatile Soil Inhalation Criteria
[7]=Residential Finite VSIC for 5 Meter Source Thickness
[8]=Residential Finite VSIC for 2 Meter Source Thickness
[9]=Residential Particulate Soil Inhalation Criteria
[10]=Residential Direct Contact Criteria
[11]*=Nonresidential Drinking Water Protection Criteria
[12]=Nonresidential Soil Volatilization to Indoor Air Inhalation
[13]=Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14]=Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]=Nonresidential Finite VSIC for 2 Meter Source Thickness
[16]=Nonresidential Particulate Soil Inhalation Criteria
[17]=Nonresidential Direct Contact Criteria
Volatilization to Indoor Air Interm Action Screening Levels (Aug 2017)
[18]=Soil Residential RIASL (Interim Aug 2017)
[19]=Soil Non-Residential RIASL (Interim Aug 2017)
* Exceedances of criteria 2, 4, and 11 shown for organics and cyanide only
Evaluation based on EGLE Criteria at time of Project completion
PCBs
VOCs
Inorganics / Cyanide
SVOCs
At Least One Exceedance for Indicated Parameter Group
No Exceedances for Indicated Parameter Group
At Least One Detection of PCBs
PCBs Not Detected
Indicated Parameter Group Not Analyzed
Area D Soil Sample Location (2019)
Area D Soil Sample Location (2019)
Sample Results Displayed on Another Figure
1865 Shoreline
Copper Heritage Trail ROW
Approximate Parcel Boundaries
EPA Cap Boundary
Features Idenitfied on Sanborn Maps
QMCP Study Area Boundary
Updated Aerial Imagery Extent (26 June 2019)
Notes:
- J = estimated value
- mg/kg = milligrams per kilogram
- ug/kg = micrograms per kilogram
- * = result is from cleanup run
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)
N
0
125
Ft
Coordinate System: MIGeoRef(m)
EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
Mannik Smith GROUP
TECHNICAL SKILL. CREATIVE SPIRIT.
www.MannikSmithGroup.com
Figure 5-c
DRAFT
Sample Analytical Result Map - Soil
Area D (Pre-2019)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan
Page 3 of 8
FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig5_QMCP_SOIL_all_v20190809.mxd 12:37:55 PM 8/9/2019 AMiller


QMCP-SB09 9/6/2018
(0-0.5 ft)
ARSENIC 9.6 mg/kg [10]
LEAD 870 mg/kg [10]
MERCURY 0.4 mg/kg [18,19]
TETRACHLOROETHYLENE 73 J ug/kg [18,19]
(0.5-12 ft)
MERCURY 0.06 mg/kg [18,19]
SS-20 6/5/2002
(0-1 ft)
MERCURY 0.1 J mg/kg [18,19]
CYANIDE 0.11 J mg/kg [2]
QMCP-SS275 7/18/2019
QMCP-SS01 9/5/2018
(0-0.5 ft)
MERCURY 0.4 mg/kg [18,19]
BENZO(A)PYRENE 3,600 ug/kg [10]
FLUORANTHENE 8,200 ug/kg [2]
NAPHTHALENE (SVOC) 760 ug/kg [2]
PHENANTHRENE 5,100 ug/kg [2]
QMCP-SB51 9/6/2018
(0-0.5 ft)
ARSENIC 9.3 mg/kg [10]
MERCURY 3 mg/kg [18,19]
QMCP-SS33 9/5/2018
(0-0.5 ft)
MERCURY 0.07 mg/kg [18,19]
QMCP-SS32 9/5/2018
(0-0.5 ft)
MERCURY 0.4 mg/kg [18,19]
QMCP-SS282 07/22/19
(0-0.25 ft)
ARSENIC 15 mg/kg [10]
LEAD 710 mg/kg [10]
MERCURY 5.3 mg/kg [18,19]
QMCP-SS281 07/22/19
(0-0.25 ft)
ARSENIC 12 mg/kg [10]
LEAD 1,100 mg/kg [10,17]
MERCURY 1.8 mg/kg [18,19]
AREA D
- 1949 Portage Lake Foundry & Machinery
DATA SOURCES
Sample IDs Date Range
1) SS-... June 2002
-MDEQ. Brownfield Redevelopment Assessment Report for Hancock/Ripley Trail Property. November 25, 2002.
2) QMCP-SB/SS... September 2018 - July 2019
-EGLE RRD. SI Results not published.
QMCP-SS48 9/28/2018
(0-0.25 ft)
ARSENIC 13 mg/kg [10]
LEAD 930 mg/kg [10,17]
MERCURY 3.6 mg/kg [18,19]
TOTAL PCBS 360,000 J ug/kg [6,10,17]
QMCP-SS47 9/28/2018
(0-0.25 ft)
ARSENIC 8.9 mg/kg [10]
LEAD 810 mg/kg [10]
MERCURY 1.1 mg/kg [18,19]
TOTAL PCBS 8,200 J ug/kg [10,17]
SS-21 6/5/2002
(0-1 ft)
MERCURY 0.13 J mg/kg [18,19]
QMCP-SS276 07/18/19
(0-0.25 ft)
LEAD 5,600 mg/kg [10,17]
MERCURY 0.1 mg/kg [18,19]
QMCP-SS306 7/22/2019
QMCP-SS305 7/22/2019
QMCP-SS304 7/22/2019
QMCP-SS303 7/22/2019
QMCP-SS308 7/22/2019
QMCP-SS307 7/22/2019
QMCP-SS280 07/22/19
(0-0.25 ft)
ARSENIC 19 mg/kg [10]
LEAD 1,800 mg/kg [10,17]
MERCURY 7.5 mg/kg [18,19]
QMCP-SS283 07/22/19
(0-0.25 ft)
ARSENIC 17 mg/kg [10]
LEAD 1,800 mg/kg [10,17]
MERCURY 29 mg/kg [18,19]
QMCP-SS285 07/22/19
(0-0.25 ft)
ARSENIC 12 mg/kg [10]
LEAD 1,400 mg/kg [10,17]
MERCURY 5.6 mg/kg [18,19]
QMCP-SB11 9/6/2018
(0-0.5 ft)
LEAD 500 mg/kg [10]
MERCURY 6.9 mg/kg [18,19]
TOTAL PCBS 1,560 J ug/kg [10,17]
PHENANTHRENE 2,500 ug/kg [2]
(0.5-7 ft)
MERCURY 0.3 mg/kg [18,19]
QMCP-SB12 9/6/2018
(0-0.5 ft)
ARSENIC 7.8 mg/kg [10]
LEAD 460 mg/kg [10]
MERCURY 0.3 mg/kg [18,19]
(0.5-4 ft)
MERCURY 2.4 mg/kg [18,19]
QMCP-SS34 9/5/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]
QMCP-SS288 07/22/19
(0-0.25 ft)
ARSENIC 11 mg/kg [10]
LEAD 580 mg/kg [10]
MERCURY 1.1 mg/kg [18,19]
QMCP-SS300 07/22/19
(0-0.25 ft)
ASBESTOS-CHRYSOTILE 1.0 % [9,16]
QMCP-SS277 07/18/19
(0-0.25 ft)
ARSENIC 13 mg/kg [10]
QMCP-SS301 7/22/2019
QMCP-SS299 7/22/2019
QMCP-SS302 7/22/2019
QMCP-SS298 7/22/2019
Core Oven
QMCP-SS287 07/22/19
(0-0.25 ft)
ARSENIC 14 mg/kg [10]
LEAD 2,300 mg/kg [10,17]
MERCURY 1.5 mg/kg [18,19]
AREA D
QMCP-SS42 9/19/2018
Furnace
Coal Dock, Coal and Coke
QMCP-SS45 9/19/2018
QMCP-SB10 9/7/2018
(0-0.5 ft)
MERCURY 0.09 mg/kg [18,19]
XYLENE - TOTAL 330 ug/kg [18]
(0.5-5 ft)
MERCURY 0.2 mg/kg [18,19]
SS-22 6/5/2002
(0-1 ft)
MERCURY 0.21 J mg/kg [18,19]
SS-34 6/5/2002
(0-1 ft)
MERCURY 0.06 J mg/kg [18,19]
CYANIDE 3.3 J mg/kg [2]
ACENAPHTHYLENE 37,000 J ug/kg [4,11]
ANTHRACENE 42,000 J ug/kg [4,11]
BENZO(A)ANTHRACENE 120,000 J ug/kg [10,17]
BENZO(A)PYRENE 120,000 J ug/kg [10,17]
BENZO(B)FLUORANTHENE 110,000 J ug/kg [10,17]
DIBENZOFURAN 17,000 J ug/kg [2]
FLUORANTHENE 330,000 J ug/kg [2]
FLUORENE 30,000 J ug/kg [2]
INDENO(1,2,3-CD)PYRENE 66,000 J ug/kg [10]
NAPHTHALENE (SVOC) 21,000 J ug/kg [2]
PHENANTHRENE 270,000 J ug/kg [2,4,6,7,8,11,13,14,15]
QMCP-SS286 07/22/19
(0-0.25 ft)
MERCURY 0.3 mg/kg [18,19]
QMCP-SS292 07/22/19
(0-0.25 ft)
TOTAL PCBS 11,000 ug/kg [10,17]
QMCP-SS297 7/22/2019
QMCP-SS290 07/22/19
(0-0.25 ft)
TOTAL PCBS 2,700 ug/kg [10,17]
QMCP-SS02 9/5/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]
QMCP-SS296 7/22/2019
QMCP-SS289 07/22/19
(0-0.25 ft)
TOTAL PCBS 98,000 ug/kg [10,17]
QMCP-SS41 9/5/2018
QMCP-SS43 9/19/2018
(0-0.5 ft)
TOTAL PCBS 61,500 J ug/kg [10,17]
QMCP-SS291 07/22/19
(0-0.25 ft)
TOTAL PCBS 5,800 ug/kg [10,17]
QMCP-SS38 9/5/2018
(0-0.5 ft)
LEAD 560 mg/kg [10]
MERCURY 0.6 mg/kg [18,19]
QMCP-SB14 9/6/2018
(0-3 ft)
LEAD 1,300 mg/kg [10,17]
MANGANESE 1,700 mg/kg [16]
MERCURY 0.2 mg/kg [18,19]
QMCP-SB14 SS 9/6/2018
(surface)
ARSENIC 14 mg/kg [10]
LEAD 1,200 mg/kg [10,17]
MERCURY 0.2 mg/kg [18,19]
BENZO(A)PYRENE 3,200 ug/kg [10]
FLUORANTHENE 7,700 ug/kg [2]
NAPHTHALENE (SVOC) 1,000 ug/kg [2]
PHENANTHRENE 6,100 ug/kg [2]
QMCP-SS295 07/22/19
(0-0.25 ft)
ASBESTOS-CHRYSOTILE 1.6 % [9,16]
QMCP-SS293 7/22/2019
QMCP-SS294 7/22/2019
QMCP-SS49 9/28/2018
(0-0.25 ft)
TOTAL PCBS 5,100 J ug/kg [10,17]
QMCP-SS50 9/28/2018
QMCP-SS37 9/5/2018
(0-0.5 ft)
ARSENIC 19 mg/kg [10]
MERCURY 0.2 mg/kg [18,19]
NAPHTHALENE (SVOC) 870 ug/kg [2]
QMCP-SB17 9/7/2018
(0.5-4 ft)
MERCURY 0.2 mg/kg [18,19]
TOTAL PCBS 8,200 J ug/kg [10,17]
QMCP-SS44 9/19/2018
(0-0.5 ft)
TOTAL PCBS 2,500 J ug/kg [10,17]
BENZO(A)PYRENE 3,400 ug/kg [10]
FLUORANTHENE 7,700 ug/kg [2]
NAPHTHALENE (SVOC) 840 ug/kg [2]
PHENANTHRENE 5,500 ug/kg [2]
QMCP-SB18 9/7/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]
1,2,4-TRIMETHYLBENZENE 180 ug/kg [18]
XYLENE - TOTAL 500 ug/kg [18]
(0.5-4 ft)
MERCURY 0.1 mg/kg [18,19]
HEXANE 180 ug/kg [18,19]
SS-23 6/5/2002
(0-0.33 ft)
1,2,4-TRIMETHYLBENZENE 170 ug/kg [18]
ETHYLBENZENE 70 ug/kg [18]
M,P-XYLENE 310 ug/kg [18]
XYLENE - TOTAL 580 ug/kg [18]
(0-1 ft)
MERCURY 0.09 J mg/kg [18,19]
QMCP-SS279 07/18/19
(0-0.25 ft)
MERCURY 0.4 mg/kg [18,19]
QMCP-SB74 9/11/2018
(0-1 ft)
MANGANESE 2,000 mg/kg [16]
MERCURY 0.2 mg/kg [18,19]
BENZO(A)PYRENE 11,000 ug/kg [10,17]
BENZO(B)FLUORANTHENE 23,000 ug/kg [10]
DIBENZO(A,H)ANTHRACENE 4,600 ug/kg [10]
FLUORANTHENE 15,000 ug/kg [2]
PHENANTHRENE 4,500 ug/kg [2]
Map Extent
Keweenaw National Historical Park
Hancock
Houghton
Dollar Bay
Dodgeville
EGLE Part 201 Cleanup Criteria for Response Action
[1]=Statewide Default Background Level
[2]*=Groundwater Surface Water Interface Protection Criteria
[3]=Soil Saturation Concentration Screening Levels
[4]*=Residential Drinking Water Protection Criteria
[5]=Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
[6]=Residential Infinite Source Volatile Soil Inhalation Criteria
[7]=Residential Finite VSIC for 5 Meter Source Thickness
[8]=Residential Finite VSIC for 2 Meter Source Thickness
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[10]=Residential Direct Contact Criteria
[11]*=Nonresidential Drinking Water Protection Criteria
[12]=Nonresidential Soil Volatilization to Indoor Air Inhalation
[13]=Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14]=Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]=Nonresidential Finite VSIC for 2 Meter Source Thickness
[16]=Nonresidential Particulate Soil Inhalation Criteria
[17]=Nonresidential Direct Contact Criteria
Volatilization to Indoor Air Interm Action Screening Levels (Aug 2017)
[18]=Soil Residential RIASL (Interim Aug 2017)
[19]=Soil Non-Residential RIASL (Interim Aug 2017)
* Exceedances of criteria 2, 4, and 11 shown for organics and cyanide only
Evaluation based on EGLE Criteria at time of Project completion
PCBs
VOCs
Inorganics / Cyanide
SVOCs
At Least One Exceedance for Indicated Parameter Group
No Exceedances for Indicated Parameter Group
At Least One Detection of PCBs
PCBs Not Detected
Indicated Parameter Group Not Analyzed
Asbestos in Soil ND
Asbestos in Soil > 0.1
Sample Results Displayed on Another Figure
1865 Shoreline
Copper Heritage Trail ROW
Approximate Parcel Boundaries
EPA Cap Boundary
Features Idenitfied on Sanborn Maps
QMCP Study Area Boundary
Updated Aerial Imagery Extent (26 June 2019)
Notes:
- J = estimated value
- mg/kg = milligrams per kilogram
- ug/kg = micrograms per kilogram
- * = result is from cleanup run
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)
N
0
60
Ft
Coordinate System: MIGeoRef(m)
EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
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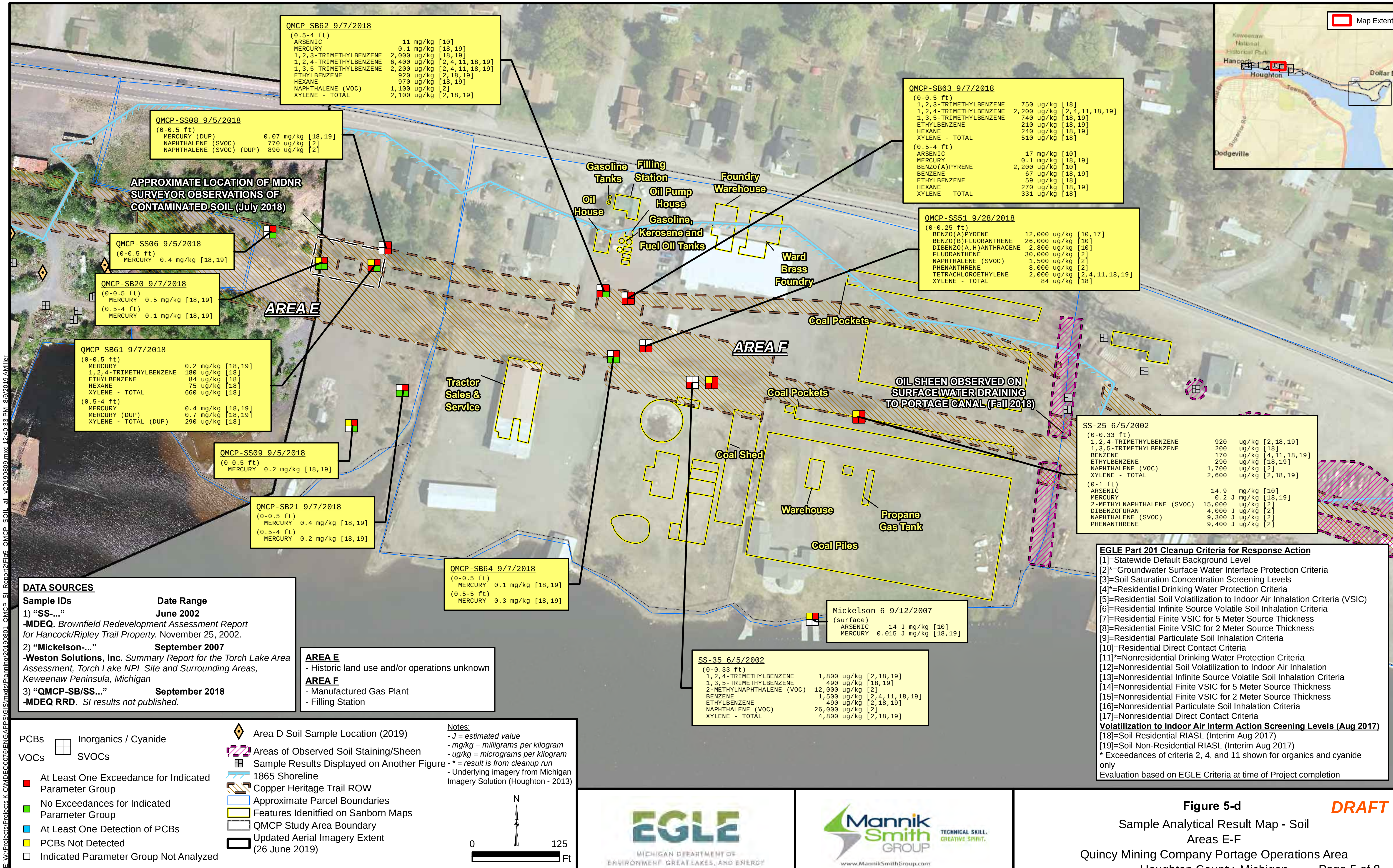
Figure 5-c1
DRAFT
Sample Analytical Result Map - Soil
Area D (ROW and Adjacent)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan
Page 4 of 8
FILE: W:\Projects\Projects K-OMDEQ0076\ENGAPPS\GIS\mxds\Plannin\20190801 QMCP_SI_Report2\Fig5 QMCP_SOIL_all_v20190809.mxd 12:39:24 PM 8/9/2019 AMiller


QMCP-SB62 9/7/2018
(0.5-4 ft)
ARSENIC 11 mg/kg [10]
MERCURY 0.1 mg/kg [18,19]
1,2,3-TRIMETHYLBENZENE 2,000 ug/kg [18,19]
1,2,4-TRIMETHYLBENZENE 6,400 ug/kg [2,4,11,18,19]
1,3,5-TRIMETHYLBENZENE 2,200 ug/kg [2,4,11,18,19]
ETHYLBENZENE 920 ug/kg [2,18,19]
HEXANE 970 ug/kg [18,19]
NAPHTHALENE (VOC) 1,100 ug/kg [2]
XYLENE - TOTAL 2,100 ug/kg [2,18,19]
QMCP-SS08 9/5/2018
(0-0.5 ft)
MERCURY (DUP) 0.07 mg/kg [18,19]
NAPHTHALENE (SVOC) 770 ug/kg [2]
NAPHTHALENE (SVOC) (DUP) 890 ug/kg [2]
APPROXIMATE LOCATION OF MDNR SURVEYOR OBSERVATIONS OF CONTAMINATED SOIL (July 2018)
QMCP-SS06 9/5/2018
(0-0.5 ft)
MERCURY 0.4 mg/kg [18,19]
QMCP-SB20 9/7/2018
(0-0.5 ft)
MERCURY 0.5 mg/kg [18,19]
(0.5-4 ft)
MERCURY 0.1 mg/kg [18,19]
AREA E
QMCP-SB61 9/7/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]
1,2,4-TRIMETHYLBENZENE 180 ug/kg [18]
ETHYLBENZENE 84 ug/kg [18]
HEXANE 75 ug/kg [18]
XYLENE - TOTAL 660 ug/kg [18]
(0.5-4 ft)
MERCURY 0.4 mg/kg [18,19]
MERCURY (DUP) 0.7 mg/kg [18,19]
XYLENE - TOTAL (DUP) 290 ug/kg [18]
QMCP-SS09 9/5/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]
QMCP-SB21 9/7/2018
(0-0.5 ft)
MERCURY 0.4 mg/kg [18,19]
(0.5-4 ft)
MERCURY 0.2 mg/kg [18,19]
QMCP-SB64 9/7/2018
(0-0.5 ft)
MERCURY 0.1 mg/kg [18,19]
(0.5-5 ft)
MERCURY 0.3 mg/kg [18,19]
Gasoline Tanks
Filling Station
Oil House
Oil Pump House
Gasoline, Kerosene and Fuel Oil Tanks
Foundry Warehouse
Ward Brass Foundry
Coal Pockets
AREA F
Tractor Sales & Service
Coal Pockets
Coal Shed
Warehouse
Propane Gas Tank
Coal Piles
OIL SHEEN OBSERVED ON SURFACE WATER DRAINING TO PORTAGE CANAL (Fall 2018)
QMCP-SB63 9/7/2018
(0-0.5 ft)
1,2,3-TRIMETHYLBENZENE 750 ug/kg [18]
1,2,4-TRIMETHYLBENZENE 2,200 ug/kg [2,4,11,18,19]
1,3,5-TRIMETHYLBENZENE 740 ug/kg [18,19]
ETHYLBENZENE 210 ug/kg [18,19]
HEXANE 240 ug/kg [18,19]
XYLENE - TOTAL 510 ug/kg [18]
(0.5-4 ft)
ARSENIC 17 mg/kg [10]
MERCURY 0.1 mg/kg [18,19]
BENZO(A)PYRENE 2,200 ug/kg [10]
BENZENE 67 ug/kg [18,19]
ETHYLBENZENE 59 ug/kg [18]
HEXANE 270 ug/kg [18,19]
XYLENE - TOTAL 331 ug/kg [18]
QMCP-SS51 9/28/2018
(0-0.25 ft)
BENZO(A)PYRENE 12,000 ug/kg [10,17]
BENZO(B)FLUORANTHENE 26,000 ug/kg [10]
DIBENZO(A,H)ANTHRACENE 2,800 ug/kg [10]
FLUORANTHENE 30,000 ug/kg [2]
NAPHTHALENE (SVOC) 1,500 ug/kg [2]
PHENANTHRENE 8,000 ug/kg [2]
TETRACHLOROETHYLENE 2,000 ug/kg [2,4,11,18,19]
XYLENE - TOTAL 84 ug/kg [18]
SS-25 6/5/2002
(0-0.33 ft)
1,2,4-TRIMETHYLBENZENE 920 ug/kg [2,18,19]
1,3,5-TRIMETHYLBENZENE 200 ug/kg [18]
BENZENE 170 ug/kg [4,11,18,19]
ETHYLBENZENE 290 ug/kg [18,19]
NAPHTHALENE (VOC) 1,700 ug/kg [2]
XYLENE - TOTAL 2,600 ug/kg [2,18,19]
(0-1 ft)
ARSENIC 14.9 mg/kg [10]
MERCURY 0.2 J mg/kg [18,19]
2-METHYLNAPHTHALENE (SVOC) 15,000 ug/kg [2]
DIBENZOFURAN 4,000 J ug/kg [2]
NAPHTHALENE (SVOC) 9,300 J ug/kg [2]
PHENANTHRENE 9,400 J ug/kg [2]
Mickelson-6 9/12/2007
(surface)
ARSENIC 14 J mg/kg [10]
MERCURY 0.015 J mg/kg [18,19]
SS-35 6/5/2002
(0-0.33 ft)
1,2,4-TRIMETHYLBENZENE 1,800 ug/kg [2,18,19]
1,3,5-TRIMETHYLBENZENE 490 ug/kg [18,19]
2-METHYLNAPHTHALENE (VOC) 12,000 ug/kg [2]
BENZENE 1,500 ug/kg [2,4,11,18,19]
ETHYLBENZENE 490 ug/kg [2,18,19]
NAPHTHALENE (VOC) 26,000 ug/kg [2]
XYLENE - TOTAL 4,800 ug/kg [2,18,19]
Map Extent
Keweenaw National Historical Park
Hancock
Houghton
Dollar Bay
Dodgeville
EGLE Part 201 Cleanup Criteria for Response Action
[1]=Statewide Default Background Level
[2]*=Groundwater Surface Water Interface Protection Criteria
[3]=Soil Saturation Concentration Screening Levels
[4]*=Residential Drinking Water Protection Criteria
[5]=Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
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[14]=Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]=Nonresidential Finite VSIC for 2 Meter Source Thickness
[16]=Nonresidential Particulate Soil Inhalation Criteria
[17]=Nonresidential Direct Contact Criteria
Volatilization to Indoor Air Interm Action Screening Levels (Aug 2017)
[18]=Soil Residential RIASL (Interim Aug 2017)
[19]=Soil Non-Residential RIASL (Interim Aug 2017)
* Exceedances of criteria 2, 4, and 11 shown for organics and cyanide only
Evaluation based on EGLE Criteria at time of Project completion
DATA SOURCES
Sample IDs Date Range
1) "SS-..." June 2002
-MDEQ. Brownfield Redevelopment Assessment Report for Hancock/Ripley Trail Property. November 25, 2002.
2) "Mickelson-..." September 2007
-Weston Solutions, Inc. Summary Report for the Torch Lake Area Assessment, Torch Lake NPL Site and Surrounding Areas, Keweenaw Peninsula, Michigan
3) "QMCP-SB/SS..." September 2018
-MDEQ RRD. SI results not published.
AREA E
- Historic land use and/or operations unknown
AREA F
- Manufactured Gas Plant
- Filling Station
PCBs Inorganics / Cyanide
VOCs SVOCs
At Least One Exceedance for Indicated Parameter Group
No Exceedances for Indicated Parameter Group
At Least One Detection of PCBs
PCBs Not Detected
Indicated Parameter Group Not Analyzed
Area D Soil Sample Location (2019)
Areas of Observed Soil Staining/Sheen
Sample Results Displayed on Another Figure
1865 Shoreline
Copper Heritage Trail ROW
Approximate Parcel Boundaries
Features Idenitfied on Sanborn Maps
QMCP Study Area Boundary
Updated Aerial Imagery Extent (26 June 2019)
Notes:
- J = estimated value
- mg/kg = milligrams per kilogram
- ug/kg = micrograms per kilogram
- * = result is from cleanup run
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)
N
0 125 Ft
Coordinate System: MIGeoRef(m)

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Figure 5-d DRAFT

Sample Analytical Result Map - Soil
Areas E-F
Quincy Mining Company Portage Operations Area
Houghton County, Michigan Page 5 of 8

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig5_QMCP_SOIL_all_v20190809.mxd 12:40:33 PM 8/9/2019 AMiller

AREA G OBSERVED SOIL STAINING/SHEEN

- -On ground near AST System
- -On ground near parked equipment north of Trail ROW
- -Near discharge pipe at Work Trailer
- -Near Box Equipment
- -Near Office Building, approximately 175 feet from creek
- Along creek bank draining to Portage Canal

QMCP-SB65 9/8/2018
(0.5-4 ft)
MERCURY 0.09 mg/kg [18,19]

QMCP-SB66 9/8/2018
(0.5-4 ft)
MERCURY 0.1 mg/kg [18,19]

QMCP-SS62 9/28/2018
(0-0.25 ft)
FLUORANTHENE 8,100 ug/kg [2]
PHENANTHRENE 2,900 ug/kg [2]

QMCP-SB23 9/8/2018
(0-0.5 ft)

MERCURY	0.07 mg/kg [18,19]
1,2,4-TRIMETHYLBENZENE	450 ug/kg [18]
BENZENE	110 ug/kg [4,11,18,19]
ETHYLBENZENE	130 ug/kg [18,19]
HEXANE	140 ug/kg [18,19]
NAPHTHALENE (VOC)	790 ug/kg [2]
XYLENE - TOTAL	1,240 ug/kg [2,18,19]

(0.5-4 ft)

MERCURY	0.2 mg/kg [18,19]
NAPHTHALENE (SVOC)	1,600 ug/kg [2]

SS-26 6/5/2002
(0-0.33 ft)
XYLENE - TOTAL 320 ug/kg [18]
(0-1 ft)
ARSENIC 18.2 mg/kg [10]

QMCP-SB24 9/8/2018
(0-0.5 ft)

MERCURY	0.1 mg/kg [18,19]
NAPHTHALENE (SVOC)	1,900 ug/kg [2]
1,2,4-TRIMETHYLBENZENE	250 ug/kg [18]
ETHYLBENZENE	71 ug/kg [18]
HEXANE	59 ug/kg [18]
XYLENE - TOTAL	760 ug/kg [18]

(0.5-4 ft)

ARSENIC	30 mg/kg [10]
MERCURY	0.1 mg/kg [18,19]
NAPHTHALENE (SVOC)	1,500 ug/kg [2]
1,2,4-TRIMETHYLBENZENE	350 ug/kg [18]
BENZENE	120 ug/kg [4,11,18,19]
ETHYLBENZENE	130 ug/kg [18,19]
HEXANE	120 ug/kg [18,19]
NAPHTHALENE (VOC)	820 ug/kg [2]
XYLENE - TOTAL	1,220 ug/kg [2,18,19]

QMCP-SB25 9/8/2018
(0.5-4 ft)
MERCURY 0.2 mg/kg [18,19]

SS-27 6/5/2002
(0-0.33 ft)

1,2,4-TRIMETHYLBENZENE	390 ug/kg [18]
BENZENE	61 ug/kg [18,19]
ETHYLBENZENE	100 ug/kg [18,19]
NAPHTHALENE (VOC)	750 ug/kg [2]
XYLENE - TOTAL	1,110 ug/kg [2]

(0-1 ft)

MERCURY	0.14 J mg/kg [18,19]
NAPHTHALENE (SVOC)	810 J ug/kg [2]

QMCP-SS15 9/5/2018
(0-0.5 ft)
MERCURY 0.06 mg/kg [18,19]

QMCP-SB29 9/8/2018
(0-2 ft)
MERCURY 0.2 mg/kg [18,19]

QMCP-SB22 9/8/2018
(0-0.5ft)

MERCURY	0.07 mg/kg [18,19]

(0.5-4 ft)

MERCURY	0.06 mg/kg [18,19]
MERCURY (DUP)	0.2 mg/kg [18,19]
NAPHTHALENE (SVOC) (DUP)	1,900 ug/kg [2]
1,2,4-TRIMETHYLBENZENE	440 ug/kg [18]
1,2,4-TRIMETHYLBENZENE (DUP)	430 ug/kg [18]
BENZENE	93 ug/kg [18,19]
BENZENE (DUP)	120 ug/kg [4,11,18,19]
ETHYLBENZENE	110 ug/kg [18,19]
ETHYLBENZENE (DUP)	130 ug/kg [18,19]
HEXANE	120 ug/kg [18,19]
HEXANE (DUP)	170 ug/kg [18,19]
NAPHTHALENE (VOC)	780 ug/kg [2]
NAPHTHALENE (VOC) (DUP)	800 ug/kg [2]
XYLENE - TOTAL	1,280 ug/kg [2,18,19]
XYLENE - TOTAL (DUP)	1,380 ug/kg [2,18,19]

QMCP-SB26 9/8/2018
(0-2 ft)
MERCURY 0.2 mg/kg [18,19]

QMCP-SS10 9/5/2018
(0-0.5 ft)
MERCURY 0.1 mg/kg [18,19]

QMCP-SB28 9/8/2018
(0-2 ft)

ARSENIC	12 mg/kg [10]
MERCURY	0.1 mg/kg [18,19]
METHYLENE CHLORIDE	130 ug/kg [4,11]

QMCP-SB27 9/8/2018
(0-2 ft)

MERCURY	0.2 mg/kg [18,19]
HEXANE	66 ug/kg [18]

QMCP-SS13 9/5/2018
(0-0.5)
MERCURY 0.2 mg/kg [18,19]

QMCP-SS12 9/5/2018
(0-0.5 ft)
MERCURY 0.1 J mg/kg [18,19]

QMCP-SS11 9/5/2018
(0-0.5 ft)

ARSENIC	12 mg/kg [10]
LEAD	1,700 mg/kg [10,17]
MERCURY	18 mg/kg [18,19]
2-METHYLNAPHTHALENE (SVOC)	4,600 ug/kg [2]
NAPHTHALENE (SVOC)	2,600 ug/kg [2]
PHENANTHRENE	2,800 ug/kg [2]

Standard Oil Company
OFFICE BUILDING
AST SYSTEM
QMCP-SS52 9/28/2018
OIL SHEEN OBSERVED ON SURFACE WATER DRAINING TO PORTAGE CANAL (Fall 2018)
BOX EQUIPMENT
AREA G
WORK TRAILER
QMCP-SS14 9/5/2018
AREA H
GP-3 6/13/2012

DATA SOURCES

Sample IDs	Date Range
1) **"SS-..."**	**June 2002**

-MDEQ. *Brownfield Redevelopment Assessment Report for Hancock/Ripley Trail Property.* November 25, 2002.

2) **"GP-"** **June 2012**
-Trimedia Environmental & Engineering. *Baseline Environmental Assessment:Royce Road Marina, Royce Road, Franklin Township, Houghton County, MI 49930.* October 26, 2015.

3) **"QMCP-SB/SS..." September 2018 - July 2019**
-EGLE RRD. *SI results not published.*

AREA G
- 1917 Standard Oil Co.
- Other historic land use and/or operations unknown

AREA H
- Historic land use and/or operations unknown

EGLE Part 201 Cleanup Criteria for Response Action
[1]=Statewide Default Background Level
[2]*=Groundwater Surface Water Interface Protection Criteria
[3]=Soil Saturation Concentration Screening Levels
[4]*=Residential Drinking Water Protection Criteria
[5]=Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
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[9]=Residential Particulate Soil Inhalation Criteria
[10]=Residential Direct Contact Criteria
[11]*=Nonresidential Drinking Water Protection Criteria
[12]=Nonresidential Soil Volatilization to Indoor Air Inhalation
[13]=Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14]=Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]=Nonresidential Finite VSIC for 2 Meter Source Thickness
[16]=Nonresidential Particulate Soil Inhalation Criteria
[17]=Nonresidential Direct Contact Criteria
Volatilization to Indoor Air Interm Action Screening Levels (Aug 2017)
[18]=Soil Residential RIASL (Interim Aug 2017)
[19]=Soil Non-Residential RIASL (Interim Aug 2017)
* Exceedances of criteria 2, 4, and 11 shown for organics and cyanide only
Evaluation based on EGLE Criteria at time of Project completion

PCBs
VOCs
Inorganics / Cyanide
SVOCs

- At Least One Exceedance for Indicated Parameter Group
- No Exceedances for Indicated Parameter Group
- At Least One Detection of PCBs
- PCBs Not Detected
- Indicated Parameter Group Not Analyzed

- Areas of Observed Soil Staining/Sheen
- Sample Results Displayed on Another Figure
- 1865 Shoreline
- Copper Heritage Trail ROW
- Approximate Parcel Boundaries
- Features Idenitfied on Sanborn Maps
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *mg/kg = milligrams per kilogram*
- *ug/kg = micrograms per kilogram*
- ** = result is from cleanup run*
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)

N
0 125 Ft
Coordinate System: MIGeoRef(m)

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Figure 5-e **DRAFT**
Sample Analytical Result Map - Soil
Areas G-H
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig5_QMCP_SOIL_all_v20190809.mxd 12:41:30 PM 8/9/2019 AMiller

SS-28 6/5/2002
(0-0.33 ft)
1,2,4-TRIMETHYLBENZENE 650 ug/kg [2,18]
1,3,5-TRIMETHYLBENZENE 160 ug/kg [18]
BENZENE 91 ug/kg [18,19]
ETHYLBENZENE 170 ug/kg [18,19]
NAPHTHALENE (VOC) 1,400 ug/kg [2]
XYLENE - TOTAL 1,770 ug/kg [2,18,19]
(0-1 ft)
MERCURY 0.08 J mg/kg [18,19]
NAPHTHALENE (SVOC) 2,200 J ug/kg [2]
PHENANTHRENE 2,200 J ug/kg [2]

GP-3 6/13/2012

QMCP-SS53 9/28/2018
(0-0.25 ft)
TOTAL PCBS 3,400 J ug/kg [10,17]

QMCP-SS54 9/28/2018
(0-0.25 ft)
NAPHTHALENE (SVOC) 810 ug/kg [2]

QMCP-SS16 9/5/2018
(0-0.5 ft)
ARSENIC 40 mg/kg [10,17]
MERCURY 0.3 mg/kg [18,19]

QMCP-SB30 9/8/2018
(0-0.5 ft)
ARSENIC 50 mg/kg [10,17]
LEAD 18,000 mg/kg [10,17]
MERCURY 520 mg/kg [5,6,7,8,10,12,13,14,15,18,19]
BENZO(A)PYRENE 4,600 ug/kg [10]
FLUORANTHENE 7,600 ug/kg [2]
PHENANTHRENE 4,300 ug/kg [2]
(0.5-7 ft)
ARSENIC 8.4 mg/kg [10]
LEAD 1,700 mg/kg [10,17]
MERCURY 13 mg/kg [18,19]

Fuel

QMCP-SS36 9/5/2018
(0-0.5 ft)
MERCURY 0.08 mg/kg [18,19]

QMCP-SS19 9/5/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]
MERCURY (DUP) 0.2 mg/kg [18,19]

QMCP-SS39 9/5/2018
(0-0.5 ft)
ARSENIC 7.8 mg/kg [10]

AREA I

QMCP-SS34 9/9/2018

SS-29 6/5/2002

QMCP-SS17 9/5/2018

Boiler House

Furnace

Slag Pile 4'

Slag Pile

Oil House

Iron Refuse Burner and Spark Arrestor

QMCP-SS20 9/5/2018

H&Ymarina-19 9/12/2007
(surface)
ARSENIC 30 J mg/kg [10]
LEAD 440 J mg/kg [10]
MANGANESE 5,500 mg/kg [9,16]
MERCURY 0.0099 J mg/kg [18,19]

Dutch Oven

AREA J

QMCP-SS35 9/5/2018
(0-0.5 ft)
ARSENIC 21 mg/kg [10]
MANGANESE 1,800 mg/kg [16]

QMCP-SS55 9/28/2018

Slag Pile

QMCP-SB35 9/9/2018
(0-0.5 ft)
MERCURY 0.07 mg/kg [18,19]
(0.5-6 ft)
MERCURY 0.2 mg/kg [18,19]
MERCURY (DUP) 0.2 mg/kg [18,19]

QMCP-SS21 9/5/2018
(0-0.5 ft)
MERCURY 0.7 mg/kg [18,19]

QMCP-SS18 9/5/2018

QMCP-SB32 9/9/2018
(0.5-4 ft)
MERCURY 0.09 mg/kg [18,19]
HEXANE 56 J ug/kg [18]

QMCP-SB31 9/8/2018
(0-0.5 ft)
ARSENIC 14 mg/kg [10]
LEAD 530 mg/kg [10]
MERCURY 0.9 mg/kg [18,19]
TOTAL PCBS 3,500 J ug/kg [10,17]
BENZO(A)PYRENE 2,500 ug/kg [10]
(0.5-4 ft)
MERCURY 0.07 mg/kg [18,19]
TOTAL PCBS 3,600 J ug/kg [10,17]

Slag Pile 4'

QMCP-SB33 9/9/2018
(0-0.5 ft)
MERCURY 0.08 mg/kg [18,19]
BENZO(A)PYRENE 13,000 J ug/kg [10,17]
FLUORANTHENE 22,000 J ug/kg [2]
PHENANTHRENE 4,400 J ug/kg [2]

QMCP-SB36 9/9/2018
(0-0.5 ft)
MERCURY 0.1 mg/kg [18,19]
(0.5-4 ft)
MERCURY 0.2 mg/kg [18,19]

QMCP-SS40 9/5/2018
(0-0.5 ft)
LEAD 480 mg/kg [10]
MERCURY 0.2 mg/kg [18,19]

DATA SOURCES

Sample IDs	Date Range
1) **"SS-..."**	**June 2002**

-MDEQ. *Brownfield Redevelopment Assessment Report for Hancock/Ripley Trail Property.* November 25, 2002.

2) **" H&Ymarina-..."** **September 2007**
-Weston Solutions, Inc. *Summary Report for the Torch Lake Area Assessment, Torch Lake NPL Site and Surrounding Areas, Keweenaw Peninsula, Michigan*

3) **"QMCP-SB/SS..."** **September 2018 - July 2019**
-EGLE RRD. *SI results not published.*

AREA I
- 1907 Portage Boiler Works
- 1928 Lake Superior Iron and Metal Co.
- 1949 A& Scrap Iron Storage, J.H. Green Co.

AREA J
- 1917 Houghton Lumber Yard Co
- 1928 Dollar Bay Lumber Co.
- 1928 Henry Borth Co. Manufacturing R.R. Shims UP Oil Company

PCBs
VOCs
Inorganics / Cyanide
SVOCs
At Least One Exceedance for Indicated Parameter Group
No Exceedances for Indicated Parameter Group
At Least One Detection of PCBs
PCBs Not Detected
Indicated Parameter Group Not Analyzed

Sample Results Displayed on Another Figure
1865 Shoreline
Copper Heritage Trail ROW
Approximate Parcel Boundaries
Features Idenitfied on Sanborn Maps
QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *mg/kg = milligrams per kilogram*
- *ug/kg = micrograms per kilogram*
- ** = result is from cleanup run*
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)

N
0 125 Ft
Coordinate System: MIGeoRef(m)

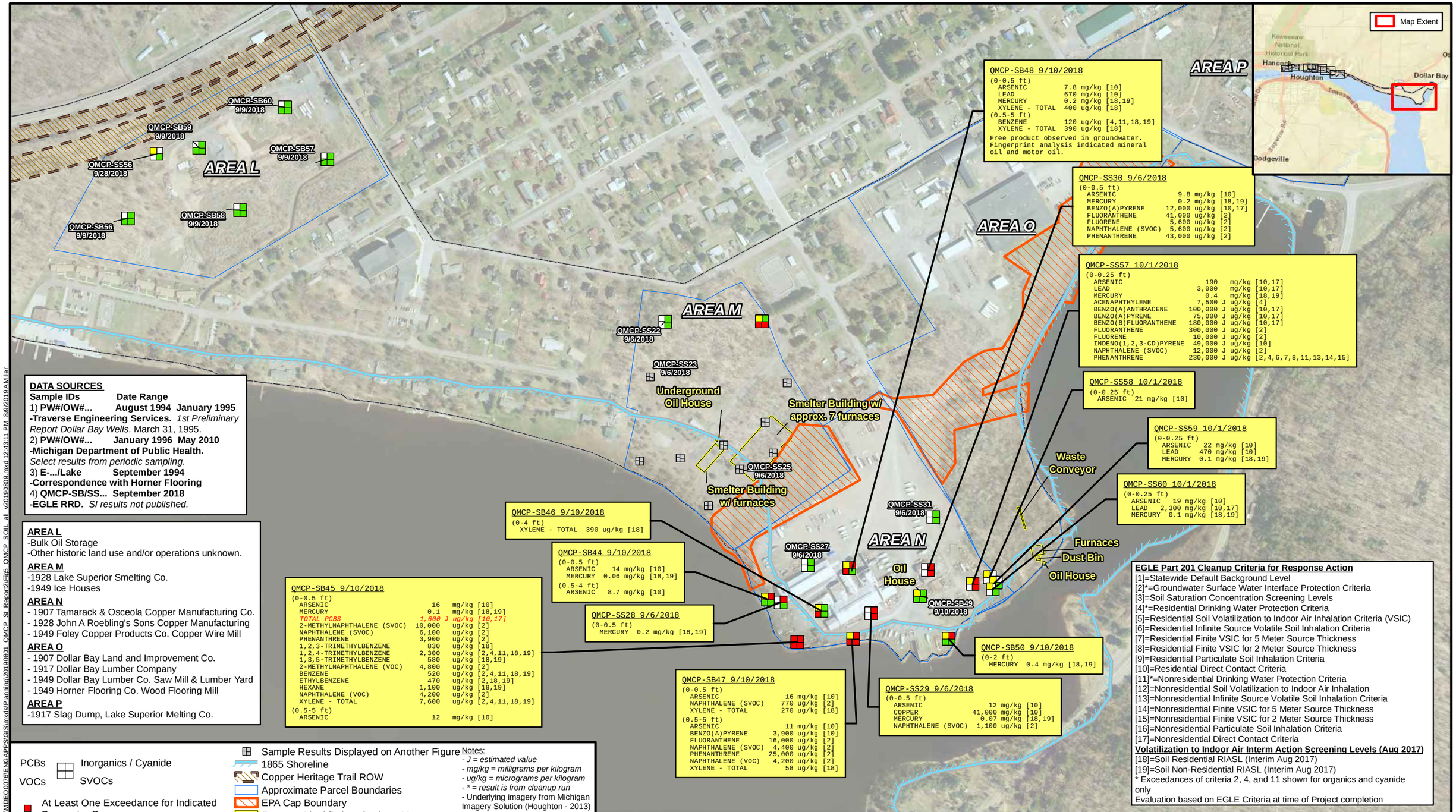
EGLE Part 201 Cleanup Criteria for Response Action
[1]=Statewide Default Background Level
[2]*=Groundwater Surface Water Interface Protection Criteria
[3]=Soil Saturation Concentration Screening Levels
[4]*=Residential Drinking Water Protection Criteria
[5]=Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
[6]=Residential Infinite Source Volatile Soil Inhalation Criteria
[7]=Residential Finite VSIC for 5 Meter Source Thickness
[8]=Residential Finite VSIC for 2 Meter Source Thickness
[9]=Residential Particulate Soil Inhalation Criteria
[10]=Residential Direct Contact Criteria
[11]*=Nonresidential Drinking Water Protection Criteria
[12]=Nonresidential Soil Volatilization to Indoor Air Inhalation
[13]=Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14]=Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]=Nonresidential Finite VSIC for 2 Meter Source Thickness
[16]=Nonresidential Particulate Soil Inhalation Criteria
[17]=Nonresidential Direct Contact Criteria
Volatilization to Indoor Air Interm Action Screening Levels (Aug 2017)
[18]=Soil Residential RIASL (Interim Aug 2017)
[19]=Soil Non-Residential RIASL (Interim Aug 2017)
* Exceedances of criteria 2, 4, and 11 shown for organics and cyanide only
Evaluation based on EGLE Criteria at time of Project completion

EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT. www.MannikSmithGroup.com

Figure 5-f *DRAFT*
Sample Analytical Result Map - Soil
Areas I-J
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0026\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig5_QMCP_SOIL_all_v20190809.mxd 12:42:21 PM 8/9/2019 AMiller



DATA SOURCES

Sample IDs **Date Range**

1) **PW#/OW#...** **August 1994 January 1995**
-Traverse Engineering Services. *1st Preliminary Report Dollar Bay Wells.* March 31, 1995.

2) **PW#/OW#...** **January 1996 May 2010**
-Michigan Department of Public Health.
Select results from periodic sampling.

3) **E-.../Lake** **September 1994**
-Correspondence with Horner Flooring

4) **QMCP-SB/SS...** **September 2018**
-EGLE RRD. *SI results not published.*

AREA L
-Bulk Oil Storage
-Other historic land use and/or operations unknown.

AREA M
-1928 Lake Superior Smelting Co.
-1949 Ice Houses

AREA N
- 1907 Tamarack & Osceola Copper Manufacturing Co.
- 1928 John A Roebling's Sons Copper Manufacturing
- 1949 Foley Copper Products Co. Copper Wire Mill

AREA O
- 1907 Dollar Bay Land and Improvement Co.
- 1917 Dollar Bay Lumber Company
- 1949 Dollar Bay Lumber Co. Saw Mill & Lumber Yard
- 1949 Horner Flooring Co. Wood Flooring Mill

AREA P
-1917 Slag Dump, Lake Superior Melting Co.

PCBs
VOCs
Inorganics / Cyanide
SVOCs

- At Least One Exceedance for Indicated Parameter Group
- No Exceedances for Indicated Parameter Group
- At Least One Detection of PCBs
- PCBs Not Detected
- Indicated Parameter Group Not Analyzed

- Sample Results Displayed on Another Figure
- 1865 Shoreline
- Copper Heritage Trail ROW
- Approximate Parcel Boundaries
- EPA Cap Boundary
- Features Idenitfied on Sanborn Maps
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *mg/kg = milligrams per kilogram*
- *ug/kg = micrograms per kilogram*
- ** = result is from cleanup run*
- Underlying imagery from Michigan Imagery Solution (Houghton - 2013)

N
0 380 Ft
Coordinate System: MIGeoRef(m)

EGLE Part 201 Cleanup Criteria for Response Action
[1]=Statewide Default Background Level
[2]*=Groundwater Surface Water Interface Protection Criteria
[3]=Soil Saturation Concentration Screening Levels
[4]*=Residential Drinking Water Protection Criteria
[5]=Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
[6]=Residential Infinite Source Volatile Soil Inhalation Criteria
[7]=Residential Finite VSIC for 5 Meter Source Thickness
[8]=Residential Finite VSIC for 2 Meter Source Thickness
[9]=Residential Particulate Soil Inhalation Criteria
[10]=Residential Direct Contact Criteria
[11]*=Nonresidential Drinking Water Protection Criteria
[12]=Nonresidential Soil Volatilization to Indoor Air Inhalation
[13]=Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14]=Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]=Nonresidential Finite VSIC for 2 Meter Source Thickness
[16]=Nonresidential Particulate Soil Inhalation Criteria
[17]=Nonresidential Direct Contact Criteria
Volatilization to Indoor Air Interm Action Screening Levels (Aug 2017)
[18]=Soil Residential RIASL (Interim Aug 2017)
[19]=Soil Non-Residential RIASL (Interim Aug 2017)
* Exceedances of criteria 2, 4, and 11 shown for organics and cyanide only
Evaluation based on EGLE Criteria at time of Project completion

EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

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Figure 5-g *DRAFT*
Sample Analytical Result Map - Soil
Areas L-P
Quincy Mining Company Portage Operations Area
Houghton County, Michigan Page 8 of 8

FILE: W:\Projects\Projects K-O\MDEQ0078\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig5_QMCP_SOIL_all_v20190809.mxd 8/9/2019 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

Filling Station

Gas Tanks

MW #6
(4/19/1990)
BENZENE 100 ug/l [1,2,3,8,9,10,11]
ETHYLBENZENE 280 ug/l [1,2,3,8,9,10]
XYLENE - TOTAL 2,000 ug/l [1,2,3,8,9,10]
(10/3/1990)
NAPHTHALENE (SVOC) 100 ug/l [3]
PHENANTHRENE 6 ug/l [3]

6 Gas Tanks

Furnace Oil Storage

Barreled Oil Warehouse

Barreled Oil Warehouse

MW-113 3/6/1997

Oil Tank on ground

MW #7 10/3/1990
PHENANTHRENE 3 ug/l [3]

MW-7 4/19/1990 10/3/1990

MW-6 4/19/1990 4/23/1990 10/3/1990

MW-10 4/23/2008 10/3/1990

AREA A

Oil Storage

MW #9 10/3/1990
BENZENE 6.2 ug/l [1,2,8,9]

MW-9 4/23/2008 10/3/1990

MW-8 4/23/2008 10/3/1990

MW-4 4/19/1990 4/23/1990 10/3/1990

MW-5 4/19/1990 4/23/1990 10/3/1990

MW-3 4/19/1990 10/3/1990

MW-2 4/19/1990 10/3/1990

MW-1 4/19/1990 10/3/1990

MW #5 10/3/1990
TETRACHLOROETHYLENE 1.9 ug/l [8]
TRICHLOROETHYLENE 2.2 ug/l [8,9]

Open Ditch 10/3/1990

MW-113 3/6/1997

ACENAPHTHENE	51 ug/l [3]
ANTHRACENE	97 ug/l [1,2,4,5,6]
BENZO(A)ANTHRACENE	120 ug/l [1,2,4]
BENZO(A)PYRENE	92 ug/l [1,2,4]
BENZO(B)FLUORANTHENE	180 ug/l [1,2,4]
CHRYSENE	110 ug/l [1,2,4]
FLUORANTHENE	230 ug/l [1,2,3,4,5,6]
FLUORENE	96 ug/l [3]
NAPHTHALENE (SVOC)	180 ug/l [3]
PHENANTHRENE	280 ug/l [1,2,3]
PYRENE	200 ug/l [1,2,4,5,6]

PCBs
VOCs
Inorganics / Cyanide
SVOCs

- At Least One Exceedance for Indicated Parameter Group
- No Exceedances for Indicated Parameter Group
- At Least One Detection of PCBs
- PCBs Not Detected
- Indicated Parameter Group Not Analyzed

- Sample Results Displayed on Another Figure
- 1865 Shoreline
- Copper Heritage Trail ROW
- Features Identified on Sanborn Maps
- Approximate Parcel Boundaries
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *ug/l = micrograms per liter*
- *# = results are from laboratory cleanup run*

N
0 90 Ft
Coordinate System: MIGeoRef(m)

AREA A
-1949 Copper Range Passenger Depot (to the west)
-1907 Lake Superior Smelting Co. "vacant" (to the east)
-1917 H.S Goodell Distributing Station for Lubricating Oils
-1949 H.S. Goodell & Co. Bulk Oil Station

DATA SOURCES

Sample IDs	Date Range
1) **"MW #..."**	**April 1990 – October 1990**

-M-DOT Geoenvironmental Services Unit Materials & Technology Division. *Michigan Department of Transportation M-DOT M-26, Ripley, Houghton County Hydrogeological Investigation.* April 18, 1991.

2) **"MW-..."** **July 1995 – July 1998**

-SCA Environmental. *Phase II Hydrogeological Investigation Report, Houghton County Road Commission Ripley Garage.* Prepared for Houghton County Road Commission. August 1998.

MDEQ Part 201 Cleanup Criteria for Response Action
[1]*=Residential Drinking Water Criteria
[2]*=Nonresidential Drinking Water Criteria
[3]*=Groundwater Surface Water Interface Criteria
[4]=Residential Groundwater Vol to Indoor Air Inhalation
[5]=Nonresidential Groundwater Vol to Indoor Air Inhalation
[6]=Water Solubility
[7]=Flammability and Explosivity Screening Level

Volatilization to Indoor Air Interim Action Screening Levels (Aug 2017)
[8]=Shallow Groundwater Residential RIASL
[9]=Shallow Groundwater Non-Residential RIASL
[10]=Groundwater Residential RIASL
[11]=Groundwater Residential TSRIASL
[12]=Groundwater Non-Residential RIASL
[13]=Groundwater Non-Residential $RIASL_{12}$
[14]=Groundwater Non-Residential $TSRIASL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on MDEQ Criteria at time of Project completion

Prepared for:
Michigan Department of Environmental Quality

Mannik Smith GROUP
TECHNICAL SKILL. CREATIVE SPIRIT.
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Figure 6-a
Sample Analytical Results Map - Groundwater
Area A
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190102_QMCP_Si_ReportFig6_QMCP_GW_all_v20190207.mxd 5:00:19 PM, 2/8/2019 amiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

MW-106 10/11/1996
BENZENE 8 ug/l [1,2,8,9]
ETHYLBENZENE 22 ug/l [3,8,9]
FLUORANTHENE 7 ug/l [3]
NAPHTHALENE (SVOC) 85 ug/l [3]
PHENANTHRENE 27 ug/l [3]
XYLENE - TOTAL 500 ug/l [1,2,3,8,9]

SB-102 7/19/1995
ETHYLBENZENE 3 ug/l [8]

SB-101 7/19/1995
ANTHRACENE 91 ug/l [1,2,4,5,6]
ANTHRACENE # 82 J ug/l [1,2,4,5,6]
BENZENE 1,000 ug/l [1,2,3,8,9,10,11,12,13]
ETHYLBENZENE 1,200 ug/l [1,2,3,8,9,10,11,12,13]
FLUORENE 55 ug/l [3]
FLUORENE # 56 J ug/l [3]
NAPHTHALENE (SVOC) 1,100 ug/l [1,3]
NAPHTHALENE (SVOC) # 1,100 J ug/l [1,3]
PHENANTHRENE # 73 J ug/l [1,3]
TOLUENE 4,800 ug/l [1,2,3,8,9]
XYLENE - TOTAL 5,600 ug/l [1,2,3,8,9,10,11]

MW-108 10/11/1996
BENZO(A)ANTHRACENE 11 ug/l [1,2,4]
BENZO(A)PYRENE 11 ug/l [1,2,4]
BENZO(B)FLUORANTHENE 10 ug/l [1,2,4]
BENZO(G,H,I)PERYLENE 8 ug/l [1,2,4]
BENZO(K)FLUORANTHENE 8 ug/l [1,2,4]
CHRYSENE 12 ug/l [1,2,4]
FLUORANTHENE 24 ug/l [3]
INDENO(1,2,3-CD)PYRENE 9 ug/l [1,2,4]
PHENANTHRENE 9 ug/l [3]

MW-105 10/29/1996
BENZENE 8 ug/l [1,2,8,9]
ETHYLBENZENE 28 ug/l [3,8,9]
XYLENE - TOTAL 72 ug/l [3]

SB-201 7/20/1995
BENZENE 35 ug/l [1,2,3,8,9,10]
ETHYLBENZENE 24 ug/l [3,8,9]
XYLENE - TOTAL 92 ug/l [3,8]

MW-103 7/25/1995
BENZENE 9 ug/l [1,2,8,9]

MW-112 10/11/1996
PHENANTHRENE 12 ug/l [3]

SB-108 7/19/1995
ETHYLBENZENE 3 ug/l [8]
FLUORANTHENE 6 ug/l [3]
NAPHTHALENE (SVOC) 23 ug/l [3]

MW-110 10/11/1996
BENZENE 110 ug/l [1,2,3,8,9,10,11]
ETHYLBENZENE 430 ug/l [1,2,3,8,9,10,12]
NAPHTHALENE (SVOC) 410 ug/l [3]
PHENANTHRENE 41 ug/l [3]
XYLENE - TOTAL 1,700 ug/l [1,2,3,8,9,10]

MW-101 7/25/1995
ANTHRACENE 71 ug/l [1,2,4,5,6]
ETHYLBENZENE 11 ug/l [8,9]
FLUORANTHENE 40 ug/l [3]
FLUORENE 41 ug/l [3]
NAPHTHALENE (SVOC) 280 ug/l [3]
XYLENE - TOTAL 60 ug/l [3]

SB-114 7/19/1995
BENZENE 13 ug/l [1,2,3,8,9]
ETHYLBENZENE 12 ug/l [8,9]

SB-103 7/19/1995
BENZENE 53 ug/l [1,2,3,8,9,10]
ETHYLBENZENE 94 ug/l [1,2,3,8,9,10]
NAPHTHALENE (SVOC) 37 ug/l [3]
XYLENE - TOTAL 260 ug/l [3,8,9]

MW-109 10/11/1996
BENZENE 30 ug/l [1,2,3,8,9,10]
BENZO(A)ANTHRACENE 24 ug/l [1,2,4]
BENZO(A)PYRENE 22 ug/l [1,2,4]
BENZO(B)FLUORANTHENE 24 ug/l [1,2,4]
BENZO(G,H,I)PERYLENE 13 ug/l [1,2,4]
BENZO(K)FLUORANTHENE 18 ug/l [1,2,4]
CHRYSENE 25 ug/l [1,2,4]
ETHYLBENZENE 9 ug/l [8,9]
FLUORANTHENE 56 ug/l [3]
INDENO(1,2,3-CD)PYRENE 15 ug/l [1,2,4]
NAPHTHALENE (SVOC) 18 ug/l [3]
PHENANTHRENE 36 ug/l [3]

SB-111 7/19/1995
NAPHTHALENE (SVOC) 28 ug/l [3]

SB-109 7/19/1995
BENZENE 7 ug/l [1,2,8,9]
ETHYLBENZENE 71 ug/l [3,8,9,10]
NAPHTHALENE (SVOC) 82 ug/l [3]
XYLENE - TOTAL 380 ug/l [1,2,3,8,9]

SB-110 7/19/1995
NAPHTHALENE (SVOC) 50 ug/l [3]

QMCP-GW67 9/11/2018
(3-7 ft)
BENZO(A)ANTHRACENE 23 J ug/l [1,2,4]
BENZO(A)PYRENE 19 J ug/l [1,2,4]
BENZO(B)FLUORANTHENE 30 J ug/l [1,2,4]
BENZO(G,H,I)PERYLENE 4.2 J ug/l [1,2,4]
BENZO(K)FLUORANTHENE 12 J ug/l [1,2,4]
CHRYSENE 21 J ug/l [1,2,4]
FLUORANTHENE 46 J ug/l [3]
INDENO(1,2,3-CD)PYRENE 4.5 J ug/l [1,2,4]
PHENANTHRENE 39 J ug/l [3]

MW-403 7/25/1995 (chloride only)
MW-404 10/11/1996
MW-402 7/25/1995 (chloride only)
MW-401 7/25/1995 (chloride)
MW-405 10/11/1996
MW-406 3/6/1997
SB-501 7/20/1995
Filling Station
Gasoline Tanks
SB-104 7/19/1995
SB-105 7/19/1995
SB-107 7/19/1995
SB-106 7/19/1995
MW-305 10/11/1996
Core Oven
Oil Tanks 10,000 Gallons Each
MW-303 7/25/1995 10/11/1996
Coke and Sand
Coal Bin
Core Oven
MW-306 10/23/1997
MW-104 7/25/1995
MW-102 7/25/1995
Oil Tank
Oil Pump House
MW-501 10/11/1996
QMCP-MW501 9/7/2018
MW-502 10/11/1996
MW-503 10/11/1996
QMCP MW-503 9/7/2018
MW-504 10/11/1996
SB-112 7/19/1995
MW-505 10/11/1996
QMCP-MW505 9/6/2018
QMCP-GW68 9/11/2018
QMCP-GW7 9/11/2018
MW-302 7/25/1995 (chloride only)
QMCP MW-302 9/6/2018
QMCP MW-301 9/6/2018
MW-301 7/25/1995 (chloride only)
Coal Dock

AREA B (North)
AREA B (South)

AREA B (North)
- 1928 Store House, dwellings
- 1949 Filling Station

AREA B (South)
- 1907 Lake Superior Iron Works
- 1928 Portage Lake Foundry & Machinery Co.
- 1949 Houghton Co. Road Comission

MDEQ Part 201 Cleanup Criteria for Response Action
[1]*=Residential Drinking Water Criteria
[2]*=Nonresidential Drinking Water Criteria
[3]*=Groundwater Surface Water Interface Criteria
[4]=Residential Groundwater Vol to Indoor Air Inhalation
[5]=Nonresidential Groundwater Vol to Indoor Air Inhalation
[6]=Water Solubility
[7]=Flammability and Explosivity Screening Level

Volatilization to Indoor Air Interim Action Screening Levels (Aug 2017)
[8]=Shallow Groundwater Residential RIASL
[9]=Shallow Groundwater Non-Residential RIASL
[10]=Groundwater Residential RIASL
[11]=Groundwater Residential TSRIASL
[12]=Groundwater Non-Residential RIASL
[13]=Groundwater Non-Residential RIASL$_{12}$
[14]=Groundwater Non-Residential TSRIASL$_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on MDEQ Criteria at time of Project completion

DATA SOURCES

Sample IDs	Date Range
1) **MW-/SB-…**	**July 1995 July 1998**

-SCA Environmental. *Phase II Hydrogeological Investigation Report, Houghton County Road Commission Ripley Garage.* Prepared for Houghton County Road Commission. August 1998.
2) "**QMCP-GW...**" **September 2018**
- **MDEQ RRD**. *SI results not published*

PCBs / VOCs
Inorganics / Cyanide / SVOCs
At Least One Exceedance for Indicated Parameter Group
No Exceedances for Indicated Parameter Group
At Least One Detection of PCBs
PCBs Not Detected
Indicated Parameter Group Not Analyzed
Sample Results Displayed on Another Figure
1865 Shoreline
Copper Heritage Trail ROW
Features Identified on Sanborn Maps
Approximate Parcel Boundaries
QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *ug/l = micrograms per liter*
- *# = results are from laboratory cleanup run*

N
0 90 Ft
Coordinate System: MIGeoRef(m)

Prepared for:
Michigan Department of Environmental Quality

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Figure 6-b
Sample Analytical Results Map - Groundwater
Area B
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Plannin\20190102_QMCP_SI_Report\Fig6_QMCP_GW_all_v20180207.mxd 5:03:57 PM 2/8/2019 amiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

AREA D

QMCP-GW09 9/6/2018
(12-16 ft)

1,2,4-TRIMETHYLBENZENE	420	ug/l [1,2,3,8,9]
1,3,5-TRIMETHYLBENZENE	230	ug/l [1,2,3,8,9]
2-METHYLNAPHTHALENE (SVOC)	22	ug/l [3]
2-METHYLNAPHTHALENE (VOC)	62	ug/l [3]
ETHYLBENZENE	230	ug/l [1,2,3,8,9,10]
HEXANE	260	ug/l [8,9,10,11,12,13]
ISOPROPYLBENZENE	71	ug/l [3]
NAPHTHALENE (SVOC)	42	ug/l [3]
NAPHTHALENE (VOC)	88	ug/l [3]
N-PROPYLBENZENE	160	ug/l [1]
XYLENE - TOTAL	425	ug/l [1,2,3,8,9]

QMCP-GW11 9/6/2018
(7-11 ft)
MERCURY 0.6 ug/l [8,9]

QMCP-GW12 9/6/2018
(4-8 ft)
MERCURY 0.3 ug/l [8,9]

QMCP-GW10 9/7/2018

QMCP-GW18 9/7/2018
(5-9 ft)
MERCURY 1.2 ug/l [8,9]

QMCP-GW51 9/6/2018

Core Oven

QMCP-GW52 9/6/2018

QMCP-GW17 9/7/2018

Furnace

QMCP-GW14 9/6/2018

Oil House

QMCP-GW15 9/6/2018

QMCP-GW13 9/6/2018

Coal Dock, Coal and Coke

QMCP-GW16 9/6/2018
(2-4 ft)
MERCURY 2.5 ug/l [8,9,10]

AREA D
- 1979 Portage Lake Foundry & Machinery

DATA SOURCES

Sample IDs	Date Range
1) "**QMCP-GW...**"	**September 2018**

- **MDEQ RRD.** *SI results not published*

MDEQ Part 201 Cleanup Criteria for Response Action
[1]*=Residential Drinking Water Criteria
[2]*=Nonresidential Drinking Water Criteria
[3]*=Groundwater Surface Water Interface Criteria
[4]=Residential Groundwater Vol to Indoor Air Inhalation
[5]=Nonresidential Groundwater Vol to Indoor Air Inhalation
[6]=Water Solubility
[7]=Flammability and Explosivity Screening Level

Volatilization to Indoor Air Interim Action Screening Levels (Aug 2017)
[8]=Shallow Groundwater Residential RIASL
[9]=Shallow Groundwater Non-Residential RIASL
[10]=Groundwater Residential RIASL
[11]=Groundwater Residential TSRIASL
[12]=Groundwater Non-Residential RIASL
[13]=Groundwater Non-Residential $RIASL_{12}$
[14]=Groundwater Non-Residential $TSRIASL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on MDEQ Criteria at time of Project completion

PCBs / VOCs
- At Least One Exceedance for Indicated Parameter Group
- No Exceedances for Indicated Parameter Group
- At Least One Detection of PCBs
- PCBs Not Detected
- Indicated Parameter Group Not Analyzed

Inorganics / Cyanide / SVOCs

- Sample Results Displayed on Another Figure
- 1865 Shoreline
- Copper Heritage Trail ROW
- Features Identified on Sanborn Maps
- Approximate Parcel Boundaries
- EPA Cap Boundary
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *ug/l = micrograms per liter*
- *# = results are from laboratory cleanup run*

N

0 130 Ft

Coordinate System: MIGeoRef(m)

Prepared for:
Michigan Department of Environmental Quality

Mannik Smith Group — Technical Skill. Creative Spirit.
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Figure 6-c
Sample Analytical Results Map - Groundwater
Area D
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190102_QMCP_SI_ReportFig6_QMCP_GW_all_v20190207.mxd 5:07:57 PM 2/8/2019 amiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

QMCP-GW62 9/7/2018
(4-8 ft)

1,2,3-TRIMETHYLBENZENE	290	ug/l [8,9]
1,2,4-TRIMETHYLBENZENE	590	ug/l [1,2,3,8,9,10]
1,3,5-TRIMETHYLBENZENE	150	ug/l [1,2,3,8,9]
2-METHYLNAPHTHALENE (SVOC)	73	ug/l [3]
2-METHYLNAPHTHALENE (VOC)	100	ug/l [3]
BENZENE	120	ug/l [1,2,3,8,9,10,11]
ETHYLBENZENE	270	ug/l [1,2,3,8,9,10]
MERCURY	1.8	ug/l [8,9,10]
NAPHTHALENE (SVOC)	160	ug/l [3]
NAPHTHALENE (VOC)	240	ug/l [3]
PHENANTHRENE	17	ug/l [3]
XYLENE - TOTAL	656	ug/l [1,2,3,8,9]

QMCP-GW20 9/7/2018
(5-9 ft)

MERCURY	1.7	ug/l [8,9,10]

QMCP-GW63 9/7/2018
(4-8 ft)

1,2,3-TRIMETHYLBENZENE	100	ug/l [8,9]
1,2,4-TRIMETHYLBENZENE	290	ug/l [1,2,3,8,9]
1,3,5-TRIMETHYLBENZENE	69	ug/l [3,8,9]
2-METHYLNAPHTHALENE (SVOC)	90	ug/l [3]
2-METHYLNAPHTHALENE (VOC)	100	ug/l [3]
BENZENE	15	ug/l [1,2,3,8,9,10]
ETHYLBENZENE	87	ug/l [1,2,3,8,9,10]
MERCURY	1.0	ug/l [8,9]
NAPHTHALENE (SVOC)	140	ug/l [3]
NAPHTHALENE (VOC)	190	ug/l [3]
PHENANTHRENE	15	ug/l [3]
XYLENE - TOTAL	219	ug/l [3,8,9]

QMCP-GW61 9/7/2018
(5-9 ft)

MERCURY	0.4	ug/l [8,9]
MERCURY (DUP)	0.3	ug/l [8,9]

QMCP-GW21 9/7/2018
(4-8 ft)

MERCURY	0.2	ug/l [8,9]

QMCP-GW64 9/7/2018
(5-9 ft)

MERCURY	1.0	ug/l [8,9]

APPROXIMATE LOCATION OF MDNR SURVEYOR OBSERVATIONS OF CONTAMINATED SOIL (July 2018)

Gasoline Tanks
Filling Station
Oil Pump House
Oil House
Foundry Warehouse
Ward Brass Foundry
Coal Pockets
Gasoline, Kerosene and Fuel Oil Tanks
AREA E
AREA F
Coal Shed
Coal Pockets
OIL SHEEN OBSERVED ON SURFACE WATER DRAINING TO PORTAGE CANAL (Fall 2018)
Coal Shed
Propane Gas Tank
Coal Piles

Map Extent
Keweenaw National Historical Park
Hancock
Houghton
Dollar Bay
Dodgeville

AREA E
- Historic land use and/or operations unknown

AREA F
- Manufactured Gas Plant
- Filling Station

DATA SOURCES

Sample IDs	Date Range
1) "**QMCP-GW...**"	**September 2018**

- **MDEQ RRD.** *SI results not published*

PCBs
VOCs
Inorganics / Cyanide
SVOCs
At Least One Exceedance for Indicated Parameter Group
No Exceedances for Indicated Parameter Group
At Least One Detection of PCBs
PCBs Not Detected
Indicated Parameter Group Not Analyzed

Sample Results Displayed on Another Figure
1865 Shoreline
Copper Heritage Trail ROW
Areas of Observed Soil Staining
Features Identified on Sanborn Maps
Approximate Parcel Boundaries
QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *ug/l = micrograms per liter*
- *# = results are from laboratory cleanup run*

N
0 130 Ft
Coordinate System: MIGeoRef(m)

MDEQ Part 201 Cleanup Criteria for Response Action
[1]*=Residential Drinking Water Criteria
[2]*=Nonresidential Drinking Water Criteria
[3]*=Groundwater Surface Water Interface Criteria
[4]=Residential Groundwater Vol to Indoor Air Inhalation
[5]=Nonresidential Groundwater Vol to Indoor Air Inhalation
[6]=Water Solubility
[7]=Flammability and Explosivity Screening Level

Volatilization to Indoor Air Interim Action Screening Levels (Aug 2017)
[8]=Shallow Groundwater Residential RIASL
[9]=Shallow Groundwater Non-Residential RIASL
[10]=Groundwater Residential RIASL
[11]=Groundwater Residential TSRIASL
[12]=Groundwater Non-Residential RIASL
[13]=Groundwater Non-Residential $RIASL_{12}$
[14]=Groundwater Non-Residential $TSRIASL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on MDEQ Criteria at time of Project completion

Prepared for:
Michigan Department of Environmental Quality

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Figure 6-d
Sample Analytical Results Map - Groundwater
Areas E-F
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190102_QMCP_SI_ReportEnt6_QMCP_GW_all_v20190207.mxd 5:15:05 PM, 2/8/2019, amiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

AREA G OBSERVED SOIL STAINING/SHEEN
- -On ground near AST System
- -On ground near parked equipment north of Trail ROW
- -Near discharge pipe at Work Trailer
- -Near Box Equipment
- -Near Building, approximately 175 feet from creek
- - Along creek bank draining to Portage Canal

QMCP-GW77 10/31/2018
(1 ft)

BENZO(A)ANTHRACENE	2.2 ug/l	[1]
BENZO(A)PYRENE	2.5 ug/l	[4]
BENZO(B)FLUORANTHENE	4.2 ug/l	[1,2,4]
BENZO(G,H,I)PERYLENE	1.7 ug/l	[1,2,4]
BENZO(K)FLUORANTHENE	1.5 ug/l	[1,2,4]
CHRYSENE	2.3 ug/l	[1,2,4]
FLUORANTHENE	4.5 ug/l	[3]

QMCP-GW23 9/8/2018
(5-9 ft)
MERCURY 0.3 ug/l [8,9]

QMCP-GW25 9/8/2018
(4-8 ft)
MERCURY 2.3 ug/l [8,9,10]

MW-1 11/7/2013
MERCURY 0.66 ug/l [8,9]

QMCP-GW26 9/8/2018
(2-6 ft)

1,2,4-TRIMETHYLBENZENE	36 ug/l	[3,8]
1,3,5-TRIMETHYLBENZENE	20 ug/l	[8]
2-METHYLNAPHTHALENE (SVOC)	50 ug/l	[3]
2-METHYLNAPHTHALENE (VOC)	120 ug/l	[3]
NAPHTHALENE (VOC)	12 ug/l	[3]

QMCP-GW27 9/8/2018
(2-6 ft)
MERCURY 9.9 ug/l [8,9,10,11,12]

QMCP-GW29 9/8/2018
(2-6 ft)
MERCURY 1.4 ug/l [8,9]

QMCP-GW65 9/8/2018
QMCP-GW66 9/8/2018
QMCP-GW76 10/31/2018
QMCP-GW75 10/31/2018
QMCP-GW22 9/8/2018
QMCP-GW24 9/8/2018
QMCP-GW28 9/8/2018
GP-1 6/13/2012
GP-2 6/13/2012
GP-3 6/13/2012
GP-4 6/13/2012
GP-5 6/13/2012
MW-2 11/7/2013
MW-3 11/7/2013

Standard Oil Company
OFFICE BUILDING
AST SYSTEM
AREA G
AREA H
WORK TRAILER
BOX EQUIPMENT
OIL SHEEN OBSERVED ON SURFACE WATER DRAINING TO PORTAGE CANAL (Fall 2018)

AREA G
- 1917 Standard Oil Co.
- Other historic land use and/or operations unknown.

AREA H
- Historic land use and/or operations unknown

DATA SOURCES

Sample IDs	Date Range
1) **GP-/MW-**	**June 2012 November 2013**

- Trimedia Environmental & Engineering. *Baseline Environmental Assessment: Royce Road Marina, Royce Road, Franklin Township, Houghton County, MI 49930.* October 26, 2015.
2) "**QMCP-GW...**" **September 2018**
- **MDEQ RRD.** *SI results not published*

PCBs
VOCs
Inorganics / Cyanide
SVOCs
At Least One Exceedance for Indicated Parameter Group
No Exceedances for Indicated Parameter Group
At Least One Detection of PCBs
PCBs Not Detected
Indicated Parameter Group Not Analyzed
Sample Results Displayed on Another Figure
1865 Shoreline
Copper Heritage Trail ROW
Areas of Observed Soil Staining
Features Identified on Sanborn Maps
Approximate Parcel Boundaries
QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *ug/l = micrograms per liter*
- *# = results are from laboratory cleanup run*

N
0 130 Ft
Coordinate System: MIGeoRef(m)

MDEQ Part 201 Cleanup Criteria for Response Action
[1]*=Residential Drinking Water Criteria
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[12]=Groundwater Non-Residential RIASL
[13]=Groundwater Non-Residential $RIASL_{12}$
[14]=Groundwater Non-Residential $TSRIASL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on MDEQ Criteria at time of Project completion

Prepared for:
Michigan Department of Environmental Quality

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Figure 6-e
Sample Analytical Results Map - Groundwater
Areas G-H
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190102_QMCP_SI_Report\Fig6_QMCP_GW_all_v20190207.mxd 5:18:45 PM, 2/8/2019, amiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

AREA I

AREA J

Fuel

QMCP-GW30
9/8/2018

QMCP-GW34
9/9/2018

Boiler House

Furnace

QMCP-GW31
9/8/2018

Slag Pile 4'

Slag Pile

Slag Pile

QMCP-GW33
9/9/2018

Slag Pile 4'

Iron Refuse Burner and Spark Arrestor

Oil House

Dutch Oven

QMCP-GW35 9/9/2018
(6-10 ft)
MERCURY 3.2 ug/l [8,9,10]
MERCURY (DUP) 2.2 ug/l [8,9,10]

QMCP-GW32 9/9/2018
(5-9 ft)
MERCURY 1.1 ug/l [8,9]

QMCP-GW36 9/9/2018
(5-9 ft)
MERCURY 0.7 ug/l [8,9]

AREA I
- 1907 Portage Boiler Works
- 1928 Lake Superior Iron and Metal Co.
- 1949 A& Scrap Iron Storage, J.H. Green Co.

AREA J
- 1917 Houghton Lumber Yard Co
- 1928 Dollar Bay Lumber Co.
- 1928 Henry Borth Co. Manufacturing R.R. Shims UP Oil Company

DATA SOURCES

Sample IDs	Date Range
1) **GP-/MW-**	**June 2012 November 2013**
- Trimedia Environmental & Engineering. *Baseline Environmental Assessment: Royce Road Marina, Royce Road, Franklin Township, Houghton County, MI 49930.* October 26, 2015.	
2) "**QMCP-GW...**"	**September 2018**
- MDEQ RRD. *SI results not published*	

PCBs
VOCs
Inorganics / Cyanide
SVOCs

- At Least One Exceedance for Indicated Parameter Group
- No Exceedances for Indicated Parameter Group
- At Least One Detection of PCBs
- PCBs Not Detected
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- Sample Results Displayed on Another Figure
- 1865 Shoreline
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Notes:
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N

0 130 Ft

Coordinate System: MIGeoRef(m)

MDEQ Part 201 Cleanup Criteria for Response Action
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Volatilization to Indoor Air Interim Action Screening Levels (Aug 2017)
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[9]=Shallow Groundwater Non-Residential RIASL
[10]=Groundwater Residential RIASL
[11]=Groundwater Residential TSRIASL
[12]=Groundwater Non-Residential RIASL
[13]=Groundwater Non-Residential $RIASL_{12}$
[14]=Groundwater Non-Residential $TSRIASL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on MDEQ Criteria at time of Project completion

Prepared for:
Michigan Department of Environmental Quality

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Figure 6-f
Sample Analytical Results Map - Groundwater
Areas I-J
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190102_QMCP_SI_Report\Fig6_QMCP_GW_all_v20190207.mxd 5:22:11 PM, 2/8/2019 amiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

QMCP-GW60 9/9/2018
(7-11 ft)

1,2,4-TRIMETHYLBENZENE	49 ug/l [3,8,9]
1,3,5-TRIMETHYLBENZENE	45 ug/l [8,9]
2-METHYLNAPHTHALENE (VOC)	46 ug/l [3]
ETHYLBENZENE	14 ug/l [8,9]
NAPHTHALENE (SVOC)	14 ug/l [3]
NAPHTHALENE (VOC)	40 ug/l [3]
XYLENE - TOTAL	93 ug/l [3,8]

QMCP-GW59 9/9/2018

AREA L

QMCP-GW73 9/11/2018

AREA P

E-4 9/21/1994

E-5 9/21/1994

E-1 9/21/1994

E-2 9/21/1994

AREA O

Lake 9/21/1994

AREA M

QMCP-GW42 9/10/2018

PW #2 8/28/1994 1/5/1995 6/7/1995 9/11/1995 1/16/1996 3/19/1996 6/25/1996 5/20/2010

PW #3 9/12/1994 10/18/1994 4/15/1997 5/20/2010

OW #1 12/14/1994

QMCP-GW41 9/10/2018

Smelter Building w/ approx. 7 furnaces

Underground Oil House

QMCP-GW37 9/11/2018

Smelter Building w/ furnaces

QMCP-GW39 9/11/2018

QMCP-GW40 9/10/2018

QMCP-GW43 9/10/2018
(6-10 ft)
FLUORANTHENE 2.6 ug/l [3]

AREA N

Waste Conveyor

QMCP-GW38 9/11/2018

QMCP-GW48
- Free product observed.
- Sample submitted for fingerprint analysis indicated motor oil and mineral oil

Furnaces

Dust Bin

Oil House

Oil House

QMCP-GW44 9/10/2018

QMCP-GW49 9/10/2018
(5-9 ft)
MERCURY 0.2 ug/l [8,9]

QMCP-GW50 9/10/2018

QMCP-GW45 9/10/2018
(5-9 ft)

MERCURY	0.4 ug/l [8,9]
PHENANTHRENE	5.2 ug/l [3]

QMCP-GW47 9/10/2018
(5-9 ft)
MERCURY 0.2 ug/l [8,9]

QMCP-GW46 9/10/2018
(4-8 ft)

MERCURY	0.3 ug/l [8,9]
PHENANTHRENE	25 ug/l [3]

AREA L
-Bulk Oil Storage
-Other historic land use and/or operations unknown.

AREA M
-1928 Lake Superior Smelting Co.
-1949 Ice Houses

AREA N
- 1907 Tamarack & Osceola Copper Manufacturing Co.
- 1928 John A Roebling's Sons Copper Manufacturing
- 1949 Foley Copper Products Co. Copper Wire Mill

AREA O
- 1907 Dollar Bay Land and Improvement Co.
- 1917 Dollar Bay Lumber Company
- 1949 Dollar Bay Lumber Co. Saw Mill & Lumber Yard
- 1949 Horner Flooring Co. Wood Flooring Mill

AREA P
-1917 Slag Dump, Lake Superior Melting Co.

DATA SOURCES

Sample IDs	Date Range
1) **PW#/OW#...**	**August 1994 January 1995**

-Traverse Engineering Services. 1st Preliminary Report Dollar Bay Wells. March 31, 1995.

2) **PW#/OW#...**	**January 1996 May 2010**

-Michigan Department of Public Health. Select results from periodic sampling.

3) **E-.../Lake**	**September 1994**

-Correspondence with Horner Flooring

4) "**QMCP-GW..**"	**September 2018**

-MDEQ RRD. *SI results not published*

PCBs / VOCs
Inorganics / Cyanide
SVOCs
At Least One Exceedance for Indicated Parameter Group
No Exceedances for Indicated Parameter Group
At Least One Detection of PCBs
PCBs Not Detected
Indicated Parameter Group Not Analyzed

Free Product Observed
1865 Shoreline
Copper Heritage Trail ROW
Features Identified on Sanborn Maps
Approximate Parcel Boundaries
EPA Cap Boundary
QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *ug/l = micrograms per liter*
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N
0 390 Ft
Coordinate System: MIGeoRef(m)

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* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on MDEQ Criteria at time of Project completion

Prepared for:
Michigan Department of Environmental Quality

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Figure 6-g
Sample Analytical Results Map - Groundwater
Areas L-P
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20190102_QMCP_SI_ReportEin6_QMCP_GW_all_v20190207.mxd 5:28:18 PM, 2/8/2019, amiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

QMCP-SD02 9/5/2018
(0-1 ft)

COPPER	690	mg/kg [1,2,3]
COPPER (DUP)	680	mg/kg [1,2,3]
LEAD	78	mg/kg [1,2]
LEAD (DUP)	82	mg/kg [1,2]
MANGANESE	890	mg/kg [1]
MANGANESE (DUP)	750	mg/kg [1]
MERCURY	0.3	mg/kg [1,2]
SILVER	1.2	mg/kg [1]
SILVER (DUP)	1.3	mg/kg [1]
ACENAPHTHENE	330	ug/kg [1]
ACENAPHTHENE (DUP)	600	ug/kg [1]
ACENAPHTHYLENE (DUP)	290	ug/kg [1]
ANTHRACENE	650	ug/kg [1,2]
ANTHRACENE (DUP)	3,300	ug/kg [1,2,3]
BENZO(A)ANTHRACENE	1,900	ug/kg [1,2,3]
BENZO(A)ANTHRACENE (DUP)	5,300	ug/kg [1,2,3]
BENZO(A)PYRENE	1,800	ug/kg [1,2,3]
BENZO(A)PYRENE (DUP)	4,900	ug/kg [1,2,3]
BENZO(B)FLUORANTHENE	2,900	ug/kg [1]
BENZO(B)FLUORANTHENE (DUP)	7,800	ug/kg [1]
BENZO(K)FLUORANTHENE	850	ug/kg [1]
BENZO(K)FLUORANTHENE (DUP)	2,300	ug/kg [1]
CHRYSENE	1,600	ug/kg [1,2,3]
CHRYSENE (DUP)	4,600	ug/kg [1,2,3]
FLUORANTHENE	4,400	ug/kg [1,2,3]
FLUORANTHENE (DUP)	12,000	ug/kg [1,2,3]
FLUORENE	550	ug/kg [1,2,3]
FLUORENE (DUP)	1,100	ug/kg [1,2,3]
INDENO(1,2,3-CD)PYRENE (DUP)	1,100	ug/kg [1]
NAPHTHALENE (SVOC)	360	ug/kg [1,2]
NAPHTHALENE (SVOC) (DUP)	920	ug/kg [1,2,3]
PHENANTHRENE	2,900	ug/kg [1,2,3]
PHENANTHRENE (DUP)	7,600	ug/kg [1,2,3]
PYRENE	3,600	ug/kg [1,2,3]
PYRENE (DUP)	11,000	ug/kg [1,2,3]

(1-1.8 ft)

ARSENIC	20	mg/kg [1,2]
COPPER	2,100	mg/kg [1,2,3]
LEAD	180	mg/kg [1,2,3]
MANGANESE	660	mg/kg [1]
MERCURY	0.4	mg/kg [1,2]
SILVER	8.5	mg/kg [1]
ZINC	250	mg/kg [1,2]
BENZO(A)ANTHRACENE	1,800	ug/kg [1,2,3]
BENZO(A)PYRENE	1,700	ug/kg [1,2,3]
BENZO(B)FLUORANTHENE	2,800	ug/kg [1]
CHRYSENE	1,800	ug/kg [1,2,3]
FLUORANTHENE	4,100	ug/kg [1,2,3]
PHENANTHRENE	3,100	ug/kg [1,2,3]
PYRENE	3,600	ug/kg [1,2,3]

QMCP-SD01 9/5/2018
(0-0.5 ft)

COPPER	220	mg/kg [1,2,3]

QMCP-PS05 9/6/2018

COPPER	210	ug/l [GW3,SW1,SW2]
LEAD	13	ug/l [GW1,GW2,SW1]
MANGANESE	1,300	ug/l [GW1,GW2,GW3,SW1]

QMCP-SDM01 9/9/2018
(12.66 ft)

COPPER	750	mg/kg [1,2,3]
LEAD	63	mg/kg [1,2]
MANGANESE	470	mg/kg [1]
MERCURY	0.2	mg/kg [1,2]
SILVER	1.5	mg/kg [1]

QMCP-SD05 9/5/2018
(0-0.5 ft)

ARSENIC	22	mg/kg [1,2]
CHROMIUM	58	mg/kg [1,2]
COPPER	1,300	mg/kg [1,2,3]
LEAD	84	mg/kg [1,2]
MANGANESE	640	mg/kg [1]
MERCURY	0.7	mg/kg [1,2]
SILVER	2.6	mg/kg [1]
ZINC	140	mg/kg [1,2]
FLUORANTHENE	2,000	ug/kg [1,2]
PYRENE	1,900	ug/kg [1,2,3]

(0.5-1.5 ft)

COPPER	1,500	mg/kg [1,2,3]
MERCURY	0.2	mg/kg [1,2]
SILVER	3.1	mg/kg [1]
PHENANTHRENE	290 J	ug/kg [1,2]
PYRENE	290 J	ug/kg [1,2]

QMCP-SDM03 9/9/2018
(14.56 ft)

ARSENIC	9.8	mg/kg [2]
COPPER	560	mg/kg [1,2,3]
LEAD	89	mg/kg [1,2]
MERCURY	0.3	mg/kg [1,2]
FLUORANTHENE	1,600	ug/kg [1,2]

QMCP-PS02 9/6/2018

COPPER	820	ug/l [GW3,SW1,SW2,SW3]
LEAD	110	ug/l [GW1,GW2,GW3,SW1,SW2,SW3]
MANGANESE	150	ug/l [GW1,GW2,SW1]
SILVER	0.5	ug/l [GW3]
FLUORANTHENE	1.1	ug/l [SW1]

QMCP-SD03 9/5/2018
(0-0.5 ft)

CHROMIUM	98	mg/kg [1,2]
COPPER	1,200	mg/kg [1,2,3]
MANGANESE	690	mg/kg [1]
SILVER	3.5	mg/kg [1]
BENZO(A)ANTHRACENE	390	ug/kg [1,2]
BENZO(A)PYRENE	680	ug/kg [1,2]
BENZO(B)FLUORANTHENE	990	ug/kg [1]
CHRYSENE	440	ug/kg [1,2]
FLUORANTHENE	780	ug/kg [1,2]
PHENANTHRENE	1,000	ug/kg [1,2]
PYRENE	730	ug/kg [1,2]

QMCP-SDM02 9/9/2018
(14.82 ft)

COPPER	1,100	mg/kg [1,2,3]
LEAD	38	mg/kg [1,2]
MANGANESE	480	mg/kg [1]
MERCURY	0.4	mg/kg [1,2]
PYRENE	1,600	ug/kg [1,2,3]
SILVER	2.0	mg/kg [1]
FLUORANTHENE	1,900	ug/kg [1,2]

QMCP-PS06 9/6/2018

ANTHRACENE	2.3	ug/l [SW1,SW2]
COPPER	3,500	ug/l [GW1,GW2,GW3,SW1,SW2,SW3]
FLUORANTHENE	5.1	ug/l [GW3,SW1,SW2]
LEAD	26	ug/l [GW1,GW2,GW3,SW1,SW3]
MANGANESE	760	ug/l [GW1,GW2,SW1]
PHENANTHRENE	12	ug/l [GW3,SW1]
SILVER	5.3	ug/l [GW3,SW2]

QMCP-SD06 9/5/2018
(0-1.25 ft)

COPPER	340	mg/kg [1,2,3]
COPPER (DUP)	420	mg/kg [1,2,3]
FLUORANTHENE	510	ug/kg [1,2]
PHENANTHRENE	350	ug/kg [1,2]
PYRENE	380	ug/kg [1,2]

(1.25-2.9 ft)

COPPER	2,300	mg/kg [1,2,3]
MERCURY	0.2	mg/kg [1,2]
SILVER	4.2	mg/kg [1]
ACENAPHTHENE	330	ug/kg [1]
ANTHRACENE	310	ug/kg [1,2]
BENZO(A)ANTHRACENE	520	ug/kg [1,2]
BENZO(B)FLUORANTHENE	600	ug/kg [1]
CHRYSENE	460	ug/kg [1,2]
FLUORANTHENE	1,300	ug/kg [1,2]
FLUORENE	350	ug/kg [1,2]
NAPHTHALENE (SVOC)	360	ug/kg [1,2]
PHENANTHRENE	1,400	ug/kg [1,2,3]
PYRENE	1,000	ug/kg [1,2]

QMCP-PS04 9/10/2018

COPPER	420	ug/l [GW3,SW1,SW2]
LEAD	4.4	ug/l [GW1,GW2,SW1]
MANGANESE	410	ug/l [GW1,GW2,SW1]
SILVER	0.4	ug/l [GW3]

QMCP-SD04 9/5/2018
(0-0.375 ft)

CHROMIUM	48	mg/kg [1,2]
COPPER	1,100	mg/kg [1,2,3]
LEAD	52	mg/kg [1,2]
MANGANESE	490	mg/kg [1]
MERCURY	0.5	mg/kg [1,2]
SILVER	2.5	mg/kg [1]
BENZO(A)ANTHRACENE	1,000	ug/kg [1,2]
BENZO(B)FLUORANTHENE	1,700	ug/kg [1]
CHRYSENE	1,100	ug/kg [1,2]
FLUORANTHENE	2,100	ug/kg [1,2]
PHENANTHRENE	990	ug/kg [1,2]
PYRENE	1,700	ug/kg [1,2,3]

(0.375-0.75 ft)

ARSENIC	11	mg/kg [1,2]
CHROMIUM	56	mg/kg [1,2]
COPPER	1,100	mg/kg [1,2,3]
LEAD	67	mg/kg [1,2]
MANGANESE	560	mg/kg [1]
MERCURY	0.6	mg/kg [1,2]
SILVER	2.2	mg/kg [1]
ZINC	130	mg/kg [1,2]
BENZO(A)ANTHRACENE	2,200	ug/kg [1,2,3]
BENZO(A)PYRENE	2,100	ug/kg [1,2,3]
BENZO(B)FLUORANTHENE	3,300	ug/kg [1]
CHRYSENE	2,100	ug/kg [1,2,3]
FLUORANTHENE	4,100	ug/kg [1,2,3]
NAPHTHALENE (SVOC)	1,100	ug/kg [1,2,3]
PHENANTHRENE	2,200	ug/kg [1,2,3]
PYRENE	3,600	ug/kg [1,2,3]

OIL SHEEN OBSERVED ON SURFACE WATER DRAINING TO PORTAGE CANAL (Fall 2018)

QMCP-PS07 9/6/2018

COPPER	210	ug/l [GW3,SW1,SW2]
LEAD	5.6	ug/l [GW1,GW2,SW1]
MANGANESE	81	ug/l [GW1,GW2]

QMCP-SS61 9/28/2018
(0-0.25 ft)

BENZO(A)ANTHRACENE	700	ug/kg [1,2]
BENZO(A)PYRENE	700	ug/kg [1,2]
BENZO(B)FLUORANTHENE	1,400	ug/kg [1]
CHRYSENE	680	ug/kg [1,2]
FLUORANTHENE	1,500	ug/kg [1,2]
PHENANTHRENE	760	ug/kg [1,2]
PYRENE	1,400	ug/kg [1,2]

QMCP-SS62 9/28/2018
(0-0.25 ft)

ACENAPHTHYLENE	570	ug/kg [1]
ANTHRACENE	750	ug/kg [1,2]
BENZO(A)ANTHRACENE	3,900	ug/kg [1,2,3]
CHRYSENE	3,600	ug/kg [1,2,3]
FLUORANTHENE	8,100	ug/kg [1,2,3]
NAPHTHALENE (SVOC)	560	ug/kg [1,2]
PHENANTHRENE	2,900	ug/kg [1,2,3]
PYRENE	8,000	ug/kg [1,2,3]
TOLUENE	280 J	ug/kg [1]

QMCP-SD08 9/5/2018
(0-0.67 ft)

COPPER	1,100	mg/kg [1,2,3]
LEAD	65	mg/kg [1,2]
MERCURY	0.6	mg/kg [1,2]
SILVER	2.0	mg/kg [1]
FLUORANTHENE	1,200	ug/kg [1,2]
NAPHTHALENE (SVOC)	1,100	ug/kg [1,2,3]
PHENANTHRENE	980	ug/kg [1,2]
PYRENE	1,100	ug/kg [1,2]

(0.87-1.67 ft)

COPPER	2,200	mg/kg [1,2,3]
MERCURY	0.3	mg/kg [1,2]
SILVER	4.3	mg/kg [1]
MANGANESE	590	mg/kg [1]

QMCP-SD07 9/5/2018
(0-0.92 ft)

COPPER	1,700	mg/kg [1,2,3]
MANGANESE	510	mg/kg [1]
SILVER	2.8	mg/kg [1]
BENZO(A)ANTHRACENE	300	ug/kg [1,2]
CHRYSENE	290	ug/kg [1,2]
FLUORANTHENE	730	ug/kg [1,2]
NAPHTHALENE (SVOC)	410	ug/kg [1,2]
PHENANTHRENE	510	ug/kg [1,2]
PYRENE	640	ug/kg [1,2]

AREA A
AREA B (South)
AREA C
AREA D
AREA E
AREA F
AREA G
AREA H
AREA I
AREA J

Map Extent
Houghton
Hancock
Dollar Bay

MDEQ Part 201 Cleanup Criteria for Response Action
[1]=Sediment Ecological Screening Level (EPA Region IV)
[2]=Threshold Effect Concentration (TEC)
[3]=Probable Effect Concentration (PEC)
[GW1]=Residential Drinking Water Criteria
[GW2]=Nonresidential Drinking Water Criteria
[GW3]=Groundwater Surface Water Interface Criteria
[SW1]=Surface Water Ecological Screening Level - Chronic (EPA Region IV)
[SW2]=Surface Water Ecological Screening Level - Acute (EPA Region IV)
[SW3]=Surface Water Rule 57 HNV Drink
[SW4]=Surface Water Rule 57 HCV Drink
[SW5]=Surface Water Rule 57 WV
Evaluation based on MDEQ Criteria at time of Project completion

PCBs
VOCs
Inorganics / Cyanide
SVOCs
At Least One Exceedance for Indicated Parameter Group
No Exceedances for Indicated Parameter Group
At Least One Detection of PCBs
PCBs Not Detected
Indicated Parameter Group Not Analyzed

1865 Shoreline
Copper Heritage Trail ROW
Feature Identified on Sanborn Maps
Approximate Parcel Boundaries
EPA Cap Boundary
QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *mg/kg = milligrams per kilogram*
- *ug/kg = micrograms per kilogram*
- *ug/l = micrograms per liter*

Porewater sample locations shown have been adjusted due to symbol size

N
0
550
Ft
Coordinate System: MIGeoRef(m)

Prepared for:
Michigan Department of Environmental Quality

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Figure 7-a *DRAFT*
Sample Analytical Result Map - Sediment, Submerged Drum Contents, Surface Water and Porewater - Areas A-J
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

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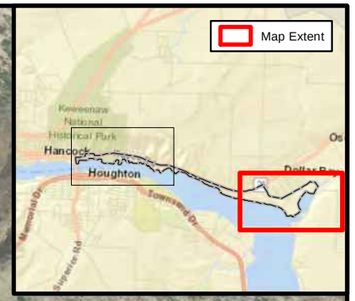
Image Source: Michigan Imagery Solution (Houghton - 2013)



AREA L

AREA M

AREA N

AREA O

AREA P

QMCP-SD09 9/6/2018
(0-0.5 ft)

ARSENIC	22	mg/kg [1,2]
COPPER	5,300	mg/kg [1,2,3]
SILVER	3.0	mg/kg [1]
BENZO(A)ANTHRACENE	970	ug/kg [1,2]
BENZO(A)PYRENE	1,000	ug/kg [1,2]
BENZO(B)FLUORANTHENE	1,900	ug/kg [1]
BENZO(K)FLUORANTHENE	600 J	ug/kg [1]
CHRYSENE	1,300	ug/kg [1,2,3]
FLUORANTHENE	3,000	ug/kg [1,2,3]
NAPHTHALENE (SVOC)	330	ug/kg [1,2]
PHENANTHRENE	2,300	ug/kg [1,2,3]
PYRENE	2,400	ug/kg [1,2,3]

Lake Portage
(Dollar Bay 1995)
*Surface Water analyzed for pentachlorophenol only

QMCP-SD12 9/6/2018
(0-1 ft)

COPPER	100	mg/kg [1,2]

(1-1.9 ft)

COPPER	74	mg/kg [1,2]

QMCP-SD13 9/7/2018
(0-0.58 ft)

ARSENIC	16	mg/kg [1,2]
CHROMIUM	110	mg/kg [1,2]
COPPER	1,400	mg/kg [1,2,3]
ZINC	180	mg/kg [1,2]

(0.58-3.2 ft)

COPPER	67	mg/kg [1,2]

QMCP-SD11

QMCP-SD14

QMCP-PS45

QMCP-SD10 9/6/2018
(0-0.33 ft)

COPPER	4,100	mg/kg [1,2,3]
FLUORANTHENE	460	ug/kg [1,2]
PYRENE	440	ug/kg [1,2]

(0.33-0.92 ft)

COPPER	1,500	mg/kg [1,2,3]

QMCP-PS10 9/10/2018

COPPER	250	ug/l [GW3,SW1,SW2]
LEAD	2.0	ug/l [SW1]
MANGANESE	390	ug/l [GW1,GW2,SW1]
SILVER	0.3	ug/l [GW3]

MDEQ Part 201 Cleanup Criteria for Response Action
[1]=Sediment Ecological Screening Level (EPA Region IV)
[2]=Threshold Effect Concentration (TEC)
[3]=Probable Effect Concentration (PEC)
[GW1]=Residential Drinking Water Criteria
[GW2]=Nonresidential Drinking Water Criteria
[GW3]=Groundwater Surface Water Interface Criteria
[SW1]=Surface Water Ecological Screening Level - Chronic (EPA Region IV)
[SW2]=Surface Water Ecological Screening Level - Acute (EPA Region IV)
[SW3]=Surface Water Rule 57 HNV Drink
[SW4]=Surface Water Rule 57 HCV Drink
[SW5]=Surface Water Rule 57 WV
Evaluation based on MDEQ Criteria at time of Project completion

PCBs
VOCs
Inorganics / Cyanide
SVOCs

- At Least One Exceedance for Indicated Parameter Group
- No Exceedances for Indicated Parameter Group
- At Least One Detection of PCBs
- PCBs Not Detected
- Indicated Parameter Group Not Analyzed

- 1865 Shoreline
- Copper Heritage Trail ROW
- Feature Identified on Sanborn Maps
- Approximate Parcel Boundaries
- EPA Cap Boundary
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *mg/kg = milligrams per kilogram*
- *ug/kg = micrograms per kilogram*
- *ug/l = micrograms per liter*

Porewater sample locations shown have been adjusted due to symbol size

N
0 550 Ft
Coordinate System: MIGeoRef(m)

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Michigan Department of Environmental Quality

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Figure 7-b ***DRAFT***
Sample Analytical Result Map - Sediment, Submerged Drum Contents, Surface Water and Porewater - Areas M-O
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

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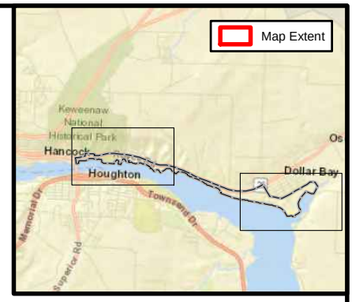
AREA	Year	Historical Operations
A	1907, 1917, 1928, 1949	Copper Range Passenger Depot (to the west)
	1907	Lake Superior Smelting Co. "vacant" (to the east)
	1917	H.S. Goodell Distributing Station for Lubricating Oils
	1928, 1949	H.S. Goodell & Co. Bulk Oil Station
B (South)	1907	Lake Superior Iron Works
	1917, 1928	Portage Lake Foundry & Machinery Co.
	1949	Houghton Co. Road Comission
B (North)	1907, 1917, 1928	Store House, dwellings
	1949	Filling Station
C	1907, 1917, 1928, 1949	QSW
D	1907, 1917, 1928, 1949	Portage Lake Foundry & Machinery
E		Historic land use and/or operations unknown.
F	1907, 1917	Houghton Co. Gas & Coke Co. (to the west)
		Portage Coal & Dock Co. (to the east)
		Ward & Williams Brass Furnace (to the north)
	1928	Michigan Gas & Electric Co. Gas Plant (to the west)
		Portage Coal & Dock Co. (to the east)
		Ward & Williams Brass Furnace (to the north)
	1949	Michigan Gas & Electric Co. Gas Plant (to the west)
		Superior Bottled Gas Co. (to the east)
		Ward Brass Furnace (to the north)
		Standard Oil CO. (to the northeast)
		Filling Station and Bulk Oil Station (to the northwest)
G	1917	Standard Oil Company
		Other historic land use and/or operations unknown.
H		Historic land use and/or operations unknown
I	1907	Portage Boiler Works
	1917, 1928	Lake Superior Iron and Metal Co.
	1949	Scrap Iron Storage, J.H. Green Co. (Scrap Iron Yard)
J	1907, 1917	Houghton Lumber Yard Co
	1928	Dollar Bay Lumber Co.
	1949	Henry Borth Co. Manufacturing R.R. Shims, UP Oil Company
K	1907	Tamarack & Osceola Mining Co.
	1917	Calumet & Hecla Mining Co. Coal Dock
	1928, 1949	not found
L		Bulk Oil Storage
		Other historic land use and/or operations unknown.
M	1907, 1917, 1928	Lake Superior Smelting Co.
	1949	Ice Houses
N	1907	Tamarack & Osceola Copper Manufacturing Co.
	1917, 1928	John A Roebling's Sons Copper Manufacturing
	1949	Foley Copper Products Co. Copper Wire Mill
O	1907	Dollar Bay Land and Improvement Co.
	1917	Dollar Bay Lumber Company
	1928, 1949	Dollar Bay Lumber Co. Saw Mill & Lumber Yard
	1949	Horner Flooring Co. Wood Flooring Mill
P	1917	Slag Dump, Lake Superior Melting Co.



Notes:
- *Historic opeations based on Sanborn Map review*

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Figure 7-c ***DRAFT***
Sample Analytical Result Map - Sediment, Submerged Drum Contents, Surface Water and Porewater - Notes
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

QMCP-SS48 09/28/18
(0 - 0.25 ft)
TOTAL PCBS 360,000 J ug/k [17]

QMCP-SS47 09/28/18
(0 - 0.25 ft)
TOTAL PCBS 8,200 J ug/kg [17]

QMCP-SS291 07/22/19
(0 - 0.25 ft)
TOTAL PCBS 5,800 ug/kg [17]

QMCP-SS43 09/19/18
(0 - 0.5 ft)
TOTAL PCBS 61,500 J ug/kg [17]

QMCP-SS292 07/22/19
(0 - 0.25 ft)
TOTAL PCBS 11,000 ug/kg [17]

QMCP-SS290 07/22/19
(0 - 0.25 ft)
TOTAL PCBS 2,700 ug/kg [17]

QMCP-DB-02
Mercury Vapor:
2,100 ng/m³

QMCP-DB-59
(visible elemental mercury present)
Mercury Vapor: 48,000 ng/m³

QMCP-SS278 07/22/19
(0 - 0.25 ft)
LEAD (TCLP) 120 mg/l [20]

QMCP-SS49 09/28/18
(0 - 0.25 ft)
TOTAL PCBS 5,100 J ug/kg [17]

QMCP-SB17 09/07/18
(0.5 - 4 ft)
TOTAL PCBS 8,200 J ug/kg [17]

QMCP-SS289 07/22/19
(0 - 0.25 ft)
TOTAL PCBS 98,000 ug/kg [17]

QMCP-RPM02 9/19/2018
TOTAL PCBS 10,200 J ug/kg [17]

QMCP-SS44 09/19/18
(0 - 0.5 ft)
TOTAL PCBS 2,500 J ug/kg [17]

QMCP-SS284 07/22/19
(0 - 0.25 ft)
TOTAL PCBS 5,000 ug/kg [17]
LEAD (TCLP) 6.9 mg/l [20]

QMCP-RPM01 9/19/2018
(0.5 ft)
TOTAL PCBS 71,000 J ug/kg [17]

QMCP-SB11 09/06/18
(0 - 0.5 ft)
TOTAL PCBS 1,560 J ug/kg [17]

QMCP-DB-34
Mercury Vapor:
3,600 ng/m³

QMCP-DB-90
(unknown piece of equipment)
Radiation: 0.1 mR/h

QMCP-SB13 09/06/18
(0 - 2 ft)
TOTAL PCBS 2,400 J ug/kg [17]

QMCP-SB16 09/06/18
(0 - 2 ft)
TOTAL PCBS 72,000 J ug/kg [17]

CONT091 (1)
CONT075 (1)
CONT074 (1)
CONT016 (1)
CONT029 (5)
CONT073 (9)
CONT026 (1)
CONT072 (1)
CONT037 (1)
CONT069 (22)
CONT035 (1)
CONT063 (3)
CONT062 (1)
CONT038 (3)
CONT067 (1)
CONT040 (1)
WP003 (1)

QMCP-D-18
QMCP-DB-39
QMCP-DB-47
QMCP-DB-50
QMCP-DB-109
QMCP-DB-12
QMCP-DB-22
QMCP-DB-21
QMCP-D-31
QMCP-DB-24
QMCP-DB-20
QMCP-DB-25
QMCP-DB-86
QMCP-DB-26
QMCP-D-27
QMCP-DB-16
QMCP-DB-15
QMCP-DB-18
QMCP-DB-19
QMCP-DB-79
QMCP-DB-81
QMCP-DB-78
QMCP-DB-75
QMCP-DB-61
QMCP-DB-63
QMCP-DB-67

Core Oven
Furnace
Oil House
Coal Dock, Coal and Coke

Note: 3 additional cylinders not shown located south and southwest beyond map extent

Quincy Twp
Keweenaw National Historical Park
Houghton
Michigan Technological University
Map Extent

EGLE Part 201 Cleanup Criteria for Response Action
[17]=Nonresidential Direct Contact Criteria
Title 40 CFR, Chapter 1, Section 261.20-24
[20]=Hazardous Waste Toxicity Screening Values
Evaluation based on EGLE Criteria at time of Project completion

- Soil Sample with Total PCB Results Greater than Criteria
- RPM Sample with Total PCB Results Greater than Criteria and/or TCLP Results Greater than Hazardous Toxicity Value
- One or More XRF Values Greater Than or Equal to Non-Residential DCC
- One or More XRF Values Greater Than or Equal to Non-Residential PSIC
- All XRF Values Less than Non-Residential Screening Values
- Approximate Compressed Cylinder Observation (#) = Number of cylinders in general area)

- 1865 Shoreline
- Copper Heritage Trail ROW
- Features Idenitfied on Sanborn Maps
- Updated Aerial Imagery Extent (26 June 2019)

Notes:
- *DCC = Direct Contact Criteria*
- *PSIC = Particulate Soil Inhalation Criteria*
- *RPM = Residual Process Material*
- *XRF = X-ray fluorescence*
- *Underlying imagery from Michigan Imagery Solution (Houghton - 2013).*
- *Updated imagery collected 26 June 2019*

N
0 75 Ft
Coordinate System: MIGeoRef(m)

EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

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Figure 8 **DRAFT**

Area D - Field Screening, Observations, PCB and TCLP Results
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0078\ENGAPPS\GIS\mxds\Planning\20190801_QMCP_SI_Report2\Fig8_QMCP_AreaD_Field_Screening_Results_NonRes_July2019_20190809_DRAFT.mxd 9:41:55 AM 08/09/19 KBrown

TABLE 5-1
Sample Analytical Summary - Suspect Asbestos Containing Material
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Sample Location	Field Sample ID	Sample Date	Asbestos		Friable/ Non-friable	Sample Description	Sample Notes
Area D							
QMCP-ASBBLK01	QMCP-ASBBLK01A-091918	9/19/2018	65%	Chrysotile	friable	White TSI	Damaged/deteriorated, 5SF
QMCP-ASBBLK01	QMCP-ASBBLK01B-091918	9/19/2018	--		friable	White TSI	Not analyzed due to prior positive series
QMCP-ASBBLK02	QMCP-ASBBLK02A-091918	9/19/2018	65%	Chrysotile	friable	White/gray TSI	Damaged/deteriorated, 5SF
QMCP-ASBBLK02	QMCP-ASBBLK02B-091918	9/19/2018	--		friable	White/gray TSI	Not analyzed due to prior positive series
QMCP-ASBBLK03	QMCP-ASBBLK03A-091918	9/19/2018	50%	Chrysotile	friable	Gray Transite board	Damaged/deteriorated 15SF
QMCP-ASBBLK03	QMCP-ASBBLK03B-091918	9/19/2018	--		friable	Gray Transite board	Not analyzed due to prior positive series
QMCP-ASBBLK04	QMCP-ASBBLK04A-091918	9/19/2018	50%	Chrysotile	friable	Black tar paper roofing	Damaged deteriorated, mixed on ground, 10SF
QMCP-ASBBLK04	QMCP-ASBBLK04B-091918	9/19/2018	--		friable	Black tar paper roofing	Not analyzed due to prior positive series
QMCP-ASBBLK05	QMCP-ASBBLK05A-091918	9/19/2018	10%	Chrysotile	friable	Black roofing with metallic pain	
QMCP-ASBBLK05	QMCP-ASBBLK05B-091918	9/19/2018	--		friable	Black roofing with metallic pain	Not analyzed due to prior positive series
QMCP-ASBBLK06	QMCP-ASBBLK06A-091918	9/19/2018	60%	Chrysotile	friable	White woven fabric	Damaged/deteriorated, 10SF
QMCP-ASBBLK06	QMCP-ASBBLK06B-091918	9/19/2018	--		friable	White woven fabric	Not analyzed due to prior positive series
QMCP-ASBBLK07	QMCP-ASBBLK07A-091918	9/19/2018	3%	Amosite	friable	Incinerator insulation	Damaged/deteriorated
QMCP-ASBBLK07	QMCP-ASBBLK07B-091918	9/19/2018	--		friable	Incinerator insulation	Not analyzed due to prior positive series
QMCP-ASBBLK08	QMCP-ASBBLK08A-091918	9/19/2018	65%	Chrysotile	friable	White TSI material	Damaged/deteriorated, 5SF
QMCP-ASBBLK08	QMCP-ASBBLK08B-091918	9/19/2018	--		friable	White TSI material	Not analyzed due to prior positive series
QMCP-ASBBLK09	QMCP-ASBBLK09A-091918	9/19/2018	ND		friable	Boiler insulation	
QMCP-ASBBLK09	QMCP-ASBBLK09B-091918	9/19/2018	ND		friable	Boiler insulation	
QMCP-ASBBLK10	QMCP-ASBBLK10A-091918	9/19/2018	ND		friable	Layered paper material	
QMCP-ASBBLK10	QMCP-ASBBLK10B-091918	9/19/2018	ND		friable	Layered paper material	
QMCP-ASBBLK11	QMCP-ASBBLK11A-091918	9/19/2018	70%	Chrysotile	friable	Rope gasket	
QMCP-ASBBLK11	QMCP-ASBBLK11B-091918	9/19/2018	--		friable	Rope gasket	Not analyzed due to prior positive series
QMCP-ASBBLK12	QMCP-ASBBLK12A-091918	9/19/2018	ND		non-friable	Black layered roofing	
QMCP-ASBBLK12	QMCP-ASBBLK12B-091918	9/19/2018	ND		non-friable	Black layered roofing	
QMCP-ASBBLK13	QMCP-ASBBLK13A-092818	9/28/2018	ND		friable	White/gray fibrous material	Damaged, 4 visible piles in vicinity, 20SF
QMCP-ASBBLK13	QMCP-ASBBLK13B-092818	9/28/2018	ND		friable	White/gray fibrous material	Damaged, 4 visible piles in vicinity, 20SF
QMCP-ASBBLK14	QMCP-ASBBLK14A-092818	9/28/2018	65%	Chrysotile	non-friable	Gray pegboard-Transite	Intact, 5SF
QMCP-ASBBLK14	QMCP-ASBBLK14B-092818	9/28/2018	--		non-friable	Gray pegboard-Transite	Not analyzed due to prior positive series
QMCP-ASBBLK15	QMCP-ASBBLK15A-092818	9/28/2018	ND		non-friable	Safe lining	Deteriorated
QMCP-ASBBLK15	QMCP-ASBBLK15B-092818	9/28/2018	ND		non-friable	Safe lining	Deteriorated
QMCP-ASBBLK16	QMCP-ASBBLK16A-092818	9/28/2018	ND		friable	Cardboard with black tar	Deteriorated, 5SF
QMCP-ASBBLK16	QMCP-ASBBLK16B-092818	9/28/2018	ND		friable	Cardboard with black tar	Deteriorated, 5SF
QMCP-ASBBLK17	QMCP-ASBBLK17A-092818	9/28/2018	15%	Chrysotile	non-friable	Transite in debris pile	One piece
QMCP-ASBBLK18	QMCP-ASBBLK18A-092818	9/28/2018	ND		friable	Fabric with insulation	3SF
QMCP-ASBBLK18	QMCP-ASBBLK18B-092818	9/28/2018	ND		friable	Fabric with insulation	3SF

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-1
Sample Analytical Summary - Suspect Asbestos Containing Material
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Sample Location	Field Sample ID	Sample Date	Asbestos		Friable/ Non-friable	Sample Description	Sample Notes
Area D (continued)							
QMCP-ASBBLK59	QMCP-ASBBLK59A-100118	10/1/2018	ND		friable	White fibers in drum	
QMCP-ASBBLK59	QMCP-ASBBLK59B-100118	10/1/2018	ND		friable	White fibers in drum	
QMCP-ASBBLK60	QMCP-ASBBLK60A	7/22/2019	40%	Chrysotile	friable	White TSI, deteriorated, 1SF	Collocated with SS293
QMCP-ASBBLK60	QMCP-ASBBLK60B	7/22/2019	--		friable	White TSI, deteriorated, 1SF	Not analyzed due to prior positive series
QMCP-ASBBLK61	QMCP-ASBBLK61A	7/22/2019	ND		non-friable	Black roofing with silver specks, buried in waste p	
QMCP-ASBBLK61	QMCP-ASBBLK61B	7/22/2019	ND		non-friable	Black roofing with silver specks, buried in waste p	
QMCP-ASBBLK62	QMCP-ASBBLK62A	7/22/2019	30%	Chrysotile	friable	White TSI, deteriorated, on board, 5SF	Collocated with SS294
QMCP-ASBBLK62	QMCP-ASBBLK62B	7/22/2019	--		friable	White TSI, deteriorated, on board, 5SF	Not analyzed due to prior positive series
QMCP-ASBBLK63	QMCP-ASBBLK63A	7/22/2019	40%	Chrysotile	friable	White TSI, deteriorated, mixed with debris, 5SF	Collocated with SS295
QMCP-ASBBLK63	QMCP-ASBBLK63B	7/22/2019	--		friable	White TSI, deteriorated, mixed with debris, 5SF	Not analyzed due to prior positive series
QMCP-ASBBLK64	QMCP-ASBBLK64A	7/22/2019	30%	Chrysotile	friable	White TSI, deteriorated, mixed with debris, 5SF	Collocated with SS296
QMCP-ASBBLK64	QMCP-ASBBLK64B	7/22/2019	--		friable	White TSI, deteriorated, mixed with debris, 5SF	Not analyzed due to prior positive series
QMCP-ASBBLK65	QMCP-ASBBLK65A	7/22/2019	ND		friable	Gray/silver TSI, mixed with debris, 5SF	Collocated with SS297
QMCP-ASBBLK65	QMCP-ASBBLK65B	7/22/2019	ND		friable	Gray/silver TSI, mixed with debris, 5SF	Collocated with SS297
QMCP-ASBBLK66	QMCP-ASBBLK66A	7/22/2019	ND		non-friable	Black woven fabric around metal pipe, 5SF	
QMCP-ASBBLK66	QMCP-ASBBLK66B	7/22/2019	ND		non-friable	Black woven fabric around metal pipe, 5SF	
QMCP-ASBBLK67	QMCP-ASBBLK67A	7/22/2019	ND		non-friable	Fabric woven tubing, 20LF	
QMCP-ASBBLK67	QMCP-ASBBLK67B	7/22/2019	ND		non-friable	Fabric woven tubing, 20LF	
QMCP-ASBBLK68	QMCP-ASBBLK68A	7/22/2019	30%	Chrysotile	friable	White TSI, deteriorated, 5SF	Collocated with SS298
QMCP-ASBBLK68	QMCP-ASBBLK68B	7/22/2019	--		friable	White TSI, deteriorated, 5SF	Not analyzed due to prior positive series
QMCP-ASBBLK69	QMCP-ASBBLK69A	7/22/2019	30%	Chrysotile	friable	White TSI, deteriorated, 10SF	Collocated with SS299
QMCP-ASBBLK69	QMCP-ASBBLK69B	7/22/2019	--		friable	White TSI, deteriorated, 10SF	Not analyzed due to prior positive series
QMCP-ASBBLK70	QMCP-ASBBLK70A	7/22/2019	30%	Chrysotile	friable	White TSI, deteriorated, 5SF	Collocated with SS300
QMCP-ASBBLK70	QMCP-ASBBLK70B	7/22/2019	--		friable	White TSI, deteriorated, 5SF	Not analyzed due to prior positive series
QMCP-ASBBLK71	QMCP-ASBBLK71A	7/22/2019	60%	Chrysotile	friable	White TSI, mixed in soil	Collocated with SS301
QMCP-ASBBLK71	QMCP-ASBBLK71B	7/22/2019	--		friable	White TSI, mixed in soil	Not analyzed due to prior positive series
QMCP-ASBBLK72	QMCP-ASBBLK72A	7/22/2019	ND		friable	Crumbling white deteriorated material, 5SF	Collocated with SS302
QMCP-ASBBLK72	QMCP-ASBBLK72B	7/22/2019	ND		friable	Crumbling white deteriorated material, 5SF	Collocated with SS302
QMCP-ASBBLK73	QMCP-ASBBLK73A	7/22/2019	60%	Chrysotile	friable	White TSI in Stamp Sand, 5SF	Collocated with SS303
QMCP-ASBBLK73	QMCP-ASBBLK73B	7/22/2019	--		friable	White TSI in Stamp Sand, 5SF	Not analyzed due to prior positive series
QMCP-ASBBLK74	QMCP-ASBBLK74A	7/22/2019	ND		friable	Gray fibrous material, 5 SF	Collocated with SS304
QMCP-ASBBLK74	QMCP-ASBBLK74B	7/22/2019	ND		friable	Gray fibrous material, 5 SF	Collocated with SS304
QMCP-ASBBLK75	QMCP-ASBBLK75A	7/22/2019	60%	Chrysotile	friable	Brown fibrous material, 1SF	Collocated with SS305
QMCP-ASBBLK75	QMCP-ASBBLK75B	7/22/2019	--		friable	Brown fibrous material, 1SF	Not analyzed due to prior positive series
QMCP-ASBBLK76	QMCP-ASBBLK76A	7/22/2019	ND		friable	White TSI, deteriorated, 1SF	Collocated with SS306
QMCP-ASBBLK76	QMCP-ASBBLK76B	7/22/2019	ND		friable	White TSI, deteriorated, 1SF	Collocated with SS306

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-1
Sample Analytical Summary - Suspect Asbestos Containing Material
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Sample Location	Field Sample ID	Sample Date	Asbestos		Friable/ Non-friable	Sample Description	Sample Notes
Area D (continued)							
QMCP-ASBBLK77	QMCP-ASBBLK77A	7/22/2019	ND		friable	Long white fibers, 1SF	
QMCP-ASBBLK77	QMCP-ASBBLK77B	7/22/2019	ND		friable	Long white fibers, 1SF	
QMCP-ASBBLK78	QMCP-ASBBLK78A	7/22/2019	60%	Chrysotile	friable	White TSI, deteriorated, 1SF	Collocated with SS307
QMCP-ASBBLK78	QMCP-ASBBLK78B	7/22/2019	--		friable	White TSI, deteriorated, 1SF	Not analyzed due to prior positive series
QMCP-ASBBLK79	QMCP-ASBBLK79A	7/22/2019	60%	Chrysotile	friable	White TSI, deteriorated, mixed in WP003 10SF	Collocated with SS308
QMCP-ASBBLK79	QMCP-ASBBLK79B	7/22/2019	--		friable	White TSI, deteriorated, mixed in WP003 10SF	Not analyzed due to prior positive series
QMCP-ASBBLK80	QMCP-ASBBLK80A	7/22/2019	ND		non-friable	Gasket pipe, 10 LF	
QMCP-ASBBLK80	QMCP-ASBBLK80B	7/22/2019	ND		non-friable	Gasket pipe, 10 LF	
Area G							
QMCP-ASBBLK19	QMCP-ASBBLK19A-092818	9/28/2018	ND		non-friable	Concrete piping	50SF
QMCP-ASBBLK19	QMCP-ASBBLK19B-092818	9/28/2018	ND		non-friable	Concrete piping	50SF
QMCP-ASBBLK20	QMCP-ASBBLK20A-092818	9/28/2018	65%	Chrysotile	friable	Whiteboard	Damaged/deteriorated, 10SF
QMCP-ASBBLK20	QMCP-ASBBLK20B-092818	9/28/2018	--		friable	Whiteboard	Not analyzed due to prior positive series
QMCP-ASBBLK21	QMCP-ASBBLK21A-092818	9/28/2018	ND		non-friable	Green roofing	Damaged, on ground, 12'x20'x2'
QMCP-ASBBLK21	QMCP-ASBBLK21B-092818	9/28/2018	ND		non-friable	Green roofing	Damaged, on ground, 12'x20'x2'
QMCP-ASBBLK22	QMCP-ASBBLK22A-092818	9/28/2018	ND		friable	Metallic tar paper	On ground
QMCP-ASBBLK22	QMCP-ASBBLK22B-092818	9/28/2018	ND		friable	Metallic tar paper	On ground
QMCP-ASBBLK23	QMCP-ASBBLK23A-092818	9/28/2018	ND		friable	Tarpaper with white fibers	On ground
QMCP-ASBBLK23	QMCP-ASBBLK23B-092818	9/28/2018	ND		friable	Tarpaper with white fibers	On ground
QMCP-ASBBLK24	QMCP-ASBBLK24A-092818	9/28/2018	30%	Chrysotile	friable	White TSI	On ground
QMCP-ASBBLK24	QMCP-ASBBLK24A-092818	9/28/2018	3%	Amosite	friable	White TSI	On ground
QMCP-ASBBLK24	QMCP-ASBBLK24B-092818	9/28/2018	--		friable	White TSI	Not analyzed due to prior positive series
QMCP-ASBBLK25	QMCP-ASBBLK25A-092818	9/28/2018	2%	Chrysotile	non-friable	Silver and black roof coating	
QMCP-ASBBLK25	QMCP-ASBBLK25B-092818	9/28/2018	--		non-friable	Silver and black roof coating	Not analyzed due to prior positive series
Area I							
QMCP-ASBBLK26	QMCP-ASBBLK26A-092818	9/28/2018	30%	Chrysotile	friable	Black and white pipe wrap	
QMCP-ASBBLK26	QMCP-ASBBLK26B-092818	9/28/2018	--		friable	Black and white pipe wrap	Not analyzed due to prior positive series
QMCP-ASBBLK27	QMCP-ASBBLK27A-092818	9/28/2018	60%	Chrysotile	friable	Gasket material	
QMCP-ASBBLK27	QMCP-ASBBLK27B-092818	9/28/2018	--		friable	Gasket material	Not analyzed due to prior positive series
QMCP-ASBBLK28	QMCP-ASBBLK28A-092818	9/28/2018	70%	Chrysotile	friable	Beige TSI	Deteriorated, 6SF pile
QMCP-ASBBLK28	QMCP-ASBBLK28B-092818	9/28/2018	--		friable	Beige TSI	Not analyzed due to prior positive series
QMCP-ASBBLK29	QMCP-ASBBLK29A-092818	9/28/2018	50%	Chrysotile	non-friable	Gasket	3SF
QMCP-ASBBLK29	QMCP-ASBBLK29B-092818	9/28/2018	--		non-friable	Gasket	Not analyzed due to prior positive series
QMCP-ASBBLK30	QMCP-ASBBLK30A-092818	9/28/2018	ND		non-friable	Red roofing	
QMCP-ASBBLK30	QMCP-ASBBLK30B-092818	9/28/2018	ND		non-friable	Red roofing	
QMCP-ASBBLK31	QMCP-ASBBLK31A-092818	9/28/2018	ND		non-friable	White roofing	
QMCP-ASBBLK31	QMCP-ASBBLK31B-092818	9/28/2018	ND		non-friable	White roofing	

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-1
Sample Analytical Summary - Suspect Asbestos Containing Material
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Sample Location	Field Sample ID	Sample Date	Asbestos		Friable/ Non-friable	Sample Description	Sample Notes
Area I (continued)							
QMCP-ASBBLK32	QMCP-ASBBLK32A-092818	9/28/2018	ND		non-friable	Green roofing	
QMCP-ASBBLK32	QMCP-ASBBLK32B-092818	9/28/2018	ND		non-friable	Green roofing	
QMCP-ASBBLK33	QMCP-ASBBLK33A-092818	9/28/2018	ND		non-friable	Black roofing	
QMCP-ASBBLK33	QMCP-ASBBLK33B-092818	9/28/2018	ND		non-friable	Black roofing	
QMCP-ASBBLK34	QMCP-ASBBLK34A-092818	9/28/2018	ND		friable	Insulation in doors	
QMCP-ASBBLK34	QMCP-ASBBLK34B-092818	9/28/2018	ND		friable	Insulation in doors	
QMCP-ASBBLK35	QMCP-ASBBLK35A-092818	9/28/2018	40%	Chrysotile	non-friable	Black corrugated material	
QMCP-ASBBLK35	QMCP-ASBBLK35B-092818	9/28/2018	--		non-friable	Black corrugated material	Not analyzed due to prior positive series
QMCP-ASBBLK36	QMCP-ASBBLK36A-092818	9/28/2018	ND		friable	Rubber coated fabric on duct	
QMCP-ASBBLK36	QMCP-ASBBLK36B-092818	9/28/2018	ND		friable	Rubber coated fabric on duct	
QMCP-ASBBLK37	QMCP-ASBBLK37A-092818	9/28/2018	ND		friable	Heater insulation	
QMCP-ASBBLK37	QMCP-ASBBLK37B-092818	9/28/2018	ND		friable	Heater insulation	
QMCP-ASBBLK38	QMCP-ASBBLK38A-092818	9/28/2018	ND		friable	Insulation on tank	
QMCP-ASBBLK38	QMCP-ASBBLK38B-092818	9/28/2018	ND		friable	Insulation on tank	
QMCP-ASBBLK39	QMCP-ASBBLK39A-092818	9/28/2018	5%	Chrysotile	non-friable	Transite tile	
QMCP-ASBBLK39	QMCP-ASBBLK39B-092818	9/28/2018	--		non-friable	Transite tile	Not analyzed due to prior positive series
Area L							
QMCP-ASBBLK40	QMCP-ASBBLK40A-092818	9/28/2018	ND		friable	Black tar paper with fibers	
QMCP-ASBBLK40	QMCP-ASBBLK40B-092818	9/28/2018	ND		friable	Black tar paper with fibers	
QMCP-ASBBLK41	QMCP-ASBBLK41A-092818	9/28/2018	ND		friable	Tank insulation	
QMCP-ASBBLK41	QMCP-ASBBLK41B-092818	9/28/2018	ND		friable	Tank insulation	
Area M							
QMCP-ASBBLK58	QMCP-ASBBLK58A-100118	10/1/2018	ND		non-friable	Green roofing	
QMCP-ASBBLK58	QMCP-ASBBLK58B-100118	10/1/2018	ND		non-friable	Green roofing	
Area N							
QMCP-ASBBLK42	QMCP-ASBBLK42A-100118	10/1/2018	40%	Chrysotile	friable	White TSI on pipe	
QMCP-ASBBLK42	QMCP-ASBBLK42B-100118	10/1/2018	--		friable	White TSI on pipe	Not analyzed due to prior positive series
QMCP-ASBBLK43	QMCP-ASBBLK43A-100118	10/1/2018	ND		non-friable	Red roofing on ground	
QMCP-ASBBLK43	QMCP-ASBBLK43B-100118	10/1/2018	ND		non-friable	Red roofing on ground	
QMCP-ASBBLK44	QMCP-ASBBLK44A-100118	10/1/2018	ND		non-friable	Tan/red brick siding	
QMCP-ASBBLK44	QMCP-ASBBLK44B-100118	10/1/2018	ND		non-friable	Tan/red brick siding	
QMCP-ASBBLK45	QMCP-ASBBLK45A-100118	10/1/2018	ND		friable	Black tar paper with multi	
QMCP-ASBBLK45	QMCP-ASBBLK45B-100118	10/1/2018	ND		friable	Black tar paper with multi	
QMCP-ASBBLK46	QMCP-ASBBLK46A-100118	10/1/2018	ND		non-friable	Tan brick siding	
QMCP-ASBBLK46	QMCP-ASBBLK46B-100118	10/1/2018	ND		non-friable	Tan brick siding	

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-1
Sample Analytical Summary - Suspect Asbestos Containing Material
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Sample Location	Field Sample ID	Sample Date	Asbestos		Friable/ Non-friable	Sample Description	Sample Notes
Area N (continued)							
QMCP-ASBBLK47	QMCP-ASBBLK47A-100118	10/1/2018	ND		friable	Black tar paper	
QMCP-ASBBLK47	QMCP-ASBBLK47B-100118	10/1/2018	ND		friable	Black tar paper	
QMCP-ASBBLK48	QMCP-ASBBLK48A-100118	10/1/2018	15%	Chrysotile	non-friable	Silver painted mastic	
QMCP-ASBBLK48	QMCP-ASBBLK48B-100118	10/1/2018	--		non-friable	Silver painted mastic	Not analyzed due to prior positive series
QMCP-ASBBLK49	QMCP-ASBBLK49A-100118	10/1/2018	3%	Chrysotile	friable	Silver painted roofing	Damaged/deteriorated
QMCP-ASBBLK49	QMCP-ASBBLK49B-100118	10/1/2018	--		friable	Silver painted roofing	Not analyzed due to prior positive series
QMCP-ASBBLK50	QMCP-ASBBLK50A-100118	10/1/2018	ND		non-friable	Black shingle	Burn pile, 10SF
QMCP-ASBBLK50	QMCP-ASBBLK50B-100118	10/1/2018	ND		non-friable	Black shingle	Burn pile, 10SF
QMCP-ASBBLK51	QMCP-ASBBLK51A-100118	10/1/2018	ND		non-friable	Black tar paper	10SF
QMCP-ASBBLK51	QMCP-ASBBLK51B-100118	10/1/2018	ND		non-friable	Black tar paper	10SF
QMCP-ASBBLK52	QMCP-ASBBLK52A-100118	10/1/2018	ND		friable	White fibers in burn pile	
QMCP-ASBBLK52	QMCP-ASBBLK52B-100118	10/1/2018	ND		friable	White fibers in burn pile	
QMCP-ASBBLK53	QMCP-ASBBLK53A-100118	10/1/2018	3%	Chrysotile	friable	Silver coated roofing	Damaged/deteriorated
QMCP-ASBBLK53	QMCP-ASBBLK53B-100118	10/1/2018	--		friable	Silver coated roofing	Not analyzed due to prior positive series
QMCP-ASBBLK54	QMCP-ASBBLK54A-100118	10/1/2018	ND		non-friable	Red roofing	Damaged/deteriorated
QMCP-ASBBLK54	QMCP-ASBBLK54B-100118	10/1/2018	ND		non-friable	Red roofing	Damaged/deteriorated
QMCP-ASBBLK55	QMCP-ASBBLK55A-100118	10/1/2018	ND		non-friable	Green roofing	
QMCP-ASBBLK55	QMCP-ASBBLK55B-100118	10/1/2018	ND		non-friable	Green roofing	
QMCP-ASBBLK56	QMCP-ASBBLK56A-100118	10/1/2018	ND		non-friable	Building concrete	
QMCP-ASBBLK56	QMCP-ASBBLK56A-100118	10/1/2018	ND		non-friable	Building concrete	
QMCP-ASBBLK57	QMCP-ASBBLK57A-100118	10/1/2018	60%	Chrysotile	friable	Brown insulation in drum	
QMCP-ASBBLK57	QMCP-ASBBLK57B-100118	10/1/2018	--		friable	Brown insulation in drum	Not analyzed due to prior positive series

Note: Analytical and Criteria Footnotes are included on the last page of the table.

-- = Not analyzed
ND = Not detected
SF = Square feet
TSI = Thermal Systems Insulation
% = Percentage

Results greater than the National Emissions Standard for Hazardous Air Pollutants (NESHAP) and EGLE Particulate Soil Inhalation Criteria of 1% are highlighted yellow

Evaluation based on EGLE Criteria at time of Project completion.

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TABLE 5-2
Sample Analytical Summary - Abandoned Container, Residual Process Material, and Waste
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection (Dec 2013)	[5] Residential SVIAI (Dec 2013)	[6] Residential Infinite Source VSIC (Dec 2013)	[7] Residential Finite VSIC for 5 meter (Dec 2013)	[8] Residential Finite VSIC for 2 meter (Dec 2013)	[10] Residential Direct Contact (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[13] Nonresidential Infinite Source VSIC (Dec 2013)	[14] Nonresidential Finite VSIC for 5 meter (Dec 2013)	[15] Nonresidential Finite VSIC for 2 meter (Dec 2013)	[17] Nonresidential Direct Contact (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D									
Station Name																QMCP-SS278		QMCP-SS284		QMCP-DM01		QMCP-RPM01		QMCP-RPM02	
Field Sample ID																QMCP-SS278-0-3" **		QMCP-SS284-0-3" **		QMCP-DM01-0-6in**		QMCP-RPM01-0-6in		QMCP-RPM02	
Sample Date																7/22/2019		7/22/2019		9/28/2018		9/19/2018		9/19/2018	
Sample Interval (bgs)																0 - 0.25 ft		0 - 0.25 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0 ft	
Sample Description																Dark brown SAND with gravel in wastepile		Dark brown SAND with gravel and debris		Brown/black hardened material in drum.		Metal box with greasy black paper inside, greasy black paper sampled		Black solid material from metal potting	
																Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																									
ALUMINUM	7429-90-5	NA	6,900 (B)	NLV	NLV	NLV	NLV	50,000	6,900	NLV	NLV	NLV	370,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	7.6	4.6	NLV	NLV	NLV	37	NA	NA	NM	--	NM	--	<0.39 U	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	37,000 (B)	1,300 (B)	NLV	NLV	NLV	1.3E+5 (B)	NA	NA	NM	--	NM	--	2.6	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	410	51	NLV	NLV	NLV	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	550 (B)	6.0 (B)	NLV	NLV	NLV	2,100 (B)	NA	NA	NM	--	NM	--	<0.78 U	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	4.8	--	NM	--	NM	--
COBALT	7440-48-4	2.0	0.8	NLV	NLV	NLV	NLV	2,600	2	NLV	NLV	NLV	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	20,000 (B)	5,800 (B)	NLV	NLV	NLV	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	NA	12,000 (B)	NLV	NLV	NLV	NLV	160,000 (B)	12,000 (B)	NLV	NLV	NLV	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	400 (B)	700 (B)	NLV	NLV	NLV	900 (B,DD)	NA	NA	NM	--	NM	--	2.0	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	NA	8,000 (B)	NLV	NLV	NLV	NLV	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	25,000 (B)	440 (B)	NLV	NLV	NLV	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	160 (B,Z)	1.7 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	<0.02 UJ	--	NM	--	NM	--
MOLYBDENUM	7439-98-7	2,400 (B,X)	1,500 (B)	NLV	NLV	NLV	NLV	2.60E+6 (B)	4,200 (B)	NLV	NLV	NLV	9.60E+6 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	40,000 (B)	100 (B)	NA	NA	NA	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	2,600 (B)	4.0 (B)	NLV	NLV	NLV	9,600 (B)	NA	NA	NM	--	NM	--	<0.78 U	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B, M)	4.5 (B)	NLV	NLV	NLV	NLV	2500 (B)	13 (B)	NLV	NLV	NLV	9,000 (B)	NA	NA	NM	--	NM	--	<0.39 UJ	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	1.0E+6 (D)	NA	NLV	NLV	NLV	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TITANIUM METAL POWDER	7440-32-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	750 (DD)	990	NLV	NLV	NLV	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																									
AROCLOR-1016	12674-11-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<67 U	--	<76 U	--	<270 U	--	<12000 U	--	5,400	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	650	--	5,000	--	<270 U	--	71,000	--	4,800	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	1,000 (J,T)	NLL	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	1,000 (J,T)	NA	NA	650	--	5,000	[10,17]	ND	--	71,000 J	[10,17]	10,200 J	[10,17]
Organics - SVOCs (ug/kg)																									
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	8.10E+06	1.70E+05	1.80E+06	1.80E+06	1.80E+06	2.60E+07	NA	NA	NM	--	NM	--	1,400	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	1.60E+06	17,000	2.70E+06	2.70E+06	2.70E+06	5.20E+06	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	4.70E+7 (C)	88,000	5.20E+07	5.20E+07	5.20E+07	1.50E+8 (C)	NA	NA	NM	--	NM	--	14,000 J	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	2.30E+08	41,000	1.60E+09	1.60E+09	1.60E+09	7.30E+08	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	28,000 J	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-2
Sample Analytical Summary - Abandoned Container, Residual Process Material, and Waste
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection (Dec 2013)	[5] Residential SVIAI (Dec 2013)	[6] Residential Infinite Source VSIC (Dec 2013)	[7] Residential Finite VSIC for 5 meter (Dec 2013)	[8] Residential Finite VSIC for 2 meter (Dec 2013)	[10] Residential Direct Contact (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[13] Nonresidential Infinite Source VSIC (Dec 2013)	[14] Nonresidential Finite VSIC for 5 meter (Dec 2013)	[15] Nonresidential Finite VSIC for 2 meter (Dec 2013)	[17] Nonresidential Direct Contact (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D									
Station Name																QMCP-SS278		QMCP-SS284		QMCP-DM01		QMCP-RPM01		QMCP-RPM02	
Field Sample ID																QMCP-SS278-0-3" **		QMCP-SS284-0-3" **		QMCP-DM01-0-6in**		QMCP-RPM01-0-6in		QMCP-RPM02	
Sample Date																7/22/2019		7/22/2019		9/28/2018		9/19/2018		9/19/2018	
Sample Interval (bgs)																0 - 0.25 ft		0 - 0.25 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0 ft	
Sample Description																Dark brown SAND with gravel in wastepile		Dark brown SAND with gravel and debris		Brown/black hardened material in drum.		Metal box with greasy black paper inside, greasy black paper sampled		Black solid material from metal potting	
																Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																									
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	20,000 (Q)	NLL	NLV	NLV	NLV	80,000 (Q)	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	2,000 (Q)	NLL	NLV	NLV	NLV	8,000 (Q)	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	80,000 (Q)	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	2.50E+06	NLL	NLV	NLV	NLV	7.00E+06	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	2.00E+5 (Q)	NLL	NLV	NLV	NLV	8.00E+5 (Q)	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	2.80E+06	NLL	NLV	NLV	NLV	1.20E+7 (C)	NA	NA	NM	--	NM	--	16,000 J	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	8.00E+6 (Q)	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	2,000 (Q)	NLL	NLV	NLV	NLV	8,000 (Q)	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	4.60E+07	730,000	8.90E+08	8.80E+08	8.80E+08	1.30E+08	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	20,000 (Q)	NLL	NLV	NLV	NLV	80,000 (Q)	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	1.60E+07	1.00E+05	3.50E+05	3.50E+05	3.50E+05	5.20E+07	NA	NA	NM	--	NM	--	4,700 J	[2]	NM	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	1.60E+06	160,000	1.90E+05	1.90E+05	1.90E+05	5.20E+06	NA	NA	NM	--	NM	--	1,700 J	--	NM	--	NM	--
PYRENE	129-00-0	ID	480,000	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	2.90E+07	480,000	7.80E+08	7.80E+08	7.80E+08	8.40E+07	NA	NA	NM	--	NM	--	<390 UJ	--	NM	--	NM	--
Organics - VOCs (ug/kg)																									
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	1,700	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6	4,200	5.70E+04	2.70E+06	1.50E+06	1.50E+06	1.50E+06	8.10E+06	1.70E+05	1.80E+06	1.80E+06	1.80E+06	2.60E+07	NA	NA	NM	--	NM	--	1,300	--	NM	--	NM	--
ACETONE	67-64-1	34,000	15,000	2.90E+08	1.30E+08	1.30E+08	1.90E+08	2.30E+07	42,000	1.60E+08	1.60E+08	2.00E+08	7.30E+07	260,000	780,000	NM	--	NM	--	17,000	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	1.8E+5 (I)	100 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	3,700	[2,4,5,11,18,19]	NM	--	NM	--
ETHYLBENZENE	100-41-4	360 (I)	1,500 (I)	87,000 (I)	7.20E+5 (I)	1.00E+6 (I)	2.20E+6 (I)	2.2E+7 (C,I)	1,500 (I)	2.40E+6 (I)	3.10E+6 (I)	6.50E+6 (I)	7.10E+7 (C,I)	12 (M)	86	NM	--	NM	--	8,000	[2,4,11,18,19]	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	2.50E+7 (C)	2.60E+05	2.00E+06	2.00E+06	3.00E+06	8.00E+7 (C)	NA	NA	NM	--	NM	--	870	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	620	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	1.60E+07	1.00E+05	3.50E+05	3.50E+05	3.50E+05	5.20E+07	NA	NA	NM	--	NM	--	4,700	[2]	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	2.50E+6 (I)	4,600	ID	ID	ID	8.00E+06	NA	NA	NM	--	NM	--	520	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	4.00E+05	2,700	3.30E+06	3.30E+06	4.20E+06	1.90E+6 (C)	NA	NA	NM	--	NM	--	1,800	[2]	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	5E+07 (C,I)	16,000 (I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	5,900	[2,18]	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	4.1E+08 (C,I)	5,600 (I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	620 J	[18]	NM	--	NM	--
Organics - Pesticides (ug/kg) *																									
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - Herbicides (ug/kg)																									
2,4,5-T	93-76-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	40	--	NM	--	NM	--
2,4,5-TP (Silvex)	93-72-1	2,200	3,600	NLV	NLV	NLV	NLV	1.70E+06	3,600	NLV	NLV	NLV	5.50E+06	NA	NA	NM	--	NM	--	86	--	NM	--	NM	--
2,4-D	94-75-7	4,400	1,400	NLV	NLV	NLV	NLV	2.50E+06	1,400	NLV	NLV	NLV	8.60E+06	NA	NA	NM	--	NM	--	230	--	NM	--	NM	--
Other- General Chemistry																									
PERCENT MOISTURE	MOIST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2	--	13	--	9.5	--	NM	--	NM	--
pH	PH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.86	--	8.13	--	6.65	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-2
Sample Analytical Summary - Abandoned Container, Residual Process Material, and Waste
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection (Dec 2013)	[5] Residential SVIAI (Dec 2013)	[6] Residential Infinite Source VSIC (Dec 2013)	[7] Residential Finite VSIC for 5 meter (Dec 2013)	[8] Residential Finite VSIC for 2 meter (Dec 2013)	[10] Residential Direct Contact (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[13] Nonresidential Infinite Source VSIC (Dec 2013)	[14] Nonresidential Finite VSIC for 5 meter (Dec 2013)	[15] Nonresidential Finite VSIC for 2 meter (Dec 2013)	[17] Nonresidential Direct Contact (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D						Area I	
Station Name																QMCP-RPM03		QMCP-RPM04		Julio Marine and Salvage		QMCP-RPM05	
Field Sample ID																QMCP-RPM 03-0-6in**		QMCP-RPM04		MA 120401**		QMCP-RPM05	
Sample Date																9/19/2018		9/28/2018		12/4/1995		9/28/2018	
Sample Interval (bgs)																0 - 0.5 ft		0 - 0 ft		(unknown depth)		0 - 0 ft	
Sample Description																Rust colored material		Oily electrical equipment		Burner Ash		Black tar-like material with electrical equipment	
																Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																							
ALUMINUM	7429-90-5	NA	6,900 (B)	NLV	NLV	NLV	NLV	50,000	6,900	NLV	NLV	NLV	370,000	NA	NA	NM	--	NM	--	16	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	7.6	4.6	NLV	NLV	NLV	37	NA	NA	9.2	[2,4,10,11]	NM	--	0.02	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	37,000 (B)	1,300 (B)	NLV	NLV	NLV	1.3E+5 (B)	NA	NA	44	--	NM	--	0.83	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	410	51	NLV	NLV	NLV	1,600	NA	NA	NM	--	NM	--	0.0007	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	550 (B)	6.0 (B)	NLV	NLV	NLV	2,100 (B)	NA	NA	1.4	--	NM	--	0.11	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	185	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	1.00E+6 (B,D,H)	NA	NA	260	--	NM	--	0.084	--	NM	--
COBALT	7440-48-4	2.0	0.8	NLV	NLV	NLV	NLV	2,600	2	NLV	NLV	NLV	9,000	NA	NA	NM	--	NM	--	0.023	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	20,000 (B)	5,800 (B)	NLV	NLV	NLV	73,000 (B)	NA	NA	NM	--	NM	--	19.2	--	NM	--
IRON	7439-89-6	NA	12,000 (B)	NLV	NLV	NLV	NLV	160,000 (B)	12,000 (B)	NLV	NLV	NLV	580,000 (B)	NA	NA	NM	--	NM	--	40	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	400 (B)	700 (B)	NLV	NLV	NLV	900 (B,DD)	NA	NA	1,000	[4,10,11,17]	NM	--	2.99	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	31,000 (B,DD)	NA	NA	NM	--	NM	--	0.0085	--	NM	--
MAGNESIUM	7439-95-4	NA	8,000 (B)	NLV	NLV	NLV	NLV	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	17.9	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	25,000 (B)	440 (B)	NLV	NLV	NLV	90,000 (B)	NA	NA	NM	--	NM	--	2.7	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	160 (B,Z)	1.7 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	580 (B,Z)	0.000027	0.00012	0.35	[2,18,19]	NM	--	<0.00005 U	--	NM	--
MOLYBDENUM	7439-98-7	2,400 (B,X)	1,500 (B)	NLV	NLV	NLV	NLV	2.60E+6 (B)	4,200 (B)	NLV	NLV	NLV	9.60E+6 (B)	NA	NA	NM	--	NM	--	9.0	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	40,000 (B)	100 (B)	NA	NA	NA	1.50E+5 (B)	NA	NA	NM	--	NM	--	0.0715	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	45	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	2,600 (B)	4.0 (B)	NLV	NLV	NLV	9,600 (B)	NA	NA	2.3	[2]	NM	--	<0.0005 U	--	NM	--
SILVER	7440-22-4	1.0 (B, M)	4.5 (B)	NLV	NLV	NLV	NLV	2500 (B)	13 (B)	NLV	NLV	NLV	9,000 (B)	NA	NA	<0.38 UJ	--	NM	--	0.0073	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	1.0E+6 (D)	NA	NLV	NLV	NLV	1.0E+6 (D)	NA	NA	NM	--	NM	--	11.5	--	NM	--
TITANIUM METAL POWDER	7440-32-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	1,200	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	750 (DD)	990	NLV	NLV	NLV	5,500 (DD)	NA	NA	NM	--	NM	--	0.047	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	6.30E+5 (B)	NA	NA	NM	--	NM	--	5.8	--	NM	--
Organics - PCBs (ug/kg)																							
AROCLOR-1016	12674-11-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<71 U	--	<4000 U	--	NM	--	<14000 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<71 U	--	<4000 U	--	NM	--	<14000 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	1,000 (J,T)	NLL	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	NM	--	ND	--
Organics - SVOCs (ug/kg)																							
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	8.10E+06	1.70E+05	1.80E+06	1.80E+06	1.80E+06	2.60E+07	NA	NA	NM	--	NM	--	NM	--	<78000 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	1.60E+06	17,000	2.70E+06	2.70E+06	2.70E+06	5.20E+06	NA	NA	33	--	NM	--	NM	--	<31000 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	4.70E+7 (C)	88,000	5.20E+07	5.20E+07	5.20E+07	1.50E+8 (C)	NA	NA	<35 U	--	NM	--	NM	--	NM	
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	2.30E+08	41,000	1.60E+09	1.60E+09	1.60E+09	7.30E+08	NA	NA	76	--	NM	--	NM	--	85,000	[4,11]
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<70 U	--	NM	--	NM	--	NM	

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-2
Sample Analytical Summary - Abandoned Container, Residual Process Material, and Waste
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection (Dec 2013)	[5] Residential SVIAI (Dec 2013)	[6] Residential Infinite Source VSIC (Dec 2013)	[7] Residential Finite VSIC for 5 meter (Dec 2013)	[8] Residential Finite VSIC for 2 meter (Dec 2013)	[10] Residential Direct Contact (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[13] Nonresidential Infinite Source VSIC (Dec 2013)	[14] Nonresidential Finite VSIC for 5 meter (Dec 2013)	[15] Nonresidential Finite VSIC for 2 meter (Dec 2013)	[17] Nonresidential Direct Contact (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D						Area I	
Station Name																QMCP-RPM03		QMCP-RPM04		Julio Marine and Salvage		QMCP-RPM05	
Field Sample ID																QMCP-RPM 03-0-6in**		QMCP-RPM04		MA 120401**		QMCP-RPM05	
Sample Date																9/19/2018		9/28/2018		12/4/1995		9/28/2018	
Sample Interval (bgs)																0 - 0.5 ft		0 - 0 ft		(unknown depth)		0 - 0 ft	
Sample Description																Rust colored material		Oily electrical equipment		Burner Ash		Black tar-like material with electrical equipment	
																Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																							
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	20,000 (Q)	NLL	NLV	NLV	NLV	80,000 (Q)	NA	NA	160	--	NM	--	NM	--	240,000	[10,17]
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	2,000 (Q)	NLL	NLV	NLV	NLV	8,000 (Q)	NA	NA	170	--	NM	--	NM	--	<620000 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	80,000 (Q)	NA	NA	250	--	NM	--	NM	--	<620000 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	2.50E+06	NLL	NLV	NLV	NLV	7.00E+06	NA	NA	150	--	NM	--	NM	--	<620000 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	2.00E+5 (Q)	NLL	NLV	NLV	NLV	8.00E+5 (Q)	NA	NA	100	--	NM	--	NM	--	<620000 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	2.80E+06	NLL	NLV	NLV	NLV	1.20E+7 (C)	NA	NA	<35 U	--	NM	--	NM	--	NM	
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	8.00E+6 (Q)	NA	NA	190	--	NM	--	NM	--	200,000	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	2,000 (Q)	NLL	NLV	NLV	NLV	8,000 (Q)	NA	NA	48	--	NM	--	NM	--	<620000 U	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	4.60E+07	730,000	8.90E+08	8.80E+08	8.80E+08	1.30E+08	NA	NA	300	--	NM	--	NM	--	530,000	[2]
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	20,000 (Q)	NLL	NLV	NLV	NLV	80,000 (Q)	NA	NA	180	--	NM	--	NM	--	<620000 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	1.60E+07	1.00E+05	3.50E+05	3.50E+05	3.50E+05	5.20E+07	NA	NA	NM	--	NM	--	NM	--	<31000 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	1.60E+06	160,000	1.90E+05	1.90E+05	1.90E+05	5.20E+06	NA	NA	210	--	NM	--	NM	--	250,000	[2,4,6,7,8,11,13,14,15]
PYRENE	129-00-0	ID	480,000	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	2.90E+07	480,000	7.80E+08	7.80E+08	7.80E+08	8.40E+07	NA	NA	260	--	NM	--	NM	--	510,000	[4,11]
Organics - VOCs (ug/kg)																							
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	7.00E+8 (C,I,DD)	NA	NA	<240 U	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6	4,200	5.70E+04	2.70E+06	1.50E+06	1.50E+06	1.50E+06	8.10E+06	1.70E+05	1.80E+06	1.80E+06	1.80E+06	2.60E+07	NA	NA	<120 UJ	--	NM	--	NM	--	NM	--
ACETONE	67-64-1	34,000	15,000	2.90E+08	1.30E+08	1.30E+08	1.90E+08	2.30E+07	42,000	1.60E+08	1.60E+08	2.00E+08	7.30E+07	260,000	780,000	<120 U	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	1.8E+5 (I)	100 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<36 U	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360 (I)	1,500 (I)	87,000 (I)	7.20E+5 (I)	1.00E+6 (I)	2.20E+6 (I)	2.2E+7 (C,I)	1,500 (I)	2.40E+6 (I)	3.10E+6 (I)	6.50E+6 (I)	7.10E+7 (C,I)	12 (M)	86	<36 U	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	2.50E+7 (C)	2.60E+05	2.00E+06	2.00E+06	3.00E+06	8.00E+7 (C)	NA	NA	<36 U	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	1.60E+07	1.00E+05	3.50E+05	3.50E+05	3.50E+05	5.20E+07	NA	NA	<120 U	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	2.50E+6 (I)	4,600	ID	ID	ID	8.00E+06	NA	NA	<36 U	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	4.00E+05	2,700	3.30E+06	3.30E+06	4.20E+06	1.90E+6 (C)	NA	NA	<36 U	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	5E+07 (C,I)	16,000 (I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.60E+8 (C,I)	3,700	16,000	<36 U	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	4.1E+08 (C,I)	5,600 (I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	NM	--	NM	--	NM	--
Organics - Pesticides (ug/kg) *																							
		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - Herbicides (ug/kg)																							
2,4,5-T	93-76-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.3 U	--	NM	--	NM	--	NM	--
2,4,5-TP (Silvex)	93-72-1	2,200	3,600	NLV	NLV	NLV	NLV	1.70E+06	3,600	NLV	NLV	NLV	5.50E+06	NA	NA	<5.3 U	--	NM	--	NM	--	NM	--
2,4-D	94-75-7	4,400	1,400	NLV	NLV	NLV	NLV	2.50E+06	1,400	NLV	NLV	NLV	8.60E+06	NA	NA	<11 U	--	NM	--	NM	--	NM	--
Other- General Chemistry																							
PERCENT MOISTURE	MOIST	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4	--	NM	--	NM	--	NM	--
pH	PH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.89	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-2
Sample Analytical Summary - Abandoned Container, Residual Process Material, and Waste
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Abandoned Container, Residual Process Material, and Waste Table Footnotes:

- EGLE Part 201 residential and non-residential generic cleanup criteria and screening levels criteria were originally promulgated December 21, 2002 within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. This table reflects revisions to the criteria pursuant to the December 2010 Part 201 amendments and new criteria consistent with the provisions of R299.5706a. Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Release Date: December 30, 2013.

- Only detected analytes are listed - Gray rows indicate requested analyses. If no analytes are listed below a gray row then all analytes of that group were either not analyzed or not detected. ND indicates that one or more analyte of that group was tested and not detected and a -- indicates not analyzed.

- **Bold** values are concentrations detected above the laboratory reporting limit.

- **Bold/Shaded** cells indicate analyte concentration exceeded applicable criteria. EGLE Part 201 criteria exceeded is indicated by the footnote in [brackets] following the result value and defined below:

[2] - Groundwater Surface Water Interface Protection Criteria
[3]* - Soil Saturation Concentration Screening Levels
[4] - Residential Drinking Water Protection Criteria
[5]* - Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
[6]** - Residential Infinite Source Volatile Soil Inhalation Criteria
[7]** - Residential Finite VSIC for 5 Meter Source Thickness
[8]** - Residential Finite VSIC for 2 Meter Source Thickness
[9] - Residential Particulate Soil Inhalation Criteria
[10]- Residential Direct Contact Criteria
[11] - Nonresidential Drinking Water Protection Criteria
[12]* - Nonresidential Soil Volatilization to Indoor Air Inhalation
[13]** - Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14]** - Nonresidential Finite VSIC for 5 Meter Source Thickness
[15]** - Nonresidential Finite VSIC for 2 Meter Source Thickness
[16] - Nonresidential Particulate Soil Inhalation Criteria
[17] - Nonresidential Direct Contact Criteria

* = Individual criteria for this group are not presented in this table because none were exceeded.

** = QMCP-SS278-0-3", QMCP-SS284-0-3", QMCP-DM01-0-6in, and QMCP-RPM 03-0-6in also analyzed for TCLP Metals, Cyanide, TCLP SVOCs, TCLP VOCs, and TCLP Pesticides. MA 12041 also analyzed for select TCLP metals. See Table 5-3, Sample Summary - Waste Characterization for additional analysis.

Evaluation based on EGLE Criteria at time of Project completion.

Samples described in this evaluation may actually refer to stamp sands or to other mining waste from the historic mining and reclamation processes conducted in the area.

-- = Not analyzed/Not Reported
bgs = Below ground surface
ft = Feet
in = Inches
mg/kg = Milligrams per kilogram.
TCLP = Toxicity Characteristic Leaching Procedure
PCBs = Polychlorinated biphenyls
VOC = Volatile organic compounds
SVOC = Semi-volatile organic compound
ug/kg = Micrograms per kilogram
% = Percentage
NM = Not Measured

Criteria Footnote:

ID = Insufficient data to develop criterion.

NA = A criterion or value is not available

NLL = Hazardous substance is not likely to leach under most soil conditions.

(B) = Background, as defined in R 299.1(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.

(C) = The criterion developed under R 299.20 to R 299.26 exceeds the chemical- specific soil saturation screening level (Csat). The person proposing or implementing response activity shall document whether additional response activity is required to control free-phase liquids or NAPL to protect against risks associated with free-phase liquids by using methods appropriate for the free-phase liquids present. Development of a site-specific Csat or methods presented in R 299.22, R 299.24(5), and R 299.26(8) may be conducted for the relevant exposure pathways.

(D) = Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

(DD) = Hazardous substance causes developmental effects. Residential direct contact criteria are protective of both prenatal and postnatal exposure. Nonresidential direct contact criteria are protective for a pregnant adult receptor.

(G) = Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg CaCO3/L, use 400 mg CaCO3/L for the FCV calculation. The FCV formula provides values in units of ug/L or ppb. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote. A spreadsheet that may be used to calculate GSI and GSI protection criteria for (G)-footnoted hazardous substances is available on the Department of Environment, Great Lakes, and Energy (EGLE) internet web site. A hardness value of 47.5 CaCO3/L and pH of 7, derived from the Michigan Department of Environmental Quality Draft Site Inspection Report for Lake Linden Operations dated 3/29/13, was used in the footnote G calculation spreadsheet.

(H) = Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/L. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.

(I) = Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at EGLE, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the EGLE, Remediation and Redevelopment Division (RRD), 525 West Allegan Street, Lansing, Michigan 48933, at cost.

(J) = Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.

(M) = Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

(Q) = Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

(R) = Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at the EGLE, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the EGLE, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost.

(T) = Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, Subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards. Subpart D and Subpart G of 40 C.F.R. §761 (July 1, 2001) are adopted by reference in these rules and are available for inspection at the EGLE, 525 West Allegan Street, Lansing, Michigan. Copies of the regulations may be purchased, at a cost as of the time of adoption of these rules of $55, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401, or from the EGLE, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost. Alternatives to compliance with the TSCA standards listed below are possible under 40 C.F.R. §761 Subpart D. New releases may be subject to the standards identified in 40 C.F.R. §761, Subpart G. Use Part 201 soil direct contact cleanup criteria in the published table if TSCA standards are not applicable.

(X) = The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. (See R 299.49 Footnotes for generic cleanup criteria tables for additional information.)

(Z) = Mercury is typically measured as total mercury. The generic cleanup criteria, however, are based on data for different species of mercury. Specifically, data for elemental mercury, chemical abstract service (CAS) number 7439976, serve as the basis for the soil volatilization to indoor air criteria, groundwater volatilization to indoor air, and soil inhalation criteria. Data for methyl mercury, CAS number 22967926, serve as the basis for the GSI criterion; and data for mercuric chloride, CAS number 7487947, serve as the basis for the drinking water, groundwater contact, soil direct contact, and the groundwater protection criteria. Comparison to criteria shall be based on species-specific analytical data only if sufficient facility characterization has been conducted to rule out the presence of other species of mercury.

Laboratory Footnote:

J = The result is an estimated quantity

ND = Not Detected

U = Analyte analyzed for but not detected above the reported sample reporting limit.

TABLE 5-2
Sample Analytical Summary - Abandoned Container, Residual Process Material, and Waste
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

	Part 201 Generic Cleanup Criteria Evaluated	Exceedance
EGLE Part 201 Generic Cleanup Criteria (June 2018)	[2] - Groundwater Surface Water Interface Protection Criteria	YES
	[3] - Soil Saturation Concentration Screening Levels	NO
	[4] - Residential Drinking Water Protection Criteria	YES
	[5] - Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)	YES
	[6] - Residential Infinite Source Volatile Soil Inhalation Criteria	YES
	[7] - Residential Finite VSIC for 5 Meter Source Thickness	YES
	[8] - Residential Finite VSIC for 2 Meter Source Thickness	YES
	[9] - Residential Particulate Soil Inhalation Criteria	YES
	[10] - Residential Direct Contact Criteria	YES
	[11] - Nonresidential Drinking Water Protection Criteria	YES
	[12] - Nonresidential Soil Volatilization to Indoor Air Inhalation	YES
	[13] - Nonresidential Infinite Source Volatile Soil Inhalation Criteria	YES
	[14] - Nonresidential Finite VSIC for 5 Meter Source Thickness	YES
	[15] - Nonresidential Finite VSIC for 2 Meter Source Thickness	YES
	[16] - Nonresidential Particulate Soil Inhalation Criteria	YES
	[17] - Nonresidential Direct Contact Criteria	YES
Volatilization to Indoor Air Interim Action Screening Levels (August 2017)	[18] - Soil Residential RIASL (Interim Aug 2017)	YES
	[19] - Soil Non-Residential RIASL (Interim Aug 2017)	YES

TABLE 5-3
Sample Analytical Summary - Waste Characterization
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[20] Hazardous Waste Toxicity Value	Area D									
Station Name			QMCP-SS278		QMCP-SS284		QMCP-DM01		QMCP-RPM03		Julio Marine and Salvage	
Field Sample ID			QMCP-SS278-0-3" **		QMCP-SS284-0-3" **		QMCP-DM01-0-6in**		QMCP-RPM 03-0-6in**		MA 12041**	
Sample Date			7/22/2019		7/22/2019		9/28/2018		9/19/2018		12/4/1995	
Sample Interval (bgs)			0-0.25 ft		0-0.25 ft		0 - 0.5 ft		0 - 0.5 ft		(unknown depth)	
Sample Description			Dark brown SAND with gravel in wastepile		Dark brown SAND with gravel and debris		Brown/black hardened material in drum		Rust colored material		Burner Ash	
			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics- TCLP Metals (mg/l)												
ARSENIC	7440-38-2	5	<0.05 UJ	--	<0.05 UJ	--	<0.050 U	--	<0.050 U	--	NM	--
BARIUM	7440-39-3	100	1.5	--	2.6	--	0.066	--	0.52	--	NM	--
CADMIUM	7440-43-9	1	0.17	--	0.43	--	<0.10 U	--	<0.1 UJ	--	0.47	--
CHROMIUM	7440-47-3	5	<0.05 UJ	--	<0.05 UJ	--	<0.05 UJ	--	<0.05 UJ	--	<0.01 U	--
LEAD	7439-92-1	5	120	[20]	6.9	[20]	<0.050 U	--	0.29	--	1.31	--
MERCURY	7439-97-6	0.2	<0.002 U	--	<0.002 U	--	<0.002 UJ	--	<0.0020 U	--	NM	--
SELENIUM	7782-49-2	1	<0.05 U	--	<0.05 UJ	--	<0.10 U	--	<0.10 U	--	NM	--
SILVER	7440-22-4	5	<0.05 U	--	<0.05 U	--	<0.05 UJ	--	<0.050 U	--	NM	--
Inorganics- Cyanide (mg/kg)												
CYANIDE	57-12-5	--	<100 U	--	<120 U	--	<110 U	--	<110 U	--	NM	--
Organics- TCLP SVOCs (ug/l)												
HEXACHLOROETHANE (SVOC)	67-72-1	3,000	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
m-Cresol	108-39-4	200,000	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
o-Cresol	95-48-7	200,000	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
p-Cresol	106-44-5	200,000	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
2,4,5-TRICHLOROPHENOL	95-95-4	400,000	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
2,4,6-TRICHLOROPHENOL	88-06-2	2,000	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
2,4-DINITROTOLUENE	121-14-2	130	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
HEXACHLORO-1,3-BUTADIENE	87-68-3	500	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
HEXACHLOROBENZENE	118-74-1	130	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
NITROBENZENE	98-95-3	2,000	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
PENTACHLOROPHENOL	87-86-5	100,000	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
PYRIDINE	110-86-1	5,000	<200 U	--	<200 U	--	<200 U	--	<200 U	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-3
Sample Analytical Summary - Waste Characterization
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[20] Hazardous Waste Toxicity Value	Area D									
Station Name			QMCP-SS278		QMCP-SS284		QMCP-DM01		QMCP-RPM03		Julio Marine and Salvage	
Field Sample ID			QMCP-SS278-0-3" **		QMCP-SS284-0-3" **		QMCP-DM01-0-6in**		QMCP-RPM 03-0-6in**		MA 12041**	
Sample Date			7/22/2019		7/22/2019		9/28/2018		9/19/2018		12/4/1995	
Sample Interval (bgs)			0-0.25 ft		0-0.25 ft		0 - 0.5 ft		0 - 0.5 ft		(unknown depth)	
Sample Description			Dark brown SAND with gravel in wastepile		Dark brown SAND with gravel and debris		Brown/black hardened material in drum		Rust colored material		Burner Ash	
			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics- TCLP VOCs (ug/l)												
1,1-DICHLOROETHYLENE	75-35-4	700	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--
1,2-DICHLOROETHANE	107-06-2	500	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--
1,4-DICHLOROBENZENE	106-46-7	7,500	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
2-BUTANONE (MEK)	78-93-3	200,000	<100 U	--	<100 U	--	<100 U	--	<100 U	--	NM	--
BENZENE	71-43-2	500	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--
CARBON TETRACHLORIDE	56-23-5	500	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--
CHLOROBENZENE	108-90-7	100,000	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--
CHLOROFORM	67-66-3	6,000	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--
TETRACHLOROETHYLENE	127-18-4	700	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--
TRICHLOROETHYLENE	79-01-6	500	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--
VINYL CHLORIDE	75-01-4	200	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--
Organics- TCLP Pesticides (ug/l)												
2,4,5-TP (Silvex)	93-72-1	1,000	<10 U	--	<10 U	--	<5 UJ	--	<5.0 U	--	NM	--
2,4-D	94-75-7	10,000	<10 U	--	<10 U	--	<5 UJ	--	<5.0 U	--	NM	--
Organics- TCLP Pesticides (ug/l)												
Chlordane, Technical	57-74-9	30	<0.5 U	--	<0.5 U	--	<3.0 U	--	<0.50 U	--	NM	--
Endrin	72-20-8	20	<0.02 U	--	<0.02 U	--	<0.12 U	--	<0.020 U	--	NM	--
gamma-BHC (Lindane)	58-89-9	400	<0.01 U	--	<0.01 U	--	<0.060 U	--	<0.010 U	--	NM	--
Heptachlor	76-44-8	8	<0.01 U	--	<0.01 U	--	<0.060 U	--	<0.010 U	--	NM	--
Heptachlor epoxide	1024-57-3	8	<0.01 U	--	<0.01 U	--	<0.060 U	--	<0.010 U	--	NM	--
Methoxychlor	72-43-5	10,000	<0.04 U	--	<0.04 U	--	<0.24 U	--	<0.040 U	--	NM	--
Toxaphene	8001-35-2	500	<2 U	--	<2 U	--	<12 U	--	<2.0 U	--	NM	--
Other- General Chemistry												
Unionized Hydrogen Sulfide (mg/kg)	18496-25-8	--	<100 U	--	<120 U	--		--	<110 U	--	NM	--
Flashpoint/Ignitability (Deg F)	--	--	<50 U	--	<50 U	--	<50.0 U	--	<50.0 U	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-3
Sample Analytical Summary - Waste Characterization
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Hazardous Waste Toxicity Screening values are from Title 40 of the Code of Federal Regulation, Chapter 1, Section 261.20-24

- **Bold** values are concentrations detected above the laboratory reporting limit.
- **Bold/Shaded** cells indicate analyte concentration exceeds the hazardous waste toxicity value.

Evaluation based on Michigan Department of Environment, Great Lakes, and Energy (EGLE) Criteria at time of Project completion.

Samples described in this evaluation may actually refer to stamp sands or to other mining waste from the historic mining and reclamation processes conducted in the area.

** = QMCP-SS278-0-3", QMCO-SS284-0-3", QMCP-DM01, QMCP-RPM03, and MA 12041 also analyzed for Metals, PCBs,Total VOCs, and Total SVOCs. See Table 5-2, Sample Analytical Summary - Abandoned Container, Residual Process Material, and Waste for additional analysis.

TCLP = Toxicity Characteristic Leaching Procedure

-- = No value listed

NM = Not Measured

mg/l = Milligram per liter

ug/l = Micrograms per liter

mg/kg = Milligram per kilogram

ft = Feet

in = Inches

F = Degrees Fahrenheit

U = Analyte analyzed for but not detected above reported sample reporting limit

J = The result is an estimated quantity

SVOCs = Semi-volatile organic compounds

VOCs = Volatile organic compounds

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A											
Station Name																			MW #8				MW #9				MW #10		
Field Sample ID																			MW #8		MW #8		MW #9		MW #9		MW #10		MW #10	
Sample Date																			10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990	
Sample Interval (bgs)																			5.5 - 9.5 ft		--		5.5 - 9.5 ft		--		5.5 - 9.5 ft		--	
Sample Description																			--		--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<200 U	--	NM	--	<200 U	--	NM	--	<200 U	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A											
Station Name																				MW #8				MW #9				MW #10			
Field Sample ID																				MW #8		MW #8		MW #9		MW #9		MW #10		MW #10	
Sample Date																				10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990	
Sample Interval (bgs)																				5.5 - 9.5 ft		--		5.5 - 9.5 ft		--		5.5 - 9.5 ft		--	
Sample Description																				--		--		--		--		--		--	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<200 U	--	NM	--	<200 U	--	NM	--	<200 U	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<100 U	--	NM	--	110	--	NM	--	<100 U	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<100 U	--	NM	--	320	--	NM	--	<100 U	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	100	--	NM	--	180	--	NM	--	<100 U	--	NM	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<5 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<5 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	<1 U	--	NM	--	<5 U	--	NM	--	<5 U	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	264	--	NM	--	208	--	NM	--	118	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A											
Station Name																			Open Ditch Bottom		SS-1		SS-2		SS-3		SS-4		TH #1	
Field Sample ID																			Open Ditch Bottom		SS 1		SS 2		SS 3		SS 4		TH #1	
Sample Date																			10/2/1990		6/5/2002		6/5/2002		6/5/2002		6/5/2002		4/17/1990	
Sample Interval (bgs)																			--		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in		--	
Sample Description																			--		0-½" - Dark gray, coarse sand. ½-3" - Dry, dark brown, medium sand with some coarse sand.		0-½" - Dry, dark gray, coarse sand. ½-3" - Dry, dark brown, medium sand, with some fine gravel. Appears stamp sand on top-soil and stamp sand mixed under ½".		0-3" - Slightly moist, dark brown, coarse sand with little fine gravel.		0-3" - Slightly moist, medium dark brown sand with some fine gravel.		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	30,000	[4,11]	17,700	[4,11]	21,800	[4,11]	9,290	[4,11]	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	<0.8 UJ	--	1.1 J	--	<0.81 UJ	--	<0.81 UJ	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	7.1	[2,4,11]	6.7	[2,4,11]	7.5	[2,4,11]	5.2	[2,4,11]	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	20.8	--	187	[2]	113	--	35.3	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	0.14	--	0.12	--	0.24	--	0.1	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	0.13	--	<0.11 U	--	0.24	--	<0.11 U	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	45,000 J	--	26,200 J	--	38,700 J	--	10,200 J	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	76.9	--	50.2	--	59.9	--	18.9	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	33.2	[2,4,11]	19.7	[2,4,11]	25.4	[2,4,11]	11.7	[2,4,11]	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	1,630	[2]	2,460 J	[2]	2,130	[2]	1,260	[2]	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	31,100	[4,11]	27,100	[4,11]	34,700	[4,11]	12,900	[4,11]	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	64.7 J	--	165 J	--	46.8 J	--	28.9 J	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	26,400	[4,11]	14,300	[4]	18,600	[4]	7,620	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	849	[2,4,11]	471	[2,4,11]	659	[2,4,11]	267	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	<0.05 U	--	<0.05 U	--	0.07	[18,19]	0.08	[18,19]	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	80.1	[2]	44.1	[2]	58	[2]	23.7	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	278 J	--	565 J	--	865 J	--	468 J	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	0.5	[2]	<0.47 U	--	<0.47 U	--	<0.47 U	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	<0.23 U	--	0.75	--	0.45	--	<0.24 U	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	809 J	--	1,160 J	--	1,470 J	--	683 J	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	82.9	[4]	52.4	--	70.6	--	30.6	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	157	[2]	197	[2]	73.9	[2]	74.9	[2]	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	0.15 J	[2]	0.07 J	--	<0.04 UJ	--	0.08 J	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<34 U	--	<36 U	--	<3500 U	--	<35 U	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<34 U	--	<36 U	--	<3500 U	--	<35 U	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<34 U	--	<36 U	--	<3500 U	--	<35 U	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	ND	--	ND	--	ND	--	ND	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<1700 U	--	<1800 U	--	<3500 U	--	<1700 U	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	<1700 U	--	<1800 U	--	600 J	--	<1700 U	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<200 U	--	<1700 U	--	<1800 U	--	<1400 U	--	<1700 U	--	<200 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<100 U	--	<1700 U	--	<1800 U	--	<3500 U	--	<1700 U	--	<100 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	<1700 U	--	<1800 U	--	<3500 U	--	<1700 U	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<100 U	--	<1700 U	--	<1800 U	--	<3500 U	--	<1700 U	--	<100 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<1700 UJ	--	<1800 UJ	--	<3500 UJ	--	<1700 UJ	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<500 U	--	300 J	--	<1800 U	--	<3500 U	--	230 J	--	<500 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<500 U	--	280 J	--	<1800 U	--	<3500 U	--	260 J	--	<500 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<500 U	--	350 J	--	<1800 U	--	<3500 U	--	<1700 U	--	<500 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<1000 U	--	<1700 U	--	<1800 U	--	<3500 U	--	<1700 U	--	<1000 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<500 U	--	340 J	--	<1800 U	--	<3500 U	--	<1700 U	--	<500 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	230 J	--	220 J	--	<3500 UJ	--	670 J	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	<1700 UJ	--	1,200 J	--	<3500 UJ	--	<1700 UJ	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<500 U	--	390 J	--	<1800 U	--	<3500 U	--	270 J	--	<500 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<1000 U	--	<1700 U	--	<1800 U	--	<3500 U	--	<1700 U	--	<1000 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	<1700 U	--	<1800 U	--	<3500 U	--	<1700 U	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	440	--	540 J	--	<1800 U	--	370 J	--	440 J	--	200	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A											
Station Name																			Open Ditch Bottom		SS-1		SS-2		SS-3		SS-4		TH #1	
Field Sample ID																			Open Ditch Bottom		SS 1		SS 2		SS 3		SS 4		TH #1	
Sample Date																			10/2/1990		6/5/2002		6/5/2002		6/5/2002		6/5/2002		4/17/1990	
Sample Interval (bgs)																			--		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in		--	
Sample Description																			--		0-½" - Dark gray, coarse sand. ½-3" - Dry, dark brown, medium sand with some coarse sand.		0-½" - Dry, dark gray, coarse sand. ½-3" - Dry, dark brown, medium sand, with some fine gravel. Appears stamp sand on top-soil and stamp sand mixed under ½".		0-3" - Slightly moist, dark brown, coarse sand with little fine gravel.		0-3" - Slightly moist, medium dark brown sand with some fine gravel.		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<200 U	--	<1700 U	--	<1800 U	--	<3500 U	--	<1700 U	--	<200 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1000 U	--	<1700 U	--	<1800 U	--	<3500 U	--	<1700 U	--	<1000 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<100 U	--	<1700 U	--	<1800 U	--	360 J	--	<1700 U	--	<100 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	220	--	290 J	--	<1800 U	--	510 J	--	200 J	--	<100 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	410	--	460 J	--	<1800 U	--	<3500 U	--	390 J	--	240	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	<1 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	<52 U	--	<53 U	--	260	[18]	<51 U	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	<260 U	--	<270 U	--	<310 U	--	<250 U	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	<52 U	--	<53 U	--	63	--	<51 U	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	<260 U	--	<270 U	--	<310 U	--	<250 U	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	<260 U	--	<270 U	--	530	--	<250 U	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	<1000 U	--	<1100 U	--	<1200 U	--	<1000 U	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	<1 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	<1 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<100 U	--	<110 U	--	360	--	<100 U	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	<260 U	--	<270 U	--	<310 U	--	<250 U	--	<1 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	<260 U	--	<270 U	--	450	--	<250 U	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<52 U	--	<53 U	--	280	--	<51 U	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	<52 U	--	300	--	<62 U	--	<51 U	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	<52 U	--	<53 U	--	<62 U	--	<51 U	--	<1 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	52	--	<53 U	--	220	--	<51 U	--	<1 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	<52 U	--	<53 U	--	<62 U	--	<53 U	--	<1 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	ND	--	ND	--	640	[18]	ND	--	<3 U	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	<3.4 U	--	<3.6 U	--	<350 U	--	<3.5 U	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	<3.4 U	--	<3.6 U	--	<350 U	--	<3.5 U	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	<1.7 U	--	<1.8 U	--	<180 U	--	<1.8 U	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	1.9	--	4.1	--	370	--	2.1	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	<1.7 U	--	3.2	--	<180 U	--	<1.8 U	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	<1.7 U	--	<1.8 U	--	<180 U	--	<1.8 U	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<3.4 U	--	<3.6 U	--	<350 U	--	<3.5 U	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<3.4 U	--	<3.6 U	--	<350 U	--	<3.5 U	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	3.5	--	<3.6 U	--	<350 U	--	2 J	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	1.8	--	4.4	--	390	--	1.7 J	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	<1.7 U	--	2.3	--	170 J	--	<1.8 U	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	<1.7 U	--	<1.8 U	--	<180 U	--	<1.8 U	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	<17 U	--	<18 U	--	<1800 U	--	<18 U	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	175	--	NM	--	NM	--	NM	--	NM	--	938	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A									
Station Name																			TH #2		TH #3		TH #3		TH #4		TH #5	
Field Sample ID																			TH #2		TH #3		TH #3		TH #4		TH #5	
Sample Date																			4/17/1990		4/17/1990		4/17/1990		4/17/1990		4/17/1990	
Sample Interval (bgs)																			--		0 - 4 ft		4 - 8 ft		--		--	
Sample Description																			--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<100 U	--	<100 U	--	<100 U	--	<100 U	--	220	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<500 U	--	540	--	<500 U	--	<500 U	--	<500 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<150 U	--	390	--	<100 U	--	<100 U	--	150	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A									
Station Name																			TH #2		TH #3				TH #4		TH #5	
Field Sample ID																			TH #2		TH #3		TH #3		TH #4		TH #5	
Sample Date																			4/17/1990		4/17/1990		4/17/1990		4/17/1990		4/17/1990	
Sample Interval (bgs)																			--		0 - 4 ft		4 - 8 ft		--		--	
Sample Description																			--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<200 U	--	270	--	<200 U	--	<200 U	--	1,000	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<100 U	--	<150 U	--	<100 U	--	<100 U	--	3,700	[2]
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<100 U	--	550	--	<100 U	--	<100 U	--	2,000	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<100 U	--	470	--	<100 U	--	<100 U	--	260	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<10 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<10 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<1 U	--	<1 U	--	<1 U	--	<1 U	--	76	[18]
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<10 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<10 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	59	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<10 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	<3 U	--	<3 U	--	<3 U	--	<3 U	--	620	[18]
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	46	--	3,740	--	363	--	358	--	308	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A									
Station Name																			TH #6		TH #7		TH #8		TH #9		TH #10	
Field Sample ID																			TH #6		TH #7		TH #8		TH #9		TH #10	
Sample Date																			4/17/1990		4/17/1990		4/17/1990		4/17/1990		4/17/1990	
Sample Interval (bgs)																			--		--		--		--		--	
Sample Description																			--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<100 U	--	<100 U	--	<100 U	--	180	--	<100 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	600	--	<500 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	370	--	<100 U	--	<100 U	--	780	--	<100 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

DRAFT

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A									
Station Name																			TH #6		TH #7		TH #8		TH #9		TH #10	
Field Sample ID																			TH #6		TH #7		TH #8		TH #9		TH #10	
Sample Date																			4/17/1990		4/17/1990		4/17/1990		4/17/1990		4/17/1990	
Sample Interval (bgs)																			--		--		--		--		--	
Sample Description																			--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	260	--	<100 U	--	<100 U	--	640	--	<100 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	370	--	<100 U	--	<100 U	--	670	--	<100 U	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	<3 U	--	<3 U	--	<3 U	--	<3 U	--	<3 U	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77	--	39	--	64	--	266	--	48	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

DRAFT

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A						Area B			
Station Name																			TH #11		TH #12				MW-103			
Field Sample ID																			TH #11		TH #12		TH #12		5413 MW-103		5414 MW-103 Cleanup	
Sample Date																			4/17/1990		10/2/1990		10/2/1990		7/20/1995		7/20/1995	
Sample Interval (bgs)																			--		5.5 - 9.5 ft		--		--		--	
Sample Description																			--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	72	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<200 U	--	<200 U	--	NM	--	<380 U	--	<330 UJ	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<100 U	--	<100 U	--	NM	--	<380 U	--	<330 UJ	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<100 U	--	<100 U	--	NM	--	<380 U	--	<330 UJ	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<500 U	--	<500 U	--	NM	--	<380 U	--	<330 UJ	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<500 U	--	<500 U	--	NM	--	<380 U	--	<330 UJ	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<500 U	--	<500 U	--	NM	--	<380 U	--	<330 UJ	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<1000 U	--	<1000 U	--	NM	--	<380 U	--	<330 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<500 U	--	<500 U	--	NM	--	<380 U	--	<330 UJ	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<500 U	--	<500 U	--	NM	--	<380 U	--	<330 UJ	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<1000 U	--	<1000 U	--	NM	--	<380 U	--	<330 UJ	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	230	--	110	--	NM	--	<380 U	--	<330 UJ	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area A						Area B			
Station Name																			TH #11		TH #12				MW-103			
Field Sample ID																			TH #11		TH #12		TH #12		5413 MW-103		5414 MW-103 Cleanup	
Sample Date																			4/17/1990		10/2/1990		10/2/1990		7/20/1995		7/20/1995	
Sample Interval (bgs)																			--		5.5 - 9.5 ft		--		--		--	
Sample Description																			--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<200 U	--	1,400	--	NM	--	<380 U	--	<330 UJ	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1000 U	--	<1000 U	--	NM	--	<380 U	--	<330 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<100 U	--	1,800	[2]	NM	--	<380 U	--	<330 UJ	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<100 U	--	3,400	[2]	NM	--	<380 U	--	<330 UJ	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	190	--	380	--	NM	--	1,400	--	<330 UJ	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<1 U	--	NM	--	<5 U	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<1 U	--	NM	--	<25 U	--	<10 U	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<1 U	--	NM	--	<100 U	--	<10 U	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<1 U	--	NM	--	<5 U	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<1 U	--	NM	--	<5 U	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<1 U	--	NM	--	<50 U	--	<10 U	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<1 U	--	NM	--	<5 U	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	<3 U	--	NM	--	<5000 U	--	<30 U	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65	--	1,526	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B									
Station Name																				MW-104				MW-302		MW-303		MW-401	
Field Sample ID																				5413 MW-104		5413 MW-104 Cleanup		5379 MW-302		5378 MW-303		5376 MW-401	
Sample Date																				7/20/1995		7/20/1995		7/18/1995		7/18/1995		7/18/1995	
Sample Interval (bgs)																				--		--		--		--		--	
Sample Description																				--		--		--		--		--	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																													
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	38	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																													
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																													
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																													
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																													
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<1300 U	--	390 J	--	NM	--	NM	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B									
Station Name																			MW-104				MW-302		MW-303		MW-401	
Field Sample ID																			5413 MW-104		5413 MW-104 Cleanup		5379 MW-302		5378 MW-303		5376 MW-401	
Sample Date																			7/20/1995		7/20/1995		7/18/1995		7/18/1995		7/18/1995	
Sample Interval (bgs)																			--		--		--		--		--	
Sample Description																			--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	1,500	--	<330 UJ	--	NM	--	NM	--	NM	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<10 U	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	13	[18]	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<10 U	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	<30 U	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	<20 U	--	2,100	--	<20 U	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

DRAFT

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																			PR-1		QMCP-SB07		QMCP-SB67		QMCP-SB68		SB-101		
Field Sample ID																			PR-1 10149		QMCP-SB7 0-3		QMCP-SB67 0-3		QMCP-SB68 0-3		5394 SB-101		5394 SB-101 Cleanup
Sample Date																			7/8/1998		9/11/2018		9/11/2018		9/11/2018		7/19/1995		7/19/1995
Sample Interval (bgs)																			--		0 - 3 ft		0 - 3 ft		0 - 3 ft		--		--
Sample Description																			--		SAND, Fine to medium, brown, saturated at 3 feet		SAND, Fine to medium, brown, saturated at 3 feet		SAND, Fine to medium, brown, saturated at 3 feet		--		--
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	<0.2 U	--	<0.2 U	--	0.7	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	10	--	13	--	63	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	5.4	--	31	--	63	--	0.016	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	9,700	[2]	<600 U	--	700	--	990	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	560	--	<240 U	--	<230 U	--	<260 U	--	<2900 U	--	<330 UJ	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<330 U	--	<240 U	--	<230 U	--	<260 U	--	<2900 U	--	<330 UJ	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<330 U	--	<240 U	--	<230 U	--	<260 U	--	<2900 U	--	<330 UJ	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<330 U	--	480	--	680	--	360	--	<2900 U	--	<330 UJ	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<330 U	--	<480 U	--	580	--	<520 U	--	<2900 U	--	<330 UJ	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<330 U	--	710	--	830	--	770	--	<2900 U	--	<330 UJ	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<330 U	--	<480 U	--	<460 U	--	<520 U	--	<2900 U	--	<330 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<330 U	--	<480 U	--	<460 U	--	<520 U	--	<2900 U	--	<330 UJ	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<330 U	--	380	--	680	--	460	--	<2900 U	--	<330 UJ	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<330 U	--	<480 U	--	<460 U	--	<520 U	--	<2900 U	--	<330 UJ	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<330 U	--	770	--	1,200	--	790	--	<2900 U	--	<330 UJ	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																			PR-1		QMCP-SB07		QMCP-SB67		QMCP-SB68		SB-101		
Field Sample ID																			PR-1 10149		QMCP-SB7 0-3		QMCP-SB67 0-3		QMCP-SB68 0-3		5394 SB-101		5394 SB-101 Cleanup
Sample Date																			7/8/1998		9/11/2018		9/11/2018		9/11/2018		7/19/1995		7/19/1995
Sample Interval (bgs)																			--		0 - 3 ft		0 - 3 ft		0 - 3 ft		--		--
Sample Description																			--		SAND, Fine to medium, brown, saturated at 3 feet		SAND, Fine to medium, brown, saturated at 3 feet		SAND, Fine to medium, brown, saturated at 3 feet		--		--
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	1,200	--	<240 U	--	<230 U	--	<260 U	--	<2900 U	--	<330 UJ	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<330 U	--	<480 U	--	<460 U	--	<520 U	--	<2900 U	--	<330 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	<330 U	--	<240 U	--	490	--	780	[2]	12,000	[2]	2,100 J	[2]
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	2,200	[2]	260	--	590	--	700	--	<2900 U	--	<330 UJ	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	710	--	660	--	890	--	620	--	<2900 U	--	<330 UJ	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	<69 U	--	<68 U	--	87	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	<69 U	--	130	--	230	[18]	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<340 U	--	<340 U	--	<390 U	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	<340 U	--	<340 U	--	<390 U	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	<340 U	--	<340 U	--	<390 U	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	<1400 U	--	<1400 U	--	<1600 U	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<10 U	--	<69 U	--	<68 U	--	<78 U	--	3,700	[2,4,5,11,18,19]	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<340 U	--	<340 U	--	<390 U	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	310	[18,19]	<69 U	--	<68 U	--	82	[18]	19,000	[2,4,11,18,19]	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	<69 UJ	--	<68 UJ	--	77 J	[18]	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<140 U	--	270	--	420	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	<140 U	--	<140 U	--	<160 U	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	<340 U	--	<340 U	--	390	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<69 U	--	180	--	330	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	79	--	<69 U	--	300	--	310	--	27,000	[2,4,11,18,19]	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	<69 U	--	<68 U	--	<78 U	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	950	[18]	ND	[18]	450	[18]	750	[18]	94,000	[2,4,11,18,19]	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

DRAFT

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																				SB-102				SB-103		SB-104				SB-105	
Field Sample ID																				5395 SB-102		5396 SB-102 Cleanup		5396 SB-103		5397 SB-104		5397 SB-104 Cleanup		5398 SB-105	
Sample Date																				7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995	
Sample Interval (bgs)																				--		--		--		--		--		--	
Sample Description																				--		--		--		--		--		--	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		0.008	--	NM	--	0.008	--	0.084	--	NM	--	0.01	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		650	--	740 J	--	<2100 U	--	3,400	--	880 J	--	<330 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		<330 U	--	<330 UJ	--	<2100 U	--	3,900	--	1,200 J	--	<330 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<330 U	--	<330 UJ	--	<2100 U	--	3,100	[10]	940 J	--	<330 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		<330 U	--	<330 UJ	--	2,600	--	7,000	--	1,100 J	--	<330 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	500 J	--	<330 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<330 U	--	<330 UJ	--	2,400	--	<1600 U	--	760 J	--	<330 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		<330 U	--	<330 UJ	--	<2100 U	--	3,600	--	1,200 J	--	<330 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		610	--	<330 UJ	--	<2100 U	--	6,200	[2]	1,900 J	--	<330 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																				SB-102				SB-103		SB-104				SB-105	
Field Sample ID																				5395 SB-102		5396 SB-102 Cleanup		5396 SB-103		5397 SB-104		5397 SB-104 Cleanup		5398 SB-105	
Sample Date																				7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995	
Sample Interval (bgs)																				--		--		--		--		--		--	
Sample Description																				--		--		--		--		--		--	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<330 U	--	360 J	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	500 J	--	<330 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<330 U	--	1,600 J	[2]	3,400	[2]	<1600 U	--	<330 UJ	--	<330 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<330 U	--	660 J	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	560	--	<330 UJ	--	5,200	--	9,700	--	1,800 J	--	1,000	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<10 U	--	NM	--	5,200	[2,4,5,11,18,19]	<10 U	--	NM	--	<10 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	36	[18]	NM	--	29,000	[2,4,11,18,19]	<10 U	--	NM	--	<10 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	31	--	NM	--	4,400	[18]	<10 U	--	NM	--	<10 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	150	--	NM	--	80,000	[2,4,11,18,19]	<30 U	--	NM	--	<30 U	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B									
Station Name																			SB-106				SB-107				SB-108			
Field Sample ID																			5399 SB-106		5399 SB-106 Cleanup		5400 SB-107		5400 SB-107 Cleanup		5401 SB-108		5401 SB-108 Cleanup	
Sample Date																			7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995	
Sample Interval (bgs)																			--		--		--		--		--		--	
Sample Description																			--		--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	0.028	--	NM	--	0.014	--	NM	--	24	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--	<560 U	--	<330 UJ	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--	<560 U	--	<330 UJ	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	3,100	--	970 J	--	<1400 U	--	<330 UJ	--	970	--	<330 UJ	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1700 U	--	610 J	--	<1400 U	--	<330 UJ	--	3,200	--	<330 UJ	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<1700 U	--	480 J	--	<1400 U	--	<330 UJ	--	3,000	[10]	<330 UJ	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<1700 U	--	490 J	--	<1400 U	--	<330 UJ	--	4,200	--	<330 UJ	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--	2,100	--	<330 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<1700 U	--	430 J	--	<1400 U	--	<330 UJ	--	5,100	--	<330 UJ	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<1700 U	--	530 J	--	<1400 U	--	<330 UJ	--	3,000	--	<330 UJ	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--	640	--	<330 UJ	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	3,100	--	920 J	--	<1400 U	--	<330 UJ	--	830	--	<330 UJ	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B									
Station Name																			SB-106				SB-107				SB-108			
Field Sample ID																			5399 SB-106		5399 SB-106 Cleanup		5400 SB-107		5400 SB-107 Cleanup		5401 SB-108		5401 SB-108 Cleanup	
Sample Date																			7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995	
Sample Interval (bgs)																			--		--		--		--		--		--	
Sample Description																			--		--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--	<560 U	--	<330 UJ	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--	1,600	--	<330 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--	<560 U	--	<330 UJ	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<1700 U	--	860 J	--	<1400 U	--	<330 UJ	--	860	--	<330 UJ	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	2,700	--	880 J	--	<1400 U	--	<330 UJ	--	16,000	--	<330 UJ	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<10 U	--	NM	--	14	[18,19]	NM	--	<10 U	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<10 U	--	NM	--	<10 U	--	NM	--	47	[18]	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<10 U	--	NM	--	<10 U	--	NM	--	<10 U	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	<30 U	--	NM	--	<30 U	--	NM	--	<30 U	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B									
Station Name																			SB-109				SB-110				SB-111			
Field Sample ID																			5402 SB-109		5402 SB-109 Cleanup		5403 SB-110		5403 SB-110 Cleanup		5404 SB-111		5404 SB-111 Cleanup	
Sample Date																			7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995	
Sample Interval (bgs)																			--		--		--		--		--		--	
Sample Description																			--		--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	11	--	NM	--	13	--	NM	--	8	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<560 U	--	<330 UJ	--	4,500	--	1,700 J	--	2,500	--	410 J	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<560 U	--	<330 UJ	--	<1700 U	--	480 J	--	<1700 U	--	<330 UJ	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<560 U	--	340 J	--	28,000	--	11,000 J	--	15,000	--	3,000 J	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<560 U	--	<330 UJ	--	4,100	--	2,100 J	--	<1700 U	--	340 J	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<560 U	--	<330 UJ	--	<1700 U	--	850 J	--	<1700 U	--	<330 UJ	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<560 U	--	<330 UJ	--	1,900	--	2,000 J	--	<1700 U	--	<330 UJ	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<560 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<560 U	--	<330 UJ	--	<1700 U	--	1,800 J	--	<1700 U	--	<330 UJ	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<560 U	--	<330 UJ	--	3,800	--	2,000 J	--	<1700 U	--	360 J	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<560 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<560 U	--	<330 UJ	--	15,000	[2]	6,800 J	[2]	5,300	--	1,400 J	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																			SB-109				SB-110				SB-111			
Field Sample ID																			5402 SB-109		5402 SB-109 Cleanup		5403 SB-110		5403 SB-110 Cleanup		5404 SB-111		5404 SB-111 Cleanup	
Sample Date																			7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995	
Sample Interval (bgs)																			--		--		--		--		--		--	
Sample Description																			--		--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<560 U	--	<330 UJ	--	8,600	[2]	3,400 J	--	5,200	--	1,100 J	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<560 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	1,300	[2]	560 J	--	17,000	[2]	5,300 J	[2]	28,000	[2]	3,400 J	[2]
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<560 U	--	<330 UJ	--	7,000	[2]	8,800 J	[2]	3,600	[2]	660 J	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	2,300	--	<330 UJ	--	12,000	--	5,100 J	--	6,100	--	1,100 J	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	270	[2,4,11,18,19]	NM	--	23	[18,19]	NM	--	21	[18,19]	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	3,000	[2,4,11,18,19]	NM	--	92	[18,19]	NM	--	68	[18]	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	310	--	NM	--	120	--	NM	--	26	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	17,000	[2,4,11,18,19]	NM	--	270	--	NM	--	180	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

DRAFT

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																			SB-112				SB-113				SB-114			
Field Sample ID																			5405 SB-112		5405 SB-112 Cleanup		5406 SB-113		5406 SB-113 Cleanup		5412 SB-114		5412 SB-114 Cleanup	
Sample Date																			7/19/1995		7/19/1995		7/20/1995		7/20/1995		7/20/1995		7/20/1995	
Sample Interval (bgs)																			--		--		--		--		--		--	
Sample Description																			--		--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	8	--	NM	--	7	--	NM	--	17	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<690 U	--	<330 UJ	--	<560 U	--	<330 UJ	--	<690 U	--	<330 UJ	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<690 U	--	<330 UJ	--	700	--	<330 UJ	--	<690 U	--	<330 UJ	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<690 U	--	<330 UJ	--	8,700	--	870 J	--	1,300	--	640 J	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	740	--	<330 UJ	--	16,000	--	<330 UJ	--	2,900	--	1,500 J	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	730	--	<330 UJ	--	14,000	[10,17]	<330 UJ	--	2,100	[10]	930 J	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	1,300	--	<330 UJ	--	13,000	--	<330 UJ	--	2,400	--	1,200 J	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<690 U	--	<330 UJ	--	5,800	--	<330 UJ	--	<690 U	--	<330 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	900	--	<330 UJ	--	13,000	--	<330 UJ	--	2,300	--	710 J	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	1,000	--	<330 UJ	--	13,000	--	<330 UJ	--	2,500	--	1,400 J	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<690 U	--	<330 UJ	--	3,000	[10]	<330 UJ	--	<690 U	--	<330 UJ	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<690 U	--	<330 UJ	--	6,200	[2]	700 J	--	4,000	--	2,200 J	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																			SB-112				SB-113				SB-114			
Field Sample ID																			5405 SB-112		5405 SB-112 Cleanup		5406 SB-113		5406 SB-113 Cleanup		5412 SB-114		5412 SB-114 Cleanup	
Sample Date																			7/19/1995		7/19/1995		7/20/1995		7/20/1995		7/20/1995		7/20/1995	
Sample Interval (bgs)																			--		--		--		--		--		--	
Sample Description																			--		--		--		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<690 U	--	<330 UJ	--	940	--	<330 UJ	--	<690 U	--	<330 UJ	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<690 U	--	<330 UJ	--	5,700	--	<330 UJ	--	<690 U	--	<330 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<690 U	--	<330 UJ	--	<560 U	--	<330 UJ	--	<690 U	--	<330 UJ	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<690 U	--	<330 UJ	--	1,700	--	<330 UJ	--	<690 U	--	<330 UJ	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	3,500	--	<330 UJ	--	39,000	--	620 J	--	6,100	--	2,600 J	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<10 U	--	NM	--	<10 U	--	NM	--	<10 U	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<10 U	--	NM	--	<10 U	--	NM	--	220	[18,19]	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<10 U	--	NM	--	<10 U	--	NM	--	31	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	<30 U	--	NM	--	<30 U	--	NM	--	460	[18]	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																				SB-201				SB-501		SS-32		SS-5		SS-6	
Field Sample ID																				5410 SB-201		5410 SB-201 Cleanup		5408 SB-501		SS 32		SS 5		SS 6	
Sample Date																				7/20/1995		7/20/1995		7/20/1995		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																				--		--		--		0 - 4 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 6 in 0 - 12 in	
Sample Description																				--		--		--		0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve.		0-3"- Moist, dark brown, medium to fine sand with some stamp sand on surface along with some fine gravel.		0-6" - Reddish-brown, fine to medium sand.	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	15,400	[4,11]	6,110	--	9,970	[4,11]
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	<0.78 UJ	--	<0.81 UJ	--	0.92 J	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		NM	--	NM	--	NM	--	3.7	--	3.6	--	2.3	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		NM	--	NM	--	NM	--	7	--	28.7	--	24.7	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	0.08	--	<0.06 U	--	<0.06 U	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		<0.05 U	--	NM	--	NM	--	<0.1 U	--	<0.11 U	--	<0.11 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	24,500	--	6,430 J	--	14,900 J	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		8.7	--	NM	--	NM	--	34.6	--	13.8	--	25.9	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	22.8	[2,4,11]	10.6	[2,4,11]	21.1	[2,4,11]
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		NM	--	NM	--	NM	--	1,440 J	[2]	1,340	[2]	2,260 J	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	16,100	[4,11]	10,600	--	16,700	[4,11]
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		40	--	NM	--	NM	--	1.4 J	--	18.3 J	--	29 J	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	17,100	[4]	5,540	--	9,930	[4]
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		NM	--	NM	--	NM	--	465	[2,4,11]	243	--	460	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		NM	--	NM	--	NM	--	<0.05 UJ	--	<0.05 U	--	0.07	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	39.8	[2]	14.5	--	19.1	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	214 J	--	379 J	--	325 J	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		NM	--	NM	--	NM	--	0.68 J	[2]	<0.47 U	--	<0.46 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		NM	--	NM	--	NM	--	<0.22 U	--	<0.24 U	--	0.5	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	2,500 J	--	541 J	--	684 J	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	51	--	30	--	47	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		NM	--	NM	--	NM	--	56.2 J	--	57.3	--	62	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	0.27 J	[2]	0.08 J	--	<0.04 UJ	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<330 U	--	NM	--	NM	--	<34 U	--	<34 U	--	<35 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<330 U	--	NM	--	NM	--	<34 U	--	<34 U	--	<35 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<330 U	--	NM	--	NM	--	<34 U	--	<34 U	--	<35 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<330 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		ND	--	NM	--	NM	--	ND	--	ND	--	ND	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<3400 U	--	NM	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		NM	--	NM	--	NM	--	<340 U	--	<1700 U	--	240 J	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<4500 U	--	<330 UJ	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<4500 U	--	<330 UJ	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		5,400	--	1,300 J	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	<340 U	--	<1700 UJ	--	<1800 UJ	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		<4500 U	--	600 J	--	NM	--	<340 U	--	690 J	--	<1800 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<4500 U	--	330 J	--	NM	--	<340 U	--	390 J	--	<1800 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		<4500 U	--	410 J	--	NM	--	<340 U	--	<760 U	--	<1800 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<4500 U	--	<330 UJ	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<4500 U	--	<330 UJ	--	NM	--	<340 U	--	620 J	--	<1800 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	<340 U	--	640 J	--	330 J	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	<340 U	--	<1700 UJ	--	<1800 U	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		<4500 U	--	550 J	--	NM	--	<340 U	--	1,000 J	--	<1800 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<4500 U	--	<330 UJ	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		<4500 U	--	930 J	--	NM	--	<340 U	--	1,500 J	--	<1800 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																				SB-201				SB-501		SS-32		SS-5		SS-6	
Field Sample ID																				5410 SB-201		5410 SB-201 Cleanup		5408 SB-501		SS 32		SS 5		SS 6	
Sample Date																				7/20/1995		7/20/1995		7/20/1995		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																				--		--		--		0 - 4 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 6 in 0 - 12 in	
Sample Description																				--		--		--		0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve.		0-3"- Moist, dark brown, medium to fine sand with some stamp sand on surface along with some fine gravel.		0-6" - Reddish-brown, fine to medium sand.	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<4500 U	--	<330 UJ	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<4500 U	--	<330 UJ	--	NM	--	<340 U	--	<1700 U	--	<1800 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	15,000	[2]	3,100 J	[2]	NM	--	<340 U	--	<1700 U	--	<1800 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<4500 U	--	<330 UJ	--	NM	--	<340 U	--	210 J	--	210 J	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<4500 U	--	970 J	--	NM	--	<340 U	--	1,300 J	--	<1800 U	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<12 U	--	NM	--	<10 U	--	<52 U	--	<53 U	--	<52 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<12 U	--	NM	--	<10 U	--	<52 U	--	<53 U	--	<52 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	280	[18]
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	<260 U	--	<270 U	--	<260 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	74	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	<260 U	--	<270 U	--	<260 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	<260 U	--	<270 U	--	660	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	<1000 U	--	<1100 U	--	<1000 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	215	[4,11,18,19]	NM	--	NM	--	<52 U	--	<53 U	--	<52 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	360	[18,19]	NM	--	NM	--	<52 U	--	<53 U	--	54	[18]
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<52 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<100 U	--	<110 U	--	310	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<50 U	--	NM	--	<10 U	--	<260 U	--	<270 U	--	<260 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	<260 U	--	<270 U	--	480	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<53 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<53 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	330	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<53 U	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<53 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<52 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<53 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<12 U	--	NM	--	<10 U	--	<52 U	--	<53 U	--	<52 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	440	--	NM	--	NM	--	<52 U	--	64	--	240	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<12 U	--	NM	--	<10 U	--	<52 U	--	<53 U	--	<52 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	2,300	[2,18,19]	NM	--	NM	--	ND	--	ND	--	640	[18]
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	<3.4 U	--	<3.4 U	--	<3.5 U	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	<3.4 U	--	<3.4 U	--	<3.5 U	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	2.5	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<3.4 U	--	<3.4 U	--	<3.5 U	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<3.4 U	--	<3.4 U	--	<3.5 U	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<3.4 U	--	1.8 J	--	1.8 J	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	2	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	<17 U	--	<18 U	--	<18 U	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B											
Station Name																				SS-7		SS-8		SS-9		T1-N		T1-S		T2-N	
Field Sample ID																				SS 7		SS 8		SS 9		T1-N 10143		T1-S 10144		T2-N 10145	
Sample Date																				6/5/2002		6/5/2002		6/5/2002		7/8/1998		7/8/1998		7/8/1998	
Sample Interval (bgs)																				0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		--		--		--	
Sample Description																				0-6" - Slightly moist, fine to medium sand with some coal and wood.		0-6" - Slightly moist, dark brown, fine to medium sand with some coal and wood.		0-6"- Slightly moist, dark brown to black, fine to medium sand with some coarse gravel.		--		--		--	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		6,260	--	9,470	[4,11]	9,740	[4,11]	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		<0.8 UJ	--	0.84 J	--	1.9 J	[2]	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		5.7	[2,4,11]	5.2	[2,4,11]	9.4	[2,4,10,11]	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		54.4	--	60.6	--	40.6	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		0.14	--	<0.06 U	--	0.22	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		<0.1 U	--	<0.11 U	--	<0.11 U	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		17,400 J	--	13,500 J	--	55,600 J	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		15	--	28.1	--	20.4	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		8.3	[2,4,11]	14.7	[2,4,11]	13.5	[2,4,11]	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		1,750	[2]	1,230	[2]	2,270 J	[2]	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		13,800	[4,11]	24,600	[4,11]	25,500	[4,11]	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		30.1 J	--	34.4 J	--	113 J	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		5,430	--	8,430	[4]	8,980	[4]	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		206	--	551	[2,4,11]	468	[2,4,11]	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		<0.05 U	--	0.07	[18,19]	0.08	[18,19]	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		14.9	--	20.9	--	23.8	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		676 J	--	457 J	--	409 J	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		<0.46 U	--	<0.47 U	--	0.55	[2]	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		0.63	--	0.44 J	--	0.99 J	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		657 J	--	938 J	--	995 J	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		26.2	--	41.8	--	35.2	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		47.3	--	57.6	--	95.1	[2]	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		<0.04 UJ	--	<0.1 UJ	--	0.57 J	[2]	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<34 U	--	<35 U	--	<77 U	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<34 U	--	<35 U	--	<77 U	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<34 U	--	<35 U	--	<77 U	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		ND	--	ND	--	ND	--	NM	--	NM	--	NM	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<680 U	--	<1700 U	--	<1900 U	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		380 J	--	<1700 U	--	450 J	--	<330 U	--	<330 U	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<680 U	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<680 U	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		<680 U	--	<1700 U	--	<1900 U	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<680 U	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<680 UJ	--	<1700 UJ	--	<1900 U	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		81 J	--	<1700 U	--	200 J	--	<330 U	--	<330 U	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<680 U	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		110 J	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<680 U	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		86 J	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		230 J	--	350 J	--	340 J	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		<680 UJ	--	<1700 U	--	<1900 U	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		110 J	--	<1700 U	--	270 J	--	<330 U	--	<330 U	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<680 U	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		97 J	--	<1700 U	--	<1900 U	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		170 J	--	<1700 U	--	330 J	--	740	--	<330 U	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B									
Station Name																			SS-7		SS-8		SS-9		T1-N		T1-S		T2-N	
Field Sample ID																			SS 7		SS 8		SS 9		T1-N 10143		T1-S 10144		T2-N 10145	
Sample Date																			6/5/2002		6/5/2002		6/5/2002		7/8/1998		7/8/1998		7/8/1998	
Sample Interval (bgs)																			0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		--		--		--	
Sample Description																			0-6" - Slightly moist, fine to medium sand with some coal and wood.		0-6" - Slightly moist, dark brown, fine to medium sand with some coal and wood.		0-6"- Slightly moist, dark brown to black, fine to medium sand with some coarse gravel.		--		--		--	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<680 U	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<680 U	--	<1700 U	--	<1900 U	--	<330 U	--	<330 U	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	240 J	--	<1700 U	--	270 J	--	<330 U	--	<330 U	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	260 J	--	<1700 U	--	420 J	--	<330 U	--	<330 U	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	140 J	--	<1700 U	--	330 J	--	880	--	<330 U	--	NM	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<1100 U	--	<1000 U	--	190	[18]	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	<5300 U	--	<5200 U	--	<270 U	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<5300 U	--	<5200 U	--	<270 U	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<5300 U	--	<5200 U	--	390	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<21000 U	--	<21000 U	--	<1100 U	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	<10 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	<10 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2100 U	--	<2100 U	--	340	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<5300 U	--	<5200 U	--	<270 U	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<5300 U	--	<5200 U	--	320	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,100	--	<1000 U	--	230	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	1,300	--	1,300	--	290	--	NM	--	NM	--	<10 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<1100 U	--	<1000 U	--	<54 U	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	1,100	[2]	ND	--	570	[18]	NM	--	NM	--	<30 U	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	<3.4 U	--	<3.5 U	--	<7.7 U	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	<3.4 U	--	<3.5 U	--	<7.7 U	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	<1.8 U	--	<1.8 U	--	<4 U	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.2	--	<1.8 U	--	35	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	<1.8 U	--	<1.8 U	--	<4 U	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	<1.8 U	--	<1.8 U	--	<4 U	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.4 U	--	<3.5 U	--	<7.7 U	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 J	--	<3.5 U	--	<7.7 U	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.8 U	--	<3.5 U	--	4.7 J	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9	--	<1.8 U	--	39	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	2.5	--	<1.8 U	--	20	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	<1.8 U	--	<1.8 U	--	<4 U	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	<18 U	--	<18 U	--	<40 U	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B						Area C					
Station Name																			T2-S		T3-N		T3-S		SS-10		SS-11		SS-12	
Field Sample ID																			T2-S 10146		T3-N 10147		T3-S 10148		SS 10		SS 11		SS 12	
Sample Date																			7/8/1998		7/8/1998		7/8/1998		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																			--		--		--		0 - 6 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in	
Sample Description																			--		--		--		0-6"- Slightly moist, dark brown, fine sand with some fine to medium gravel. Area subject to EPA ROD remedy.		0-1" - Dry, black/red stamp sand. 1-3" - Slightly moist, black/red stamp sand with fine coal gravel, some pieces of slag. Area subject to EPA ROD remedy.		0-1" - Dry, black/red stamp sand as coarse sand. 1-3"- Slightly moist, black/red stamp sand as coarse sand, trace of fine gravel. Area subject to EPA ROD remedy.	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	9,500	[4,11]	11,000	[4,11]	8,940	[4,11]
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	1.1 J	--	1.7 J	[2]	4.6 J	[2,4,11]
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	7.1	[2,4,11]	9	[2,4,10,11]	25.6	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	34.9	--	47.3	--	80.8	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	<0.06 U	--	<0.06 U	--	0.45	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	<0.11 U	--	0.24	--	1.7	[2]
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	23,800 J	--	16,200 J	--	12,500 J	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	21.9	--	17.8	--	19.3	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	20.8	[2,4,11]	22.9	[2,4,11]	16.7	[2,4,11]
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	21,000	[2,4,10,11]	4,850 J	[2]	9,150 J	[2,4,11]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	34,800	[4,11]	19,800	[4,11]	21,800	[4,11]
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	34.9 J	--	68.8 J	--	106 J	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	10,500	[4]	11,600	[4]	8,950	[4]
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	662	[2,4,11]	589	[2,4,11]	402	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	0.06	[18,19]	0.12	[18,19]	0.14	[2,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	21.6	--	23.6	--	19.1	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	192 J	--	207 J	--	397 J	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	<0.46 U	--	0.82	[2]	0.74	[2]
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	12	[2,4]	4.1	[2]	12	[2,4]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	847 J	--	682 J	--	1,700 J	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	55.4	--	49.9	--	43.9	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	102	[2]	139	[2]	654	[2]
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	0.07 J	--	0.04 J	--	0.05 J	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<35 U	--	<36 U	--	<36 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<35 U	--	<36 U	--	<36 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<35 U	--	<36 U	--	<36 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	ND	--	ND	--	ND	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<880 U	--	<1800 U	--	<1700 U	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	<330 U	--	<330 U	--	220 J	--	530 J	--	540 J	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	<1700 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	<1700 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	<880 U	--	<1800 U	--	<1700 U	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	<1700 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<880 U	--	<1800 U	--	<1700 UJ	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	220 J	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	290 J	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	430 J	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	270 J	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	310 J	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	<880 UJ	--	380 J	--	240 J	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	<880 U	--	<1800 U	--	<1700 U	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	510 J	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	<1700 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	<880 U	--	<1800 U	--	180 J	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	240 J	--	1,100 J	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area B						Area C					
Station Name																			T2-S		T3-N		T3-S		SS-10		SS-11		SS-12	
Field Sample ID																			T2-S 10146		T3-N 10147		T3-S 10148		SS 10		SS 11		SS 12	
Sample Date																			7/8/1998		7/8/1998		7/8/1998		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																			--		--		--		0 - 6 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in	
Sample Description																			--		--		--		0-6"- Slightly moist, dark brown, fine sand with some fine to medium gravel. Area subject to EPA ROD remedy.		0-1" - Dry, black/red stamp sand. 1-3" - Slightly moist, black/red stamp sand with fine coal gravel, some pieces of slag. Area subject to EPA ROD remedy.		0-1" - Dry, black/red stamp sand as coarse sand. 1-3"- Slightly moist, black/red stamp sand as coarse sand, trace of fine gravel. Area subject to EPA ROD remedy.	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	<1700 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	<1800 U	--	270 J	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	<330 U	--	<330 U	--	<880 U	--	350 J	--	360 J	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	NM	--	<330 U	--	<330 U	--	180 J	--	420 J	--	870 J	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	NM	--	<330 U	--	400	--	<880 U	--	210 J	--	810 J	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	89	--	140	--	190	[18]
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	<280 U	--	<270 U	--	<260 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	<280 U	--	<270 U	--	<260 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	<280 U	--	530 J	--	620 J	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	<1100 U	--	<1100 U	--	<1000 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<10 U	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<10 U	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	130	--	200	--	260	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	<280 U	--	<270 U	--	<260 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	<280 U	--	380	--	440	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	92	--	180	--	220	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<10 U	--	NM	--	NM	--	100	--	130	--	170	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	<56 U	--	<54 U	--	<51 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	<30 U	--	NM	--	NM	--	222	--	380	[18]	480	[18]
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	<3.5 U	--	<3.6 U	--	<3.6 U	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	<3.5 U	--	<3.6 U	--	<3.6 U	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.9 U	--	<1.9 U	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.9 U	--	1.9	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.9 U	--	<1.9 U	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.9 U	--	<1.9 U	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<3.5 U	--	<3.6 U	--	<3.6 U	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<3.5 U	--	<3.6 U	--	<3.6 U	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	2.5 J	--	4.1	--	6	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.9 U	--	<1.9 U	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.9 U	--	<1.9 U	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.9 U	--	<1.9 U	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	<18 U	--	<19 U	--	<19 U	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area C											
Station Name																			SS-13		SS-14		SS-15		SS-16		SS-17		SS-18	
Field Sample ID																			SS 13		SS 14		SS 15		SS 16		SS 17		SS 18	
Sample Date																			6/5/2002		6/5/2002		6/5/2002		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																			0 - 3 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in	
Sample Description																			0-1" - Dry, dark red/black stamp sand, some small chunks of fiberglass and wood. 1-3" - Slightly moist, dark black/red stamp sand with some fine black gravel. Area subject to EPA ROD remedy.		0-6"- Dry, black, coarse sand with some fiberglass fibers. Area subject to EPA ROD remedy.		0-6"- Dry, brown, fine to medium sand with fine gravel. Area subject to EPA ROD remedy.		0-1" - Dry, black/red, fine stamp sand with some pieces of fiberglass. 1-4" - Slightly moist, red/black stamp sand. Area subject to EPA ROD remedy.		0-½" - Dry, black/red, stamp sand with some coarse sand. ½-4" - Slightly moist, dark brown/red coarse stamp sand. Area subject to EPA ROD remedy.		0-½" - Dry, red, medium sand with stamp sand. ½-4" - Slightly moist, dark red/black stamp sand with some fine red sand. Area subject to EPA ROD remedy.	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	8,010	[4,11]	12,900	[4,11]	9,940	[4,11]	13,700	[4,11]	12,300	[4,11]	14,200	[4,11]
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	7.8 J	[2,4,11]	2.4 J	[2]	0.96 J	--	2.6 J	[2]	<0.79 UJ	--	0.97 J	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	6.3	[2,4,11]	3.9	--	0.86	--	14.4	[2,4,10,11]	1.4	--	1.4	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	24.7	--	35	--	5.2	--	21.5	--	6.3	--	17.2	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	0.32	--	<0.06 U	--	<0.06 U	--	<0.06 U	--	<0.06 U	--	<0.06 U	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	<0.1 U	--	0.27	--	<0.1 U	--	<0.11 U	--	<0.1 U	--	<0.11 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,170 J	--	16,500	--	17,900 J	--	17,700 J	--	18,500 J	--	18,900 J	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	14.9	--	31.3	--	12.1	--	42.9	--	12.5	--	18.7	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	16.8	[2,4,11]	27.9	[2,4,11]	23.7	[2,4,11]	29.1	[2,4,11]	28.5	[2,4,11]	28.9	[2,4,11]
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	6,790 J	[2,4,11]	5,240 J	[2]	4,140 J	[2]	7,450 J	[2,4,11]	2,510 J	[2]	2,940 J	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	17,800	[4,11]	24,600	[4,11]	15,300	[4,11]	24,100	[4,11]	18,800	[4,11]	20,700	[4,11]
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	120 J	--	47.7 J	--	7.4 J	--	28.9 J	--	8.3 J	--	16.9 J	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	10,200	[4]	14,400	[4]	12,500	[4]	17,600	[4]	14,100	[4]	14,500	[4]
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	441	[2,4,11]	650	[2,4,11]	568	[2,4,11]	710	[2,4,11]	620	[2,4,11]	671	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.11	[18,19]	0.15	[2,18,19]	0.19	[2,18,19]	0.12	[18,19]	0.09	[18,19]	0.1	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	19.3	--	25.4	--	20.8	--	28.8	--	20.1	--	26.5	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	196 J	--	263 J	--	111 J	--	198 J	--	93.9 J	--	237 J	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	<0.46 U	--	<0.47 U	--	<0.46 U	--	<0.46 U	--	<0.46 U	--	<0.47 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	8.1	[2,4]	2.3	[2]	2.9	[2]	3.7	[2]	0.6 J	--	0.37 J	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	726 J	--	1,020 J	--	530 J	--	983 J	--	543 J	--	650 J	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	33.6	--	61	--	44	--	58.7	--	59.9	--	65.9	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	157	[2]	134	[2]	64.9	[2]	130	[2]	75.3	[2]	81.2	[2]
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	0.07 J	--	<0.04 UJ	--	0.06 J	--	0.06 J	--	0.06 J	--	0.12 J	[2]
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<34 U	--	<220 U	--	<34 U	--	<35 U	--	<34 U	--	<35 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<34 U	--	<220 U	--	<34 U	--	<35 U	--	<34 U	--	<35 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<34 U	--	<220 U	--	<34 U	--	33 J	--	<34 U	--	<35 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	33 J	--	ND	--	ND	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1700 U	--	<2200 U	--	<340 U	--	<350 U	--	<340 U	--	65 J	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	520 J	--	860 J	--	<340 U	--	<350 U	--	<340 U	--	550	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<1700 U	--	<2200 U	--	<340 U	--	<350 U	--	<340 U	--	<350 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<1700 U	--	<2200 U	--	<340 U	--	<350 U	--	<340 U	--	<350 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	<1700 U	--	<2200 U	--	<340 U	--	<350 U	--	<340 U	--	63 J	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<1700 U	--	<2200 U	--	<340 U	--	<350 U	--	<340 U	--	<350 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1700 UJ	--	<2200 UJ	--	<340 U	--	<350 U	--	<340 U	--	80 J	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1700 U	--	260 J	--	<340 U	--	44 J	--	<340 U	--	70 J	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<1700 U	--	280 J	--	<340 U	--	41 J	--	<340 U	--	62 J	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	200 J	--	350 J	--	<340 U	--	50 J	--	<340 U	--	73 J	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<1700 U	--	230 J	--	<340 U	--	39 J	--	<340 U	--	<350 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<1700 U	--	300 J	--	<340 U	--	58 J	--	<340 U	--	57 J	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	970 J	--	500 J	--	<340 U	--	<350 U	--	<340 U	--	<350 U	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	<1700 U	--	<2200 U	--	<340 U	--	<350 U	--	<340 U	--	<350 U	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	230 J	--	460 J	--	<340 U	--	57 J	--	37 J	--	93 J	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<1700 U	--	<2200 U	--	<340 U	--	<350 U	--	<340 U	--	<350 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	<1700 U	--	260 J	--	<340 U	--	<350 U	--	<340 U	--	190 J	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	320 J	--	570 J	--	38 J	--	94 J	--	54 J	--	120 J	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area C											
Station Name																			SS-13		SS-14		SS-15		SS-16		SS-17		SS-18	
Field Sample ID																			SS 13		SS 14		SS 15		SS 16		SS 17		SS 18	
Sample Date																			6/5/2002		6/5/2002		6/5/2002		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																			0 - 3 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in	
Sample Description																			0-1" - Dry, dark red/black stamp sand, some small chunks of fiberglass and wood. 1-3" - Slightly moist, dark black/red stamp sand with some fine black gravel. Area subject to EPA ROD remedy.		0-6"- Dry, black, coarse sand with some fiberglass fibers. Area subject to EPA ROD remedy.		0-6"- Dry, brown, fine to medium sand with fine gravel. Area subject to EPA ROD remedy.		0-1" - Dry, black/red, fine stamp sand with some pieces of fiberglass. 1-4" - Slightly moist, red/black stamp sand. Area subject to EPA ROD remedy.		0-½" - Dry, black/red, stamp sand with some coarse sand. ½-4" - Slightly moist, dark brown/red coarse stamp sand. Area subject to EPA ROD remedy.		0-½" - Dry, red, medium sand with stamp sand. ½-4" - Slightly moist, dark red/black stamp sand with some fine red sand. Area subject to EPA ROD remedy.	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<1700 U	--	<2200 U	--	<340 U	--	<350 U	--	<340 U	--	<350 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1700 U	--	<2200 U	--	<340 U	--	<350 U	--	<340 U	--	<350 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	350 J	--	540 J	--	<340 U	--	<350 U	--	<340 U	--	240 J	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	450 J	--	870 J	--	36 J	--	62 J	--	53 J	--	350	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	290 J	--	560 J	--	38 J	--	81 J	--	52 J	--	120 J	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	170	[18]	760	[2,18,19]	<52 U	--	<55 U	--	<53 U	--	79	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	<280 U	--	<3500 U	--	<260 U	--	<280 U	--	<270 U	--	<260 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<280 U	--	<3500 U	--	<260 U	--	<280 U	--	<270 U	--	<260 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	630 J	--	<3500 U	--	<260 U	--	<280 U	--	<270 U	--	<260 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 U	--	<14000 U	--	<1000 U	--	<1100 U	--	<1100 U	--	<1000 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	240	--	<1400 U	--	<100 U	--	<110 U	--	<110 U	--	130	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<280 U	--	<3500 U	--	<260 U	--	<280 U	--	<270 U	--	<260 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	440	--	<3500 U	--	<260 U	--	<280 U	--	<270 U	--	<260 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	210	--	1,000	--	<52 U	--	<55 U	--	<53 U	--	110	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	180	--	1,300	--	82	--	<55 U	--	<53 U	--	120	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<56 U	--	<700 U	--	<52 U	--	<55 U	--	<53 U	--	<51 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	450	[18]	1,000	[2]	ND	--	ND	--	ND	--	240	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	<3.4 U	--	<22 U	--	<3.4 U	--	<3.5 U	--	<3.4 U	--	<3.5 U	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	<3.4 U	--	<22 U	--	<3.4 U	--	<3.5 U	--	<3.4 U	--	<3.5 U	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	<1.8 U	--	<11 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.8 U	--	<11 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	<1.8 U	--	<11 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	<1.8 U	--	<11 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.4 U	--	<22 U	--	<3.4 U	--	<3.5 U	--	<3.4 U	--	<3.5 U	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.4 U	--	<22 U	--	<3.4 U	--	<3.5 U	--	<3.4 U	--	<3.5 U	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2	--	<22 U	--	<3.4 U	--	<3.5 U	--	<3.4 U	--	<3.5 U	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.8 U	--	<11 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	<1.8 U	--	<11 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	<1.8 U	--	<11 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	<18 U	--	<110 U	--	<18 U	--	<18 U	--	<18 U	--	<18 U	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area C						Area D			
Station Name																			SS-19		SS-31		SS-33		QMCP-SB09			
Field Sample ID																			SS 19		SS 31		SS 33		QMCP-SB-9 0-6in		QMCP-SB-9 6in-12ft	
Sample Date																			6/5/2002		6/5/2002		6/5/2002		9/6/2018		9/6/2018	
Sample Interval (bgs)																			0 - 4 in 0 - 12 in		0 - 10 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 0.5 ft		0.5 - 12 ft	
Sample Description																			0-2" - Dry, tan, medium sand. 2-4" - Slightly moist, black, medium sand with 20% stamp sand and red/black coarse sand. Area subject to EPA ROD remedy.		0-10" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve. Area subject to EPA ROD remedy.		0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve. Area subject to EPA ROD remedy.		SAND, Medium to coarse, brown		SAND, fine to medium, saturated at 12 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	8,510	[4,11]	12,800	[4,11]	14,300	[4,11]	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	<0.79 UJ	--	1.6 J	[2]	2.6 J	[2]	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	1.1	--	9.6	[2,4,10,11]	4	--	9.6	[2,4,10,11]	<0.5 U	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	7.3	--	29.2	--	20.3	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	0.11	--	<0.06 U	--	<0.06 U	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	<0.1 UJ	--	0.31	--	0.15	--	8.1	[2,4,11]	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9,330	--	23,600	--	21,500	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	15.7	--	16.1	--	46.8	--	78	--	9.4	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	20.7	[2,4,11]	29.3	[2,4,11]	30.6	[2,4,11]	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	3,030 J	[2]	6,190 J	[2,4,11]	13,900 J	[2,4,11]	1,800	[2]	260	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	14,500	[4,11]	24,500	[4,11]	24,300	[4,11]	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	5.2 J	--	64.3 J	--	29.2 J	--	870	[4,10,11]	4.7	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	11,400	[4]	14,200	[4]	16,500	[4]	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	481	[2,4,11]	729	[2,4,11]	736	[2,4,11]	1,100	[2,4,11]	210	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.07 J	[18,19]	0.5 J	[2,18,19]	0.22 J	[2,18,19]	0.4	[2,18,19]	0.06	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	20	--	26.7	--	27.7	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	175 J	--	178 J	--	282 J	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	0.96 J	[2]	1.2 J	[2]	1.2 J	[2]	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	1.4 J	[2]	4.9 J	[2,4]	5.5 J	[2,4]	3.2	[2]	0.7	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	578 J	--	686 J	--	1,090 J	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	45	--	63.4	--	69.6	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	57.4 J	--	141 J	[2]	119 J	[2]	1,400	[2]	25	--
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	<0.04 UJ	--	0.08 J	--	0.31 J	[2]	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<34 U	--	<34 U	--	<34 U	--	<190 U	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<34 U	--	<34 U	--	<34 U	--	270 J	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<34 U	--	<34 U	--	63	--	200 J	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<210 U	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	63	--	470 J	--	NM	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<340 U	--	<1700 U	--	<340 U	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<340 U	--	880 J	--	46 J	--	<550 U	--	<540 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<340 U	--	<1700 U	--	<340 U	--	<220 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<340 U	--	<1700 U	--	<340 U	--	<220 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	<340 U	--	<1700 U	--	<340 U	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<340 U	--	<1700 U	--	<340 U	--	<220 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<340 U	--	<1700 U	--	<340 U	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	43 J	--	260 J	--	58 J	--	400	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	39 J	--	220 J	--	51 J	--	430 J	--	<430 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	40 J	--	290 J	--	73 J	--	650	--	<430 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<340 U	--	<1700 U	--	<340 U	--	<440 U	--	<430 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	46 J	--	230 J	--	53 J	--	<440 U	--	<430 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	<340 U	--	<1700 U	--	<340 U	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	<340 U	--	<1700 U	--	<340 U	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	50 J	--	380 J	--	74 J	--	410	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<340 U	--	<1700 U	--	<340 U	--	<440 U	--	<430 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	<340 U	--	240 J	--	<340 U	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	88 J	--	490 J	--	120 J	--	820	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area C						Area D			
Station Name																			SS-19		SS-31		SS-33		QMCP-SB09			
Field Sample ID																			SS 19		SS 31		SS 33		QMCP-SB-9 0-6in		QMCP-SB-9 6in-12ft	
Sample Date																			6/5/2002		6/5/2002		6/5/2002		9/6/2018		9/6/2018	
Sample Interval (bgs)																			0 - 4 in 0 - 12 in		0 - 10 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 0.5 ft		0.5 - 12 ft	
Sample Description																			0-2" - Dry, tan, medium sand. 2-4" - Slightly moist, black, medium sand with 20% stamp sand and red/black coarse sand. Area subject to EPA ROD remedy.		0-10" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve. Area subject to EPA ROD remedy.		0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve. Area subject to EPA ROD remedy.		SAND, Medium to coarse, brown		SAND, fine to medium, saturated at 12 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<340 U	--	<1700 U	--	<340 U	--	<220 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<340 U	--	<1700 U	--	<340 U	--	<440 U	--	<430 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<340 U	--	560 J	--	<340 U	--	<220 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	50 J	--	640 J	--	100 J	--	450	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	82 J	--	450 J	--	100 J	--	620	--	<220 U	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	<55 U	--	<53 U	--	<60 UJ	--	<58 UJ	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<54 U	--	<55 U	--	<53 U	--	<60 UJ	--	<58 UJ	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	<60 UJ	--	<58 UJ	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	220	[18]	<53 U	--	66 J	--	66 J	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	<270 U	--	<260 U	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	<55 U	--	<53 U	--	<60 UJ	--	<58 UJ	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<300 UJ	--	<290 UJ	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<270 U	--	<270 U	--	<260 U	--	<300 UJ	--	<290 UJ	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	630	--	<260 U	--	<300 UJ	--	<290 UJ	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 U	--	<1100 U	--	<1100 U	--	<1200 UJ	--	<1200 UJ	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<54 U	--	<55 U	--	<53 U	--	<60 UJ	--	<58 UJ	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<300 UJ	--	<290 UJ	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	60	[18]	<53 U	--	<60 UJ	--	<58 UJ	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	<60 UJ	--	<58 UJ	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	<55 U	--	<53 U	--	230 J	--	<58 UJ	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	350	--	<110 U	--	<120 UJ	--	<120 UJ	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<270 U	--	<270 U	--	<260 U	--	<120 UJ	--	<120 UJ	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	480	--	<260 U	--	<300 UJ	--	<290 UJ	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	<55 U	--	<53 U	--	<60 UJ	--	<58 UJ	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	<55 U	--	<53 U	--	76 J	--	<58 UJ	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	300	--	<53 U	--	<60 UJ	--	<58 UJ	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<55 U	--	<53 U	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	<55 U	--	<53 U	--	98 J	--	<58 UJ	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	<55 U	--	<53 U	--	<60 UJ	--	<58 UJ	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	<55 U	--	<53 U	--	330 J	--	<58 UJ	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	<55 U	--	<53 U	--	73 J	[18,19]	<58 UJ	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<54 U	--	250	--	<53 U	--	<60 UJ	--	<58 UJ	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<54 U	--	<55 U	--	<53 U	--	180 J	--	<58 UJ	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	0	--	650	[18]	ND	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	<3.4 U	--	<3.4 U	--	<3.4 U	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	<3.4 U	--	<3.4 U	--	<3.4 U	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	<1.8 U	--	<1.8 U	--	<1.8 U	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.8 U	--	<1.8 U	--	<1.8 U	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	<1.8 U	--	<1.8 U	--	<1.8 U	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	<1.8 U	--	<1.8 U	--	<1.8 U	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.4 U	--	<3.4 U	--	<3.4 U	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.4 U	--	<3.4 U	--	<3.4 U	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.4 U	--	5.5	--	<3.4 U	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.8 U	--	<1.8 U	--	<1.8 U	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	<1.8 U	--	<1.8 U	--	<1.8 U	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	<1.8 U	--	<1.8 U	--	<1.8 U	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	<18 U	--	<17 U	--	<17 U	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D									
Station Name																			QMCP-SB10				QMCP-SB11				QMCP-SB12			
Field Sample ID																			QMCP-SB 10 0-6in		QMCP-SB 10 6in-6ft		QMCP-SB-11 0-6in		QMCP-SB-11 6in-7ft		QMCP-SB-12 0-6in		QMCP-SB-12 6in-4ft	
Sample Date																			9/7/2018		9/7/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 7 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																			SAND and GRAVEL, medium to coarse, brown		SAND, Fine, brown, saturated at 6 feet		SAND, Medium to coarse, brown, saturated at 7 feet		SAND, Medium to coarse, brown, saturated at 7 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	7	[2,4,11]	2.8	--	7	[2,4,11]	<0.5 U	--	7.8	[2,4,10,11]	<0.5 U	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	0.4	--	<0.2 U	--	3.1	[2]	<0.2 U	--	2.1	[2]	0.2	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	29	--	15	--	47	--	15	--	170	--	21	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	1,100	[2]	870	[2]	1,000	[2]	3,500	[2]	1,300	[2]	3,600	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	110	--	27	--	500	[10]	8.2	--	460	[10]	15	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	580	[2,4,11]	320	--	490	[2,4,11]	550	[2,4,11]	760	[2,4,11]	660	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.09	[18,19]	0.2	[2,18,19]	6.9	[2,4,11,18,19]	0.3	[2,18,19]	0.3	[2,18,19]	2.4	[2,4,11,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	1.2	[2]	2.7	[2]	2.1	[2]	6.2	[2,4]	1.8	[2]	4.7	[2,4]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	93	[2]	59	--	440	[2]	66	[2]	280	[2]	80	[2]
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<120 U	--	980 J	--	<110 U	--	<120 U	--	<120 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 J	--	<120 U	--	580 J	--	<110 U	--	270 J	--	<120 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<120 U	--	<120 U	--	<290 U	--	<110 U	--	180 J	--	<120 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<120 U	--	<290 U	--	<110 U	--	<180 U	--	<120 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	100 J	--	ND	--	1,560 J	[10,17]	ND	--	450 J	--	ND	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<550 U	--	<580 U	--	<550 U	--	<550 U	--	<560 U	--	<610 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<220 U	--	<230 U	--	<220 U	--	<220 U	--	<230 U	--	<240 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<220 U	--	<230 U	--	<220 U	--	<220 U	--	<230 U	--	<240 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<220 U	--	<230 U	--	460	--	<220 U	--	<230 U	--	<240 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	260	--	320	--	1,700	--	<220 U	--	210	--	<240 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<440 U	--	<460 U	--	1,700	--	<440 U	--	<450 U	--	<480 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	470	--	<460 U	--	2,600	--	<440 U	--	<450 U	--	<480 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<440 U	--	<460 U	--	500	--	<440 U	--	<450 U	--	<480 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<440 U	--	<460 U	--	770	--	<440 U	--	<450 U	--	<480 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	310	--	280	--	1,500	--	<220 U	--	260	--	<240 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<440 U	--	<460 U	--	<440 U	--	<440 U	--	<450 U	--	<480 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	490	--	650	--	3,600	--	<220 U	--	350	--	<240 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D									
Station Name																				QMCP-SB10				QMCP-SB11				QMCP-SB12			
Field Sample ID																				QMCP-SB 10 0-6in		QMCP-SB 10 6in-6ft		QMCP-SB-11 0-6in		QMCP-SB-11 6in-7ft		QMCP-SB-12 0-6in		QMCP-SB-12 6in-4ft	
Sample Date																				9/7/2018		9/7/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 7 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																				SAND and GRAVEL, medium to coarse, brown		SAND, Fine, brown, saturated at 6 feet		SAND, Medium to coarse, brown, saturated at 7 feet		SAND, Medium to coarse, brown, saturated at 7 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<230 U	--	<220 U	--	<220 U	--	<230 U	--	<240 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<440 U	--	<460 U	--	560	--	<440 U	--	<450 U	--	<480 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	240	--	<230 U	--	300	--	<220 U	--	<230 U	--	<240 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	360	--	480	--	2,500	[2]	<220 U	--	<230 U	--	<240 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	430	--	530	--	2,700	--	<220 U	--	310	--	<240 U	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	110	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<310 U	--	<320 U	--	<290 UJ	--	<300 UJ	--	<310 UJ	--	<350 UJ	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<310 U	--	<320 U	--	<290 UJ	--	<300 UJ	--	<310 UJ	--	<350 UJ	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<310 U	--	<320 U	--	<290 UJ	--	<300 UJ	--	<310 UJ	--	<350 UJ	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1200 UJ	--	<1300 UJ	--	<1200 UJ	--	<1200 UJ	--	<1300 UJ	--	<1400 UJ	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<310 U	--	<320 U	--	<290 UJ	--	<300 UJ	--	<310 UJ	--	<350 UJ	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	170	--	<130 U	--	<120 UJ	--	<120 UJ	--	<130 UJ	--	<140 UJ	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<120 U	--	<130 U	--	<120 UJ	--	<120 UJ	--	<130 UJ	--	<140 UJ	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<310 U	--	<320 U	--	<290 UJ	--	<300 UJ	--	<310 UJ	--	<350 UJ	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	160	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	90	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<61 U	--	<63 U	--	<59 UJ	--	<60 UJ	--	<63 UJ	--	<69 UJ	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	330	[18]	ND	--	ND	--	ND	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D									
Station Name																			QMCP-SB13		QMCP-SB14				QMCP-SB15		QMCP-SB16	
Field Sample ID																			QMCP-SB-13 0-2ft		QMCP-SB 14 0-3ft		QMCP-SB 14 SS		QMCP-SB 15 0-2ft		QMCP-SB-16 0-2ft	
Sample Date																			9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																			0 - 2 ft		0 - 3 ft		--		0 - 2 ft		0 - 2 ft	
Sample Description																			SAND, Medium to coarse, brown, saturated at 2 feet		SAND, Medium to coarse, brown, saturated at 3 feet		--		FILL, Sand and wood debris		SAND, Medium to coarse, brown, saturated at 2 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	2.8	--	4.4	--	14	[2,4,10,11]	3.3	--	4.6	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	1.1	--	1	--	6.3	[2,4,11]	<0.2 U	--	0.2	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	36	--	26	--	52	--	5.4	--	13	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	3,400	[2]	2,300	[2]	1,500	[2]	520	[2]	1,800	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	71	--	1,300	[4,10,11,17]	1,200	[4,10,11,17]	26	--	45	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	660	[2,4,11]	1,700	[2,4,11,16]	1,200	[2,4,11]	200	--	490	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.2	[2,18,19]	0.2	[2,18,19]	0.2	[2,18,19]	0.1	[18,19]	0.2	[2,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	4.1	[2]	4	[2]	2.3	[2]	0.9	--	11	[2,4]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	240	[2]	200	[2]	750	[2]	37	--	79	[2]
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2700 U	--	<110 U	--	<120 U	--	<150 U	--	<20000 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2700 U	--	<110 U	--	130 J	--	<150 U	--	72,000	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,400	--	<130 U	--	<190 U	--	<170 U	--	<12000 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2700 U	--	<130 U	--	180 J	--	<170 U	--	<12000 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	2,400 J	[10,17]	ND	--	310 J	--	ND	--	72,000 J	[10,17]
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<540 U	--	700	--	1,200	--	<760 U	--	<600 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<220 U	--	<230 U	--	<250 U	--	1,100	--	<240 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<220 U	--	<230 U	--	770	--	<310 U	--	<240 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<220 U	--	<230 U	--	400	--	1,900	--	230 J	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<220 U	--	300	--	2,700	--	4,600	--	1,400	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<430 U	--	<460 U	--	3,200	[10]	3,800	[10]	1,400	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<430 U	--	660	--	6,500	--	5,500	--	2,500	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<430 U	--	<460 U	--	870	--	1,000	--	720	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<430 U	--	<460 U	--	2,100	--	1,800	--	720	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<220 U	--	390	--	3,500	--	4,000	--	1,400	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<430 U	--	<460 U	--	<490 U	--	<610 U	--	<480 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<220 U	--	740	--	7,700	[2]	10,000	[2]	2,800	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D									
Station Name																			QMCP-SB13		QMCP-SB14				QMCP-SB15		QMCP-SB16	
Field Sample ID																			QMCP-SB-13 0-2ft		QMCP-SB 14 0-3ft		QMCP-SB 14 SS		QMCP-SB 15 0-2ft		QMCP-SB-16 0-2ft	
Sample Date																			9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																			0 - 2 ft		0 - 3 ft		--		0 - 2 ft		0 - 2 ft	
Sample Description																			SAND, Medium to coarse, brown, saturated at 2 feet		SAND, Medium to coarse, brown, saturated at 3 feet		--		FILL, Sand and wood debris		SAND, Medium to coarse, brown, saturated at 2 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<230 U	--	310	--	1,300	--	<240 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<430 U	--	<460 U	--	1,000	--	1,200	--	750	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<220 U	--	470	--	1,000	[2]	910	[2]	260	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	220	--	690	--	6,100	[2]	9,400	[2]	1,600	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<220 U	--	640	--	6,800	--	8,300	--	1,900	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<58 U	--	<65 U	--	NM	--	<110 U	--	74	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<330 U	--	NM	--	<540 U	--	<350 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<290 U	--	<330 U	--	NM	--	<540 U	--	<350 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<290 U	--	<330 U	--	NM	--	<540 U	--	<350 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1200 U	--	<1300 U	--	NM	--	<2200 U	--	<1400 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<330 U	--	NM	--	<540 U	--	<350 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<58 U	--	<65 U	--	NM	--	<110 U	--	1,100	[18,19]
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<120 U	--	<130 U	--	NM	--	<220 U	--	<140 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<120 U	--	<130 U	--	NM	--	<220 U	--	<140 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<290 U	--	<330 U	--	NM	--	<540 U	--	<350 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<58 U	--	<65 U	--	NM	--	<110 U	--	<70 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<58 U	--	<65 U	--	NM	--	<110 U	--	110	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<58 U	--	<65 U	--	NM	--	<110 U	--	110	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	ND	--	NM	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SB17				QMCP-SB18				QMCP-SB51			
Field Sample ID																			QMCP-SB 17 0in-6in		QMCP-SB 17 6in-4ft		QMCP-SB 18 0in-6in		QMCP-SB 18 6in-4ft		QMCP-SB-51 0-6in		QMCP-SB-51 6in-10ft	
Sample Date																			9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 10 ft	
Sample Description																			SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		TOPSOIL		SILTY CLAY, Brown; SAND, Fine to medium, brown, sa	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	6.7	[2,4,11]	1.7	--	1.7	--	6.2	[2,4,11]	9.3	[2,4,10,11]	0.9	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	0.5	--	0.2	--	0.2	--	<0.2 U	--	4.7	[2]	0.3	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	87	--	16	--	21	--	19	--	35	--	16	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	1,500	[2]	3,400	[2]	3,100	[2]	3,400	[2]	1,200	[2]	220 J	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	9.5	--	52	--	22	--	31	--	170	--	18	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	850	[2,4,11]	970	[2,4,11]	610	[2,4,11]	730	[2,4,11]	450	[2,4,11]	190	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	<0.05 U	--	0.2	[2,18,19]	0.2	[2,18,19]	0.1	[18,19]	3	[2,4,11,18,19]	<0.06 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	1.8	[2]	3.2	[2]	4.6	[2,4]	2.9	[2]	1.1	[2]	1.3	[2]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	79	[2]	97	[2]	81	[2]	91	[2]	510	[2]	54	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<2600 U	--	<110 U	--	<110 U	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	8,200	--	<110 U	--	<110 U	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<1100 U	--	<170 U	--	<110 U	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<1100 U	--	<170 U	--	<110 U	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	8,200 J	[10,17]	ND	--	ND	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<520 U	--	<570 U	--	<550 U	--	<560 U	--	<570 U	--	<580 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<210 U	--	<230 U	--	<220 U	--	<220 U	--	<230 U	--	<230 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<210 U	--	<230 U	--	<220 U	--	<220 U	--	<230 U	--	<230 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<210 U	--	<230 U	--	<220 U	--	<220 U	--	<230 U	--	<230 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<210 U	--	1,400	--	450	--	<220 U	--	240	--	<230 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<420 U	--	1,400	--	<440 U	--	<450 U	--	<460 U	--	<460 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<420 U	--	3,200	--	840	--	<450 U	--	480	--	<460 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<420 U	--	590	--	<440 U	--	<450 U	--	<460 U	--	<460 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<420 U	--	780	--	<440 U	--	<450 U	--	<460 U	--	<460 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<210 U	--	1,800	--	500	--	<220 U	--	290	--	<230 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<420 U	--	<460 U	--	<440 U	--	<450 U	--	<460 U	--	<460 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<210 U	--	2,300	--	520	--	<220 U	--	490	--	<230 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																				QMCP-SB17				QMCP-SB18				QMCP-SB51			
Field Sample ID																				QMCP-SB 17 0in-6in		QMCP-SB 17 6in-4ft		QMCP-SB 18 0in-6in		QMCP-SB 18 6in-4ft		QMCP-SB-51 0-6in		QMCP-SB-51 6in-10ft	
Sample Date																				9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 10 ft	
Sample Description																				SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		TOPSOIL		SILTY CLAY, Brown; SAND, Fine to medium, brown, sa	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<210 U	--	<230 U	--	<220 U	--	<220 U	--	<230 U	--	<230 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<420 U	--	670	--	<440 U	--	<450 U	--	<460 U	--	<460 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<210 U	--	230	--	380	--	<220 U	--	<230 U	--	<230 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<210 U	--	1,200	--	400	--	<220 U	--	310	--	<230 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<210 U	--	1,800	--	450	--	<220 U	--	380	--	<230 U	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<55 U	--	<62 U	--	87	--	<66 U	--	<67 UJ	--	<65 UJ	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<55 U	--	<62 U	--	180	[18]	<66 U	--	<67 UJ	--	<65 UJ	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<280 U	--	<310 U	--	<300 U	--	<330 U	--	<340 UJ	--	<330 UJ	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<280 U	--	<310 U	--	<300 U	--	<330 U	--	<340 UJ	--	<330 UJ	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<280 U	--	<310 U	--	440	--	<330 U	--	<340 UJ	--	<330 UJ	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 UJ	--	<1200 UJ	--	<1200 UJ	--	<1300 UJ	--	<1300 UJ	--	<1300 UJ	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<280 U	--	<310 U	--	<300 U	--	<330 U	--	<340 UJ	--	<330 UJ	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<55 U	--	<62 U	--	<60 U	--	180	[18,19]	<67 UJ	--	<65 UJ	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<120 U	--	280	--	<130 U	--	<130 UJ	--	<130 UJ	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<110 U	--	<120 U	--	<120 U	--	<130 U	--	<130 UJ	--	<130 UJ	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<280 U	--	<310 U	--	390	--	<330 U	--	<340 UJ	--	<330 UJ	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<55 U	--	<62 U	--	220	--	<66 U	--	<67 UJ	--	<65 UJ	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<55 U	--	<62 U	--	<60 U	--	<66 U	--	<67 UJ	--	<65 UJ	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<55 U	--	<62 U	--	180	--	<66 U	--	<67 UJ	--	<65 UJ	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<55 U	--	<62 U	--	<60 U	--	<66 U	--	280 J	--	<65 UJ	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	ND	--	500	[18]	ND	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																				QMCP-SB74		QMCP-SS01		QMCP-SS02		QMCP-SS03				QMCP-SS04	
Field Sample ID																				QMCP-SB74 0-12in		QMCP-SS 01-0-6in		QMCP-SS 02-0-6in		QMCP-SS 03-0-6in		QMCP-SS03-0-6in		QMCP-SS 04-0-6in	
Sample Date																				9/11/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																				0 - 1 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																				SAND, Medium to coarse, brown		Brown coarse SAND with gravel, organics, slag		Dark brown fine to medium SAND		Brown stamp SAND, very coarse		Brown stamp SAND, very coarse		Brown SAND, fine, black pellets, truck, covered pi	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		7.4	[2,4,11]	4.7	[2,4,11]	5.8	[2,4,11]	1.4 J	--	NM	--	1.5	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		NM	--	56	--	76	--	13	--	NM	--	29	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		0.5	--	0.4	--	1	--	0.3	--	NM	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		22	--	10	--	30	--	14	--	NM	--	3.6	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		500	[2]	1,200	[2]	900	[2]	2,400	[2]	NM	--	390 J	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		97	--	140	--	190	--	28	--	NM	--	4.3	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		2,000	[2,4,11,16]	400	--	700	[2,4,11]	720	[2,4,11]	NM	--	57	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		0.2	[2,18,19]	0.4	[2,18,19]	0.2	[2,18,19]	0.3	[2,18,19]	NM	--	<0.05 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		NM	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--	<0.2 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		0.7	--	1.9	[2]	2	[2]	4.7	[2,4]	NM	--	<0.1 U	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		94	[2]	97	[2]	190	[2]	93	[2]	NM	--	9.8	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	<0.12 U	--	<0.11 U	--	<0.11 U	--	NM	--	<0.10 U	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<540 U	--	<120 U	--	NM	--	NM	--	NM	--	<100 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<540 U	--	<120 U	--	NM	--	NM	--	NM	--	<100 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<710 U	--	<220 U	--	NM	--	NM	--	NM	--	<100 UJ	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<710 U	--	<220 U	--	NM	--	NM	--	NM	--	<100 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		ND	--	ND	--	NM	--	NM	--	NM	--	ND	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		<540 U	--	690	--	<560 U	--	<550 U	--	NM	--	<510 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<220 U	--	<240 U	--	<230 U	--	<220 U	--	NM	--	<200 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<220 U	--	470	--	<230 U	--	<220 U	--	NM	--	<200 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		800	--	840	--	<230 U	--	<220 U	--	NM	--	<200 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		11,000	--	3,700	--	780	--	<220 U	--	NM	--	<200 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		11,000	[10,17]	3,600	[10]	810	--	<440 U	--	NM	--	<410 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		23,000	[10]	6,000	--	2,100	--	<440 U	--	NM	--	<410 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		3,600	--	610	--	<450 U	--	<440 U	--	NM	--	<410 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		6,200	--	1,900	--	530	--	<440 U	--	NM	--	<410 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		13,000	--	3,600	--	1,100	--	<220 U	--	NM	--	<200 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		4,600	[10]	<470 U	--	<450 U	--	<440 U	--	NM	--	<410 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		15,000	[2]	8,200	[2]	1,500	--	<220 U	--	NM	--	<200 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																				QMCP-SB74		QMCP-SS01		QMCP-SS02		QMCP-SS03				QMCP-SS04	
Field Sample ID																				QMCP-SB74 0-12in		QMCP-SS 01-0-6in		QMCP-SS 02-0-6in		QMCP-SS 03-0-6in		QMCP-SS03-0-6in		QMCP-SS 04-0-6in	
Sample Date																				9/11/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																				0 - 1 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																				SAND, Medium to coarse, brown		Brown coarse SAND with gravel, organics, slag		Dark brown fine to medium SAND		Brown stamp SAND, very coarse		Brown stamp SAND, very coarse		Brown SAND, fine, black pellets, truck, covered pi	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	270	--	<230 U	--	<220 U	--	NM	--	<200 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	4,800	--	960	--	<450 U	--	<440 U	--	NM	--	<410 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<220 U	--	760	[2]	<230 U	--	<220 U	--	NM	--	<200 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	4,500	[2]	5,100	[2]	1,000	--	<220 U	--	NM	--	<200 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	10,000	--	6,800	--	1,300	--	<220 U	--	NM	--	<200 U	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D									
Station Name																			QMCP-SS05		QMCP-SS32		QMCP-SS33		QMCP-SS33-0-6in		QMCP-SS34		QMCP-SS37	
Field Sample ID																			QMCP-SS 05-0-4in		QMCP-SS 32-0-6in		QMCP-SS 33-0-6in		QMCP-SS33-0-6in		QMCP-SS 34-0-6in		QMCP-SS 37-0-6in	
Sample Date																			9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																			0 - 0.333 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			Black/brown medium SAND with black staining, petro		Dark brown medium SAND, moist, organics		Dark brown coarse SAND, rock debris		Dark brown coarse SAND, rock debris		Dark brown/black coarse SAND, moist, organic		Dark brown fine to medium SAND, organics, slag at	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	4	--	4.9	[2,4,11]	3.6	--	NM	--	4.5	--	19	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	35	--	230	[2]	85	--	NM	--	96	--	74	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	2.8	[2]	3.5	[2]	0.2	--	NM	--	1	--	2.2	[2]
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	15	--	25	--	9.5	--	NM	--	32	--	<20 U	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	990	[2]	1,100	[2]	190	[2]	NM	--	1,200	[2]	1,000	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	84	--	280	--	110	--	NM	--	180	--	340	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	370	--	280	--	140	--	NM	--	350	--	980	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.08	[18,19]	0.4	[2,18,19]	0.07	[18,19]	NM	--	0.2	[2,18,19]	0.2	[2,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--	0.3	--	<2.0 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	1.3	[2]	1.7	[2]	0.3	--	NM	--	1.1	[2]	1.5	[2]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	160	[2]	860	[2]	190	[2]	NM	--	300	[2]	590	[2]
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10 U	--	<0.12 U	--	<0.12 U	--	NM	--	<0.12 U	--	<0.13 U	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1600 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1200 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1400 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1400 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	0.25 <	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<2600 U	--	<2900 U	--	<590 U	--	NM	--	<6100 U	--	<630 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<1000 U	--	<1200 U	--	<240 U	--	NM	--	<2400 U	--	<250 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<1000 U	--	<1200 U	--	<240 U	--	NM	--	<2400 U	--	290	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<1000 U	--	<1200 U	--	<240 U	--	NM	--	<2400 U	--	<250 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1000 U	--	<1200 U	--	<240 U	--	NM	--	<2400 U	--	1,200	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<20000 U	--	<2300 U	--	<480 U	--	NM	--	<4800 U	--	<5000 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<20000 U	--	<2300 U	--	<480 U	--	NM	--	<4800 U	--	<5000 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<20000 U	--	<2300 U	--	<480 U	--	NM	--	<4800 U	--	<5000 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<20000 U	--	<2300 U	--	<480 U	--	NM	--	<4800 U	--	<5000 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<1000 U	--	<1200 U	--	<240 U	--	NM	--	<2400 U	--	2,300	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<20000 U	--	<2300 U	--	<480 U	--	NM	--	<4800 U	--	<5000 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<1000 U	--	<1200 U	--	310	--	NM	--	2,500	--	2,400	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS05		QMCP-SS32		QMCP-SS33		QMCP-SS33-0-6in		QMCP-SS34		QMCP-SS37	
Field Sample ID																			QMCP-SS 05-0-4in		QMCP-SS 32-0-6in		QMCP-SS 33-0-6in		QMCP-SS33-0-6in		QMCP-SS 34-0-6in		QMCP-SS 37-0-6in	
Sample Date																			9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																			0 - 0.333 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			Black/brown medium SAND with black staining, petro		Dark brown medium SAND, moist, organics		Dark brown coarse SAND, rock debris		Dark brown coarse SAND, rock debris		Dark brown/black coarse SAND, moist, organic		Dark brown fine to medium SAND, organics, slag at	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<1000 U	--	<1200 U	--	<240 U	--	NM	--	<2400 U	--	<250 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<20000 U	--	<2300 U	--	<480 U	--	NM	--	<4800 U	--	<5000 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<1000 U	--	<1200 U	--	<240 U	--	NM	--	<2400 U	--	870	[2]
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<1000 U	--	<1200 U	--	<240 U	--	NM	--	<2400 U	--	1,900	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<1000 U	--	<1200 U	--	270	--	NM	--	<2400 U	--	2,100	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<510000 U	--	NM	--	NM	--	NM	--	NM	--	91,000	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,600,000	--	NM	--	NM	--	NM	--	NM	--	360,000	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS38		QMCP-SS41		QMCP-SS42		QMCP-SS43		QMCP-SS44		QMCP-SS45	
Field Sample ID																			QMCP-SS 38-0-6in		QMCP-SS41-0-6in		QMCP-SS42-0-6in		QMCP-SS43-0-6in		QMCP-SS44-0-6in		QMCP-SS45-0-6in	
Sample Date																			9/5/2018		9/5/2018		9/19/2018		9/19/2018		9/19/2018		9/19/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			Dark brown fine SAND with gravel, organics, near d		Dark brown SAND, organics		Greasy, dark brown, collected next to valve		Stained soil near potential transforms		Soil near split transformer case, topsoil, leaves		Stained soil near warehouse fire	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	3.7	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	140	[2]	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	8.7	[2,4,11]	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	38	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	1,800	[2]	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	560	[10]	NM	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	520	[2,4,11]	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.6	[2,18,19]	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	<0.2 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	2.1	[2]	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	980	[2]	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.12 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<620 U	--	NM	--	<110 U	--	52,000	--	<1200 U	--	<1100 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<620 U	--	NM	--	<110 U	--	<17000 U	--	<1200 U	--	<1100 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	710	--	NM	--	<110 U	--	9,500 J	--	<2600 U	--	<1100 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<710 U	--	NM	--	<110 U	--	<12000 U	--	2,500	--	<1100 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	710 J	--	NM	--	ND	--	61,500 J	[10,17]	2,500 J	[10,17]	ND	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<3100 U	--	NM	--	<550 U	--	<620 U	--	610	--	870	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<1200 U	--	NM	--	<220 U	--	<250 U	--	<240 U	--	<230 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<1200 U	--	NM	--	<220 U	--	<250 U	--	730	--	<230 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<1200 U	--	NM	--	<220 U	--	<250 U	--	360	--	<230 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1200 U	--	NM	--	<220 U	--	530	--	2,300	--	1,200	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<2500 U	--	NM	--	<440 U	--	600	--	3,400	[10]	<4500 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<2500 U	--	NM	--	<440 U	--	1,300	--	6,100	--	<4500 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<2500 U	--	NM	--	<440 U	--	<500 U	--	1,200	--	<4500 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<2500 U	--	NM	--	<440 U	--	<500 U	--	1,900	--	<4500 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	1,400	--	NM	--	<220 U	--	770	--	3,700	--	1,500	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<2500 U	--	NM	--	<440 U	--	<500 U	--	890	--	<4500 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	2,800	--	NM	--	<220 U	--	1,100	--	7,700	[2]	2,300	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS38		QMCP-SS41		QMCP-SS42		QMCP-SS43		QMCP-SS44		QMCP-SS45	
Field Sample ID																			QMCP-SS 38-0-6in		QMCP-SS41-0-6in		QMCP-SS42-0-6in		QMCP-SS43-0-6in		QMCP-SS44-0-6in		QMCP-SS45-0-6in	
Sample Date																			9/5/2018		9/5/2018		9/19/2018		9/19/2018		9/19/2018		9/19/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			Dark brown fine SAND with gravel, organics, near d		Dark brown SAND, organics		Greasy, dark brown, collected next to valve		Stained soil near potential transforms		Soil near split transformer case, topsoil, leaves		Stained soil near warehouse fire	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<1200 U	--	NM	--	<220 U	--	<250 U	--	310	--	<230 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<2500 U	--	NM	--	<440 U	--	<500 U	--	1,700	--	<4500 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<1200 U	--	NM	--	<220 U	--	<250 U	--	840	[2]	700	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	1,800	--	NM	--	<220 U	--	580	--	5,500	[2]	1,400	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	2,300	--	NM	--	<220 U	--	810	--	6,000	--	3,500	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS46		QMCP-SS47		QMCP-SS48		QMCP-SS49		QMCP-SS50		QMCP-SS275	
Field Sample ID																			QMCP-SS46-0-3in		QMCP-SS47-0-3in		QMCP-SS48-0-3in		QMCP-SS49-0-3in		QMCP-SS50-0-3in		QMCP-SS275-0-3"	
Sample Date																			9/19/2018		9/28/2018		9/28/2018		9/28/2018		9/28/2018		7/18/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Stained soil near overturned equipment		Soil on west side of meter pile		Soil on east side of meter pile		Soil under black electrical items		Black soil under drum with electrical equipment		Brown SAND with gravel in Trail ROW	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	8.9	[2,4,10,11]	13	[2,4,10,11]	NM	--	NM	--	1	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	180	[2]	270	[2]	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	11	[2,4,11]	12	[2,4,11]	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	160	--	140	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	1,500	[2]	1,600	[2]	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	810	[4,10,11]	930	[4,10,11,17]	NM	--	NM	--	7.3	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	1,100	[2,4,11]	1,100	[2,4,11]	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	1.1	[2,18,19]	3.6	[2,4,11,18,19]	NM	--	NM	--	<0.05 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	<0.2 U	--	0.3	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	2.3	[2]	2.1	[2]	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	940	[2]	1,800	[2]	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<0.57 U	--	<0.58 U	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	<1600 U	--	<120000 U	--	<1300 U	--	<120 U	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	8,200	--	360,000	--	5,100	--	170 J	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	<1300 U	--	<120000 U	--	<1200 U	--	170 J	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	<1300 U	--	<120000 U	--	<1200 U	--	<180 U	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	8,200 J	[10,17]	360,000 J	[6,10,17]	5,100 J	[10,17]	340 J	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<530 U	--	NM	--	NM	--	<600 U	--	<3000 U	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<210 U	--	NM	--	NM	--	<240 U	--	<1200 U	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<210 U	--	NM	--	NM	--	<240 U	--	<1200 U	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	550	--	NM	--	NM	--	<240 U	--	<1200 U	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	5,100	--	NM	--	NM	--	1,100	--	1,900	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<42000 U	--	NM	--	NM	--	1,200	--	<2400 U	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<42000 U	--	NM	--	NM	--	2,100	--	4,700	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<42000 U	--	NM	--	NM	--	560	--	<2400 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<42000 U	--	NM	--	NM	--	680	--	<2400 U	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	6,400	--	NM	--	NM	--	1,300	--	3,000	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<42000 U	--	NM	--	NM	--	680	--	<2400 U	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	9,300	[2]	NM	--	NM	--	2,100	--	2,900	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS46		QMCP-SS47		QMCP-SS48		QMCP-SS49		QMCP-SS50		QMCP-SS275	
Field Sample ID																			QMCP-SS46-0-3in		QMCP-SS47-0-3in		QMCP-SS48-0-3in		QMCP-SS49-0-3in		QMCP-SS50-0-3in		QMCP-SS275-0-3"	
Sample Date																			9/19/2018		9/28/2018		9/28/2018		9/28/2018		9/28/2018		7/18/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Stained soil near overturned equipment		Soil on west side of meter pile		Soil on east side of meter pile		Soil under black electrical items		Black soil under drum with electrical equipment		Brown SAND with gravel in Trail ROW	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<210 U	--	NM	--	NM	--	<240 U	--	<1200 U	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<42000 U	--	NM	--	NM	--	660	--	<2400 U	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<210 U	--	NM	--	NM	--	430	--	<1200 U	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	4,500	[2]	NM	--	NM	--	1,600	--	1,500	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	16,000	--	NM	--	NM	--	1,500	--	2,200	--	NM	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS276		QMCP-SS277		QMCP-SS279		QMCP-SS280		QMCP-SS281		QMCP-SS282	
Field Sample ID																			QMCP-SS276-0-3"		QMCP-SS277-0-3"		QMCP-SS279-0-3"		QMCP-SS280-0-3"		QMCP-SS281-0-3"		QMCP-SS282-0-3"	
Sample Date																			7/18/2019		7/18/2019		7/18/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Brown SAND, fine grain, with small roots		SAND with slag in Trail ROW		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	4.2	--	13	[10]	4.2	--	19	[10]	12	[10]	15	[10]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	5,600	[10,17]	71	--	210	--	1,800	[10,17]	1,100	[10,17]	710	[10]
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.1	[18,19]	<0.05 U	--	0.4	[18,19]	7.5	[18,19]	1.8	[18,19]	5.3	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS276		QMCP-SS277		QMCP-SS279		QMCP-SS280		QMCP-SS281		QMCP-SS282	
Field Sample ID																			QMCP-SS276-0-3"		QMCP-SS277-0-3"		QMCP-SS279-0-3"		QMCP-SS280-0-3"		QMCP-SS281-0-3"		QMCP-SS282-0-3"	
Sample Date																			7/18/2019		7/18/2019		7/18/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Brown SAND, fine grain, with small roots		SAND with slag in Trail ROW		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS283		QMCP-SS285		QMCP-SS286		QMCP-SS287		QMCP-SS288		QMCP-SS289	
Field Sample ID																			QMCP-SS283-0-3"		QMCP-SS285-0-3"		QMCP-SS286-0-3"		QMCP-SS287-0-3"		QMCP-SS288-0-3"		QMCP-SS289-0-3"	
Sample Date																			7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Brown SAND with gravel in wastepile		Dark brown SAND with gravel and debris		Dark brown SAND with gravel and debris		Brown SAND with gravel and debris		Brown SAND with gravel under scrap pile		Dark stained SAND with debris	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	17	[10]	12	[10]	3.8	--	14	[10]	11	[10]	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	1,800	[10,17]	1,400	[10,17]	180	--	2,300	[10,17]	580	[10]	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	29	[18,19]	5.6	[18,19]	0.3	[18,19]	1.5	[18,19]	1.1	[18,19]	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	98,000	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<22000 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<12000 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<12000 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	98,000	[10,17]
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS283		QMCP-SS285		QMCP-SS286		QMCP-SS287		QMCP-SS288		QMCP-SS289	
Field Sample ID																			QMCP-SS283-0-3"		QMCP-SS285-0-3"		QMCP-SS286-0-3"		QMCP-SS287-0-3"		QMCP-SS288-0-3"		QMCP-SS289-0-3"	
Sample Date																			7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Brown SAND with gravel in wastepile		Dark brown SAND with gravel and debris		Dark brown SAND with gravel and debris		Brown SAND with gravel and debris		Brown SAND with gravel under scrap pile		Dark stained SAND with debris	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS290		QMCP-SS291		QMCP-SS292		QMCP-SS293		QMCP-SS294		QMCP-SS295	
Field Sample ID																			QMCP-SS290-0-3"		QMCP-SS291-0-3"		QMCP-SS292-0-3"		QMCP-SS293-0-3"		QMCP-SS294-0-3"		QMCP-SS295-0-3"	
Sample Date																			7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Dark stained SAND with debris		Dark stained SAND with debris		Dark stained SAND with debris		Brown SAND with gravel		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1300 U	--	<1500 U	--	7,700 J	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,700	--	<2100 U	--	3,300 J	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	5,800	--	<1200 U	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	<1200 U	--	<1200 U	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	2,700	[10,17]	5,800	[10,17]	11,000	[10,17]	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	ND	--	ND	--	ND	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	0.1 <	--	0.5	--	1.6	[9,16]
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS290		QMCP-SS291		QMCP-SS292		QMCP-SS293		QMCP-SS294		QMCP-SS295	
Field Sample ID																			QMCP-SS290-0-3"		QMCP-SS291-0-3"		QMCP-SS292-0-3"		QMCP-SS293-0-3"		QMCP-SS294-0-3"		QMCP-SS295-0-3"	
Sample Date																			7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Dark stained SAND with debris		Dark stained SAND with debris		Dark stained SAND with debris		Brown SAND with gravel		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS296		QMCP-SS297		QMCP-SS298		QMCP-SS299		QMCP-SS300		QMCP-SS301	
Field Sample ID																			QMCP-SS296-0-3"		QMCP-SS297-0-3"		QMCP-SS298-0-3"		QMCP-SS299-0-3"		QMCP-SS300-0-3"		QMCP-SS301-0-3"	
Sample Date																			7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel and debris		Brown SAND with gravel and debris	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	0.4	--	ND	--	ND	--	0.1 <	--	1	[9,16]	0.3	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS296		QMCP-SS297		QMCP-SS298		QMCP-SS299		QMCP-SS300		QMCP-SS301	
Field Sample ID																			QMCP-SS296-0-3"		QMCP-SS297-0-3"		QMCP-SS298-0-3"		QMCP-SS299-0-3"		QMCP-SS300-0-3"		QMCP-SS301-0-3"	
Sample Date																			7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel in wastepile		Brown SAND with gravel and debris		Brown SAND with gravel and debris	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS302		QMCP-SS303		QMCP-SS304		QMCP-SS305		QMCP-SS306		QMCP-SS307	
Field Sample ID																			QMCP-SS302-0-3"		QMCP-SS303-0-3"		QMCP-SS304-0-3"		QMCP-SS305-0-3"		QMCP-SS306-0-3"		QMCP-SS307-0-3"	
Sample Date																			7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Brown SAND with gravel and debris		Medium stamp SAND		Brown SAND with gravel and debris		Brown SAND with gravel and debris		Brown SAND with gravel		Brown SAND with gravel and debris	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	0.1 <	--	ND	--	ND	--	ND	--	ND	--	0.2	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D											
Station Name																			QMCP-SS302		QMCP-SS303		QMCP-SS304		QMCP-SS305		QMCP-SS306		QMCP-SS307	
Field Sample ID																			QMCP-SS302-0-3"		QMCP-SS303-0-3"		QMCP-SS304-0-3"		QMCP-SS305-0-3"		QMCP-SS306-0-3"		QMCP-SS307-0-3"	
Sample Date																			7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019		7/22/2019	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Brown SAND with gravel and debris		Medium stamp SAND		Brown SAND with gravel and debris		Brown SAND with gravel and debris		Brown SAND with gravel		Brown SAND with gravel and debris	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D									
Station Name																				QMCP-SS308		SS-20		SS-21		SS-22		SS-23	
Field Sample ID																				QMCP-SS308-0-3"		SS 20		SS 21		SS 22		SS 23	
Sample Date																				7/22/2019		6/5/2002		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																				0 - 0.25 ft		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in	
Sample Description																				Brown SAND with gravel in wastepile		0-½" - Dry, black/red medium to coarse stamp sand. ½-4" - Slightly moist, dark brown/red medium to coarse sand with some fine gravel.		0-½" - Dry, dark brown medium sand with some fine gravel. 10% black/red stamp sand on top. ½-4" - Dark red/brown medium to fine sand, slight amounts of gravel.		0-½" - Dry, dark brown, coarse sand and fine gravel. ½-4" - Slightly moist, dark brown, medium to coarse sand. Oil/gas/rubber odor present. Some dark red/black stamp sand.		0-½" - Dry, black/red, coarse stamp sand. ½-4" -Slightly moist, dark brown and dark red, coarse to medium sand with some fine gravel.	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																													
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	11,900	[4,11]	8,950	[4,11]	8,930	[4,11]	12,300	[4,11]
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	<0.79 UJ	--	1.3 J	[2]	0.96 J	--	0.89 J	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		NM	--	1	--	3.1	--	2.8	--	3.3	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		NM	--	17.3	--	75.1	--	33.2	--	22.4	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	0.08	--	0.09	--	<0.06 U	--	<0.06 U	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		NM	--	0.26	--	1.2	--	0.41	--	0.19	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	13,300	--	9,400	--	13,000	--	18,200	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		NM	--	15.9	--	22	--	23.7	--	24.4	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	26.9	[2,4,11]	11	[2,4,11]	15.8	[2,4,11]	22	[2,4,11]
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		NM	--	2,420 J	[2]	1,050 J	[2]	1,390 J	[2]	1,590 J	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	19,600	[4,11]	19,400	[4,11]	20,000	[4,11]	20,300	[4,11]
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		NM	--	24.3 J	--	217 J	--	132 J	--	21.7 J	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	16,400	[4]	5,740	--	8,510	[4]	13,200	[4]
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		NM	--	663	[2,4,11]	311	--	551	[2,4,11]	529	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		NM	--	0.1 J	[18,19]	0.13 J	[18,19]	0.21 J	[2,18,19]	0.09 J	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	25.3	--	22.6	--	22.7	--	33.3	[2]
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	141 J	--	505 J	--	299 J	--	204 J	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		NM	--	0.65 J	[2]	0.91 J	[2]	1.1 J	[2]	0.74 J	[2]
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		NM	--	1.3 J	[2]	0.82 J	--	0.41 J	--	0.48 J	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	629 J	--	1,060 J	--	821 J	--	621 J	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	47.3	--	30.5	--	35.3	--	44.5	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		NM	--	92.1 J	[2]	189 J	[2]	114 J	[2]	62.2 J	[2]
Inorganics - Cyanide (mg/kg)																													
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	0.11 J	[2]	<0.04 UJ	--	<0.04 UJ	--	<0.04 UJ	--
Organics - PCBs (ug/kg)																													
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	<34 U	--	<36 U	--	<35 U	--	<35 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	<34 U	--	<36 U	--	<35 U	--	<35 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	<34 U	--	<36 U	--	<35 U	--	<35 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		NM	--	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																													
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		ND	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		0.1 <	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																													
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		NM	--	120 J	--	160 J	--	<3500 U	--	690 J	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		NM	--	83 J	--	150 J	--	520 J	--	180 J	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		NM	--	86 J	--	160 J	--	570 J	--	<1700 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		NM	--	110 J	--	180 J	--	540 J	--	170 J	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		NM	--	86 J	--	190 J	--	540 J	--	200 J	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	<340 U	--	170 J	--	<3500 U	--	<1700 U	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		NM	--	100 J	--	220 J	--	620 J	--	260 J	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	<340 U	--	<720 U	--	<3500 U	--	220 J	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		NM	--	160 J	--	290 J	--	920 J	--	290 J	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D									
Station Name																			QMCP-SS308		SS-20		SS-21		SS-22		SS-23	
Field Sample ID																			QMCP-SS308-0-3"		SS 20		SS 21		SS 22		SS 23	
Sample Date																			7/22/2019		6/5/2002		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in	
Sample Description																			Brown SAND with gravel in wastepile		0-½" - Dry, black/red medium to coarse stamp sand. ½-4" - Slightly moist, dark brown/red medium to coarse sand with some fine gravel.		0-½" - Dry, dark brown medium sand with some fine gravel. 10% black/red stamp sand on top. ½-4" - Dark red/brown medium to fine sand, slight amounts of gravel.		0-½" - Dry, dark brown, coarse sand and fine gravel. ½-4" - Slightly moist, dark brown, medium to coarse sand. Oil/gas/rubber odor present. Some dark red/black stamp sand.		0-½" - Dry, black/red, coarse stamp sand. ½-4" -Slightly moist, dark brown and dark red, coarse to medium sand with some fine gravel.	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	NM	--	<340 U	--	<720 U	--	<3500 U	--	<1700 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	<340 U	--	74 J	--	<3500 U	--	<1700 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	81 J	--	100 J	--	<3500 U	--	460 J	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	NM	--	140 J	--	220 J	--	450 J	--	540 J	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	NM	--	140 J	--	280 J	--	920 J	--	280 J	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	<51 U	--	170	[18]
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	<260 U	--	<250 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	<260 U	--	<250 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	<260 U	--	480	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	<1000 U	--	<1000 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	<51 U	--	70	[18]
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<100 U	--	310	[18]
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	<260 U	--	<250 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	<260 U	--	410	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<51 U	--	54	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<51 U	--	270	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	<51 U	--	240	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	<51 U	--	<51 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	0	--	0	--	ND	--	580	[18]
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	<3.4 U	--	<3.6 U	--	<3.5 U	--	<3.5 U	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	<3.4 U	--	<3.6 U	--	<3.5 U	--	5.5	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<3.4 U	--	<3.6 U	--	<3.5 U	--	<3.5 U	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<3.4 U	--	<3.6 U	--	<3.5 U	--	3.8	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<3.4 U	--	<3.6 U	--	4.1	--	8	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<1.8 U	--	2.8	--	1.9	--	<1.8 U	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	<18 U	--	<18 U	--	<18 U	--	<18 U	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D		Area E					
Station Name																			SS-34		QMCP-SB20				QMCP-SB21	
Field Sample ID																			SS 34		QMCP-SB 20 0in-6in		QMCP-SB 20 6in-4ft		QMCP-SB 21 0in-6in		QMCP-SB 21 6in-4ft	
Sample Date																			6/5/2002		9/7/2018		9/7/2018		9/7/2018		9/7/2018	
Sample Interval (bgs)																			0 - 4 in 0 - 12 in		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																			0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve. (Discrepancy in sample IDs in MDEQ HRTP 2002 report, description may actually refer to SS 35)		SAND, Fine to medium, brown		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	6,560	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	1.1 J	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	5.1	[2,4,11]	2	--	0.8	--	1.9	--	3.7	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	37.8	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	0.07	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	0.3	--	<0.2 U	--	<0.2 U	--	0.3	--	0.3	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,550	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	20.1	--	11	--	19	--	19	--	21	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	12.2	[2,4,11]	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	987 J	[2]	350	[2]	6,300	[2,4,11]	3,900	[2]	2,400	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	20,400	[4,11]	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	37.5 J	--	18	--	8.5	--	37	--	47	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	5,760	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	290	--	240	--	620	[2,4,11]	600	[2,4,11]	570	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.06 J	[18,19]	0.1	[18,19]	0.5	[2,18,19]	0.4	[2,18,19]	0.2	[2,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	15.9	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	285 J	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	1.2 J	[2]	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	<0.22 U	--	0.5	--	6.8	[2,4]	4.5	[2]	4.1	[2]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	782 J	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	31.3	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	91.7 J	[2]	37	--	74	[2]	100	[2]	140	[2]
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	3.3 J	[2]	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<340 UJ	--	<120 U	--	<110 U	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<340 UJ	--	<120 U	--	<110 U	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<340 UJ	--	<120 U	--	<110 U	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<120 U	--	<110 U	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	NM	--	NM	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100000 U	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<100000 U	--	<1500 U	--	<550 U	--	<550 U	--	<560 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<100000 U	--	<600 U	--	<220 U	--	<220 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	37,000 J	[4,11]	<600 U	--	<220 U	--	<220 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	<100000 U	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	42,000 J	[4,11]	<600 U	--	<220 U	--	<220 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100000 U	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	120,000 J	[10,17]	<600 U	--	<220 U	--	280	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	120,000 J	[10,17]	<1200 U	--	<440 U	--	<440 U	--	<450 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	110,000 J	[10,17]	<1200 U	--	<440 U	--	470	--	<450 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	64,000 J	--	<1200 U	--	<440 U	--	<440 U	--	<450 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	100,000 J	--	<1200 U	--	<440 U	--	<440 U	--	<450 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	<100000 U	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	<100000 U	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	130,000 J	--	<600 U	--	<220 U	--	300	--	230	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<100000 U	--	<1200 U	--	<440 U	--	<440 U	--	<450 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	17,000 J	[2]	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	330,000 J	[2]	580 J	--	<220 U	--	520	--	390	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area D		Area E					
Station Name																			SS-34		QMCP-SB20				QMCP-SB21	
Field Sample ID																			SS 34		QMCP-SB 20 0in-6in		QMCP-SB 20 6in-4ft		QMCP-SB 21 0in-6in		QMCP-SB 21 6in-4ft	
Sample Date																			6/5/2002		9/7/2018		9/7/2018		9/7/2018		9/7/2018	
Sample Interval (bgs)																			0 - 4 in 0 - 12 in		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																			0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve. (Discrepancy in sample IDs in MDEQ HRTP 2002 report, description may actually refer to SS 35)		SAND, Fine to medium, brown		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	30,000 J	[2]	<600 U	--	<220 U	--	<220 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	66,000 J	[10]	<1200 U	--	<440 U	--	<440 U	--	<450 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	21,000 J	[2]	<600 U	--	<220 U	--	<220 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	270,000 J	[2,4,6,7,8,11,13,14,15]	<600 U	--	<220 U	--	290	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	300,000 J	--	590 J	--	<220 U	--	400	--	320	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	<69 U	--	<62 U	--	61	--	<62 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<340 U	--	<310 U	--	<310 U	--	<310 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	<340 U	--	<310 U	--	<310 U	--	<310 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	<340 U	--	<310 U	--	<310 U	--	<310 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	<1400 UJ	--	<1200 UJ	--	<1200 UJ	--	<1200 UJ	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<340 U	--	<310 U	--	<310 U	--	<310 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<140 U	--	<120 U	--	<120 U	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	<140 U	--	<120 U	--	<120 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	<340 U	--	<310 U	--	<310 U	--	<310 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<69 U	--	<62 U	--	73	--	<62 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	<69 U	--	<62 U	--	<61 U	--	<62 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	ND	--	ND	--	73	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	73 J	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	<34 UJ	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	<17 UJ	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<17 UJ	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	<17 UJ	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	<17 UJ	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<34 UJ	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<34 UJ	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<34 UJ	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<17 UJ	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	<17 UJ	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	<17 UJ	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	<170 UJ	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area E											
Station Name																				QMCP-SB61						QMCP-SS06		QMCP-SS08			
Field Sample ID																				QMCP-SB 61 0in-6in		QMCP-SB 61 6in-4ft		QMCP-SB 61 6in-4ft DUP		QMCP-SS-06-0-6in		QMCP-SS-08-0-6in		QMCP-SS-08-0-6in DUP1	
Sample Date																				9/7/2018		9/7/2018		9/7/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 4 ft		0.5 - 4 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																				SAND, Fine to medium, brown		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		Black stamp SAND, fine grained, darkened staining		Brown medium SAND, black darker staining		Brown medium SAND, black darker staining	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		3	--	1.1	--	1.3	--	2	--	4.6	--	3.1	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		NM	--	NM	--	NM	--	6.1	--	51	--	48	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		0.3	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		16	--	18	--	17	--	8.1	--	3.2	--	4.4	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		2,400	[2]	9,100	[2,4,11]	5,400	[2]	3,500	[2]	460	[2]	290	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		39	--	11	--	15	--	15	--	100	--	73	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		500	[2,4,11]	630	[2,4,11]	610	[2,4,11]	330	--	170	--	97	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		0.2	[2,18,19]	0.4	[2,18,19]	0.7	[2,18,19]	0.4	[2,18,19]	<0.06 U	--	0.07	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		NM	--	NM	--	NM	--	<0.2 U	--	<0.2 U	--	0.2	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		4.9	[2,4]	21	[2,4,11]	7.1	[2,4]	2.9	[2]	0.7	--	0.6	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		110	[2]	80	[2]	81	[2]	43	--	31	--	21	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	<0.11 U	--	<0.13 U	--	<0.13 U	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<110 U	--	<110 U	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<110 U	--	<110 U	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<170 U	--	<110 U	--	<130 U	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<170 U	--	<110 U	--	<130 U	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		ND	--	ND	--	ND	--	NM	--	NM	--	NM	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		920	--	<560 U	--	<550 U	--	710	--	1,100	--	1,300	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<220 U	--	<220 U	--	<220 U	--	<220 U	--	<250 U	--	<250 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<220 U	--	<220 U	--	<220 U	--	<220 U	--	<250 U	--	<250 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<220 U	--	<220 U	--	<220 U	--	<220 U	--	<250 U	--	<250 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		380	--	<220 U	--	<220 U	--	<220 U	--	290	--	360	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		570	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	570	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		420	--	<220 U	--	<220 U	--	<220 U	--	370	--	490	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		740	--	<220 U	--	<220 U	--	<220 U	--	510	--	710	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area E											
Station Name																				QMCP-SB61						QMCP-SS06		QMCP-SS08			
Field Sample ID																				QMCP-SB 61 0in-6in		QMCP-SB 61 6in-4ft		QMCP-SB 61 6in-4ft DUP		QMCP-SS-06-0-6in		QMCP-SS-08-0-6in		QMCP-SS-08-0-6in DUP1	
Sample Date																				9/7/2018		9/7/2018		9/7/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 4 ft		0.5 - 4 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																				SAND, Fine to medium, brown		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		Black stamp SAND, fine grained, darkened staining		Brown medium SAND, black darker staining		Brown medium SAND, black darker staining	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<250 U	--	<250 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	680	--	<220 U	--	230	--	480	--	770	[2]	890	[2]
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	670	--	<220 U	--	<220 U	--	430	--	860	--	990	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	590	--	<220 U	--	<220 U	--	<220 U	--	470	--	610	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	80	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	180	[18]	<63 U	--	85	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<310 U	--	<310 U	--	<300 U	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<310 U	--	<310 U	--	<300 U	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	440	--	<310 U	--	<300 U	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1200 UJ	--	<1300 UJ	--	<1200 UJ	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<310 U	--	<310 U	--	<300 U	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	84	[18]	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	75	[18]	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	--	<130 U	--	180	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<120 U	--	<130 U	--	<120 U	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	400	--	<310 U	--	<300 U	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	290	--	<63 U	--	110	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	330	--	<63 U	--	160	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	660	[18]	ND	--	290	[18]	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area E	Area F								
Station Name																				QMCP-SS09	Mickelson-6	QMCP-SB62				QMCP-SB63			
Field Sample ID																				QMCP-SS-09-0-6in	Mickelson B-6	QMCP-SB 62 0in-6in		QMCP-SB 62 6in-4ft		QMCP-SB 63 0in-6in		QMCP-SB 63 6in-4ft	
Sample Date																				9/5/2018	9/12/2007	9/7/2018		9/7/2018		9/7/2018		9/7/2018	
Sample Interval (bgs)																				0 - 0.5 ft	0 - 0 ft	0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																				Red coarse stamp SAND with darkened finer stamp SA	--	SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	7,800 J	[4,11]	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		3	--	14 J	[2,4,10,11]	1.4	--	11	[2,4,10,11]	1.8	--	17	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		110	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	0.73 J	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		2.5	[2]	NM	--	<0.2 U	--	0.3	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		21	--	980 J	--	17 J	--	83	--	25	--	64	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	16 J	[2,4,11]	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		4,500	[2]	490 J	[2]	580 J	[2]	2,100	[2]	1,000	[2]	3,400	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		180	--	25 J	--	12	--	32	--	18	--	25	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	4	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		870	[2,4,11]	650	[2,4,11]	240	--	560	[2,4,11]	330	--	460	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		0.2	[2,18,19]	0.015 J	[18,19]	<0.05 U	--	0.1	[18,19]	<0.05 U	--	0.1	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	180 J	[2,4,11]	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		<0.2 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		4.3	[2]	0.51 J	--	0.4	--	1.5	[2]	1.8	[2]	2	[2]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		190	[2]	43	--	37	--	59	--	49	--	53	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<0.12 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<120 U	--	<42 U	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<120 U	--	<42 U	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<120 U	--	<42 U	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<120 U	--	<42 U	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		ND	--	<42 U	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		<590 U	--	NM	--	<520 U	--	<540 U	--	<540 U	--	<540 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<230 U	--	NM	--	<210 U	--	<220 U	--	<210 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<230 U	--	NM	--	<210 U	--	<220 U	--	<210 U	--	430	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<230 U	--	NM	--	<210 U	--	<220 U	--	<210 U	--	330	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		350	--	NM	--	<210 U	--	780	--	360	--	2,100	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<470 U	--	NM	--	<420 U	--	980	--	520	--	2,200	[10]
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		590	--	NM	--	<420 U	--	2,400	--	1,100	--	5,500	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<470 U	--	NM	--	<420 U	--	470	--	460 J	--	1,100 J	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<470 U	--	NM	--	<420 U	--	780	--	<430 U	--	1,900	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		420	--	NM	--	<210 U	--	850	--	390	--	2,200	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<470 U	--	NM	--	<420 U	--	<430 U	--	<430 U	--	<430 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		580	--	NM	--	<210 U	--	1,100	--	450	--	3,300	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area E	Area F								
Station Name																				QMCP-SS09	Mickelson-6	QMCP-SB62				QMCP-SB63			
Field Sample ID																				QMCP-SS-09-0-6in	Mickelson B-6	QMCP-SB 62 0in-6in		QMCP-SB 62 6in-4ft		QMCP-SB 63 0in-6in		QMCP-SB 63 6in-4ft	
Sample Date																				9/5/2018	9/12/2007	9/7/2018		9/7/2018		9/7/2018		9/7/2018	
Sample Interval (bgs)																				0 - 0.5 ft	0 - 0 ft	0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																				Red coarse stamp SAND with darkened finer stamp SA	--	SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																													
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<230 U	--	NM	--	<210 U	--	290	--	<210 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<470 U	--	NM	--	<420 U	--	520	--	460	--	1,200	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<230 U	--	NM	--	<210 U	--	300	--	<210 U	--	430	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	330	--	NM	--	<210 U	--	710	--	<210 U	--	1,000	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	550	--	NM	--	<210 U	--	1,300	--	520	--	3,100	--
Organics - VOCs (ug/kg)																													
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	<59 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	<59 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	<52 U	--	2,000	[18,19]	750	[18]	<59 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	<52 U	--	6,400	[2,4,11,18,19]	2,200	[2,4,11,18,19]	100	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	<52 U	--	2,200	[2,4,11,18,19]	740	[18,19]	<59 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<260 U	--	4,100	--	1,000	--	300	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	<260 U	--	<630 UJ	--	<300 UJ	--	<300 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	<260 U	--	3,500	--	1,600	--	<300 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	<1000 UJ	--	<2500 UJ	--	<1200 UJ	--	<1200 UJ	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	67	[18,19]
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<260 U	--	650	--	<300 U	--	<300 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	<52 U	--	920	[2,18,19]	210	[18,19]	59	[18]
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	<52 U	--	970	[18,19]	240	[18,19]	270	[18,19]
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	<52 U	--	180	--	<60 U	--	<59 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<100 U	--	2,100	--	510	--	240	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	<100 U	--	<250 U	--	<120 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	<260 U	--	1,100	[2]	530	--	<300 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	<59 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	<52 U	--	650	--	210	--	<59 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	91	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	<52 U	--	220	--	81	--	<59 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	<59 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	<59 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	<59 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	220	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	<52 U	--	<130 U	--	<60 U	--	<59 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	ND	--	2,100	[2,18,19]	510	[18]	331	[18]
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																													
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	21	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area F											
Station Name																				QMCP-SB64				QMCP-SS51		SS-24		SS-25		SS-35	
Field Sample ID																				QMCP-SB 64 0in-6in		QMCP-SB 64 6in-5ft		QMCP-SS51-0-3in		SS 24		SS 25		SS 35	
Sample Date																				9/7/2018		9/7/2018		9/28/2018		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 5 ft		0 - 0.25 ft		0 - 4 in 0 - 12 in		0 - 12 in		0 - 4 in	
Sample Description																				SAND, Fine to medium, brown		SAND, Medium to coarse, brown, saturated at 5 feet		Soil in pile along trail		0-4" - Dry, dark brown/black, medium to coarse sand with black chips that appear to be coal.		0-½" - Dry, black, coal chips with stamp sand. Medium gravel/coal on top. ½-4" - Slightly moist, black, medium to coarse sand/coal, some red , medium to coarse stamp sand.		0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve. (Discrepancy in sample IDs in MDEQ HRTP 2002 report, description may actually refer to SS 34)	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	9,190	[4,11]	6,830	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	<0.82 UJ	--	1.7 J	[2]	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		1.4	--	1.2	--	NM	--	8.4	[2,4,10,11]	14.9	[2,4,10,11]	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		NM	--	NM	--	NM	--	40	--	41.5	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	0.27	--	0.36	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		<0.2 U	--	<0.2 U	--	NM	--	0.23	--	0.29	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	14,100	--	6,270	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		28	--	19	--	NM	--	22.7	--	12.7	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	18.6	[2,4,11]	17.3	[2,4,11]	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		3,200	[2]	6,100	[2,4,11]	NM	--	2,120 J	[2]	3,450 J	[2]	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	22,700	[4,11]	24,700	[4,11]	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		15	--	14	--	NM	--	59.6 J	--	51.8 J	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	9,390	[4]	6,820	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		630	[2,4,11]	600	[2,4,11]	NM	--	458	[2,4,11]	368	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		0.1	[18,19]	0.3	[2,18,19]	NM	--	0.14 J	[2,18,19]	0.2 J	[2,18,19]	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	28.1	--	18.8	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	274	--	214 J	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		NM	--	NM	--	NM	--	1.5 J	[2]	2.3 J	[2]	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		4.1	[2]	5.8	[2,4]	NM	--	1.3 J	[2]	2.6 J	[2]	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	741 J	--	682 J	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	35.2	--	34.5	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		77	[2]	72	[2]	NM	--	90.3 J	[2]	82.3 J	[2]	NM	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	12.5 J	[2,4,10,11]	<0.04 UJ	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	<350 U	--	<37 U	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	<350 U	--	<37 U	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	<350 U	--	<37 U	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		NM	--	NM	--	NM	--	ND	--	ND	--	NM	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	<22000 U	--	1,300 J	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		<540 U	--	<540 U	--	660	--	<22000 U	--	15,000	[2]	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<210 U	--	<220 U	--	<240 U	--	<22000 U	--	<11000 U	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<210 U	--	<220 U	--	1,500	--	4,600 J	--	<11000 U	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	<22000 U	--	1,300 J	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<210 U	--	<220 U	--	1,600	--	22,000 J	--	<11000 U	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	<22000 U	--	1,600 J	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		550	--	<220 U	--	13,000	--	11,000 J	--	1,800 J	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		530	--	<430 U	--	12,000	[10,17]	10,000 J	[10,17]	1,300 J	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		990	--	<430 U	--	26,000	[10]	12,000 J	--	1,700 J	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<430 U	--	<430 U	--	3,500	--	7,600 J	--	<11000 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<430 U	--	<430 U	--	8,800	--	10,000 J	--	1,400 J	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	<22000 U	--	<11000 U	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	<22000 U	--	<11000 U	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		520	--	<220 U	--	14,000	--	12,000 J	--	2,700 J	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<430 U	--	<430 U	--	2,800	[10]	<22000 U	--	<11000 U	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	<22000 U	--	4,000 J	[2]	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		1,100	--	<220 U	--	30,000	[2]	25,000	[2]	2,900 J	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area F											
Station Name																			QMCP-SB64				QMCP-SS51		SS-24		SS-25		SS-35	
Field Sample ID																			QMCP-SB 64 0in-6in		QMCP-SB 64 6in-5ft		QMCP-SS51-0-3in		SS 24		SS 25		SS 35	
Sample Date																			9/7/2018		9/7/2018		9/28/2018		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 5 ft		0 - 0.25 ft		0 - 4 in 0 - 12 in		0 - 12 in		0 - 4 in	
Sample Description																			SAND, Fine to medium, brown		SAND, Medium to coarse, brown, saturated at 5 feet		Soil in pile along trail		0-4" - Dry, dark brown/black, medium to coarse sand with black chips that appear to be coal.		0-½" - Dry, black, coal chips with stamp sand. Medium gravel/coal on top. ½-4" - Slightly moist, black, medium to coarse sand/coal, some red , medium to coarse stamp sand.		0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve. (Discrepancy in sample IDs in MDEQ HRTP 2002 report, description may actually refer to SS 34)	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<210 U	--	<220 U	--	310	--	<22000 U	--	<11000 U	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<430 U	--	<430 U	--	4,400	--	7,400 J	--	<11000 U	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<210 U	--	<220 U	--	1,500	[2]	2,200 J	[2]	9,300 J	[2]	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	560	--	<220 U	--	8,000	[2]	13,000 J	[2]	9,400 J	[2]	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	900	--	<220 U	--	23,000	--	20,000 J	--	2,900 J	--	NM	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<59 U	--	<59 U	--	<83 U	--	<63 U	--	<54 U	--	<270 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<59 U	--	<59 U	--	<83 U	--	<63 U	--	<54 U	--	<270 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<59 U	--	<59 U	--	<83 U	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	58 J	--	66	--	<83 U	--	920	[2,18,19]	920	[2,18,19]	1,800	[2,18,19]
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	<320 U	--	<270 U	--	<1300 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<59 U	--	<59 U	--	<83 U	--	200	[18]	200	[18]	490	[18,19]
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<290 U	--	<410 U	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<290 U	--	<290 U	--	<410 U	--	<320 U	--	<270 U	--	<1300 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<290 U	--	<290 U	--	<410 U	--	2,600	--	2,000	--	12,000	[2]
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1200 UJ	--	<1200 UJ	--	<1700 U	--	<1300 U	--	<1100 U	--	<5300 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<59 U	--	<59 U	--	<83 U	--	210	[4,11,18,19]	170	[4,11,18,19]	1,500	[2,4,11,18,19]
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<290 U	--	<410 U	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<59 U	--	<59 U	--	<83 U	--	400	[2,18,19]	290	[18,19]	490	[2,18,19]
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<59 U	--	<59 U	--	<83 U	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<59 U	--	<59 U	--	<83 U	--	270	--	220	--	330	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<120 U	--	130	--	<170 U	--	1,500	--	1,400	--	2,700	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<120 U	--	<120 U	--	<170 U	--	<320 U	--	<270 U	--	<1300 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<290 U	--	<290 U	--	500	--	2,600	[2]	1,700	[2]	26,000	[2]
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<59 U	--	<59 U	--	<83 U	--	<63 U	--	<54 U	--	<270 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<59 U	--	<59 U	--	<83 U	--	310	--	210	--	360	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	76	--	78	--	84	--	1,300	--	1,200	--	2,100	--		
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	73	--	89	--	<270 U	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<59 U	--	<59 U	--	<83 U	--	100	--	77	--	<270 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<59 U	--	<59 U	--	<83 U	--	<63 U	--	<54 U	--	<270 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<59 U	--	<59 U	--	<83 U	--	<63 U	--	<54 U	--	<270 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<59 U	--	<59 U	--	2,000	[2,4,11,18,19]	<63 U	--	<54 U	--	<270 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	72	--	100	--	120	--	1,400	--	1,000	--	2,800	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<59 U	--	<59 U	--	<83 U	--	<63 U	--	<54 U	--	<270 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	76	--	208	--	84	[18]	2,800	[2,18,19]	2,600	[2,18,19]	4,800	[2,18,19]
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	39 J	--	13	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	<35 U	--	12	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	<18 U	--	4.2	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<18 U	--	3.8	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	<18 U	--	<1.9 U	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	<18 U	--	3.9	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<35 U	--	<3.7 U	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<35 U	--	<3.7 U	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<35 U	--	25	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<18 U	--	<1.9 U	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	<18 U	--	<1.9 U	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	<18 U	--	<1.9 U	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	<180 U	--	<19 U	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G									
Station Name																				QMCP-SB22						QMCP-SB23			
Field Sample ID																				QMCP-SB 22 0in-6in		QMCP-SB 22 6in-4ft		QMCP-SB 22 6in-4ft DUP		QMCP-SB 23 0in-6in		QMCP-SB 23 6in-4ft	
Sample Date																				9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 4 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																				SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																													
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	1.3	--	3.4	--	1.6	--	2.2	--	2.9	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	13	--	4.5	--	7.6	--	15	--	19	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	230	[2]	610	[2]	2,000	[2]	790	[2]	810	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	5.5	--	12	--	9.1	--	160	--	28	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	170	--	120	--	250	--	270	--	250	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.07	[18,19]	0.06	[18,19]	0.2	[2,18,19]	0.07	[18,19]	0.2	[2,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	0.3	--	1.7	[2]	3.6	[2]	1.3	[2]	0.9	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	21	--	22	--	35	--	46	--	46	--
Inorganics - Cyanide (mg/kg)																													
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																													
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<110 U	--	<580 U	--	<110 U	--	<550 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<110 U	--	<580 U	--	<110 U	--	<550 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<110 U	--	<580 U	--	<130 U	--	<550 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<110 U	--	<580 U	--	<130 U	--	<550 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																													
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																													
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<520 U	--	<570 U	--	3,000	--	740	--	2,500	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<210 U	--	<230 U	--	<230 U	--	<220 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<210 U	--	<230 U	--	<230 U	--	<220 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<210 U	--	<230 U	--	<230 U	--	<220 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<210 U	--	260	--	<230 U	--	<220 U	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<420 U	--	<460 U	--	<460 U	--	<430 U	--	<440 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<420 U	--	<460 U	--	<460 U	--	<430 U	--	<440 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<420 UJ	--	<460 U	--	<460 U	--	<430 UJ	--	<440 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<420 U	--	<460 U	--	<460 U	--	<430 U	--	<440 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<210 U	--	240	--	230	--	<220 U	--	220	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	NLV	8,000 (Q)	NA	NA	<420 U	--	<460 U	--	<460 U	--	<430 U	--	<440 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<210 U	--	430	--	<230 U	--	280	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G							
Station Name																				QMCP-SB22						QMCP-SB23			
Field Sample ID																				QMCP-SB 22 0in-6in		QMCP-SB 22 6in-4ft		QMCP-SB 22 6in-4ft DUP		QMCP-SB 23 0in-6in		QMCP-SB 23 6in-4ft	
Sample Date																				9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 4 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																				SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																													
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<210 U	--	<230 U	--	<230 U	--	<220 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<420 U	--	<460 U	--	<460 U	--	<430 U	--	<440 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<210 U	--	<230 U	--	1,900	[2]	520	--	1,600	[2]
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<210 U	--	280	--	1,300	--	480	--	1,100	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<210 U	--	370	--	<230 U	--	220	--	<220 U	--
Organics - VOCs (ug/kg)																													
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<55 U	--	<67 U	--	<67 U	--	<60 U	--	<61 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<55 U	--	<67 U	--	<67 U	--	<60 U	--	<61 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<55 U	--	170	--	150	--	160	--	<61 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	110	--	440	[18]	430	[18]	450	[18]	84	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<55 U	--	97	--	96	--	95	--	<61 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<280 U	--	<340 U	--	<340 U	--	<300 U	--	<300 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<280 UJ	--	<340 UJ	--	<340 UJ	--	<300 UJ	--	<300 UJ	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	290	--	930	--	930	--	950	--	<300 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 UJ	--	<1300 UJ	--	<1300 UJ	--	<1200 UJ	--	<1200 UJ	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<55 U	--	93	[18,19]	120	[4,11,18,19]	110	[4,11,18,19]	<61 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<280 U	--	450	--	490	--	400	--	<300 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<55 U	--	110	[18,19]	130	[18,19]	130	[18,19]	<61 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<55 U	--	120	[18,19]	170	[18,19]	140	[18,19]	<61 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<55 U	--	<67 U	--	70	--	72	--	<61 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	150	--	740	--	820	--	710	--	120	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<110 U	--	<130 U	--	<130 U	--	<120 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<280 U	--	780	[2]	800	[2]	790	[2]	<300 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<55 U	--	<67 U	--	<67 U	--	<60 U	--	<61 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<55 U	--	67	--	75	--	90	--	<61 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	120	--	540	--	560	--	530	--	100	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<55 U	--	<67 U	--	<67 U	--	<60 U	--	<61 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<55 U	--	<67 U	--	<67 U	--	<60 U	--	<61 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<55 U	--	<67 U	--	<67 U	--	<60 U	--	<61 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<55 U	--	<67 U	--	<67 U	--	<60 U	--	<61 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	120	--	520	--	620	--	580	--	74	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<55 U	--	<67 U	--	<67 U	--	<60 U	--	<61 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	270	--	1,280	[2,18,19]	1,380	[2,18,19]	1,240	[2,18,19]	220	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																													
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G											
Station Name																				QMCP-SB24				QMCP-SB25				QMCP-SB26		QMCP-SB27	
Field Sample ID																				QMCP-SB 24 0in-6in		QMCP-SB 24 6in-4ft		QMCP-SB-25 0-6in		QMCP-SB-25 6in-4ft		QMCP-SB-26 0-2ft		QMCP-SB-27 0-2ft	
Sample Date																				9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 2 ft		0 - 2 ft	
Sample Description																				SAND, Fine to medium, brown, saturated at 4 feet		SAND, Fine to medium, brown, saturated at 4 feet		SAND and GRAVEL, Medium, brown		SAND, Fine to medium, brown, saturated at 4 feet		SAND, Medium to coarse, gray, saturated at 2 feet		SAND, Medium to coarse, gray, saturated at 2 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		4.3	--	30	[2,4,10,11]	2	--	1.1 J	--	1.9	--	1.5 J	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		<0.2 U	--	0.8	--	<0.2 U	--	<0.2 U	--	0.4	--	0.3	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		17	--	11	--	44	--	13	--	28	--	14	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		1,400	[2]	2,400	[2]	210	[2]	2,100	[2]	4,000	[2]	5,600	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		22	--	50	--	3.8	--	7	--	38	--	27	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		260	--	240	--	380	--	510	[2,4,11]	540	[2,4,11]	630	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		0.1	[18,19]	0.1	[18,19]	<0.05 U	--	0.2	[2,18,19]	0.2	[2,18,19]	0.2	[2,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		1.3	[2]	4.5	[2]	0.3	--	2.5	[2]	4.1	[2]	3.5	[2]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		44	--	190	[2]	39	--	60	--	170	[2]	92	[2]
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<570 U	--	<110 U	--	<110 U	--	<110 U	--	<110 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<570 U	--	<110 U	--	<110 U	--	<2700 U	--	<110 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<570 U	--	<110 U	--	<110 U	--	<2700 U	--	<110 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<570 U	--	<110 U	--	<110 U	--	<2700 U	--	<110 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		2,300	--	1,900	--	<550 U	--	<570 U	--	<550 U	--	<530 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<220 U	--	<230 U	--	<220 U	--	<230 U	--	<220 U	--	<210 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<220 U	--	<230 U	--	<220 U	--	<230 U	--	<220 U	--	<210 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<220 U	--	<230 U	--	<220 U	--	<230 U	--	<220 U	--	<210 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		<220 U	--	220 J	--	<220 U	--	<230 U	--	390	--	<210 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<430 U	--	<450 U	--	<440 U	--	<450 U	--	<440 U	--	<430 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		<430 U	--	<450 U	--	<440 U	--	<450 U	--	620	--	<430 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<430 U	--	<450 U	--	<440 UJ	--	<450 UJ	--	<440 UJ	--	<430 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<430 U	--	<450 U	--	<440 U	--	<450 U	--	<440 U	--	<430 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		<220 U	--	340	--	<220 U	--	<230 U	--	480	--	<210 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<430 U	--	<450 U	--	<440 U	--	<450 U	--	<440 U	--	<430 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		210 J	--	490	--	<220 U	--	<230 U	--	720	--	<210 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G											
Station Name																			QMCP-SB24				QMCP-SB25				QMCP-SB26		QMCP-SB27	
Field Sample ID																			QMCP-SB 24 0in-6in		QMCP-SB 24 6in-4ft		QMCP-SB-25 0-6in		QMCP-SB-25 6in-4ft		QMCP-SB-26 0-2ft		QMCP-SB-27 0-2ft	
Sample Date																			9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 2 ft		0 - 2 ft	
Sample Description																			SAND, Fine to medium, brown, saturated at 4 feet		SAND, Fine to medium, brown, saturated at 4 feet		SAND and GRAVEL, Medium, brown		SAND, Fine to medium, brown, saturated at 4 feet		SAND, Medium to coarse, gray, saturated at 2 feet		SAND, Medium to coarse, gray, saturated at 2 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<230 U	--	<220 U	--	<230 U	--	<220 U	--	<210 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<430 U	--	<450 U	--	<440 U	--	<450 U	--	<440 U	--	<430 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	1,900	[2]	1,500	[2]	<220 U	--	<230 U	--	<220 U	--	<210 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	820	--	1,000	--	<220 U	--	<230 U	--	390	--	<210 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	220	--	370	--	<220 U	--	<230 U	--	730	--	<210 U	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<57 U	--	<62 U	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<57 U	--	<62 U	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	120	--	140	--	<60 U	--	<63 U	--	<61 U	--	78	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	250	[18]	350	[18]	<60 U	--	<63 U	--	<61 U	--	120	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<57 U	--	73	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<310 U	--	<300 U	--	<320 U	--	<310 U	--	<290 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<290 UJ	--	<310 UJ	--	<300 U	--	<320 U	--	<310 U	--	<290 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	650	--	790	--	<300 U	--	<320 U	--	<310 U	--	350	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 UJ	--	<1200 UJ	--	<1200 U	--	<1300 U	--	<1200 U	--	<1200 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<57 U	--	120	[4,11,18,19]	<60 U	--	<63 U	--	<61 U	--	<58 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	380	--	<300 U	--	<320 U	--	<310 U	--	<290 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	71	[18]	130	[18,19]	<60 U	--	<63 U	--	<61 U	--	<58 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	59	[18]	120	[18,19]	<60 U	--	<63 U	--	<61 U	--	66	[18]
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	92	--	81	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	390	--	690	--	<120 U	--	<130 U	--	<120 U	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<110 U	--	<120 U	--	<120 U	--	<130 U	--	<120 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	580	--	820	[2]	<300 U	--	<320 U	--	<310 U	--	<290 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<57 U	--	<62 U	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	84	--	98	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	--	530	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<57 U	--	<62 U	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<57 U	--	<62 U	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<57 U	--	<62 U	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<57 U	--	<62 U	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	260	--	620	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<57 U	--	<62 U	--	<60 U	--	<63 U	--	<61 U	--	<58 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	760	[18]	1,220	[2,18,19]	ND	--	ND	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G											
Station Name																			QMCP-SB28		QMCP-SB29		QMCP-SB65				QMCP-SB66			
Field Sample ID																			QMCP-SB-28 0-2ft		QMCP-SB-29 0-2ft		QMCP-SB 65 0in-6in		QMCP-SB 65 6in-4ft		QMCP-SB 66 0in-6in		QMCP-SB 66 6in-4ft	
Sample Date																			9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)																			0 - 2 ft		0 - 2 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																			SAND, Medium to coarse, gray, saturated at 2 feet		SAND, Medium to coarse, gray, saturated at 2 feet		SAND, Fine to medium, brown, saturated at 4 feet		SAND, Fine to medium, brown, saturated at 4 feet		SAND, Fine to medium, brown, saturated at 4 feet		SAND, Fine to medium, brown, saturated at 4 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	12	[2,4,10,11]	0.9 J	--	2.2	--	1.8	--	1.6	--	1.8	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	0.3	--	<0.2 U	--	0.2	--	<0.2 U	--	<0.2 U	--	0.3	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	59	--	14	--	26	--	27	--	18	--	19	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	1,300	[2]	3,200	[2]	590	[2]	1,000	[2]	180	[2]	510	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	36	--	8.1	--	44	--	25	--	22	--	53	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	560	[2,4,11]	590	[2,4,11]	270	--	380	--	260	--	310	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.1	[18,19]	0.2	[2,18,19]	<0.05 U	--	0.09	[18,19]	<0.05 U	--	0.1	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	1.8	[2]	4.2	[2]	0.8	--	1.7	[2]	0.2	--	0.6	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	71	[2]	86	[2]	110	[2]	88	[2]	48	--	72	[2]
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<110 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<110 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<110 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<110 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<550 U	--	<560 U	--	<530 U	--	<560 U	--	<530 U	--	<550 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<220 U	--	<230 U	--	<210 U	--	<220 U	--	<210 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<220 U	--	<230 U	--	<210 U	--	<220 U	--	<210 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<220 U	--	<230 U	--	<210 U	--	<220 U	--	<210 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	520	--	<230 U	--	<210 U	--	450	--	<210 U	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<440 U	--	<450 U	--	<430 U	--	430 J	--	<420 U	--	<440 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	680	--	<450 U	--	<430 U	--	680	--	<420 U	--	<440 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<440 UJ	--	<450 UJ	--	<430 U	--	<440 U	--	<420 U	--	<440 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<440 U	--	<450 U	--	<430 U	--	<440 U	--	<420 U	--	<440 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	540	--	<230 U	--	<210 U	--	430	--	<210 U	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<440 U	--	<450 U	--	<430 U	--	<440 U	--	<420 U	--	<440 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	1,400	--	<230 U	--	<210 U	--	1,000	--	<210 U	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G									
Station Name																				QMCP-SB28		QMCP-SB29		QMCP-SB65				QMCP-SB66			
Field Sample ID																				QMCP-SB-28 0-2ft		QMCP-SB-29 0-2ft		QMCP-SB 65 0in-6in		QMCP-SB 65 6in-4ft		QMCP-SB 66 0in-6in		QMCP-SB 66 6in-4ft	
Sample Date																				9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)																				0 - 2 ft		0 - 2 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																				SAND, Medium to coarse, gray, saturated at 2 feet		SAND, Medium to coarse, gray, saturated at 2 feet		SAND, Fine to medium, brown, saturated at 4 feet		SAND, Fine to medium, brown, saturated at 4 feet		SAND, Fine to medium, brown, saturated at 4 feet		SAND, Fine to medium, brown, saturated at 4 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<230 U	--	<210 U	--	<220 U	--	<210 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<440 U	--	<450 U	--	<430 U	--	<440 U	--	<420 U	--	<440 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<220 U	--	<230 U	--	<210 U	--	<220 U	--	<210 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	1,500	--	<230 U	--	<210 U	--	530	--	<210 U	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	930	--	<230 U	--	<210 U	--	790	--	<210 U	--	<220 U	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<320 U	--	<330 U	--	<320 U	--	<280 U	--	<300 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<290 U	--	<320 U	--	<330 UJ	--	<320 UJ	--	<280 UJ	--	<300 UJ	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<290 U	--	<320 U	--	<330 U	--	<320 U	--	<280 U	--	<300 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1200 U	--	<1300 U	--	<1300 UJ	--	<1300 UJ	--	<1100 UJ	--	<1200 UJ	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<320 U	--	<330 U	--	<320 U	--	<280 U	--	<300 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<120 U	--	<130 U	--	<130 U	--	<130 U	--	<110 U	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	130	[4,11]	<130 U	--	<130 U	--	<130 U	--	<110 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<290 U	--	<320 U	--	<330 U	--	<320 U	--	<280 U	--	<300 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<58 U	--	<64 U	--	<66 U	--	<64 U	--	<56 U	--	<59 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G											
Station Name																				QMCP-SS10		QMCP-SS11		QMCP-SS12		QMCP-SS13		QMCP-SS13		QMCP-SS14	
Field Sample ID																				QMCP-SS-10-0-6in		QMCP-SS-11-0-6in		QMCP-SS-12-0-6in		QMCP-SS-13-0-6in		QMCP-SS13-0-6in		QMCP-SS-14-0-6in	
Sample Date																				9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																				Black medium to coarse stamp SAND, darkened, sligh		Dark brown medium SAND, darker staining, slight od		Dark fine to medium stamp SAND, oil near equipment		Dark fine to medium stamp SAND		Dark fine to medium stamp SAND		Grey medium to coarse stamp SAND, petrol odor unde	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		2.9	--	12	[2,4,10,11]	0.9	--	0.8 J	--	NM	--	4.5	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		39	--	480	[2]	13	--	8.7	--	NM	--	12	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		0.4	--	4.9	[2]	0.3	--	<0.2 U	--	NM	--	0.2	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		13	--	35	--	17	--	12	--	NM	--	41	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		1,400	[2]	1,800	[2]	2,000	[2]	3,800	[2]	NM	--	640	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		96	--	1,700	[4,10,11,17]	11	--	6.2	--	NM	--	6.2	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		370	--	560	[2,4,11]	590	[2,4,11]	510	[2,4,11]	NM	--	460	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		0.1	[18,19]	18	[2,4,11,18,19]	0.1 J	[18,19]	0.2	[2,18,19]	NM	--	<0.05 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--	<0.2 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		40	[2,4,11]	2.9	[2]	2.1	[2]	2.6	[2]	NM	--	0.7	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		140	[2]	2,100	[2]	150	[2]	64	[2]	NM	--	90	[2]
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<0.11 U	--	<0.14 U	--	<0.11 U	--	<0.11 U	--	NM	--	<0.11 U	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<140 U	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<170 U	--	<140 U	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<270 U	--	<140 U	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<270 U	--	<140 U	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		ND	--	ND	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	0.25 <	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	0.25	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		890	--	4,600	[2]	<540 U	--	<540 U	--	NM	--	<540 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<220 U	--	<1400 U	--	<220 U	--	<210 U	--	NM	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<220 U	--	<1400 U	--	<220 U	--	<210 U	--	NM	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<220 U	--	<1400 U	--	<220 U	--	<210 U	--	NM	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		230	--	<1400 U	--	<220 U	--	<210 U	--	NM	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<440 U	--	<2800 U	--	<4300 U	--	<430 U	--	NM	--	<4400 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		460	--	<2800 U	--	<4300 U	--	<430 U	--	NM	--	<4400 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<440 U	--	<2800 U	--	<4300 U	--	<430 U	--	NM	--	<4400 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<440 U	--	<2800 U	--	<4300 U	--	<430 U	--	NM	--	<4400 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		340	--	1,600	--	<220 U	--	<210 U	--	NM	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<440 U	--	<2800 U	--	<4300 U	--	<430 U	--	NM	--	<4400 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		400	--	<1400 U	--	<220 U	--	<210 U	--	NM	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G											
Station Name																			QMCP-SS10		QMCP-SS11		QMCP-SS12		QMCP-SS13		QMCP-SS13		QMCP-SS14	
Field Sample ID																			QMCP-SS-10-0-6in		QMCP-SS-11-0-6in		QMCP-SS-12-0-6in		QMCP-SS-13-0-6in		QMCP-SS13-0-6in		QMCP-SS-14-0-6in	
Sample Date																			9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			Black medium to coarse stamp SAND, darkened, sligh		Dark brown medium SAND, darker staining, slight od		Dark fine to medium stamp SAND, oil near equipment		Dark fine to medium stamp SAND		Dark fine to medium stamp SAND		Grey medium to coarse stamp SAND, petrol odor unde	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<1400 U	--	<220 U	--	<210 U	--	NM	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<440 U	--	<2800 U	--	<4300 U	--	<430 U	--	NM	--	<4400 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	590	--	2,600	[2]	<220 U	--	<210 U	--	NM	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	700	--	2,800	[2]	<220 U	--	<210 U	--	NM	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	340	--	1,400	--	<220 U	--	<210 U	--	NM	--	<220 U	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	110,000	--	NM	--	310,000	--	NM	--	NM	--	520,000	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	520,000	--	NM	--	7,000,000	--	NM	--	NM	--	21,000,000	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

DRAFT

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G											
Station Name																				QMCP-SS15				QMCP-SS52		QMCP-SS61		QMCP-SS62		SS-26	
Field Sample ID																				QMCP-SS-15-0-6in		QMCP-SS15-0-6in		QMCP-SS52-0-3in		QMCP-SS61-0-3in		QMCP-SS62-0-3in		SS 26	
Sample Date																				9/5/2018		9/5/2018		9/28/2018		9/28/2018		9/28/2018		6/5/2002	
Sample Interval (bgs)																				0 - 0.5 ft		0 - 0.5 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 4 in 0 - 12 in	
Sample Description																				Dark black stamp SAND		Dark black stamp SAND		Stained soil, hydraulic oil		Bank sediment with sheen		Bank sediment with sheen		0-3½" - Moist, dark brown, medium sand with some fine gravel and some stamp sand. 3½-4" - Medium to light brown, moist, medium sand.	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	5,360	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	<0.81 UJ	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		1.0 J	--	NM	--	NM	--	NM	--	NM	--	18.2	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		17	--	NM	--	NM	--	NM	--	NM	--	23	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	0.1	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		5.8	[2]	NM	--	NM	--	NM	--	NM	--	0.13	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	3,320	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		9.7	--	NM	--	NM	--	NM	--	NM	--	11.6	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	7.8	[2,4,11]
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		1,200	[2]	NM	--	NM	--	NM	--	NM	--	756 J	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	10,600	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		20	--	NM	--	NM	--	NM	--	NM	--	21 J	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	3,590	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		260	--	NM	--	NM	--	NM	--	NM	--	192	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		0.06	[18,19]	NM	--	NM	--	NM	--	NM	--	<0.05 UJ	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	15.7	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	279 J	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		<0.2 U	--	NM	--	NM	--	NM	--	NM	--	0.77 J	[2]
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		1.4	[2]	NM	--	NM	--	NM	--	NM	--	<0.23 U	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	573 J	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	19.9	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		84	[2]	NM	--	NM	--	NM	--	NM	--	40.8 J	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<0.12 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	<0.04 UJ	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	<110 U	--	<170 U	--	<4500 U	--	<35 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	<110 U	--	<170 U	--	<4500 U	--	<35 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	<110 U	--	<170 U	--	<4500 U	--	<35 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	<110 U	--	<170 U	--	<4500 U	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		NM	--	NM	--	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		<590 U	--	NM	--	<2800 U	--	<860 U	--	<910 U	--	510 J	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<230 U	--	NM	--	<1100 U	--	<350 U	--	<360 U	--	<1700 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<230 U	--	NM	--	<1100 U	--	<350 U	--	570	--	<1700 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<230 U	--	NM	--	<1100 U	--	<350 U	--	750	--	<1700 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		<230 U	--	NM	--	<1100 U	--	700	--	3,900	--	<1700 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<4700 U	--	NM	--	<23000 U	--	700	--	<7300 U	--	<1700 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		<4700 U	--	NM	--	<23000 U	--	1,400	--	<7300 U	--	<1700 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<4700 U	--	NM	--	<23000 U	--	<690 U	--	<7300 U	--	<1700 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<4700 U	--	NM	--	<23000 U	--	<690 U	--	<7300 U	--	<1700 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		<230 U	--	NM	--	<1100 U	--	680	--	3,600	--	<1700 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<4700 U	--	NM	--	<23000 U	--	<690 U	--	<7300 U	--	<1700 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		<230 U	--	NM	--	<1100 U	--	1,500	--	8,100	[2]	<1700 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G											
Station Name																				QMCP-SS15				QMCP-SS52		QMCP-SS61		QMCP-SS62		SS-26	
Field Sample ID																				QMCP-SS-15-0-6in		QMCP-SS15-0-6in		QMCP-SS52-0-3in		QMCP-SS61-0-3in		QMCP-SS62-0-3in		SS 26	
Sample Date																				9/5/2018		9/5/2018		9/28/2018		9/28/2018		9/28/2018		6/5/2002	
Sample Interval (bgs)																				0 - 0.5 ft		0 - 0.5 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 4 in 0 - 12 in	
Sample Description																				Dark black stamp SAND		Dark black stamp SAND		Stained soil, hydraulic oil		Bank sediment with sheen		Bank sediment with sheen		0-3½" - Moist, dark brown, medium sand with some fine gravel and some stamp sand. 3½-4" - Medium to light brown, moist, medium sand.	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<230 U	--	NM	--	<1100 U	--	<350 U	--	<360 U	--	<1700 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<4700 U	--	NM	--	<23000 U	--	<690 U	--	<7300 U	--	<1700 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<230 U	--	NM	--	<1100 U	--	<350 U	--	560	--	340 J	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<230 U	--	NM	--	<1100 U	--	760	--	2,900	[2]	300 J	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<230 U	--	NM	--	<1100 U	--	1,400	--	8,000	--	<1700 U	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	130	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<420 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<720 U	--	<1000 U	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	<720 U	--	<1000 U	--	<420 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	<720 U	--	<1000 U	--	650	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	<2900 U	--	<4000 U	--	<1700 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<720 U	--	<1000 U	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<290 U	--	<400 U	--	170	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	<290 U	--	<400 U	--	<420 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	<720 U	--	<1000 U	--	<420 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	150	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<85 U	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	<140 U	--	280 J	--	120	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	<140 U	--	<200 U	--	<85 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	ND	--	ND	--	320	[18]
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<3.5 U	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<3.5 U	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<1.8 U	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<1.8 U	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<1.8 U	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<1.8 U	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<3.5 U	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<3.5 U	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<3.5 U	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<1.8 U	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<1.8 U	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<1.8 U	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<18 U	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290000 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,100,000	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G		Area H							
Station Name																				SS-27		GP-1		GP-2		GP-3			
Field Sample ID																				SS 27		GP-1 (7ft)		GP-2 (4ft)		GP-3 (2ft)		GP-3 (3ft)	
Sample Date																				6/5/2002		6/13/2012		6/13/2012		6/13/2012		6/13/2012	
Sample Interval (bgs)																				0 - 4 in 0 - 12 in		7 - 7 ft		4 - 4 ft		2 - 2 ft		3 - 3 ft	
Sample Description																				0-½ - Slightly moist, top crusted with tan, medium to fine sand with some fine gravel. ½-4" - Slightly moist, dark brown, , medium sand with some coarse sand and fine gravel		--		--		--		--	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																													
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		9,490	[4,11]	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		1.6 J	[2]	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		3.5	--	3.7	--	<0.1 U	--	0.53	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		20.8	--	58	--	6	--	12	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		<0.07 U	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		0.19	--	0.74	--	<0.2 U	--	<0.2 U	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		11,100	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		12.4	--	37	--	18	--	13	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		20.5	[2,4,11]	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		2,370 J	[2]	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		17,200	[4,11]	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		39.7 J	--	100	--	8.7	--	1.2	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		9,580	[4]	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		463	[2,4,11]	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		0.14 J	[2,18,19]	0.31	[2,18,19]	0.36	[2,18,19]	<0.05 U	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		18.3	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		209 J	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		0.81 J	[2]	1.6	[2]	0.92	[2]	0.41	[2]	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		1.3 J	[2]	2.8	[2]	3.1	[2]	<0.1 U	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		640 J	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		46	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		72.4 J	[2]	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																													
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		<0.04 UJ	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																													
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<35 U	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<35 U	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<35 U	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		ND	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																													
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																													
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		1,400 J	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	NLV	7.00E+06	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		410 J	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		<3500 U	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area G		Area H							
Station Name																				SS-27		GP-1		GP-2		GP-3			
Field Sample ID																				SS 27		GP-1 (7ft)		GP-2 (4ft)		GP-3 (2ft)		GP-3 (3ft)	
Sample Date																				6/5/2002		6/13/2012		6/13/2012		6/13/2012		6/13/2012	
Sample Interval (bgs)																				0 - 4 in 0 - 12 in		7 - 7 ft		4 - 4 ft		2 - 2 ft		3 - 3 ft	
Sample Description																				0-½" - Slightly moist, top crusted with tan, medium to fine sand with some fine gravel. ½-4" - Slightly moist, dark brown, , medium sand with some coarse sand and fine gravel		--		--		--		--	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																													
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<3500 U	--	NM	--	NM	--	NM	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<3500 U	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	810 J	[2]	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	800 J	--	NM	--	NM	--	NM	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<3500 U	--	NM	--	NM	--	NM	--	NM	--
Organics - VOCs (ug/kg)																													
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<55 U	--	<100 U	--	<100 U	--	NM	--	<100 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<55 U	--	<50 U	--	<50 U	--	NM	--	<50 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	390	[18]	1,100	[2,18,19]	<100 U	--	NM	--	<100 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	<280 U	--	<10 U	--	<10 U	--	NM	--	<10 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	77	--	330	[18]	<100 U	--	NM	--	<100 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<280 U	--	<750 U	--	<750 U	--	NM	--	<750 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	980	--	1,800	--	<330 U	--	NM	--	<330 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 U	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	61	[18,19]	<50 U	--	<50 U	--	NM	--	<50 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	100	[18,19]	150	[18,19]	<50 U	--	NM	--	<50 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	84	--	<250 U	--	<250 U	--	NM	--	<250 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	610	--	710	--	<100 U	--	NM	--	<100 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<280 U	--	<100 U	--	<100 U	--	NM	--	<100 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	750	[2]	410	--	<330 U	--	NM	--	<330 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<55 U	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	78	--	100	--	<100 U	--	NM	--	<100 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500	--	440	--	<50 U	--	NM	--	<50 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<55 U	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<55 U	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<55 U	--	<50 U	--	<50 U	--	NM	--	<50 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<55 U	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<55 U	--	<50 U	--	<50 U	--	NM	--	<50 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	420	--	390	--	<100 U	--	NM	--	<100 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<55 U	--	<100 U	--	<100 U	--	NM	--	<100 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	1,110	[2]	1,200	[2]	<150 U	--	NM	--	<150 U	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	4.2	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	5.6	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.5 U	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3.5 U	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.2	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	<18 U	--	NM	--	NM	--	NM	--	NM	--
Other																													
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area H						Area I			
Station Name																			GP-4				GP-5		QMCP-SB30			
Field Sample ID																			GP-4 (2ft)		GP-4 (4ft)		GP-5 (2ft)		QMCP-SB-30 0-6in		QMCP-SB-30 6in-7ft	
Sample Date																			6/13/2012		6/13/2012		6/13/2012		9/8/2018		9/8/2018	
Sample Interval (bgs)																			2 - 2 ft		4 - 4 ft		2 - 2 ft		0 - 0.5 ft		0.5 - 7 ft	
Sample Description																			--		--		--		SAND, Medium to coarse, gray, saturated at 7 feet		SAND, Medium to coarse, gray, saturated at 7 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	0.54	--	NM	--	0.47	--	50	[2,4,10,11,17]	8.4	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	6	--	NM	--	9.6	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	NM	--	<0.2 U	--	61	[2,4,11]	17	[2,4,11]
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	18	--	NM	--	19	--	140	--	46	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	12,000	[2,4,11]	1,100	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	9.5	--	NM	--	9.4	--	18,000	[2,4,10,11,17]	1,700	[4,10,11,17]
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	1,100	[2,4,11]	470	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.26	[2,18,19]	NM	--	0.23	[2,18,19]	520	[2,4,5,6,7,8,10,11,12,13,14,15,18,19]	13	[2,4,11,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	0.9	[2]	NM	--	1.1	[2]	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	1.9	[2]	NM	--	3.2	[2]	4.3	[2]	0.9	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	33,000	[2,4,11]	4,600	[2,4]
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1300 U	--	<130 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1900 U	--	<210 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<2500 U	--	250	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<2500 U	--	<260 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	ND	--	250 J	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	<2900 U	--	<550 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	<1200 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	NM	--	NM	--	NM	--	<1200 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	NM	--	NM	--	NM	--	<1200 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	3,600	--	680	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	4,600	[10]	790	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	8,900	--	2,100	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	NM	--	NM	--	NM	--	2,400 J	--	<440 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	NM	--	NM	--	NM	--	2,600	--	590	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	NM	--	NM	--	NM	--	4,900	--	1,100	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	<2400 U	--	<440 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	7,600	[2]	1,700	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area H						Area I			
Station Name																			GP-4				GP-5		QMCP-SB30			
Field Sample ID																			GP-4 (2ft)		GP-4 (4ft)		GP-5 (2ft)		QMCP-SB-30 0-6in		QMCP-SB-30 6in-7ft	
Sample Date																			6/13/2012		6/13/2012		6/13/2012		9/8/2018		9/8/2018	
Sample Interval (bgs)																			2 - 2 ft		4 - 4 ft		2 - 2 ft		0 - 0.5 ft		0.5 - 7 ft	
Sample Description																			--		--		--		SAND, Medium to coarse, gray, saturated at 7 feet		SAND, Medium to coarse, gray, saturated at 7 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	NM	--	NM	--	NM	--	<1200 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	<2400 U	--	<440 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	<1200 U	--	400	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	NM	--	NM	--	NM	--	4,300	[2]	2,000	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	NM	--	NM	--	NM	--	7,400	--	1,800	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	<100 U	--	<100 U	--	<72 U	--	<59 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	<50 U	--	<50 U	--	<72 U	--	<59 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	<72 U	--	<59 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	<100 U	--	<100 U	--	<72 U	--	<59 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	<10 U	--	<10 U	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	<100 U	--	<100 U	--	<72 U	--	<59 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<360 U	--	<300 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	<750 U	--	<750 U	--	<360 U	--	<300 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	<330 U	--	<330 U	--	<360 U	--	<300 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	<1400 U	--	<1200 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	<50 U	--	<50 U	--	<72 U	--	<59 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<360 U	--	<300 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	<50 U	--	<50 U	--	<72 U	--	<59 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	<72 U	--	<59 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	<250 U	--	<250 U	--	<72 U	--	<59 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<100 U	--	<100 U	--	<140 U	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	<100 U	--	<100 U	--	<140 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	<330 U	--	<330 U	--	<360 U	--	<300 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<72 U	--	<59 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	<100 U	--	<100 U	--	<72 U	--	<59 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<50 U	--	<50 U	--	<72 U	--	<59 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<72 U	--	<59 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	<50 U	--	<50 U	--	<72 U	--	<59 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	<72 U	--	<59 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	<50 U	--	<50 U	--	<72 U	--	<59 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	<100 U	--	<100 U	--	<72 U	--	<59 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	<100 U	--	<100 U	--	<72 U	--	<59 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	<150 U	--	<150 U	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

DRAFT

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I									
Station Name																			QMCP-SB31				QMCP-SB32				QMCP-SB33			
Field Sample ID																			QMCP-SB-31 0-6in		QMCP-SB-31 6in-4ft		QMCP-SB32 0-6in		QMCP-SB32 6in-4ft		QMCP-SB33 0-6in		QMCP-SB33 6in-4ft	
Sample Date																			9/8/2018		9/8/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																			SAND, Medium to coarse, gray, saturated at 4 feet		SAND, Medium to coarse, gray, saturated at 4 feet		SAND, Medium to coarse, gray, saturated at 4.5 fee		SAND, Medium to coarse, gray, saturated at 4.5 fee		SAND, Medium to coarse, gray, saturated at 4 feet		SAND, Medium to coarse, gray, saturated at 4 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	14	[2,4,10,11]	2.3	--	NM	--	5.9	[2,4,11]	3.2	--	1.7	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	2.1	[2]	0.3	--	NM	--	0.2	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	15	--	17	--	NM	--	14	--	36	--	15	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	540	[2]	600 J	[2]	NM	--	510	[2]	790	[2]	240	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	530	[10]	13	--	NM	--	79	--	27	--	4.6	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	360	--	310	--	NM	--	340	--	380	--	310	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.9	[2,18,19]	0.07	[18,19]	NM	--	0.09	[18,19]	0.08	[18,19]	<0.05 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	0.6	--	0.3	--	NM	--	1	--	0.7	--	0.3	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	750	[2]	99	[2]	33	--	95	[2]	61	--	34	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	<1100 U	--	NM	--	<110 U	--	<550 U	--	<540 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	<1600 U	--	NM	--	<110 U	--	<550 U	--	<540 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,500	--	3,600	--	NM	--	<110 U	--	<550 U	--	<540 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1100 U	--	<3700 U	--	NM	--	<110 U	--	<550 U	--	<540 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	3,500 J	[10,17]	3,600 J	[10,17]	NM	--	ND	--	ND	--	ND	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	660	--	<540 U	--	NM	--	<540 U	--	<550 U	--	<540 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<220 U	--	<210 U	--	NM	--	<220 U	--	<220 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<220 U	--	<210 U	--	<220 U	--	<220 U	--	620 J	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	310	--	<210 U	--	<220 U	--	<220 U	--	1,400 J	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	2,200	--	<210 U	--	<220 U	--	<220 U	--	10,000 J	--	700	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	2,500	[10]	<430 U	--	NM	--	<430 U	--	13,000 J	[10,17]	670	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	5,300	--	<430 U	--	<430 U	--	<430 U	--	20,000 J	--	1,300	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	1,000 J	--	<430 UJ	--	NM	--	<430 U	--	6,900 J	--	<430 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	1,600	--	<430 U	--	<430 U	--	<430 U	--	7,400 J	--	<430 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	2,300	--	<210 U	--	<220 U	--	220	--	9,300 J	--	710	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<430 U	--	<430 U	--	<430 U	--	<430 U	--	<4400 UJ	--	<430 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	3,800	--	<210 U	--	NM	--	380	--	22,000 J	[2]	1,500	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I											
Station Name																			QMCP-SB31				QMCP-SB32				QMCP-SB33			
Field Sample ID																			QMCP-SB-31 0-6in		QMCP-SB-31 6in-4ft		QMCP-SB32 0-6in		QMCP-SB32 6in-4ft		QMCP-SB33 0-6in		QMCP-SB33 6in-4ft	
Sample Date																			9/8/2018		9/8/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																			SAND, Medium to coarse, gray, saturated at 4 feet		SAND, Medium to coarse, gray, saturated at 4 feet		SAND, Medium to coarse, gray, saturated at 4.5 fee		SAND, Medium to coarse, gray, saturated at 4.5 fee		SAND, Medium to coarse, gray, saturated at 4 feet		SAND, Medium to coarse, gray, saturated at 4 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<210 U	--	NM	--	<220 U	--	<220 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	1,100	--	<430 U	--	<430 U	--	<430 U	--	7,000 J	--	<430 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	3.50E+05	5.20E+07	NA	NA	390	--	<210 U	--	NM	--	<220 U	--	<220 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	1,900	--	<210 U	--	NM	--	320	--	4,400 J	[2]	700	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	3,300	--	<210 U	--	<220 U	--	350	--	18,000 J	--	1,800	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<65 U	--	<56 U	--	<59 UJ	--	<57 U	--	<63 U	--	<60 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<320 U	--	<280 U	--	NM	--	<290 U	--	<320 U	--	<300 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<320 U	--	<280 U	--	NM	--	<290 U	--	<320 U	--	<300 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<320 U	--	<280 U	--	NM	--	<290 U	--	<320 U	--	<300 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1300 U	--	<1100 U	--	NM	--	<1100 U	--	<1300 U	--	<1200 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<320 U	--	<280 U	--	NM	--	<290 U	--	<320 U	--	<300 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<65 U	--	<56 U	--	NM	--	56 J	[18]	<63 U	--	<60 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<130 U	--	<110 U	--	NM	--	<110 U	--	<130 U	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<130 U	--	<110 U	--	NM	--	<110 U	--	<130 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<320 U	--	<280 U	--	NM	--	<290 U	--	<320 U	--	<300 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<65 U	--	<56 U	--	<59 UJ	--	<57 U	--	<63 U	--	<60 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<65 U	--	<56 U	--	<59 UJ	--	<57 U	--	<63 U	--	<60 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<65 U	--	<56 U	--	<59 UJ	--	<57 U	--	<63 U	--	<60 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<65 U	--	<56 U	--	<59 UJ	--	<57 U	--	<63 U	--	<60 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<65 U	--	<56 U	--	NM	--	<57 U	--	<63 U	--	<60 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	67	--	<56 U	--	NM	--	120	--	<63 U	--	<60 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<65 U	--	<56 U	--	<59 UJ	--	<57 U	--	<63 U	--	<60 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	ND	--	NM	--	ND	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I									
Station Name																				QMCP-SB34				QMCP-SB35					
Field Sample ID																				QMCP-SB34 0-6in		QMCP-SB34 6in-4ft		QMCP-SB35 0-6in		QMCP-SB35 6in-6ft		QMCP-SB35 6in-6ft DUP	
Sample Date																				9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 6 ft		0.5 - 6 ft	
Sample Description																				TOPSOIL		CLAY, Brown to 1 ft; SAND, Medium to coarse, gray,		SAND, Medium to coarse, gray with wood debris		SAND, Medium to coarse, gray, saturated at 6 feet		SAND, Medium to coarse, gray, saturated at 6 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																													
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		2	--	1.4	--	1.5	--	<0.5 U	--	<0.5 U	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		<0.2 U	--	0.3	--	0.4	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		20	--	21	--	20	--	<20 U	--	<20 U	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		180	[2]	300	[2]	120	[2]	2,200	[2]	3,200	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		15	--	26	--	29	--	12	--	15	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		230	--	260	--	370	--	640	[2,4,11]	650	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		<0.06 U	--	<0.06 U	--	0.07	[18,19]	0.2	[2,18,19]	0.2	[2,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		0.2	--	0.2	--	0.2	--	2.9	[2]	3.4	[2]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		120	[2]	140	[2]	70	[2]	73	[2]	68	[2]
Inorganics - Cyanide (mg/kg)																													
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																													
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<110 U	--	<120 U	--	<110 U	--	<110 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<110 U	--	<120 U	--	<110 U	--	<110 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<110 U	--	<120 U	--	<110 U	--	<110 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<110 U	--	<110 U	--	<120 U	--	<110 U	--	<110 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		ND	--	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																													
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																													
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		<550 U	--	<570 U	--	<590 U	--	<540 U	--	<550 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<220 U	--	<230 U	--	<240 U	--	<220 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<220 U	--	<230 U	--	<240 U	--	<220 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<220 U	--	<230 U	--	<240 U	--	<220 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		<220 U	--	<230 U	--	300	--	<220 U	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		<440 U	--	<450 U	--	<470 U	--	<430 U	--	<440 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		<440 U	--	<450 U	--	450 J	--	<430 U	--	<440 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<440 U	--	<450 U	--	<470 U	--	<430 U	--	<440 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<440 U	--	<450 U	--	<470 U	--	<430 U	--	<440 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		<220 U	--	<230 U	--	310	--	<220 U	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<440 U	--	<450 U	--	<470 U	--	<430 U	--	<440 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		<220 U	--	<230 U	--	630	--	<220 U	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I									
Station Name																			QMCP-SB34				QMCP-SB35				
Field Sample ID																			QMCP-SB34 0-6in		QMCP-SB34 6in-4ft		QMCP-SB35 0-6in		QMCP-SB35 6in-6ft		QMCP-SB35 6in-6ft DUP	
Sample Date																			9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 6 ft		0.5 - 6 ft	
Sample Description																			TOPSOIL		CLAY, Brown to 1 ft; SAND, Medium to coarse, gray,		SAND, Medium to coarse, gray with wood debris		SAND, Medium to coarse, gray, saturated at 6 feet		SAND, Medium to coarse, gray, saturated at 6 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<230 U	--	<240 U	--	<220 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<440 U	--	<450 U	--	<470 U	--	<430 U	--	<440 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<220 U	--	<230 U	--	<240 U	--	<220 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<220 U	--	<230 U	--	290	--	<220 U	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<220 U	--	<230 U	--	590	--	<220 U	--	<220 U	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<340 U	--	<320 U	--	<350 U	--	<300 U	--	<290 UJ	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<340 U	--	<320 U	--	<350 U	--	<300 U	--	<290 UJ	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<340 U	--	<320 U	--	<350 U	--	<300 U	--	<290 UJ	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1300 U	--	<1300 U	--	<1400 U	--	<1200 U	--	<1200 UJ	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<340 U	--	<320 U	--	<350 U	--	<300 U	--	<290 UJ	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<130 U	--	<130 U	--	<140 U	--	<120 U	--	<120 UJ	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<130 U	--	<130 U	--	<140 U	--	<120 U	--	<120 UJ	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<340 U	--	<320 U	--	<350 U	--	<300 U	--	<290 UJ	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<67 U	--	<64 U	--	<69 U	--	<60 U	--	<58 UJ	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	ND	--	ND	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I									
Station Name																			QMCP-SB36				QMCP-SS16		QMCP-SS17		QMCP-SS18	
Field Sample ID																			QMCP-SB36 6in		QMCP-SB36 6in-4ft		QMCP-SS-16-0-6in		QMCP-SS-17-0-6in		QMCP-SS-18-0-6in	
Sample Date																			9/9/2018		9/9/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			SAND, Medium to coarse, gray with wood debris, sat		SAND, Medium to coarse, gray with wood debris, sat		Dark brown fine SAND		Brown fine SAND, black staining		Brown fine SAND, organics	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	2.9	--	3.1	--	40	[2,4,10,11,17]	1.6	--	2.9	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	68	--	9.2	--	44	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	0.5	--	0.8	--	1.5	--	0.6	--	0.2	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	20	--	32	--	45	--	19	--	24	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	570	[2]	250	[2]	10,000	[2,4,11]	81	[2]	330	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	43	--	200	--	240	--	51	--	32	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	340	--	340	--	720	[2,4,11]	95	--	230	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.1	[18,19]	0.2	[2,18,19]	0.3	[2,18,19]	<0.05 U	--	<0.06 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	2.8	[2]	<0.2 U	--	<0.2 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	0.3	--	0.3	--	6.4	[2,4]	<0.1 U	--	0.3	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	95	[2]	180	[2]	510	[2]	77	[2]	36	--
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<0.11 U	--	<0.11 U	--	<0.12 U	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<130 U	--	<130 U	--	<110 U	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<130 U	--	<130 U	--	<110 U	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<130 U	--	<130 U	--	<150 U	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<130 U	--	<130 U	--	<150 U	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	NM	--	NM	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<670 U	--	<3200 U	--	<540 U	--	<540 U	--	<580 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<270 U	--	<1300 U	--	<220 U	--	<220 U	--	<230 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<270 U	--	<1300 U	--	<220 U	--	<220 U	--	<230 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<270 U	--	<1300 U	--	<220 U	--	<220 U	--	<230 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	680	--	<1300 U	--	400	--	<220 U	--	240	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	680	--	<2500 U	--	450	--	<4400 U	--	<470 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	1,100	--	<2500 U	--	1,100	--	<4400 U	--	460 J	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<540 U	--	<2500 U	--	<430 U	--	<4400 U	--	<470 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<540 U	--	<2500 U	--	<430 U	--	<4400 U	--	<470 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	710	--	<1300 U	--	490	--	<220 U	--	270	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<540 U	--	<2500 U	--	<430 U	--	<4400 U	--	<470 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	1,500	--	1,600	--	730	--	<220 U	--	550	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I									
Station Name																				QMCP-SB36				QMCP-SS16		QMCP-SS17		QMCP-SS18	
Field Sample ID																				QMCP-SB36 0-6in		QMCP-SB36 6in-4ft		QMCP-SS-16-0-6in		QMCP-SS-17-0-6in		QMCP-SS-18-0-6in	
Sample Date																				9/9/2018		9/9/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																				SAND, Medium to coarse, gray with wood debris, sat		SAND, Medium to coarse, gray with wood debris, sat		Dark brown fine SAND		Brown fine SAND, black staining		Brown fine SAND, organics	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																													
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<270 U	--	<1300 U	--	<220 U	--	<220 U	--	<230 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<540 U	--	<2500 U	--	<430 U	--	<4400 U	--	<470 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<270 U	--	<1300 U	--	<220 U	--	<220 U	--	<230 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	580	--	<1300 U	--	410	--	<220 U	--	230	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	1,400	--	1,500	--	660	--	<220 U	--	430	--
Organics - VOCs (ug/kg)																													
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460 U	--	<390 U	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<460 U	--	<390 U	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<460 U	--	<390 U	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1800 U	--	<1500 U	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460 U	--	<390 U	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<180 U	--	<150 U	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<180 U	--	<150 U	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<460 U	--	<390 U	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<92 U	--	<77 U	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	ND	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																													
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<540000 U	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	9,900,000	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I											
Station Name																				QMCP-SS19				QMCP-SS20				QMCP-SS21		QMCP-SS35	
Field Sample ID																				QMCP-SS-19-0-6in		QMCP-SS-19-0-6in DUP2		QMCP-SS-20-0-6in		QMCP-SS20-0-6in		QMCP-SS-21-0-6in		QMCP-SS-35-0-6in	
Sample Date																				9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																				Brown fine SAND with gravel, organics, product on		Brown fine SAND with gravel, organics, product on		Brown fine SAND, some dark staining		Brown fine SAND, some dark staining		Dark brown fine SAND		Fine to medium grained grey stamp SAND	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	1.8	--	2.4	--	1.6	--	NM	--	3.4	--	21	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	25	--	35	--	42	--	NM	--	37	--	11	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	0.4	--	0.3	--	0.4	--	NM	--	0.7	--	0.3	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	12	--	16	--	14	--	NM	--	35	--	140	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	150	[2]	190	[2]	87	[2]	NM	--	2,200	[2]	2,500	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	70	--	76	--	61	--	NM	--	190	--	110	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	190	--	220	--	180	--	NM	--	650	[2,4,11]	1,800	[2,4,11,16]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.2	[2,18,19]	0.2	[2,18,19]	<0.06 U	--	NM	--	0.7	[2,18,19]	<0.06 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--	<0.2 U	--	3.3	[2]
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	0.2	--	0.3	--	0.1	--	NM	--	3.4	[2]	1.4	[2]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	290	[2]	200	[2]	120	[2]	NM	--	170	[2]	81	[2]
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.13 U	--	<0.13 U	--	<0.12 U	--	NM	--	<0.11 U	--	<0.11 U	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<120 U	--	NM	--	<110 U	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<120 U	--	NM	--	<110 U	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<120 U	--	NM	--	<110 U	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<120 U	--	NM	--	<110 U	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	ND	--	NM	--	ND	--	NM	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	0.25 <	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<660 U	--	<640 U	--	<580 U	--	NM	--	<550 U	--	<560 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<260 U	--	<260 U	--	<230 U	--	NM	--	<220 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<260 U	--	<260 U	--	<230 U	--	NM	--	<220 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<260 U	--	<260 U	--	<230 U	--	NM	--	<220 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<260 U	--	630	--	<230 U	--	NM	--	<220 U	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<5300 U	--	600	--	<470 U	--	NM	--	<440 U	--	<450 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<5300 U	--	1,100	--	<470 U	--	NM	--	460	--	<450 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<5300 U	--	<510 U	--	<470 U	--	NM	--	<440 U	--	<450 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<5300 U	--	<510 U	--	<470 U	--	NM	--	<440 U	--	<450 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<260 U	--	800	--	<230 U	--	NM	--	240	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<5300 U	--	<510 U	--	<470 U	--	NM	--	<440 U	--	<450 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<260 U	--	1,500	--	340	--	NM	--	400	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I									
Station Name																			QMCP-SS19		QMCP-SS20				QMCP-SS21		QMCP-SS35	
Field Sample ID																			QMCP-SS-19-0-6in		QMCP-SS-19-0-6in DUP2		QMCP-SS-20-0-6in		QMCP-SS20-0-6in		QMCP-SS-21-0-6in		QMCP-SS-35-0-6in	
Sample Date																			9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			Brown fine SAND with gravel, organics, product on		Brown fine SAND with gravel, organics, product on		Brown fine SAND, some dark staining		Brown fine SAND, some dark staining		Dark brown fine SAND		Fine to medium grained grey stamp SAND	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	290 J	--	<260 U	--	<230 U	--	NM	--	<220 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<5300 U	--	<510 U	--	<470 U	--	NM	--	<440 U	--	<450 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<260 U	--	<260 U	--	<230 U	--	NM	--	<220 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	1,800 J	--	620	--	<230 U	--	NM	--	<220 U	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<260 U	--	1,000	--	320	--	NM	--	370	--	<220 U	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77,000	--	2,100,000	--	40,000	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	480,000	--	23,000,000	--	240,000	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I											
Station Name																			QMCP-SS36		QMCP-SS39		QMCP-SS40		QMCP-SS53		QMCP-SS54		QMCP-SS55	
Field Sample ID																			QMCP-SS-36-0-6in		QMCP-SS-39-0-6in		QMCP-SS-40-0-6in		QMCP-SS53-0-3in		QMCP-SS54-0-3in		QMCP-SS55-0-3in	
Sample Date																			9/5/2018		9/5/2018		9/5/2018		9/28/2018		9/28/2018		9/28/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Fine to medium coarse grained grey stamp SAND, org		Brown fine SAND, metal filings		Dark brown SAND, oily sheen on leaf litter and thr		Soil under electrical equipment		Soil under electrical pile		Stained soil, oil odor	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	3.6	--	7.8	[2,4,10,11]	5.7	[2,4,11]	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	47	--	16	--	150	[2]	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	0.2	--	2	[2]	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	34	--	24 J	--	28	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	580	[2]	110	[2]	490	[2]	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	46	--	59	--	480	[10]	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	370	--	540 J	[2,4,11]	250	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.08	[18,19]	<0.06 U	--	0.2	[2,18,19]	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	0.4	--	<0.1 U	--	0.4	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	58	--	34	--	590	[2]	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.11 U	--	<0.11 U	--	<0.12 U	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<120 UJ	--	3,400	--	<570 U	--	<100 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<150 UJ	--	<1300 U	--	<570 U	--	<100 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<380 UJ	--	<830 U	--	<570 U	--	<100 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<380 UJ	--	<830 U	--	<570 U	--	<100 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	3,400 J	[10,17]	ND	--	ND	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<570 U	--	<560 U	--	<3100 U	--	<4100 U	--	670	--	<510 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<230 U	--	<220 U	--	<1200 U	--	<1700 U	--	<230 U	--	<200 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	270	--	<220 U	--	<1200 U	--	<1700 U	--	230	--	<200 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<230 U	--	<220 U	--	<1200 U	--	<1700 U	--	<230 U	--	<200 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	1,900	--	<220 U	--	<1200 U	--	<1700 U	--	540	--	<2000 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	1,900	--	<450 U	--	<24000 U	--	<3300 U	--	560	--	<4100 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	3,400	--	<450 U	--	<24000 U	--	<3300 U	--	1,100	--	<4100 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	1,300	--	<450 U	--	<24000 U	--	<3300 U	--	<460 U	--	<4100 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	940	--	<450 U	--	<24000 U	--	<3300 U	--	<460 U	--	<4100 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	1,800	--	<220 U	--	<1200 U	--	<1700 U	--	580	--	<2000 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<460 U	--	<450 U	--	<24000 U	--	<3300 U	--	<460 U	--	<4100 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	2,200	--	320	--	<1200 U	--	<1700 U	--	990	--	430	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I											
Station Name																			QMCP-SS36		QMCP-SS39		QMCP-SS40		QMCP-SS53		QMCP-SS54		QMCP-SS55	
Field Sample ID																			QMCP-SS-36-0-6in		QMCP-SS-39-0-6in		QMCP-SS-40-0-6in		QMCP-SS53-0-3in		QMCP-SS54-0-3in		QMCP-SS55-0-3in	
Sample Date																			9/5/2018		9/5/2018		9/5/2018		9/28/2018		9/28/2018		9/28/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Fine to medium coarse grained grey stamp SAND, org		Brown fine SAND, metal filings		Dark brown SAND, oily sheen on leaf litter and thr		Soil under electrical equipment		Soil under electrical pile		Stained soil, oil odor	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<230 U	--	<220 U	--	<1200 U	--	<1700 U	--	<230 U	--	<200 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	1,300	--	<450 U	--	<24000 U	--	<3300 U	--	<460 U	--	<4100 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<230 U	--	<220 U	--	<1200 U	--	<1700 U	--	810	[2]	<200 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	340	--	<220 U	--	<1200 U	--	<1700 U	--	770	--	240	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	2,100	--	280	--	<1200 U	--	<1700 U	--	870	--	<2000 U	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<310000 U	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	4,800,000	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I		Area J						Area L			
Station Name																				SS-28		H&Ymarina-19		SS-29		SS-30		QMCP-SB56			
Field Sample ID																				SS 28		H & Y Marina B-19		SS 29		SS 30		QMCP-SB56 0-6in		QMCP-SB56 6in-4ft	
Sample Date																				6/5/2002		9/12/2007		6/5/2002		6/5/2002		9/9/2018		9/9/2018	
Sample Interval (bgs)																				0 - 4 in 0 - 12 in		0 - 0 ft		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																				0-½" - Dry, fine gravel with coarse brown and red sand. ½-4" - Slightly moist, dark brown, medium to coarse sand with fine gravel.		--		0-½" - Root zone, slightly moist with surface dark brown stamp sand. ½-4" - Slightly moist, dark red, medium sand, with pieces of coal and some fine gravel.		0-½" - Dry, dark brown and black medium to coarse sand with about 30% stamp sand. ½-4" - Slightly moist, dark brown, medium sand with coarse stamp sand.		SAND, Fine to medium, brown, saturated at 4.5 feet		SAND, Fine to medium, brown, saturated at 4.5 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	10,700	[4,11]	1,800 J	--	5,560	--	20,200	[4,11]	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	2 J	[2]	NM	--	1.8 J	[2]	<0.8 UJ	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	6	[2,4,11]	30 J	[2,4,10,11]	4.8	[2,4,11]	6.4	[2,4,11]	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	27.1	--	NM	--	23.7	--	10.6	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	0.23	--	<3.4 UJ	--	0.12	--	0.16	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	0.15	--	NM	--	0.19	--	0.12	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,910	--	NM	--	3,070	--	30,000	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	14.7	--	460 J	--	10.9	--	52.5	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	15.6	[2,4,11]	37 J	[2,4,11]	7.7	[2,4,11]	24.3	[2,4,11]	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	875 J	[2]	470 J	[2]	435 J	[2]	1,100 J	[2]	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	22,700	[4,11]	NM	--	15,300	[4,11]	23,700	[4,11]	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	65.4 J	--	440 J	[10]	53.6 J	--	7.2 J	--	4.7	--	1.3	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	0.74	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	8,330	[4]	NM	--	3,250	--	19,700	[4]	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	392	--	5,500	[2,4,9,11,16]	195	--	630	[2,4,11]	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.08 J	[18,19]	0.0099 J	[18,19]	<0.06 UJ	--	<0.05 UJ	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	30.8	[2]	250 J	[2,4,11]	15.4	--	59.4	[2]	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	287 J	--	NM	--	272 J	--	266 J	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	1.1 J	[2]	NM	--	0.64 J	[2]	<0.46 UJ	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	<0.24 U	--	0.38 J	--	<0.27 U	--	<0.23 U	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	707 J	--	NM	--	557 J	--	534 J	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	30.1	--	NM	--	24.9	--	57.4	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	48.7 J	--	83	[2]	38.6 J	--	50.9 J	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	0.05 J	--	NM	--	<0.04 UJ	--	<0.04 UJ	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<360 U	--	<36 U	--	<39 U	--	<36 U	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<360 U	--	<36 U	--	<39 U	--	<36 U	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<360 U	--	<36 U	--	<39 U	--	<36 U	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	11 J	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	11 J	--	ND	--	ND	--	NM	--	NM	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	3,700	--	NM	--	790 J	--	280 J	--	<560 U	--	<550 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	<220 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	<220 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	<220 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	450 J	--	NM	--	<1900 U	--	<1800 U	--	<220 U	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	<450 U	--	<440 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	450 J	--	NM	--	<1900 U	--	<1800 U	--	<450 U	--	<440 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	<450 U	--	<440 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	420 J	--	NM	--	<1900 U	--	<1800 U	--	<450 U	--	<440 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	<3600 U	--	NM	--	<1900 U	--	210 J	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	870 J	--	NM	--	250 J	--	<1800 U	--	<220 U	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	<450 U	--	<440 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	1,000 J	--	NM	--	220 J	--	<1800 U	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	780 J	--	NM	--	280 J	--	210 J	--	<220 U	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area I		Area J						Area L			
Station Name																			SS-28		H&Ymarina-19		SS-29		SS-30		QMCP-SB56	
Field Sample ID																			SS 28		H & Y Marina B-19		SS 29		SS 30		QMCP-SB56 0-6in	QMCP-SB56 6in-4ft
Sample Date																			6/5/2002		9/12/2007		6/5/2002		6/5/2002		9/9/2018	9/9/2018
Sample Interval (bgs)																			0 - 4 in 0 - 12 in		0 - 0 ft		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 0.5 ft	0.5 - 4 ft
Sample Description																			0-½" - Dry, fine gravel with coarse brown and red sand. ½-4" - Slightly moist, dark brown, medium to coarse sand with fine gravel.		--		0-½" - Root zone, slightly moist with surface dark brown stamp sand. ½-4" - Slightly moist, dark red, medium sand, with pieces of coal and some fine gravel.		0-½" - Dry, dark brown and black medium to coarse sand with about 30% stamp sand. ½-4" - Slightly moist, dark brown, medium sand with coarse stamp sand.		SAND, Fine to medium, brown, saturated at 4.5 feet	SAND, Fine to medium, brown, saturated at 4.5 feet
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	<220 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<3600 U	--	NM	--	<1900 U	--	<1800 U	--	<450 U	--	<440 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	2,200 J	[2]	NM	--	490 J	--	230 J	--	<220 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	2,200 J	[2]	NM	--	470 J	--	310 J	--	<220 U	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	690 J	--	NM	--	270 J	--	200 J	--	<220 U	--	<220 U	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<56 U	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<56 U	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	<60 U	--	<59 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	650	[2,18]	NM	--	71	--	240	[18]	<60 U	--	<59 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	<280 U	--	NM	--	<280 U	--	<250 U	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	160	[18]	NM	--	<56 U	--	56	--	<60 U	--	<59 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	<300 U	--	<290 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<280 U	--	NM	--	<280 U	--	<250 U	--	<300 U	--	<290 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	1,900	--	NM	--	340	--	900	--	<300 U	--	<290 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 U	--	NM	--	<1100 U	--	<1000 U	--	<1200 U	--	<1200 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	91	[18,19]	NM	--	<56 U	--	56	[18,19]	<60 U	--	<59 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	<300 U	--	<290 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	170	[18,19]	NM	--	<56 U	--	82	[18]	<60 U	--	<59 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	<60 U	--	<59 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	95	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	--	NM	--	120	--	420	--	<120 U	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<280 U	--	NM	--	<280 U	--	<250 U	--	<120 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	1,400	[2]	NM	--	<280 U	--	820	[2]	<300 U	--	<290 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<56 U	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	110	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	770	--	NM	--	84	--	300	--	<60 U	--	<59 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	--	NM	--	<56 U	--	<50 U	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<56 U	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<56 U	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<56 U	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<56 U	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	720	--	NM	--	88	--	360	--	<60 U	--	<59 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<56 U	--	NM	--	<56 U	--	<50 U	--	<60 U	--	<59 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	1,770	[2,18,19]	NM	--	204	--	720	[18]	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	<36 U	--	NM	--	<3.9 U	--	<3.6 U	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	<36 U	--	NM	--	<3.9 U	--	<3.6 U	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	<18 U	--	NM	--	<2 U	--	<1.8 U	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<18 U	--	NM	--	<2 U	--	<1.8 U	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	<18 U	--	NM	--	<2 U	--	<1.8 U	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	<18 U	--	NM	--	<2 U	--	<1.8 U	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<36 U	--	NM	--	<3.9 U	--	<3.6 U	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<36 U	--	NM	--	<3.9 U	--	<3.6 U	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<36 U	--	NM	--	5.9	--	3.1 J	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<18 U	--	NM	--	<2 U	--	<1.8 U	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	<18 U	--	NM	--	<2 U	--	<1.8 U	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	<18 U	--	NM	--	<2 U	--	<1.8 U	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	<180 U	--	NM	--	<20 U	--	<18 U	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	8.9	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

DRAFT

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area L									
Station Name																			QMCP-SB57		QMCP-SB58				QMCP-SB59			
Field Sample ID																			QMCP-SB57 0-4ft		QMCP-SB58 0-6in		QMCP-SB58 6in-5ft		QMCP-SB59 0-6in		QMCP-SB59 6in-4ft	
Sample Date																			9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018	
Sample Interval (bgs)																			0 - 4 ft		0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																			SAND, Fine to medium, brown, dry		SAND, Fine to medium, brown, dry		SAND, Fine to medium, brown, dry		SAND, Fine to medium, brown, saturated at 4.5 feet		SAND, Fine to medium, brown, saturated at 4.5 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	1.3	--	7.6	--	<1.0 U	--	1.4	--	<1.0 U	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<530 U	--	<520 U	--	<520 U	--	<540 U	--	<540 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<430 U	--	<410 U	--	<420 U	--	<430 U	--	<440 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<430 U	--	<410 U	--	<420 U	--	<430 U	--	<440 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<430 U	--	<410 U	--	<420 U	--	<430 U	--	<440 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<430 U	--	<410 U	--	<420 U	--	<430 U	--	<440 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<430 U	--	<410 U	--	<420 U	--	<430 U	--	<440 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area L									
Station Name																				QMCP-SB57		QMCP-SB58				QMCP-SB59			
Field Sample ID																				QMCP-SB57 0-4ft		QMCP-SB58 0-6in		QMCP-SB58 6in-5ft		QMCP-SB59 0-6in		QMCP-SB59 6in-4ft	
Sample Date																				9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018	
Sample Interval (bgs)																				0 - 4 ft		0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 4 ft	
Sample Description																				SAND, Fine to medium, brown, dry		SAND, Fine to medium, brown, dry		SAND, Fine to medium, brown, dry		SAND, Fine to medium, brown, saturated at 4.5 feet		SAND, Fine to medium, brown, saturated at 4.5 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																													
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<430 U	--	<410 U	--	<420 U	--	<430 U	--	<440 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<210 U	--	<210 U	--	<210 U	--	<220 U	--	<220 U	--
Organics - VOCs (ug/kg)																													
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<280 U	--	<270 U	--	<280 U	--	<310 U	--	<310 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<280 U	--	<270 U	--	<280 U	--	<310 U	--	<310 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<280 U	--	<270 U	--	<280 U	--	<310 U	--	<310 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 U	--	<1100 U	--	<1100 U	--	<1200 U	--	<1200 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<280 U	--	<270 U	--	<280 U	--	<310 U	--	<310 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<55 U	--	<54 U	--	<56 U	--	<61 UJ	--	<61 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<110 U	--	<120 U	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<110 U	--	<110 U	--	<110 U	--	<120 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<280 U	--	<270 U	--	<280 U	--	<310 U	--	<310 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<55 U	--	<54 U	--	<56 U	--	<61 U	--	<61 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	ND	--	ND	--	ND	--	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																													
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area L						Area M			
Station Name																			QMCP-SB60				QMCP-SS56		QMCP-SB37			
Field Sample ID																			QMCP-SB60 0-6in		QMCP-SB60 6in-6ft		QMCP-SS56-0-3in		QMCP-SB37 0-6in		QMCP-SB37 6in-5ft	
Sample Date																			9/9/2018		9/9/2018		9/28/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 6 ft		0 - 0.25 ft		0 - 0.5 ft		0.5 - 5 ft	
Sample Description																			SAND and GRAVEL		SAND, Fine to medium, brown, saturated at 7 feet		Stained soil near fuel tank		SAND, Fine to medium, brown, saturated at 5 feet		SAND, Fine to medium, brown, saturated at 5 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	NM	--	NM	--	NM	--	3.6	--	38	[2,4,10,11,17]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	18	--	27	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	270	[2]	1,600	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	16	--	27	--	NM	--	2.7	--	8.7	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	180	--	350	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	NM	--	NM	--	NM	--	<0.05 U	--	<0.05 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	0.1	--	0.6	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	25	--	53	--
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<160 UJ	--	<110 U	--	<110 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<160 UJ	--	<110 U	--	<110 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<160 UJ	--	<110 U	--	<110 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<160 UJ	--	<110 U	--	<110 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	ND	--	ND	--	ND	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<2700 U	--	<570 U	--	<79000 U	--	<540 U	--	<540 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<1100 U	--	<230 U	--	<32000 U	--	<210 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<1100 U	--	<230 U	--	<32000 U	--	<210 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<1100 U	--	<230 U	--	<32000 U	--	<210 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<1100 U	--	300	--	<32000 U	--	<210 U	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<22000 U	--	<450 U	--	<63000 U	--	<430 U	--	<430 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<22000 U	--	440 J	--	<63000 U	--	<430 U	--	<430 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<22000 U	--	<450 U	--	<63000 U	--	<430 U	--	<430 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<22000 U	--	<450 U	--	<63000 U	--	<430 U	--	<430 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<1100 U	--	300	--	<32000 U	--	<210 U	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<22000 U	--	<450 U	--	<63000 U	--	<430 U	--	<430 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<1100 U	--	750	--	<32000 U	--	<210 U	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area L						Area M			
Station Name																			QMCP-SB60				QMCP-SS56		QMCP-SB37			
Field Sample ID																			QMCP-SB60 0-6in		QMCP-SB60 6in-6ft		QMCP-SS56-0-3in		QMCP-SB37 0-6in		QMCP-SB37 6in-5ft	
Sample Date																			9/9/2018		9/9/2018		9/28/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 6 ft		0 - 0.25 ft		0 - 0.5 ft		0.5 - 5 ft	
Sample Description																			SAND and GRAVEL		SAND, Fine to medium, brown, saturated at 7 feet		Stained soil near fuel tank		SAND, Fine to medium, brown, saturated at 5 feet		SAND, Fine to medium, brown, saturated at 5 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<1100 U	--	<230 U	--	<32000 U	--	<210 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<22000 U	--	<450 U	--	<63000 U	--	<430 U	--	<430 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<1100 U	--	<230 U	--	<32000 U	--	<210 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<1100 U	--	530	--	<32000 U	--	<210 U	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<1100 U	--	550	--	64,000	--	<210 U	--	<220 U	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<57 U	--	<64 U	--	NM	--	<66 U	--	76	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<280 U	--	<320 U	--	NM	--	<330 U	--	<280 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<280 U	--	<320 U	--	NM	--	<330 U	--	<280 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<280 U	--	<320 U	--	NM	--	<330 U	--	<280 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 U	--	<1300 U	--	NM	--	<1300 U	--	<1100 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<280 U	--	<320 U	--	NM	--	<330 U	--	<280 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 UJ	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<130 U	--	NM	--	<130 U	--	150	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<110 U	--	<130 U	--	NM	--	<130 U	--	<110 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<280 U	--	<320 U	--	NM	--	<330 U	--	<280 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<57 U	--	<64 U	--	NM	--	<66 U	--	100	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<57 U	--	<64 U	--	NM	--	<66 U	--	110	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<57 U	--	<64 U	--	NM	--	<66 U	--	<56 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	ND	--	NM	--	ND	--	250	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area M							
Station Name																			QMCP-SB38				QMCP-SB39			
Field Sample ID																			QMCP-SB38 0-6in		QMCP-SB38 6in-5ft		QMCP-SB39 0-6in		QMCP-SB39 6in-8ft	
Sample Date																			9/11/2018		9/11/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 8 ft	
Sample Description																			SAND, Medium, brown		SAND, Medium to coarse, brown, saturated at 5 feet		SAND, Fine, gray		FILL, Gravel, and SAND, Medium, brown, saturated at 8 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																										
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	2.7	--	48	[2,4,10,11,17]	78	[2,4,10,11,17]	110	[2,4,10,11,17]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	<0.2 U	--	0.5	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	25	--	30	--	38	--	44	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	610	[2]	5,100	[2]	12,000	[2,4,11]	24,000	[2,4,10,11]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	3.8	--	15	--	160	--	30	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	380	--	320	--	360	--	390	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	<0.06 U	--	0.07	[18,19]	0.2	[2,18,19]	0.06	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	0.9	--	2.5	[2]	4.2	[2]	30	[2,4,11]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	43	--	54	--	160	[2]	84	[2]
Inorganics - Cyanide (mg/kg)																										
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																										
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<550 U	--	<110 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<550 U	--	<110 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<550 U	--	<110 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<550 U	--	<110 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																										
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																										
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<550 U	--	<540 U	--	<550 U	--	<530 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<220 U	--	<220 U	--	<220 U	--	<210 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<220 U	--	<220 U	--	<220 U	--	<210 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<220 U	--	<220 U	--	560	--	<210 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<220 U	--	220	--	2,500	--	960	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<440 U	--	<430 U	--	2,000	--	690	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<440 U	--	710	--	4,200	--	1,400	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<440 U	--	<430 U	--	660	--	<420 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<440 U	--	<430 U	--	1,200	--	440	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<220 U	--	230	--	2,400	--	880	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<440 U	--	<430 U	--	<440 U	--	<420 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<220 U	--	400	--	5,800	[2]	1,600	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area M							
Station Name																			QMCP-SB38				QMCP-SB39			
Field Sample ID																			QMCP-SB38 0-6in		QMCP-SB38 6in-5ft		QMCP-SB39 0-6in		QMCP-SB39 6in-8ft	
Sample Date																			9/11/2018		9/11/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 8 ft	
Sample Description																			SAND, Medium, brown		SAND, Medium to coarse, brown, saturated at 5 feet		SAND, Fine, gray		FILL, Gravel, and SAND, Medium, brown, saturated at 8 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																										
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<220 U	--	<220 U	--	<210 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<440 U	--	<430 U	--	770	--	<420 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<220 U	--	290	--	400	--	<210 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<220 U	--	360	--	4,100	[2]	690	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<220 U	--	320	--	4,600	--	1,500	--
Organics - VOCs (ug/kg)																										
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<67 U	--	<56 U	--	<57 U	--	<59 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<67 U	--	<56 U	--	<57 U	--	<59 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<67 U	--	<56 U	--	<57 U	--	<59 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<67 U	--	83	--	89	--	<59 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<67 U	--	<56 U	--	<57 U	--	<59 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<330 U	--	<280 U	--	<290 U	--	<300 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<330 U	--	<280 U	--	<290 U	--	<300 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<330 U	--	<280 U	--	<290 U	--	<300 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1300 U	--	<1100 U	--	<1100 U	--	<1200 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<67 U	--	<56 U	--	<57 U	--	<59 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<330 U	--	<280 U	--	<290 U	--	<300 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<67 U	--	<56 U	--	<57 U	--	<59 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<67 UJ	--	<56 UJ	--	<57 U	--	<59 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<67 U	--	<56 U	--	<57 U	--	<59 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<130 U	--	<110 U	--	200	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<130 U	--	<110 U	--	<110 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<330 U	--	<280 U	--	<290 U	--	<300 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<67 U	--	<56 U	--	<57 U	--	<59 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<67 U	--	<56 U	--	<57 U	--	<59 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<67 U	--	65	--	130	--	<59 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<67 U	--	<56 U	--	<57 U	--	<59 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<67 U	--	<56 U	--	<57 U	--	<59 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<67 U	--	<56 U	--	<57 U	--	<59 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<67 U	--	<56 U	--	<57 U	--	<59 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<67 U	--	55 J	--	150	--	<59 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<67 U	--	<56 U	--	<57 U	--	<59 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	65	--	330	[18]	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--
Other																										
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area M											
Station Name																			QMCP-SB40				QMCP-SB41				QMCP-SB42			
Field Sample ID																			QMCP-SB40 0-6in		QMCP-SB40 6in-5ft		QMCP-SB41 0-6in		QMCP-SB41 6in-9ft		QMCP-SB42 0-6in		QMCP-SB42 6in-12ft	
Sample Date																			9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 9 ft		0 - 0.5 ft		0.5 - 12 ft	
Sample Description																			SAND, Medium to coarse, gray		SAND, Medium to coarse, gray		SAND, Medium to coarse, gray		SAND, Fine to medium, brown, saturated at 9 feet		SAND, Medium to coarse, gray		SAND, Medium to coarse, brown, saturated at 12 fee	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	19	[2,4,10,11]	6.2	[2,4,11]	22	[2,4,10,11]	17	[2,4,10,11]	7.1	[2,4,11]	3.9	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	<0.2 U	--	0.2	--	<0.2 U	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	15	--	15	--	39	--	41	--	38	--	29	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	2,300	[2]	2,000	[2]	3,800	[2]	1,800	[2]	4,600	[2]	1,700	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	6.5	--	8.6	--	25	--	9.3	--	24	--	7.7	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	200	--	170	--	280	--	250	--	270	--	280	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	<0.05 U	--	<0.06 U	--	0.06	[18,19]	<0.05 U	--	<0.05 U	--	<0.05 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	1.2	[2]	0.6	--	1.5	[2]	0.8	--	1.6	[2]	0.5	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	34	--	25	--	80	[2]	65	[2]	46	--	39	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<110 U	--	<530 U	--	<110 U	--	<540 U	--	<110 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<110 U	--	<530 U	--	<110 U	--	<540 U	--	<110 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<110 U	--	<530 U	--	<110 U	--	<540 U	--	<110 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	<110 U	--	<530 U	--	<110 U	--	<540 U	--	<110 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<520 U	--	<550 U	--	1,000	--	<530 U	--	1,600	--	<530 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<210 U	--	<220 U	--	<210 U	--	<210 U	--	<220 U	--	<210 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<210 U	--	230	--	<210 U	--	<210 U	--	<220 U	--	<210 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<210 U	--	<220 U	--	<210 U	--	<210 U	--	<220 U	--	<210 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<210 U	--	<220 U	--	660	--	<210 U	--	470	--	<210 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<420 U	--	<440 U	--	580	--	<430 U	--	<430 U	--	<430 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<420 U	--	<440 U	--	1,200	--	<430 U	--	670	--	<430 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<420 U	--	<440 U	--	<430 U	--	<430 U	--	<430 U	--	<430 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<420 U	--	<440 U	--	<430 U	--	<430 U	--	<430 U	--	<430 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	<540 U	--	<530 U	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	<540 U	--	<530 U	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<210 U	--	<220 U	--	650	--	<210 U	--	520	--	<210 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<420 U	--	<440 U	--	<430 U	--	<430 U	--	<430 U	--	<430 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	<540 U	--	<530 U	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<210 U	--	220	--	1,100	--	<210 U	--	1,200	--	<210 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area M											
Station Name																			QMCP-SB40				QMCP-SB41				QMCP-SB42			
Field Sample ID																			QMCP-SB40 0-6in		QMCP-SB40 6in-5ft		QMCP-SB41 0-6in		QMCP-SB41 6in-9ft		QMCP-SB42 0-6in		QMCP-SB42 6in-12ft	
Sample Date																			9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 9 ft		0 - 0.5 ft		0.5 - 12 ft	
Sample Description																			SAND, Medium to coarse, gray		SAND, Medium to coarse, gray		SAND, Medium to coarse, gray		SAND, Fine to medium, brown, saturated at 9 feet		SAND, Medium to coarse, gray		SAND, Medium to coarse, brown, saturated at 12 fee	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<210 U	--	<220 U	--	<210 U	--	<210 U	--	<220 U	--	<210 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<420 U	--	<440 U	--	<430 U	--	<430 U	--	<430 U	--	<430 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	3.50E+05	5.20E+07	NA	NA	250	--	700	--	700	--	270	--	1,000	[2]	<210 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<210 U	--	370	--	790	--	210	--	1,400	--	<210 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<210 U	--	<220 U	--	900	--	<210 U	--	870	--	<210 U	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<53 U	--	<65 U	--	<62 U	--	<62 U	--	<57 U	--	<59 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<53 U	--	<65 U	--	<62 U	--	<62 U	--	<57 U	--	<59 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<53 U	--	<65 U	--	62	--	110	--	140	--	<59 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	68	--	<65 U	--	150	--	170	[18]	380	[18]	<59 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<53 U	--	<65 U	--	<62 U	--	<62 U	--	89	--	<59 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<270 U	--	<330 U	--	<310 U	--	<310 U	--	<280 U	--	<290 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<270 U	--	<330 U	--	<310 U	--	<310 U	--	<280 U	--	<290 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<270 U	--	<330 U	--	400	--	330	--	820	--	<290 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 UJ	--	<1300 UJ	--	<1200 UJ	--	<1200 UJ	--	<1100 UJ	--	<1200 UJ	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<53 U	--	<65 U	--	<62 U	--	<62 U	--	82	[18,19]	<59 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<270 U	--	<330 U	--	<310 U	--	<310 U	--	540	--	<290 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<53 U	--	<65 U	--	<62 U	--	<62 U	--	95	[18,19]	<59 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<53 U	--	<65 U	--	<62 U	--	64	[18]	150	[18,19]	<59 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<53 U	--	<65 U	--	<62 U	--	<62 U	--	59	--	<59 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	110	--	<130 U	--	260	--	300	--	690	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<110 U	--	<130 U	--	<120 U	--	<120 U	--	<110 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<270 U	--	<330 U	--	320	--	<310 U	--	740	[2]	<290 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<53 U	--	<65 U	--	<62 U	--	<62 U	--	<57 U	--	<59 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<53 U	--	<65 U	--	<62 U	--	<62 U	--	70	--	<59 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77	--	<65 U	--	200	--	200	--	500	--	<59 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<53 U	--	<65 U	--	<62 U	--	<62 U	--	<57 U	--	<59 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<53 U	--	<65 U	--	<62 U	--	<62 U	--	<57 U	--	<59 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<53 U	--	<65 U	--	<62 U	--	<62 U	--	<57 U	--	<59 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<53 U	--	<65 U	--	<62 U	--	<62 U	--	<57 U	--	<59 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	93	--	<65 U	--	200	--	230	--	460	--	92	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<53 U	--	<65 U	--	<62 U	--	<62 U	--	<57 U	--	<59 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	187	--	ND	--	460	[18]	500	[18]	1,190	[2,18]	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area M											
Station Name																			QMCP-SS22				QMCP-SS23		QMCP-SS24		QMCP-SS25			
Field Sample ID																			QMCP-SS-22-0-6in		QMCP-SS-22-0-6in DUP3		QMCP-SS-23-0-6in		QMCP-SS-24-0-6in		QMCP-SS-25-0-6in		QMCP-SS25-0-6in	
Sample Date																			9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			Dark brown TOPSOIL to 5in, then brown fine to medi		Dark brown TOPSOIL to 5in, then brown fine to medi		Brown fine to medium SAND		Brown/black to red very fine to fine SAND with som		Dark brown fine to medium SAND		Dark brown fine to medium SAND	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	6.6	[2,4,11]	5.6	[2,4,11]	1.4	--	73	[2,4,10,11,17]	4.8	[2,4,11]	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	35	--	35	--	8.9	--	280	[2]	14	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	15	--	16	--	7.5	--	230	--	33	--	NM	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	990	[2]	910	[2]	53	[2]	6,200	[2,4,11]	1,100	[2]	NM	--
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	20	--	17	--	1.3	--	30	--	5	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	200	--	210	--	68	--	850	[2,4,11]	460	[2,4,11]	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	<0.06 U	--	<0.06 U	--	<0.05 U	--	<0.05 U	--	<0.05 U	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	0.8	--	0.5	--	<0.1 U	--	1.3	[2]	0.8	--	NM	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	31	--	35	--	9.6	--	140	[2]	51	--	NM	--
Inorganics - Cyanide (mg/kg)																														
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.12 U	--	<0.12 U	--	<0.10 U	--	<0.11 U	--	<0.11 U	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																														
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<610 U	--	<610 U	--	<520 U	--	<530 U	--	<530 U	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area M									
Station Name																			QMCP-SS22				QMCP-SS23		QMCP-SS24		QMCP-SS25	
Field Sample ID																			QMCP-SS-22-0-6in		QMCP-SS-22-0-6in DUP3		QMCP-SS-23-0-6in		QMCP-SS-24-0-6in		QMCP-SS-25-0-6in	QMCP-SS25-0-6in
Sample Date																			9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	9/6/2018
Sample Interval (bgs)																			0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	0 - 0.5 ft
Sample Description																			Dark brown TOPSOIL to 5in, then brown fine to medi		Dark brown TOPSOIL to 5in, then brown fine to medi		Brown fine to medium SAND		Brown/black to red very fine to fine SAND with som		Dark brown fine to medium SAND	Dark brown fine to medium SAND
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--
Organics - VOCs (ug/kg)																														
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.30E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area M				Area N							
Station Name																				QMCP-SS26				QMCP-SB44				QMCP-SB45			
Field Sample ID																				QMCP-SS-26-0-6in		QMCP-SS26-0-6in		QMCP-SB44 0-6in		QMCP-SB44 6in-4ft		QMCP-SB45 0-6in		QMCP-SB45 6in-5ft	
Sample Date																				9/6/2018		9/6/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 5 ft	
Sample Description																				Dark brown/black TOPSOIL, organics and slag/metal		Dark brown/black TOPSOIL, organics and slag/metal		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA		110	[2,4,10,11,17]	NM	--	14	[2,4,10,11]	8.7	[2,4,10,11]	16	[2,4,10,11]	12	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA		53	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA		0.8	--	NM	--	<0.2 U	--	<0.2 U	--	0.8	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA		13	--	NM	--	66	--	69	--	58	--	19	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA		6,400	[2,4,11]	NM	--	6,500	[2,4,11]	6,300	[2,4,11]	2,300	[2]	180	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA		42	--	NM	--	27	--	19	--	90	--	3.4	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA		210	--	NM	--	470	[2,4,11]	420	--	430	--	270	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012		<0.07 U	--	NM	--	0.06	[18,19]	<0.06 U	--	0.1	[18,19]	<0.05 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA		0.3	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA		4.8	[2,4]	NM	--	1.7	[2]	1.3	[2]	0.9	--	<0.1 U	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA		200	[2]	NM	--	73	[2]	59	--	120	[2]	36	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		<0.14 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	<120 U	--	<120 U	--	<550 U	--	<110 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	<120 U	--	<120 U	--	1,600	--	<110 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	<130 U	--	<120 U	--	<1500 U	--	<110 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	<130 U	--	<120 U	--	<1500 U	--	<110 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA		NM	--	NM	--	ND	--	ND	--	1,600 J	[10,17]	ND	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA		3,000	--	NM	--	<600 U	--	<580 U	--	10,000	[2]	<530 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA		<280 U	--	NM	--	<240 U	--	<230 U	--	<220 U	--	<210 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA		<280 U	--	NM	--	<240 U	--	<230 U	--	<220 U	--	<210 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA		<280 U	--	NM	--	<240 U	--	<230 U	--	<220 U	--	<210 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA		730	--	NM	--	460	--	<230 U	--	540	--	<210 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA		550 J	--	NM	--	<480 U	--	<460 U	--	<440 U	--	<430 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA		1,000	--	NM	--	830	--	<460 U	--	730	--	<430 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA		<560 U	--	NM	--	<480 U	--	<460 U	--	<440 U	--	<430 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA		<560 U	--	NM	--	<480 U	--	<460 U	--	<440 U	--	<430 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA		900	--	NM	--	440	--	<230 U	--	830	--	<210 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA		<560 U	--	NM	--	<480 U	--	<460 U	--	<440 U	--	<430 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA		NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA		1,400	--	NM	--	890	--	<230 U	--	750	--	<210 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area M				Area N							
Station Name																				QMCP-SS26				QMCP-SB44				QMCP-SB45			
Field Sample ID																				QMCP-SS-26-0-6in		QMCP-SS26-0-6in		QMCP-SB44 0-6in		QMCP-SB44 6in-4ft		QMCP-SB45 0-6in		QMCP-SB45 6in-5ft	
Sample Date																				9/6/2018		9/6/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 5 ft	
Sample Description																				Dark brown/black TOPSOIL, organics and slag/metal		Dark brown/black TOPSOIL, organics and slag/metal		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<280 U	--	NM	--	<240 U	--	<230 U	--	<220 U	--	<210 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<560 U	--	NM	--	<480 U	--	<460 U	--	<440 U	--	<430 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	2,200	[2]	NM	--	<240 U	--	<230 U	--	6,100	[2]	<210 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	2,100	--	NM	--	380	--	<230 U	--	3,900	[2]	<210 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	1,100	--	NM	--	840	--	<230 U	--	740	--	<210 U	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	<70 U	--	<68 U	--	<66 U	--	<60 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	<70 U	--	<68 U	--	<66 U	--	<60 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	<70 U	--	<68 U	--	830	[18]	<60 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	<70 U	--	<68 U	--	2,300	[2,4,11,18,19]	<60 U	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	<70 U	--	<68 U	--	580	[18,19]	<60 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<350 U	--	<340 U	--	<330 U	--	<300 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	<350 U	--	<340 U	--	570	--	<300 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	<350 U	--	<340 U	--	4,800	[2]	<300 U	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	<1400 U	--	<1400 U	--	<1300 UJ	--	<1200 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	<70 U	--	<68 U	--	520	[2,4,11,18,19]	<60 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<350 U	--	<340 U	--	3,600	--	<300 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	<70 U	--	<68 U	--	470	[2,18,19]	<60 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	<70 UJ	--	<68 UJ	--	1,100	[18,19]	<60 UJ	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	<70 U	--	<68 U	--	250	--	<60 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<140 U	--	<140 U	--	4,600	--	<120 U	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	<140 U	--	<140 U	--	<130 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	<350 U	--	<340 U	--	4,200	[2]	<300 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	<70 U	--	<68 U	--	190	--	<60 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	<70 U	--	<68 U	--	310	--	<60 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<70 U	--	<68 U	--	3,000	--	<60 U	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	<70 U	--	<68 U	--	100	--	<60 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	<70 U	--	<68 U	--	<66 U	--	<60 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	<70 U	--	<68 U	--	<66 U	--	<60 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	<70 U	--	<68 U	--	<66 U	--	<60 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	<70 U	--	<68 U	--	3,300	--	59 J	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	<70 U	--	<68 U	--	<66 U	--	<60 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	ND	--	ND	--	7,600	[2,4,11,18,19]	ND	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area N									
Station Name																			QMCP-SB46		QMCP-SB47				QMCP-SB48			
Field Sample ID																			QMCP-SB46 0-4ft		QMCP-SB47 0-6in		QMCP-SB47 6in-5ft		QMCP-SB48 0-6in		QMCP-SB48 6in-5ft	
Sample Date																			9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018	
Sample Interval (bgs)																			0 - 4 ft		0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 5 ft	
Sample Description																			SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 5 feet		SAND, Medium to coarse, brown, saturated at 5 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	5.4	[2,4,11]	16	[2,4,10,11]	11	[2,4,10,11]	7.8	[2,4,10,11]	4	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	0.5	--	0.3	--	<0.2 U	--	0.8	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	29	--	59	--	84	--	33	--	24	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	710	[2]	7,300	[2,4,11]	9,700	[2,4,11]	4,300	[2]	3,200	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	20	--	43	--	34	--	670	[10]	76	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	260	--	410	--	590	[2,4,11]	320	--	330	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	<0.05 U	--	<0.05 U	--	<0.05 U	--	0.2	[2,18,19]	<0.05 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	0.4	--	1.4	[2]	0.9	--	2.5	[2]	1.4	[2]
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	130	[2]	79	[2]	78	[2]	1,000	[2]	78	[2]
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<540 U	--	<110 U	--	<510 U	--	<2700 U	--	<1100 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<540 U	--	<110 U	--	<510 U	--	<2700 U	--	<1100 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<540 U	--	<110 U	--	<510 U	--	<2700 U	--	<1500 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<540 U	--	<110 U	--	<510 U	--	<2700 U	--	<1500 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	800	--	<540 U	--	2,700	--	<530 U	--	540 J	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<220 U	--	<220 U	--	1,300	--	<210 U	--	<210 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<220 U	--	210 J	--	980	--	<210 U	--	<210 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<220 U	--	<220 U	--	2,300	--	<210 U	--	<210 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	330	--	<220 U	--	4,600	--	320	--	910 J	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<430 U	--	<430 U	--	3,900	[10]	<430 U	--	<4300 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	970	--	<430 U	--	6,300	--	660	--	<4300 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<430 U	--	<430 U	--	940	--	<430 U	--	<4300 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<430 U	--	<430 U	--	2,300	--	<430 U	--	<4300 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	600	--	<220 U	--	4,600	--	380	--	1,500 J	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<430 U	--	<430 U	--	<410 U	--	<430 U	--	<4300 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	660	--	<220 U	--	16,000	[2]	640	--	1,100 J	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area N									
Station Name																			QMCP-SB46		QMCP-SB47				QMCP-SB48			
Field Sample ID																			QMCP-SB46 0-4ft		QMCP-SB47 0-6in		QMCP-SB47 6in-5ft		QMCP-SB48 0-6in		QMCP-SB48 6in-5ft	
Sample Date																			9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018	
Sample Interval (bgs)																			0 - 4 ft		0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 5 ft	
Sample Description																			SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 5 feet		SAND, Medium to coarse, brown, saturated at 5 feet		SAND, Medium to coarse, brown, saturated at 4 feet		SAND, Medium to coarse, brown, saturated at 4 feet	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<220 U	--	1,800	--	<210 U	--	<210 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<430 U	--	<430 U	--	1,100	--	<430 U	--	<4300 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	560	--	770	[2]	4,400	[2]	220	--	310 J	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	680	--	340	--	25,000	[2]	440	--	940 J	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	520	--	220	--	14,000	--	490	--	5,900 J	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	130	--	96	--	72	--	130	--	110	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<290 U	--	<260 U	--	<280 U	--	<300 U	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<290 U	--	<290 U	--	<260 U	--	<280 U	--	<300 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	310	--	<290 U	--	2,200	--	280	--	330	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 UJ	--	<1200 UJ	--	<1100 UJ	--	<1100 U	--	<1200 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<57 U	--	<58 U	--	<53 U	--	<56 U	--	120	[4,11,18,19]
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<290 U	--	<260 U	--	<280 U	--	<300 U	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<57 U	--	<58 U	--	<53 U	--	<56 UJ	--	<60 UJ	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	230	--	150	--	<110 U	--	230	--	250	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<110 U	--	<120 U	--	<110 U	--	<110 U	--	<120 U	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<290 U	--	<290 U	--	4,200	[2]	<280 U	--	<300 U	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	160	--	120	--	58	--	170	--	140	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	180	--	82	--	<53 U	--	160	--	300	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<57 U	--	<58 U	--	<53 U	--	<56 U	--	<60 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	390	[18]	270	[18]	58	[18]	400	[18]	390	[18]
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area N									
Station Name																			QMCP-SB49				QMCP-SB50		QMCP-SS27		QMCP-SS28	
Field Sample ID																			QMCP-SB49 0-6in		QMCP-SB49 6in-4ft		QMCP-SB50 0-2ft		QMCP-SS-27-0-6in		QMCP-SS-28-0-6in	
Sample Date																			9/10/2018		9/10/2018		9/10/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 4 ft		0 - 2 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			SAND and GRAVEL with debris		SAND and GRAVEL with debris		SAND, Medium to coarse, brown, saturated at 2 feet		Brown to grey medium SAND with some gravel and sla		Brown medium SAND with some gravel	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	3.5	--	3.2	--	1.7	--	6.6	[2,4,11]	2.5	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	6.1	--	41	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	0.3	--	0.2	--	0.3	--	0.4	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	78	--	30	--	8.5	--	94	--	14	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	890	[2]	2,200	[2]	1,000	[2]	1,100	[2]	220	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	15	--	48	--	170	--	4.3	--	83	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	510	[2,4,11]	360	--	140	--	900	[2,4,11]	200	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	<0.05 U	--	<0.05 U	--	0.4	[2,18,19]	<0.05 U	--	0.2	[2,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	<0.2 U	--	<0.2 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	0.6	--	0.9	--	0.5	--	1.6	[2]	0.3	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	72	[2]	70	[2]	120	[2]	74	[2]	70	[2]
Inorganics - Cyanide (mg/kg)																												
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<0.11 U	--	<0.11 U	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<580 U	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<580 U	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<580 U	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<580 U	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	NM	--	NM	--
Asbestos (%)																												
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<540 U	--	<540 U	--	<580 U	--	<530 U	--	<550 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<220 U	--	<210 U	--	<230 U	--	<210 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<220 U	--	<210 U	--	<230 U	--	<210 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<220 U	--	<210 U	--	<230 U	--	<210 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<220 U	--	390	--	420	--	<210 U	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<430 U	--	430	--	<470 U	--	<420 U	--	<440 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	<430 U	--	830	--	660	--	<420 U	--	<440 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<430 U	--	<430 U	--	<470 U	--	<420 U	--	<440 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<430 U	--	<430 U	--	<470 U	--	<420 U	--	<440 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	<220 U	--	460	--	470	--	<210 U	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<430 U	--	<430 U	--	<470 U	--	<420 U	--	<440 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	270	--	810	--	1,100	--	<210 U	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area N									
Station Name																			QMCP-SB49				QMCP-SB50		QMCP-SS27		QMCP-SS28	
Field Sample ID																			QMCP-SB49 0-6in		QMCP-SB49 6in-4ft		QMCP-SB50 0-2ft		QMCP-SS-27-0-6in		QMCP-SS-28-0-6in	
Sample Date																			9/10/2018		9/10/2018		9/10/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																			0 - 0.5 ft		0.5 - 4 ft		0 - 2 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																			SAND and GRAVEL with debris		SAND and GRAVEL with debris		SAND, Medium to coarse, brown, saturated at 2 feet		Brown to grey medium SAND with some gravel and sla		Brown medium SAND with some gravel	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	<210 U	--	<230 U	--	<210 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<430 U	--	<430 U	--	<470 U	--	<420 U	--	<440 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<220 U	--	<210 U	--	260	--	<210 U	--	<220 U	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	<220 U	--	420	--	1,300	--	<210 U	--	<220 U	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	230	--	790	--	850	--	<210 U	--	<220 U	--
Organics - VOCs (ug/kg)																												
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<300 U	--	<330 U	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	<290 U	--	<300 U	--	<330 U	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	<290 U	--	<300 U	--	<330 U	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	<1100 UJ	--	<1200 UJ	--	<1300 UJ	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<290 U	--	<300 U	--	<330 U	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<120 U	--	<130 U	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	<110 U	--	<120 U	--	<130 U	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	<290 U	--	<300 U	--	<330 U	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	<57 U	--	<60 U	--	<66 U	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	ND	--	ND	--	ND	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area N									
Station Name																				QMCP-SS29				QMCP-SS30				QMCP-SS31			
Field Sample ID																				QMCP-SS-29-0-6in		QMCP-SS29-0-6in		QMCP-SS-30-0-6in		QMCP-SS30-0-6in		QMCP-SS-31-0-6in		QMCP-SS-31-0-6in DUP 4	
Sample Date																				9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																				Black fine stamp SAND, oily residue 3in down, odor		Black fine stamp SAND, oily residue 3in down, odor		Black fine SAND with some gravel		Black fine SAND with some gravel		Brown fine to coarse SAND with gravel, 5-6in black		Brown fine to coarse SAND with gravel, 5-6in black	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																															
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	12	[2,4,10,11]	NM	--	9.8	[2,4,10,11]	NM	--	4.2	--	4.2	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	64	--	NM	--	50	--	NM	--	91	--	64	--
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	NM	--	0.3	--	NM	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	<200 U	--	NM	--	27	--	NM	--	19	--	12	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	41,000	[2,4,10,11]	NM	--	1,600	[2]	NM	--	1,100	[2]	780	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	110	--	NM	--	68	--	NM	--	15	--	11	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	280	--	NM	--	290	--	NM	--	240	--	190	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.07	[18,19]	NM	--	0.2	[2,18,19]	NM	--	<0.05 U	--	<0.06 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	<0.2 U	--	NM	--	<0.2 U	--	NM	--	<0.2 U	--	<0.2 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	4.6	[2,4]	NM	--	1.7	[2]	NM	--	0.6	--	0.4	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	160	[2]	NM	--	110	[2]	NM	--	33	--	25	--
Inorganics - Cyanide (mg/kg)																															
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.11 U	--	NM	--	<1.1 U	--	NM	--	<0.11 U	--	<0.11 U	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																															
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Asbestos (%)																															
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																															
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	1,500	--	NM	--	2,100	--	NM	--	<550 U	--	<550 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	<220 U	--	NM	--	2,000	--	NM	--	<220 U	--	<220 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	<220 U	--	NM	--	1,200	--	NM	--	<220 U	--	<220 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	<220 U	--	NM	--	6,300	--	NM	--	<220 U	--	<220 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	540	--	NM	--	16,000	--	NM	--	<220 U	--	<220 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	<440 U	--	NM	--	12,000	[10,17]	NM	--	<440 U	--	<440 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	1,200	--	NM	--	20,000	--	NM	--	<440 U	--	<440 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	<440 U	--	NM	--	2,300	--	NM	--	<440 U	--	<440 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	<440 U	--	NM	--	7,800	--	NM	--	<440 U	--	<440 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	780	--	NM	--	16,000	--	NM	--	<220 U	--	<220 U	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<440 U	--	NM	--	1,100	--	NM	--	<440 U	--	<440 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	800	--	NM	--	41,000	[2]	NM	--	<220 U	--	<220 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidentia l Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area N											
Station Name																				QMCP-SS29				QMCP-SS30				QMCP-SS31			
Field Sample ID																				QMCP-SS-29-0-6in		QMCP-SS29-0-6in		QMCP-SS-30-0-6in		QMCP-SS30-0-6in		QMCP-SS-31-0-6in		QMCP-SS-31-0-6in DUP 4	
Sample Date																				9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)																				0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description																				Black fine stamp SAND, oily residue 3in down, odor		Black fine stamp SAND, oily residue 3in down, odor		Black fine SAND with some gravel		Black fine SAND with some gravel		Brown fine to coarse SAND with gravel, 5-6in black		Brown fine to coarse SAND with gravel, 5-6in black	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																															
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	<220 U	--	NM	--	5,600	[2]	NM	--	<220 U	--	<220 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	<440 U	--	NM	--	3,000	--	NM	--	<440 U	--	<440 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	1,100	[2]	NM	--	5,600	[2]	NM	--	580	--	650	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	1,000	--	NM	--	43,000	[2]	NM	--	270	--	240	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	710	--	NM	--	27,000	--	NM	--	<220 U	--	<220 U	--
Organics - VOCs (ug/kg)																															
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD)	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+8 (I)	2.30E+7 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area N							
Station Name																				QMCP-SS57		QMCP-SS58		QMCP-SS59		QMCP-SS60	
Field Sample ID																				QMCP-SS57-0-3in		QMCP-SS58-0-3in		QMCP-SS59-0-3in		QMCP-SS60-0-3in	
Sample Date																				10/1/2018		10/1/2018		10/1/2018		10/1/2018	
Sample Interval (bgs)																				0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																				Black soot		Burn pile residue		Burn pile residue		Burn pile residue	
																				Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																											
ALUMINUM	7429-90-5	NA	6900 (B)	NLV	NLV	NLV	NLV	ID	50,000 (D,BB)	6,900 (B)	NLV	NLV	NLV	NLV	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	NLV	NLV	NLV	NLV	13,000	180	4.3	NLV	NLV	NLV	NLV	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	NLV	NLV	NLV	NLV	720	7.6	4.6	NLV	NLV	NLV	NLV	910	37	NA	NA	190	[2,4,10,11,17]	21	[2,4,10,11]	22	[2,4,10,11]	19	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	NLV	NLV	NLV	NLV	3.3E+5 (B)	37,000 (B)	1,300 (B)	NLV	NLV	NLV	NLV	1.5E+5 (B)	1.3E+5 (B)	NA	NA	180	[2]	440	[2]	350	[2]	600	[2]
BERYLLIUM	7440-41-7	24 (G)	51	NLV	NLV	NLV	NLV	1,300	410	51	NLV	NLV	NLV	NLV	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	NLV	NLV	NLV	NLV	1,700 (B)	550 (B)	6.0 (B)	NLV	NLV	NLV	NLV	2,200 (B)	2,100 (B)	NA	NA	61	[2,4,11]	6.7	[2,4,11]	2.2	[2]	2.1	[2]
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	NLV	NLV	NLV	NLV	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	NLV	NLV	NLV	NLV	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	<200 U	--	38	--	43	--	44	--
COBALT	7440-48-4	2	0.8	NLV	NLV	NLV	NLV	13,000	2,600	2	NLV	NLV	NLV	NLV	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	NLV	NLV	NLV	NLV	130,000 (B)	20,000 (B)	5,800 (B)	NLV	NLV	NLV	NLV	59,000 (B)	73,000 (B)	NA	NA	520	[2]	650	[2]	1,200	[2]	810	[2]
IRON	7439-89-6	--	12,000 (B)	NLV	NLV	NLV	NLV	ID	160,000 (B)	12,000 (B)	NLV	NLV	NLV	NLV	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	NLV	NLV	NLV	NLV	100,000 (B)	400 (B)	700 (B)	NLV	NLV	NLV	NLV	44,000 (B)	900 (B,DD)	NA	NA	3,000	[2,4,10,11,17]	270	--	470	[10]	2,300	[4,10,11,17]
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	NLV	NLV	NLV	NLV	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	NLV	NLV	NLV	NLV	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	NLV	NLV	NLV	NLV	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	NLV	NLV	NLV	NLV	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	NLV	NLV	NLV	NLV	3,300 (B)	25,000 (B)	440 (B)	NLV	NLV	NLV	NLV	1,500 (B)	90,000 (B)	NA	NA	790	[2,4,11]	570	[2,4,11]	420	--	710	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	48 (B,Z)	52 (B,Z)	52 (B,Z)	52 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	89 (B,Z)	62 (B,Z)	62 (B,Z)	62 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.000027	0.00012	0.4	[2,18,19]	<0.07 U	--	0.1	[18,19]	0.1	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	NLV	NLV	NLV	NLV	13,000 (B)	40,000 (B)	100 (B)	NLV	NA	NA	NA	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	NLV	NLV	NLV	NLV	130,000 (B)	2,600 (B)	4.0 (B)	NLV	NLV	NLV	NLV	59,000 (B)	9,600 (B)	NA	NA	2.8	[2]	<0.2 U	--	<0.2 U	--	<0.2 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	NLV	NLV	NLV	NLV	6700 (B)	2500 (B)	13 (B)	NLV	NLV	NLV	NLV	2,900 (B)	9,000 (B)	NA	NA	2.9	[2]	0.6	--	0.5	--	0.5	--
SODIUM	7440-23-5	NA	4,600	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NLV	NLV	NLV	NLV	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	NLV	NLV	NLV	NLV	ID	750 (DD)	990	NLV	NLV	NLV	NLV	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	NLV	NLV	NLV	NLV	ID	1.70E+5 (B)	5,000 (B)	NLV	NLV	NLV	NLV	ID	6.30E+5 (B)	NA	NA	920	[2]	730	[2]	790	[2]	1,000	[2]
Inorganics - Cyanide (mg/kg)																											
AVAILABLE CYANIDE	57-12-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2	--	<0.75 U	--	<0.84 U	--	<0.79 U	--
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	12 (P,R)	4.0 (P,R)	NLV	NLV	NLV	NLV	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																											
AROCLOR-1248	12672-29-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<13000 U	--	<150 U	--	<170 U	--	<160 U	--
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20000 U	--	<150 U	--	<170 U	--	<160 U	--
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20000 U	--	<150 U	--	<170 U	--	<160 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20000 U	--	<150 U	--	<170 U	--	<160 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	3.00E+6 (J,T)	2.40E+5 (J,T)	7.90E+6 (J,T)	7.90E+6 (J,T)	5.20E+6 (J,T)	1,000 (J,T)	NLL	1.60E+7 (J,T)	8.10E+5 (J,T)	2.80E+7 (J,T)	2.80E+7 (J,T)	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	ND	--
Asbestos (%)																											
ASBESTOS-AMOSITE	ASB-A	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--
ASBESTOS-CHRYSOTILE	ASB-C	NLL	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NLL	NLV	NLV	NLV	NLV	1.0 (M)	ID	NA	NA	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																											
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	3,400 J	--	<750 U	--	<840 U	--	<790 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.90E+08	8.10E+07	8.10E+07	8.10E+07	1.40E+10	4.10E+07	8.80E+05	3.50E+08	9.70E+07	9.70E+07	9.70E+07	6.20E+09	1.30E+08	NA	NA	2,000 J	--	<300 U	--	<340 U	--	<320 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	1.60E+06	2.20E+06	2.20E+06	2.20E+06	2.30E+09	1.60E+06	17,000	3.00E+06	2.70E+06	2.70E+06	2.70E+06	1.00E+09	5.20E+06	NA	NA	7,500 J	[4]	<300 U	--	<340 U	--	<320 U	--
ACETOPHENONE	98-86-2	ID	30,000	1.20E+8 (C)	4.40E+07	4.40E+07	4.40E+07	3.30E+10	4.70E+7 (C)	88,000	2.10E+8 (C)	5.20E+07	5.20E+07	5.20E+07	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	1.00E+9 (D)	1.40E+09	1.40E+09	1.40E+09	6.70E+10	2.30E+08	41,000	1.10E+9 (D)	1.60E+09	1.60E+09	1.60E+09	2.90E+10	7.30E+08	NA	NA	24,000 J	--	<300 U	--	<340 U	--	<320 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	100,000 J	[10,17]	<300 U	--	490	--	470	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	NLV	NLV	NLV	NLV	1.50E+8 (Q)	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	1.90E+6 (Q)	8,000 (Q)	NA	NA	75,000 J	[10,17]	<600 U	--	<6700 U	--	<6300 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	ID	ID	ID	ID	20,000 (Q)	NLL	ID	ID	ID	ID	ID	80,000 (Q)	NA	NA	180,000 J	[10,17]	<600 U	--	<6700 U	--	<6300 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	NLV	NLV	NLV	NLV	8.00E+08	2.50E+06	NLL	NLV	NLV	NLV	NLV	3.50E+08	7.00E+06	NA	NA	30,000 J	--	<600 U	--	<6700 U	--	<6300 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	NLV	NLV	NLV	NLV	ID	2.00E+5 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8.00E+5 (Q)	NA	NA	39,000 J	--	<600 U	--	<6700 U	--	<6300 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	NLV	NLV	NLV	NLV	7.00E+08	2.80E+06	NLL	NLV	NLV	NLV	NLV	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	NLV	NLV	NLV	NLV	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	NLV	NLV	NLV	NLV	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	ID	ID	ID	ID	2.00E+6 (Q)	NLL	ID	ID	ID	ID	ID	8.00E+6 (Q)	NA	NA	150,000 J	--	<300 U	--	670	--	610	--
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	NLV	NLV	NLV	NLV	ID	2,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	8,000 (Q)	NA	NA	<26000 U	--	<600 U	--	<6700 U	--	<6300 U	--
DIBENZOFURAN	132-64-9	1,700	ID	2.00E+06	1.30E+05	1.30E+05	1.30E+05	6.70E+06	ID	ID	3.60E+06	1.60E+05	1.60E+05	1.60E+05	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	1.00E+9 (D)	7.40E+08	7.40E+08	7.40E+08	9.30E+09	4.60E+07	730,000	1.00E+9 (D)	8.90E+08	8.80E+08	8.80E+08	4.10E+09	1.30E+08	NA	NA	300,000 J	[2]	550	--	880	--	970	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria (June 2018)	[4] Residential Drinking Water Protection Criteria (Dec 2013)	[5] Residential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Residential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[7] Residential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[8] Residential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[9] Residential Particulate Soil Inhalation Criteria (Dec 2013)	[10] Residential Direct Contact Criteria (Dec 2013)	[11] Nonresidential Drinking Water Protection Criteria (Dec 2013)	[12] Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[13] Nonresidential Infinite Source Volatile Soil Inhalation Criteria (Dec 2013)	[14] Nonresidential Finite Volatile Soil Inhalation Criteria - 5 Meter Source Thickness (Dec 2013)	[15] Nonresidential Finite Volatile Soil Inhalation Criteria - 2 Meter Source Thickness (Dec 2013)	[16] Nonresidential Particulate Soil Inhalation Criteria (Dec 2013)	[17] Nonresidential Direct Contact Criteria (Dec 2013)	[18] Soil Residential RIASL (Int Aug 2017)	[19] Soil Nonresidential RIASL (Int Aug 2017)	Area N							
Station Name																			QMCP-SS57		QMCP-SS58		QMCP-SS59		QMCP-SS60	
Field Sample ID																			QMCP-SS57-0-3in		QMCP-SS58-0-3in		QMCP-SS59-0-3in		QMCP-SS60-0-3in	
Sample Date																			10/1/2018		10/1/2018		10/1/2018		10/1/2018	
Sample Interval (bgs)																			0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description																			Black soot		Burn pile residue		Burn pile residue		Burn pile residue	
																			Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																										
FLUORENE	86-73-7	5,300	390,000	5.80E+08	1.30E+08	1.30E+08	1.30E+08	9.30E+09	2.70E+07	890,000	1.00E+9 (D)	1.50E+08	1.50E+08	1.50E+08	4.10E+09	8.70E+07	NA	NA	10,000 J	[2]	<300 U	--	<340 U	--	<320 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000 (Q)	NLL	NLV	NLV	NLV	NLV	ID	80,000 (Q)	NA	NA	49,000 J	[10]	<600 U	--	<6700 U	--	<6300 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	12,000 J	[2]	570	--	490	--	300 J	--
PHENANTHRENE	85-01-8	2,100	56,000	2.80E+06	1.60E+05	1.60E+05	1.60E+05	6.70E+06	1.60E+06	1.60E+05	5.10E+06	1.90E+05	1.90E+05	1.90E+05	2.90E+06	5.20E+06	NA	NA	230,000 J	[2,4,6,7,8,11,13,14,15]	690	--	550	--	610	--
PYRENE	129-00-0	ID	4.80E+05	1.00E+9 (D)	6.50E+08	6.50E+08	6.50E+08	6.70E+09	2.90E+07	4.80E+05	1.00E+9 (D)	7.80E+08	7.80E+08	7.80E+08	2.90E+09	8.40E+07	NA	NA	230,000 J	--	520	--	930	--	990	--
Organics - VOCs (ug/kg)																										
1,1,1,2-TETRACHLOROETHANE	630-20-6	ID	1,500	6,200	36,000	54,000	1.00E+05	4.20E+08	480,000 (C)	6,400	33,000	1.20E+05	2.10E+05	3.30E+05	5.30E+08	2.2E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
1,1,1-TRICHLOROETHANE	71-55-6	1,800	4,000	2.50E+05	3.80E+06	1.20E+07	2.80E+07	6.70E+10	5.0E+8 (C)	4,000	4.60E+05	4.50E+06	1.50E+07	3.10E+07	2.90E+10	1.0E+9 (C,D)	450	1,900	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270	1,200	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	4.3E+6 (C,I)	2.10E+7 (I)	5.00E+8 (I)	5.00E+8 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	8.00E+6 (C,I)	2.50E+7 (I)	6.00E+8 (I)	6.00E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150	650	NM	--	NM	--	NM	--	NM	--
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96-12-8	ID	10 (M)	220	260	260	260	5.60E+05	4,400 (C)	10 (M)	1,200	900	900	900	7.00E+05	20,000 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	2.6E+6 (C,I)	1.6 E+7 (I)	3.80E+8 (I)	3.80E+8 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	4.80E+6 (C,I)	1.90E+7 (I)	4.60E+8 (I)	4.60E+8 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100	450	NM	--	NM	--	NM	--	NM	--
2,2,4-Trimethylpentane	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
2-BUTANONE (MEK)	78-93-3	44,000 (I)	2.60E+5 (I)	5.4E+7 (C,I)	2.90E+7 (I)	2.90E+7 (I)	3.50E+7 (I)	6.7E+10 (I)	1.2E+8 (C,I,DD	7.70E+5 (I)	9.90E+7 (C,I)	3.50E+7 (I)	3.50E+7 (I)	3.60E+7 (I)	2.90E+10 (I)	7.00E+8 (C,I,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	2.70E+06	1.50E+06	1.50E+06	1.50E+06	6.70E+08	8.10E+06	1.70E+05	4.90E+06	1.80E+06	1.80E+06	1.80E+06	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--
2-PROPANONE (ACETONE)	67-64-1	34,000 (I)	15,000 (I)	2.9E+8 (C,I)	1.30E+8 (I)	1.30E+8 (I)	1.90E+8 (I)	3.90E+11 (I)	2.30E+7 (I)	42,000 (I)	5.40E+8 (C,I)	1.60E+8 (I)	1.60E+8 (I)	2.00E+8 (I)	7.30E+7 (I)	1.10E+8 (I)	2.60E+05	7.80E+05	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	1,600 (I)	13,000 (I)	34,000 (I)	79,000 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	8,400 (I)	45,000 (I)	99,000 (I)	2.30E+5 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	87,000	720,000	1.00E+06	2.20E+06	1.00E+10	2.20E+07	1,500	460,000	2.40E+06	3.10E+06	6.50E+06	1.30E+10	7.10E+07	12	86	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	5.1E+5 (C)	3.00E+06	3.20E+08	6.20E+06	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	9.50E+5 (C)	3.50E+06	3.50E+06	6.40E+06	5.90E+09	3.00E+8 (C)	25	110	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	4.00E+5 (C)	1.70E+06	1.70E+06	2.80E+06	5.80E+09	2.50E+7 (C)	2.60E+05	7.30E+05	2.00E+06	2.00E+06	3.00E+06	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
METHYLENE CHLORIDE	75-09-2	940 (X)	100	45,000	2.10E+05	5.90E+05	1.40E+06	6.60E+09	1.30E+06	100	2.40E+05	7.00E+05	1.70E+06	4.00E+06	8.30E+09	5.80E+6 (C)	130	570	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.50E+05	3.00E+05	3.00E+05	3.00E+05	2.00E+08	1.60E+07	1.00E+05	4.70E+05	3.50E+05	3.50E+05	3.50E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--
N-BUTYLBENZENE	104-51-8	ID	1,600	ID	ID	ID	ID	2.00E+09	2.50E+06	4,600	ID	ID	ID	ID	8.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	ID	ID	ID	ID	1.30E+9 (I)	2.50E+6 (I)	4,600	ID	ID	ID	ID	5.90E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	ID	ID	ID	ID	4.00E+08	2.50E+06	4,600	ID	ID	ID	ID	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	2.50E+05	9.70E+05	9.70E+05	1.40E+06	5.50E+09	4.00E+05	2,700	1.30E+6 (C)	3.30E+06	3.30E+06	4.20E+06	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
TERT-BUTYLBENZENE	98-06-6	ID	1,600 (I)	ID	ID	ID	ID	6.70E+8 (I)	2.50E+6 (I)	4,600 (I)	ID	ID	ID	ID	2.90E+8 (I)	8.00E+6 (I)	NA	NA	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	11,000	1.70E+05	4.80E+05	1.10E+06	2.70E+09	2.0E+5 (C)	100	21,000	2.10E+05	4.90E+05	1.10E+06	1.20E+09	9.30E+5 (C)	6.2 (M)	19 (M)	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	3.30E+5 (C,I)	2.80E+6 (I)	5.10E+6 (I)	1.20E+07 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	6.10E+5 (C,I)	3.30E+6 (I)	3.60E+7 (I)	3.60E+7 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	16,000	NM	--	NM	--	NM	--	NM	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	NA	52,000	2.80E+6 (C)	9.20E+07	6.30E+08	1.50E+09	3.80E+12	7.90E+7 (C)	1.50E+05	5.1E+6 (C)	1.10E+08	1.40E+11	1.40E+11	1.70E+12	2.6E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	6.30E+6 (I)	4.60E+7 (I)	6.10E+7 (I)	1.30E+8 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.20E+7 (C,I)	5.40E+7 (I)	6.50E+7 (I)	1.30E+8 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280	1,200	NM	--	NM	--	NM	--	NM	--
4,4-DDE	72-55-9	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	45,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	NLV	NLV	NLV	NLV	3.20E+07	57,000	NLL	NLV	NLV	NLV	NLV	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--
Aldrin	309-00-2	NLL	NLL	1.30E+06	58,000	58,000	58,000	6.40E+05	1,000	NLL	7.10E+06	2.00E+05	2.00E+05	2.00E+05	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--
alpha-Chlordane	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
beta-BHC	319-85-7	ID	37	NLV	NLV	NLV	NLV	5.90E+06	5,400	150	NLV	NLV	NLV	NLV	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--
Endosulfan I	959-98-8	NLL	NLL	ID	ID	ID	ID	ID	1.4E+06 (J)	NLL	ID	ID	ID	ID	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--
Endosulfan sulfate	1031-07-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Endrin aldehyde	7421-93-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Endrin ketone	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
gamma-Chlordane	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Heptachlor	76-44-8	NLL	NLL	3.50E+05	62,000	62,000	62,000	2.40E+06	5,600	NLL	1.90E+06	2.10E+05	2.10E+05	2.10E+05	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--
Heptachlor epoxide	1024-57-3	NLL	NLL	NLV	NLV	NLV	NLV	1.20E+06	3,100	NLL	NLV	NLV	NLV	NLV	1.50E+06	9,500	NA	NA	NM	--	NM	--	NM	--	NM	--
Methoxychlor	72-43-5	NA	16,000	ID	ID	ID	ID	ID	1.90E+06	16,000	ID	ID	ID	ID	ID	5.60E+06	NA	NA	NM	--	NM	--	NM	--	NM	--
Other																										
Chloride (mg/kg)	--	94 (X)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	5,000	NLV	NLV	NLV	NLV	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Diesel Range Org (C10-C20) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Oil Range Organics (C20-C34) (ug/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--
Hydrocarbons, total (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Soil Table Footnotes:

- EGLE Part 201 residential and non-residential generic cleanup criteria and screening levels criteria were originally promulgated December 21, 2002 within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. This table reflects revisions to the criteria pursuant to the December 2010 Part 201 amendments and new criteria consistent with the provisions of R299.5706a. Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Release Date: December 30, 2013.
- Only detected analytes are listed - Gray rows indicate requested analyses. If no analytes are listed below a gray row then all analytes of that group were either not analyzed or not detected. ND indicates that one or more analyte of that group was tested and not detected and a -- indicates not analyzed.
- **Bold** values are concentrations detected above the laboratory reporting limit.
- **Bold/Shaded** cells indicate analyte concentration exceeded applicable criteria. EGLE Part 201 criteria exceeded is indicated by the footnote in [brackets] following the result value and defined below:

[2] - Groundwater Surface Water Interface Protection Criteria
[3] - Soil Saturation Concentration Screening Levels
[4] - Residential Drinking Water Protection Criteria
[5] - Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)
[6] - Residential Infinite Source Volatile Soil Inhalation Criteria
[7] - Residential Finite VSIC for 5 Meter Source Thickness
[8] - Residential Finite VSIC for 2 Meter Source Thickness
[9] - Residential Particulate Soil Inhalation Criteria
[10] - Residential Direct Contact Criteria
[11] - Nonresidential Drinking Water Protection Criteria
[12] - Nonresidential Soil Volatilization to Indoor Air Inhalation
[13] - Nonresidential Infinite Source Volatile Soil Inhalation Criteria
[14] - Nonresidential Finite VSIC for 5 Meter Source Thickness
[15] - Nonresidential Finite VSIC for 2 Meter Source Thickness
[16] - Nonresidential Particulate Soil Inhalation Criteria
[17] - Nonresidential Direct Contact Criteria
[18] - Soil Residential RIASL (Interim Aug 2017)
[19] - Soil Non-Residential RIASL (Interim Aug 2017)

Evaluation based on EGLE Criteria at time of Project completion.

Samples described in this evaluation may actually refer to stamp sands or to other mining waste from the historic mining and reclamation processes conducted in the area.

NM = Not Measured
-- = Not analyzed/Not Reported
bgs = Below ground surface
ft = Feet
in = Inches
mg/kg = Milligrams per kilogram.
PCBs = Polychlorinated biphenyls
VOC = Volatile organic compounds
SVOC = Semi-volatile organic compound
ug/kg = Micrograms per kilogram
% = Percentage

Criteria Footnotes

ID = Insufficient data to develop criterion.
NA = A criterion or value is not available
NLL = Hazardous substance is not likely to leach under most soil conditions.
NLV = Hazardous substance is not likely to volatilize under most conditions.
(B) = Background, as defined in R 299.1(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.
(BB) = The state drinking water standard for asbestos (fibers greater than 10 micrometers in length) is in units of a million fibers per liter of water (MFL). Soil concentrations of asbestos are determined by polarized light microscopy.
(C) = The criterion developed under R 299.20 to R 299.26 exceeds the chemical- specific soil saturation screening level (Csat). The person proposing or implementing response activity shall document whether additional response activity is required to control free-phase liquids or NAPL to protect against risks associated with free-phase liquids by using methods appropriate for the free-phase liquids present. Development of a site-specific Csat or methods presented in R 299.22, R 299.24(5), and R 299.26(8) may be conducted for the relevant exposure pathways.
(D) = Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).
(DD) = Hazardous substance causes developmental effects. Residential direct contact criteria are protective of both prenatal and postnatal exposure. Nonresidential direct contact criteria are protective for a pregnant adult receptor.
(F) = Criterion is based on adverse impacts to plant life and phytotoxicity.
(G) = Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg CaCO3/L, use 400 mg CaCO3/L for the FCV calculation. The FCV formula provides values in units of ug/L or ppb. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote. A spreadsheet that may be used to calculate GSI and GSI protection criteria for (G)-footnoted hazardous substances is available on the Department of Environment, Great Lakes, and Energy (EGLE) internet web site. A hardness value of 47.5 CaCO3/L and pH of 7, derived from the Michigan Department of Environmental Quality Draft Site Inspection Report for Lake Linden Operations dated 3/29/13, was used in the footnote G calculation spreadsheet.
(H) = Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/L. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.
(I) = Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at the EGLE, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the EGLE, Remediation and Redevelopment Division (RRD), 525 West Allegan Street, Lansing, Michigan 48933, at cost.
(J) = Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.
(M) = Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.
(P) = Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria. Total cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with soil criteria. Nonresidential direct contact criteria may not be protective of the potential for release of hydrogen cyanide gas. Additional land or resource use restrictions may be necessary to protect for the acute inhalation concerns associated with hydrogen cyanide gas.
(Q) = Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.
(R) = Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at the EGLE, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the EGLE, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost.
(T) = Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, Subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards. Subpart D and Subpart G of 40 C.F.R. §761 (July 1, 2001) are adopted by reference in these rules and are available for inspection at the EGLE, 525 West Allegan Street, Lansing, Michigan. Copies of the regulations may be purchased, at a cost as of the time of adoption of these rules of $55, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401, or from the EGLE, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost. Alternatives to compliance with the TSCA standards listed below are possible under 40
(X) = The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. (See R 299.49 Footnotes for generic cleanup criteria tables for additional information.)
(Z) = Mercury is typically measured as total mercury. The generic cleanup criteria, however, are based on data for different species of mercury. Specifically, data for elemental mercury, chemical abstract service (CAS) number 7439976, serve as the basis for the soil volatilization to indoor air criteria, groundwater volatilization to indoor air, and soil inhalation criteria. Data for methyl mercury, CAS number 22967926, serve as the basis for the GSI criterion; and data for mercuric chloride, CAS number 7487947, serve as the basis for the drinking water, groundwater contact, soil direct contact, and the groundwater protection criteria. Comparison to criteria shall be based on species-specific analytical data only if sufficient facility characterization has

Laboratory Footnotes

J = The result is an estimated quantity
ND = Not Detected
U = Analyte analyzed for but not detected above the reported sample reporting limit.

TABLE 5-4
Sample Analytical Summary - Soil
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

	Part 201 Generic Cleanup Criteria Evaluated	Exceedance
EGLE Part 201 Generic Cleanup Criteria (June 2018)	[2] - Groundwater Surface Water Interface Protection Criteria	YES
	[3] - Soil Saturation Concentration Screening Levels	NO
	[4] - Residential Drinking Water Protection Criteria	YES
	[5] - Residential Soil Volatilization to Indoor Air Inhalation Criteria (VSIC)	YES
	[6] - Residential Infinite Source Volatile Soil Inhalation Criteria	YES
	[7] - Residential Finite VSIC for 5 Meter Source Thickness	YES
	[8] - Residential Finite VSIC for 2 Meter Source Thickness	YES
	[9] - Residential Particulate Soil Inhalation Criteria	YES
	[10] - Residential Direct Contact Criteria	YES
	[11] - Nonresidential Drinking Water Protection Criteria	YES
	[12] - Nonresidential Soil Volatilization to Indoor Air Inhalation	YES
	[13] - Nonresidential Infinite Source Volatile Soil Inhalation Criteria	YES
	[14] - Nonresidential Finite VSIC for 5 Meter Source Thickness	YES
	[15] - Nonresidential Finite VSIC for 2 Meter Source Thickness	YES
	[16] - Nonresidential Particulate Soil Inhalation Criteria	YES
	[17] - Nonresidential Direct Contact Criteria	YES
Volatilization to Indoor Air Interim Action Screening Levels (August 2017)	[18] - Soil Residential RIASL (Interim Aug 2017)	YES
	[19] - Soil Non-Residential RIASL (Interim Aug 2017)	YES

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area A															
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW #1				MW #2				MW #3				MW #4					
Field Sample ID														MW #1		MW #1		MW #2		MW #2		MW #3		MW #3		MW #4		MW #4		MW-4	
Sample Date														4/19/1990		10/3/1990		4/19/1990		10/3/1990		4/19/1990		10/3/1990		4/19/1990		10/3/1990		4/23/2008	
Sample Interval (bgs)														--		--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																															
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																															
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																															
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<2 U	--	<2 U	--	<2 U	--	<2 U	--	<2 U	--	<2 U	--	<2 U	--	<2 U	--	--	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	--	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	--	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	--	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	--	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	--	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	--	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	--	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	--	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	--	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<2 U	--	<2 U	--	<2 U	--	<2 U	--	<2 U	--	<2 U	--	<2 U	--	<2 U	--	--	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	--	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	--	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	--	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	--	--

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area A															
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW #1				MW #2				MW #3				MW #4					
Field Sample ID														MW #1		MW #1		MW #2		MW #2		MW #3		MW #3		MW #4		MW #4		MW-4	
Sample Date														4/19/1990		10/3/1990		4/19/1990		10/3/1990		4/19/1990		10/3/1990		4/19/1990		10/3/1990		4/23/2008	
Sample Interval (bgs)														--		--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																															
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	1.2	--	<1 U	--	<1 U	--	<1 UJ	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<5 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<5 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<2 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<5 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	<3 U	--	<1 U	--	<3 U	--	<1 U	--	<3 U	--	<1 U	--	<3 U	--	<1 U	--	--	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	2.5	--	22	--	--	--
Field Measurements																															
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area A															
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW #5						MW #6						MW #7			
Field Sample ID														MW #5		MW #5		MW-5		MW #6		MW #6		MW-6		MW #7		MW #7	
Sample Date														4/19/1990		10/3/1990		4/23/2008		4/19/1990		10/3/1990		4/23/2008		4/19/1990		10/3/1990	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																													
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<2 U	--	<2 U	--	--	--	<2 U	--	<2 U	--	--	--	<2 U	--	<2 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	--	--	<1 U	--	<1 U	--	--	--	<1 U	--	<1 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	--	--	<1 U	--	<1 U	--	--	--	<1 U	--	<1 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<10 U	--	<10 U	--	--	--	<10 U	--	<10 U	--	--	--	<10 U	--	<10 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--	--	--	<5 U	--	<5 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	--	--	<1 U	--	<1 U	--	--	--	<1 U	--	<1 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<2 U	--	<2 U	--	--	--	<2 U	--	6	--	--	--	<2 U	--	<2 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	<10 U	--	--	--	<10 U	--	<10 U	--	--	--	<10 U	--	<10 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	--	--	<1 U	--	100	[3]	--	--	<1 U	--	<1 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	--	--	<1 U	--	6	[3]	--	--	<1 U	--	3	[3]
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	--	--	<1 U	--	<1 U	--	--	--	<1 U	--	2	--

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area A													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW #5						MW #6						MW #7			
Field Sample ID														MW #5		MW #5		MW-5		MW #6		MW #6		MW-6		MW #7		MW #7	
Sample Date														4/19/1990		10/3/1990		4/23/2008		4/19/1990		10/3/1990		4/23/2008		4/19/1990		10/3/1990	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1 U	--	<1 U	--	<1 UJ	--	<10 U	--	<1 U	--	<1 UJ	--	<1 U	--	<1 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	<1 U	--	--	--	--	--	<1 U	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	<1 U	--	--	--	--	--	<1 U	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	<1 U	--	--	--	--	--	<1 U	--	--	--	--	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	<5 U	--	--	--	--	--	<5 U	--	--	--	--	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1 U	--	<1 U	--	<1 U	--	100	[1,2,3,8,9,10,11]	<5 U	--	<1 U	--	<1 U	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<5 U	--	--	--	--	--	<5 U	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1 U	--	<1 U	--	<1 U	--	280	[1,2,3,8,9,10]	<5 U	--	<1 U	--	<1 U	--	<5 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	<1 U	--	--	--	--	--	<1 U	--	--	--	--	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<2 U	--	--	--	--	--	<2 U	--	--	--	--	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	<5 U	--	--	--	--	--	<5 U	--	--	--	--	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<1 U	--	--	--	--	--	<1 U	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<1 U	--	--	--	--	--	<1 U	--	--	--	--	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<1 U	--	--	--	--	--	<1 U	--	--	--	--	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<1 U	--	--	--	--	--	<1 U	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1 U	--	1.9	[8]	<1 U	--	<10 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1 U	--	<1 U	--	<1 U	--	90	--	<5 U	--	<1 U	--	<1 U	--	<5 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1 U	--	2.2	[8,9]	<1 U	--	<10 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<10 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	<3 U	--	<1 U	--	--	--	2,000	[1,2,3,8,9,10]	<5 U	--	--	--	6	--	<5 U	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	--	<1 U	--	--	--	23	--	1,020	--	--	--	16	--	22	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area A													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW #8				MW #9				MW #10				MW-113		Open Ditch to Channel	
Field Sample ID														MW #8		MW-8		MW #9		MW-9		MW #10		MW-10		7728 MW-113		Open Ditch to Channel	
Sample Date														10/3/1990		4/23/2008		10/3/1990		4/23/2008		10/3/1990		4/23/2008		3/6/1997		10/3/1990	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	3.0	--	--	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																													
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<2 U	--	--	--	<2 U	--	--	--	<2 U	--	--	--	51	[3]	<2 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	<25 U	--	<1 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	97	[1,2,4,5,6]	<1 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<5 U	--	--	--	120	[1,2,4]	<5 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<5 U	--	--	--	92	[1,2,4]	<5 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<5 U	--	--	--	180	[1,2,4]	<5 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<10 U	--	--	--	<10 U	--	--	--	<25 U	--	<10 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<5 U	--	--	--	<25 U	--	<5 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<5 U	--	--	--	110	[1,2,4]	<5 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	230	1,2,3,4,5,6	<1 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<2 U	--	--	--	<2 U	--	--	--	<2 U	--	--	--	96	[3]	<2 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<10 U	--	--	--	<10 U	--	--	--	<25 U	--	<10 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	180	[3]	<1 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	280	[1,2,3]	<1 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	3	--	--	--	<1 U	--	--	--	<1 U	--	--	--	200	[1,2,4,5,6]	<1 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area A													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW #8				MW #9				MW #10				MW-113		Open Ditch to Channel	
Field Sample ID														MW #8		MW-8		MW #9		MW-9		MW #10		MW-10		7728 MW-113		Open Ditch to Channel	
Sample Date														10/3/1990		4/23/2008		10/3/1990		4/23/2008		10/3/1990		4/23/2008		3/6/1997		10/3/1990	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1 U	--	<1 UJ	--	<1 U	--	<1 UJ	--	<1 U	--	<1 UJ	--	--	--	<1 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	--	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	<5 U	--	--	--	<5 U	--	--	--	<5 U	--	--	--	--	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<5 U	--	<1 U	--	6.2	[1,2,8,9]	<1 U	--	<1 U	--	<1 U	--	<5 U	--	<1 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	<5 U	--	--	--	<5 U	--	--	--	<5 U	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<5 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	--	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	<2 U	--	--	--	<2 U	--	--	--	<2 U	--	--	--	--	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	<5 U	--	--	--	<5 U	--	--	--	<5 U	--	--	--	--	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	--	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	--	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	<1 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	--	--	<1 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<5 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	--	--	<1 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	--	--	<1 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	<5 U	--	--	--	<1 U	--	--	--	<1 U	--	--	--	<3 U	--	<1 U	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	100	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40	--	--	--	6	--	--	--	30	--	--	--	--	--	<1 U	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B																	
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-101		MW-102		MW-103		MW-104		MW-105		MW-106		MW-108		MW-109		MW-110	
Field Sample ID														5417 MW-101		5418 MW-102		5419 MW-103		5420 MW-104		8795 MW-105		8775 MW-106		8777 MW-108		8778 MW-109		8779 MW-110	
Sample Date														7/25/1995		7/25/1995		7/25/1995		7/25/1995		10/29/1996		10/11/1996		10/11/1996		10/11/1996		10/11/1996	
Sample Interval (bgs)														--		--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																															
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	0.003	--	<0.003 U	--	<0.003 U	--	0.006	--	160	[1,2,3]	6.0	[1,2]	<3 U	--	<3 U	--	<3 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																															
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																															
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	35	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	16	--	<5 U	--	6	--	<25 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<25 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	8	--	<5 U	--	<5 U	--	<25 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	71	[1,2,4,5,6]	<5 U	--	<5 U	--	<5 U	--	<5 U	--	5	--	<5 U	--	9	--	<25 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<25 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	11	[1,2,4]	24	[1,2,4]	<25 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<25 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	11	[1,2,4]	22	[1,2,4]	<25 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<25 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	10	[1,2,4]	24	[1,2,4]	<25 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<25 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	8	[1,2,4]	13	[1,2,4]	<25 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<25 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	8	[1,2,4]	18	[1,2,4]	<25 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<25 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	12	[1,2,4]	25	[1,2,4]	<25 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	40	[3]	<5 U	--	<5 U	--	<5 U	--	<5 U	--	7	[3]	24	[3]	56	[3]	<25 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	41	[3]	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	9	--	<25 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<25 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	9	[1,2,4]	15	[1,2,4]	<25 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	280	[3]	<5 U	--	<5 U	--	<5 U	--	5	--	85	[3]	<5 U	--	18	[3]	410	[3]
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<25 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	27	[3]	9	[3]	36	[3]	41	[3]
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	40	--	5	--	<5 U	--	<5 U	--	<5 U	--	6	--	19	--	40	--	<25 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B															
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-101		MW-102		MW-103		MW-104		MW-105		MW-106		MW-108		MW-109		MW-110	
Field Sample ID														5417 MW-101		5418 MW-102		5419 MW-103		5420 MW-104		8795 MW-105		8775 MW-106		8777 MW-108		8778 MW-109		8779 MW-110	
Sample Date														7/25/1995		7/25/1995		7/25/1995		7/25/1995		10/29/1996		10/11/1996		10/11/1996		10/11/1996		10/11/1996	
Sample Interval (bgs)														--		--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																															
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<5 U	--	<5 U	--	9	[1,2,8,9]	<5 U	--	8	[1,2,8,9]	8	[1,2,8,9]	<5 U	--	30	[1,2,3,8,9,10]	110	[1,2,3,8,9,10,11]
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	11	[8,9]	<1 U	--	2	--	<1 U	--	28	[3,8,9]	22	[3,8,9]	<1 U	--	9.0	[8,9]	430	[1,2,3,8,9,10,12]
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	2	--	<1 U	--	3	--	<1 U	--	8	--	68	--	<1 U	--	21	--	28	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	60	[3]	<3 U	--	11	--	<3 U	--	72	[3]	500	[1,2,3,8,9]	<3 U	--	20	--	1,700	[1,2,3,8,9,10]
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	720	--	100	--	20	--	2,000	--	400	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																															
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B																	
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-112		MW-301						MW-302						MW-303			
Field Sample ID														8781 MW-112		5421 MW-301		MW-301 10141		QMCP MW-301		5422 MW-302		MW-302 10142		QMCP MW-302		5423 MW-303		8787 MW-303D	
Sample Date														10/11/1996		7/25/1995		7/9/1998		9/6/2018		7/25/1995		7/9/1998		9/6/2018		7/25/1995		10/11/1996	
Sample Interval (bgs)														--		--		--		30 - 35 ft		--		--		1.7 - 6.7 ft		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																															
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	1.1	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	99	--	--	--	--	--	17	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	<0.2 U	--	--	--	--	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	66,000	--	--	--	--	--	17,000	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	2.4	--	--	--	--	--	<1.0 U	--	--	--	--	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	5.6	[3]	--	--	--	--	110	[3]	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	<3 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	1.8	--	--	--	<3 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	18,000	--	--	--	--	--	1,900	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	<0.2 U	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	1,700	--	--	--	--	--	2,700	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	<0.2 U	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	18,000	--	--	--	--	--	350,000	[1]	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5.0 U	--	--	--	--	--	<5.0 U	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																															
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																															
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5.0 U	--	--	--	--	--	<5 UJ	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	--	--	<2.0 U	--	--	--	--	--	<2 UJ	--	--	--	<5 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	11	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	12	[3]	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	10	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1 UJ	--	--	--	<5 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B															
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-112		MW-301						MW-302						MW-303			
Field Sample ID														8781 MW-112		5421 MW-301		MW-301 10141		QMCP MW-301		5422 MW-302		MW-302 10142		QMCP MW-302		5423 MW-303		8787 MW-303D	
Sample Date														10/11/1996		7/25/1995		7/9/1998		9/6/2018		7/25/1995		7/9/1998		9/6/2018		7/25/1995		10/11/1996	
Sample Interval (bgs)														--		--		--		30 - 35 ft		--		--		1.7 - 6.7 ft		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																															
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5.0 U	--	--	--	--	--	<5.0 U	--	--	--	--	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<5 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5.0 U	--	--	--	--	--	<5.0 U	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1 U	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<2.0 U	--	--	--	--	--	<2.0 U	--	--	--	--	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5.0 U	--	--	--	--	--	<5.0 U	--	--	--	--	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	1	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	<1 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	<1.0 U	--	--	--	--	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	<3 U	--	--	--	--	--	ND	--	--	--	--	--	ND	--	--	--	<3 U	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	20	--	48	--	1,200	--	--	--	530	--	16	--	--	--	630	--	170	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																															
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							10.8						15.6					
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							0.394						1.380					
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							64.6						0.8					
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							7.82						7.64					
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							2.65						7.6					

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-305		MW-306		MW-401		MW-402		MW-403		MW-404		MW-405		MW-406	
Field Sample ID														8788 MW-305		8000		5424 MW-401		5600 MW-402		5600 MW-403		8789 MW-404		8790 MW-405		7726 MW-406	
Sample Date														10/11/1996		10/23/1997		7/25/1995		7/25/1995		7/25/1995		10/11/1996		10/11/1996		3/6/1997	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																											
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	<3 U	--	9.0	[1,2]	--	--	--	--	--	--	<3 U	--	<3 U	--	6.0	[1,2]
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																											
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																											
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-305		MW-306		MW-401		MW-402		MW-403		MW-404		MW-405		MW-406	
Field Sample ID														8788 MW-305		8000		5424 MW-401		5600 MW-402		5600 MW-403		8789 MW-404		8790 MW-405		7726 MW-406	
Sample Date														10/11/1996		10/23/1997		7/25/1995		7/25/1995		7/25/1995		10/11/1996		10/11/1996		3/6/1997	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<5 U	--	<5 U	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1 U	--	<1 U	--	--	--	--	--	--	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1 U	--	<1 U	--	--	--	--	--	--	--	<1 U	--	<1 U	--	<1 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	<3 U	--	<3 U	--	--	--	--	--	--	--	<3 U	--	<3 U	--	3	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	1,100	--	240	--	350	--	29	--	220	--	120	--	1,400	--	34	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B																	
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-501								MW-502				MW-503					
Field Sample ID														8782 MW-501		MW-501 10136		QMCP MW-501		QMCP MW-501-DUP1		8783 MW-502		MW-502 10137		8784 MW-503		MW-503 10138		QMCP MW-503	
Sample Date														10/11/1996		7/9/1998		9/7/2018		9/7/2018		10/11/1996		7/9/1998		10/11/1996		7/9/1998		9/7/2018	
Sample Interval (bgs)														--		--		1.5 - 6.5 ft		1.5 - 6.5 ft		--		--		--		--		1.5 - 6.5 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																															
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	1.3	--	1.3	--	--	--	--	--	--	--	--	--	1.9	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	40	--	43	--	--	--	--	--	--	--	--	--	49	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<0.2 U	--	<0.2 U	--	--	--	--	--	--	--	--	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	26,000	--	28,000	--	--	--	--	--	--	--	--	--	35,000	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	9.7	[3]	13	[3]	--	--	--	--	--	--	--	--	25	[3]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	<3 U	--	<3 U	--	1.3	--	1.8	--	6.0	[1,2]	<3 U	--	<3 U	--	<3 U	--	<1.0 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	4,800	--	5,300	--	--	--	--	--	--	--	--	--	5,500	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	<0.2 U	--	<0.2 U	--	--	--	--	--	--	--	--	--	<0.2 U	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	1,300	--	1,400	--	--	--	--	--	--	--	--	--	1,900	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<0.2 U	--	<0.2 U	--	--	--	--	--	--	--	--	--	<0.2 U	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	7,000	--	7,400	--	--	--	--	--	--	--	--	--	16,000	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<5.0 U	--	7	--	--	--	--	--	--	--	--	--	12	--
Organics - PCBs as Aroclors (ug/l)																															
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																															
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	<5.1 U	--	<5.0 U	--	--	--	--	--	--	--	--	--	<5.0 U	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<2.0 U	--	<2.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<2.0 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<10 U	--	--	--	<1.0 U	--	<1.0 U	--	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B																	
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-501								MW-502				MW-503					
Field Sample ID														8782 MW-501		MW-501 10136		QMCP MW-501		QMCP MW-501-DUP1		8783 MW-502		MW-502 10137		8784 MW-503		MW-503 10138		QMCP MW-503	
Sample Date														10/11/1996		7/9/1998		9/7/2018		9/7/2018		10/11/1996		7/9/1998		10/11/1996		7/9/1998		9/7/2018	
Sample Interval (bgs)														--		--		1.5 - 6.5 ft		1.5 - 6.5 ft		--		--		--		--		1.5 - 6.5 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																															
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	<5.0 U	--	<5.0 U	--	--	--	--	--	--	--	--	--	<5.0 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<5 U	--	<5 U	--	<1.0 U	--	<5.0 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<5.0 U	--	<5.0 U	--	--	--	--	--	--	--	--	--	<5.0 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<2.0 U	--	<2.0 U	--	--	--	--	--	--	--	--	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	<5.0 U	--	<5.0 U	--	--	--	--	--	--	--	--	--	<5.0 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	3	--	7.1	--	<1.0 U	--	<1.0 U	--	11	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	--	--	--	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	<1.0 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	<3 U	--	<3 U	--	ND	--	ND	--	<3 U	--	<3 U	--	<3 U	--	<3 U	--	ND	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	40	--	--	--	--	--	--	--	<10 U	--	--	--	<10 U	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																															
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					18.5												18.3	
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					0.190												0.256	
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					0.8												8.4	
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					6.55												6.56	
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					5.3												160	

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-504				MW-505						QMCP-GW07		QMCP-GW67		QMCP-GW68	
Field Sample ID														8785 MW-504		MW-504 10139		8786 MW-505		MW-505 10140		QMCP MW-505		QMCP-GW7 3-7		QMCP-GW67 3-7		QMCP-GW68 3-7	
Sample Date														10/11/1996		7/9/1998		10/11/1996		7/9/1998		9/6/2018		9/11/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)														--		--		--		--		2.5 - 7.5 ft		3 - 7 ft		3 - 7 ft		3 - 7 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	2.4	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	54	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<0.2 U	--	<0.2 U	--	0.4	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	34,000	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	7.4	--	42	[3]	5.3	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	98	[3]	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	<3 U	--	<3 U	--	4	--	5.0	[1,2]	1.1	--	12	[1,2]	180	[1,2,3]	14	[1,2]
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	5,300	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	3,100	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	35,000	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<5.0 U	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																													
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<5.0 U	--	<5.0 U	--	<5 UJ	--	<5.1 U	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	2.8 J	--	<1.0 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	11 J	--	<1.0 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	23 J	[1,2,4]	<1.0 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	19 J	[1,2,4]	<1.0 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	30 J	[1,2,4]	<1.0 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	4.2 J	[1,2,4]	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	12 J	[1,2,4]	<1.0 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	21 J	[1,2,4]	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	46 J	[3]	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	3.8 J	--	<1.0 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<2.0 U	--	<2.0 U	--	4.5 J	[1,2,4]	<2.0 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	2.3 J	--	<1.0 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	39 J	[3]	<1.0 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<5 U	--	--	--	<5 U	--	--	--	<1.0 U	--	<1.0 U	--	36 J	--	<1.0 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	MW-504				MW-505						QMCP-GW07		QMCP-GW67		QMCP-GW68	
Field Sample ID														8785 MW-504		MW-504 10139		8786 MW-505		MW-505 10140		QMCP MW-505		QMCP-GW07 3-7		QMCP-GW67 3-7		QMCP-GW68 3-7	
Sample Date														10/11/1996		7/9/1998		10/11/1996		7/9/1998		9/6/2018		9/11/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)														--		--		--		--		2.5 - 7.5 ft		3 - 7 ft		3 - 7 ft		3 - 7 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																											
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	<3 U	--	<3 U	--	<3 U	--	<3 U	--	ND	--	ND	--	ND	--	ND	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	40	--	--	--	30	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									17.5							
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									0.320							
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									1.0							
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									7.24							
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									1.5							

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B															
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	SB-101				SB-102		SB-103		SB-104		SB-105		SB-106		SB-107	
Field Sample ID														5381 SB-101		5381 SB-101 Cleanup		5382 SB-102		5383 SB-103		5384 SB-104		5385 SB-105		5386 SB-106		5387 SB-107	
Sample Date														7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	0.023	--	--	--	<0.003 U	--	0.003	--	<0.003 U	--	<0.003 U	--	<0.003 U	--	<0.003 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																													
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	91	[1,2,4,5,6]	82 J	[1,2,4,5,6]	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	55	[3]	56 J	[3]	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	1,100	[1,3]	1,100 J	[1,3]	<5 U	--	37	[3]	<5 U	--	<5 U	--	<5 U	--	<5 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<50 U	--	73 J	[1,3]	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<50 U	--	<25 UJ	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	SB-101				SB-102		SB-103		SB-104		SB-105		SB-106		SB-107	
Field Sample ID														5381 SB-101		5381 SB-101 Cleanup		5382 SB-102		5383 SB-103		5384 SB-104		5385 SB-105		5386 SB-106		5387 SB-107	
Sample Date														7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																											
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	1,800	[1,2,3,8,9,10,11,12,13]	--	--	<5 U	--	53	[1,2,3,8,9,10]	<5 U	--	<5 U	--	<5 U	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	1,200	[1,2,3,8,9,10,11,12,13]	--	--	3.0	[8]	94	[1,2,3,8,9,10]	<1 U	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	4,800	[1,2,3,8,9]	--	--	5	--	18	--	<1 U	--	<1 U	--	<1 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	5,600	[1,2,3,8,9,10,11]	--	--	13	--	260	[3,8,9]	<3 U	--	5	--	<3 U	--	<3 U	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																											
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA														
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA														
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA														
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA														
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA														

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B															
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	SB-108		SB-109		SB-110				SB-111		SB-112		SB-114				SB-201	
Field Sample ID														5388 SB-108		5389 SB-109		5390 SB-110		5390 SB-110 Cleanup		5391 SB-111		5392 SB-112		5411 SB-114		5411 SB-114 Cleanup		5409 SB-201	
Sample Date														7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/20/1995	
Sample Interval (bgs)														--		--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																															
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.0	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	130	[1,2,3]
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	0.009	--	0.012	--	0.004	--	--	--	<0.003 U	--	<0.003 U	--	0.029	--	--	--	0.003	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																															
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2 U	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
Organics - SVOCs (ug/l)																															
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	10	--	7	--	34	--	10 J	--	7	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	6	[3]	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	23	[3]	82	[3]	50	[3]	11 J	--	28	[3]	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<25 U	--	6 J	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B															
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	SB-108		SB-109		SB-110				SB-111		SB-112		SB-114				SB-201	
Field Sample ID														5388 SB-108		5389 SB-109		5390 SB-110		5390 SB-110 Cleanup		5391 SB-111		5392 SB-112		5411 SB-114		5411 SB-114 Cleanup		5409 SB-201	
Sample Date														7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/20/1995	
Sample Interval (bgs)														--		--		--		--		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																															
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<5 U	--	7	[1,2,8,9]	<5 U	--	--	--	<5 U	--	<5 U	--	13	[1,2,3,8,9]	--	--	35	[1,2,3,8,9,10]
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	3.0	[8]	71	[3,8,9,10]	2	--	--	--	<1 U	--	<1 U	--	12	[8,9]	--	--	24	[3,8,9]
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1 U	--	7	--	2	--	--	--	1	--	<1 U	--	2	--	--	--	40	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	19	--	380	[1,2,3,8,9]	12	--	--	--	<3 U	--	<3 U	--	42	--	--	--	92	[3,8]
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																															
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B		Area D											
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	SB-501		QMCP-GW09		QMCP-GW10		QMCP-GW11		QMCP-GW12		QMCP-GW13		QMCP-GW14		QMCP-GW15	
Field Sample ID														5407 SB-501		QMCP-GW-9 12-16		QMCP-GW 10 6-10ft		QMCP-GW-11 7-11		QMCP-GW-12 4-8		QMCP-GW-13 4-8		QMCP-GW-14 4-8		QMCP-GW-15 2-6	
Sample Date														7/20/1995		9/6/2018		9/7/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)														--		12 - 16 ft		6 - 10 ft		7 - 11 ft		4 - 8 ft		4 - 8 ft		4 - 8 ft		2 - 6 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	1.3	--	5.1	--	1.6	--	<1.0 U	--	<1.0 U	--	1.5	--	1.6	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	<0.2 U	--	<0.2 U	--	0.3	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	9.3	--	68	[3]	34	--	2.7	--	<1.0 U	--	1.9	--	3.3	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	1,100	[1,2,3]	200	[3]	9,100	[1,2,3]	1,200	[1,2,3]	28	[3]	1,500	[1,2,3]	400	[3]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	13	[1,2]	5.3	[1,2]	14	[1,2]	1.8	--	<1.0 U	--	4.0	--	24	[1,2,3]
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	5,100	[1,2,3]	770	[1,2]	560	[1,2]	270	[1,2]	350	[1,2]	300	[1,2]	160	[1,2]
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	<0.2 U	--	<0.2 U	--	0.6	[3,8,9]	0.3	[3,8,9]	<0.2 U	--	<0.2 U	--	<0.2 U	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	0.6	[3]	0.3	[3]	13	[3]	2	[3]	<0.2 U	--	0.7	[3]	1.4	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	33	--	43	--	60	--	20	--	6	--	17	--	43	--
Organics - PCBs as Aroclors (ug/l)																													
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	<0.10 U	--	<0.10 U	--	<0.10 U	--	<0.10 U	--	<0.10 U	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	ND	--	ND	--	ND	--	ND	--	ND	--	--	--
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	22	[3]	<5.1 U	--	<5.1 U	--	<5.0 U	--	<5.1 U	--	<5.0 U	--	<5.0 U	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	--	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	--	--	42	[3]	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area B		Area D													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	SB-501		QMCP-GW09		QMCP-GW10		QMCP-GW11		QMCP-GW12		QMCP-GW13		QMCP-GW14		QMCP-GW15	
Field Sample ID														5407 SB-501		QMCP-GW-9 12-16		QMCP-GW 10 6-10ft		QMCP-GW-11 7-11		QMCP-GW-12 4-8		QMCP-GW-13 4-8		QMCP-GW-14 4-8		QMCP-GW-15 2-6	
Sample Date														7/20/1995		9/6/2018		9/7/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (bgs)														--		12 - 16 ft		6 - 10 ft		7 - 11 ft		4 - 8 ft		4 - 8 ft		4 - 8 ft		2 - 6 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	18	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	420	[1,2,3,8,9]	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	230	[1,2,3,8,9]	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	62	[3]	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	--	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	480	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	--	--	230	[1,2,3,8,9,10]	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	260	[8,9,10,11,12,13]	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	71	[3]	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	410	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	88	[3]	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	160	[1]	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	15	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	--	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	--	--	425	[1,2,3,8,9]	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			12.7		13.7		13.9		16.7		20		18.4		18.5	
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			0.581		0.540		0.335		0.760		0.467		0.468		0.339	
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			9.4		2.7		4.3		3.4		95		3.9		7.5	
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			9.40		7.30		7.37		7.16		7.95		7.48		7.44	
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area D										Area E			
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW16		QMCP-GW17		QMCP-GW18		QMCP-GW51		QMCP-GW52		QMCP-GW20		QMCP-GW21	
Field Sample ID														QMCP-GW-16 2-4		QMCP-GW 17 5-9ft		QMCP-GW 18 5-9ft		QMCP-GW-51 10-14		QMCP-GW-52 8-12		QMCP-GW 20 5-9ft		QMCP-GW 21 4-8ft	
Sample Date														9/6/2018		9/7/2018		9/7/2018		9/6/2018		9/6/2018		9/7/2018		9/7/2018	
Sample Interval (bgs)														2 - 4 ft		5 - 9 ft		5 - 9 ft		10 - 14 ft		8 - 12 ft		5 - 9 ft		4 - 8 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																											
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	1.8	--	1.7	--	<1.0 U	--	<1.0 U	--	1.5	--	2.0	--	<1.0 U	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.3	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	19	--	5.8	--	17	--	2.0	--	24	--	26	--	<1.0 U	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	3,600	[1,2,3]	200	[3]	3,800	[1,2,3]	12	[3]	140	[3]	17,000	[1,2,3]	1,900	[1,2,3]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	23	[1,2,3]	49	[1,2,3]	3.5	--	<1.0 U	--	1.0	--	9.3	[1,2]	<1.0 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	680	[1,2]	520	[1,2]	1,200	[1,2,3]	170	[1,2]	690	[1,2]	1,600	[1,2,3]	360	[1,2]
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	2.5	[1,2,3,8,9,10]	<0.2 U	--	1.2	[3,8,9]	<0.2 U	--	<0.2 U	--	1.7	[3,8,9,10]	0.2	[3,8,9]
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	14	[3]	<0.2 U	--	19	[3]	<0.2 U	--	<0.2 U	--	19	[3]	4	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	84	[3]	81	[3]	51	--	6.6	--	25	--	94	[3]	5.9	--
Organics - PCBs as Aroclors (ug/l)																											
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 J	--	<0.10 U	--	--	--	--	--	<0.10 U	--	<0.10 U	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	0.1 J	--	ND	--	--	--	--	--	ND	--	ND	--	--	--
Organics - SVOCs (ug/l)																											
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.1 U	--	<5.0 U	--	<5.0 U	--	<5 UJ	--	<5 UJ	--	<5.0 U	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1 UJ	--	<1.0 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1 UJ	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1 UJ	--	<1.0 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1 UJ	--	<1.0 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1 UJ	--	<1.0 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1 UJ	--	<1.0 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1 UJ	--	<1.0 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2 UJ	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1 UJ	--	<1.0 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area D										Area E			
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW16		QMCP-GW17		QMCP-GW18		QMCP-GW51		QMCP-GW52		QMCP-GW20		QMCP-GW21	
Field Sample ID														QMCP-GW-16 2-4		QMCP-GW 17 5-9ft		QMCP-GW 18 5-9ft		QMCP-GW-51 10-14		QMCP-GW-52 8-12		QMCP-GW 20 5-9ft		QMCP-GW 21 4-8ft	
Sample Date														9/6/2018		9/7/2018		9/7/2018		9/6/2018		9/6/2018		9/7/2018		9/7/2018	
Sample Interval (bgs)														2 - 4 ft		5 - 9 ft		5 - 9 ft		10 - 14 ft		8 - 12 ft		5 - 9 ft		4 - 8 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																											
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.4	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																											
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.1				15.5		12.5		14.3		15.2		17.7	
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.362				0.630		0.603		0.535		0.280		0.700	
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.7				7.0		17.0		8.7		2.9		2.3	
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.09				7.92		6.97		7.00		7.19		7.21	
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA														

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area E				Area F						Area G			
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW61				QMCP-GW62		QMCP-GW63		QMCP-GW64		QMCP-GW22			
Field Sample ID														QMCP-GW 61 5-9ft		QMCP-GW 61 5-9ft DUP		QMCP-GW 62 4-8ft		QMCP-GW 63 4-8ft		QMCP-GW 64 5-9ft		QMCP-GW 22 4-8ft		QMCP-GW 22 4-8ft DUP	
Sample Date														9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)														5 - 9 ft		5 - 9 ft		4 - 8 ft		4 - 8 ft		5 - 9 ft		4 - 8 ft		4 - 8 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																											
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	2.1	--	1.3	--	1.8	--	<1.0 U	--	<1.0 U	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.3	--	<0.2 U	--	<0.2 U	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	1.3	--	1.8	--	6.2	--	5.1	--	13	--	2.8	--	2.0	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	4,200	[1,2,3]	4,200	[1,2,3]	4,600	[1,2,3]	4,500	[1,2,3]	4,900	[1,2,3]	270	[3]	240	[3]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	4.0	--	2.2	--	8.9	[1,2]	<1.0 U	--	<1.0 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	450	[1,2]	460	[1,2]	4,300	[1,2,3]	1,700	[1,2,3]	1,400	[1,2,3]	260	[1,2]	250	[1,2]
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	0.4	[3,8,9]	0.3	[3,8,9]	1.8	[3,8,9,10]	1	[3,8,9]	1	[3,8,9]	<0.2 U	--	<0.2 U	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	9	[3]	8.9	[3]	20	[3]	12	[3]	12	[3]	0.6	[3]	0.5	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	95	[3]	99	[3]	15	--	22	--	58	--	12	--	11	--
Organics - PCBs as Aroclors (ug/l)																											
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10 U	--	<0.10 U	--	--	--	--	--	<0.10 U	--	<0.10 U	--	<0.10 U	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	ND	--	ND	--	--	--	--	--	ND	--	ND	--	ND	--
Organics - SVOCs (ug/l)																											
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.1 U	--	73	[3]	90	[3]	<5.0 U	--	<5.0 U	--	<5 UJ	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	4.5	--	3.6	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	1.2	--	1.1	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	1.2	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.2	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	6.8	--	5.5	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	160	[3]	140	[3]	<1.0 U	--	<1.0 U	--	<1 UJ	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	17	[3]	15	[3]	<1.0 U	--	<1.0 U	--	<1 UJ	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.5	--	<1.0 U	--	<1.0 U	--	<1 UJ	--

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area E				Area F						Area G			
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW61				QMCP-GW62		QMCP-GW63		QMCP-GW64		QMCP-GW22			
Field Sample ID														QMCP-GW 61 5-9ft		QMCP-GW 61 5-9ft DUP		QMCP-GW 62 4-8ft		QMCP-GW 63 4-8ft		QMCP-GW 64 5-9ft		QMCP-GW 22 4-8ft		QMCP-GW 22 4-8ft DUP	
Sample Date														9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)														5 - 9 ft		5 - 9 ft		4 - 8 ft		4 - 8 ft		5 - 9 ft		4 - 8 ft		4 - 8 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																											
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1.0 U	--	<1.0 U	--	<10 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	<1.0 U	--	<1.0 U	--	290	[8,9]	100	[8,9]	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	<1.0 U	--	<1.0 U	--	590	[1,2,3,8,9,10]	290	[1,2,3,8,9]	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	<1.0 U	--	<1.0 U	--	150	[1,2,3,8,9]	69	[3,8,9]	<1.0 U	--	<1.0 U	--	<1.0 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	100	[3]	100	[3]	<5.0 U	--	<5.0 U	--	<5.0 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1.0 U	--	<1.0 U	--	120	[1,2,3,8,9,10,11]	15	[1,2,3,8,9,10]	<1.0 U	--	<1.0 U	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	86	--	67	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1.0 U	--	<1.0 U	--	270	[1,2,3,8,9,10]	87	[1,2,3,8,9,10]	<1.0 U	--	<1.0 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	<1.0 U	--	<1.0 U	--	29	--	12	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	22	--	17	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	620	--	190	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	240	[3]	190	[3]	<5.0 U	--	<5.0 U	--	<5.0 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<10 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	56	--	49	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	36	--	29	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<10 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1.0 U	--	<1.0 U	--	<10 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1.0 U	--	<1.0 U	--	<10 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1.0 U	--	<1.0 U	--	<10 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<10 U	--	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	ND	--	ND	--	656	[1,2,3,8,9]	219	[3,8,9]	ND	--	ND	--	ND	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																											
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.6				18.6		18.6		17.4		14.6			
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.900				1.000		0.940		0.710		0.900			
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.7				1.7		42.5		5.1		46.0			
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.08				6.88		6.98		7.13		6.77			
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA														

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area G													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW23		QMCP-GW24		QMCP-GW25		QMCP-GW26		QMCP-GW27		QMCP-GW28		QMCP-GW29		QMCP-GW65	
Field Sample ID														QMCP-GW 23 5-9ft		QMCP-GW 24 4-8ft		QMCP-GW 25 4-8ft		QMCP-GW 26 2-6ft		QMCP-GW 27 2-6ft		QMCP-GW 28 2-6ft		QMCP-GW 29 2-6ft		QMCP-GW 65 5-9ft	
Sample Date														9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)														5 - 9 ft		4 - 8 ft		4 - 8 ft		2 - 6 ft		2 - 6 ft		2 - 6 ft		2 - 6 ft		5 - 9 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																											
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	10	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	2.2	--	4.4	--	<1.0 U	--	<1.0 U	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	<0.2 U	--	<2.0 U	--	<0.2 U	--	<0.2 U	--	0.9	--	0.3	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	29	--	1.2	--	<10 U	--	1.1	--	78	[3]	160	[1,2,3]	4.4	--	3.7	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	3,100	[1,2,3]	110	[3]	6,700	[1,2,3]	1,300	[1,2,3]	27,000	[1,2,3]	970	[3]	2,900	[1,2,3]	850	[3]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	59	[1,2,3]	<1.0 U	--	<10 U	--	2.7	--	12	[1,2]	200	[1,2,3]	3.1	--	3.5	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	1,300	[1,2,3]	80	[1,2]	9,500	[1,2,3]	1,000	[1,2]	3,800	[1,2,3]	2,200	[1,2,3]	630	[1,2]	1,500	[1,2,3]
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	0.3	[3,8,9]	<0.2 U	--	2.3	[1,2,3,8,9,10]	<0.2 U	--	9.9	[1,2,3,8,9,10,11,12]	<0.2 U	--	1.4	[3,8,9]	<0.2 U	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	2.7	[3]	<0.2 U	--	49	[1,3]	2.3	[3]	49	[1,3]	2	[3]	18	[3]	1.8	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	96	[3]	7.5	--	140 J	[3]	<5.0 U	--	360	[3]	180	[3]	40	--	13	--
Organics - PCBs as Aroclors (ug/l)																											
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10 U	--	<0.10 U	--	<0.10 U	--	<0.10 U	--	<0.1 UJ	--	<0.10 U	--	<0.10 U	--	<0.10 U	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Organics - SVOCs (ug/l)																											
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	50	[3]	<5.0 U	--	<5.0 U	--	<5.6 U	--	<5 UJ	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	0.96 J	--	<1.1 U	--	<1 UJ	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.2	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.2 U	--	<2 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	5.4	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.2	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.1 U	--	<1 UJ	--

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area G													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW23		QMCP-GW24		QMCP-GW25		QMCP-GW26		QMCP-GW27		QMCP-GW28		QMCP-GW29		QMCP-GW65	
Field Sample ID														QMCP-GW 23 5-9ft		QMCP-GW 24 4-8ft		QMCP-GW 25 4-8ft		QMCP-GW 26 2-6ft		QMCP-GW 27 2-6ft		QMCP-GW 28 2-6ft		QMCP-GW 29 2-6ft		QMCP-GW 65 5-9ft	
Sample Date														9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018		9/8/2018	
Sample Interval (bgs)														5 - 9 ft		4 - 8 ft		4 - 8 ft		2 - 6 ft		2 - 6 ft		2 - 6 ft		2 - 6 ft		5 - 9 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	<1.0 U	--	<1.0 U	--	<1.0 U	--	37	--	2.9	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	<1.0 U	--	<1.0 U	--	<1.0 U	--	36	[3,8]	5.4	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	<1.0 U	--	<1.0 U	--	<1.0 U	--	20	[8]	1.9	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	120	[3]	6.8	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	83	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	<1.0 U	--	<1.0 U	--	<1.0 U	--	24	--	1.2	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	6.6	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	3.3	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	12	[3]	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	5.4	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	2.6	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	5.7	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	ND	--	ND	--	ND	--	5.9	--	ND	--	ND	--	ND	--	ND	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.0		16.4		16.7		16.7		19.4		18.4		17.4		13.9	
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.578		1.000		3.550		0.650		0.453		0.458		1.150		1.020	
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7		56.3		9.4		2.1		26.7		8.2		4.0		1.5	
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.80		6.86		6.91		7.23		7.87		7.73		7.36		6.98	
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area G								Area H							
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW66		QMCP-GW75		QMCP-GW76		QMCP-GW77		GP-1		GP-2		GP-3		GP-4	
Field Sample ID														QMCP-GW 66 4-8ft		QMCP-GW 75 5ft		QMCP-GW 76 5.25ft		QMCP-GW 77 1ft		GP-1		GP-2		GP-3		GP-4	
Sample Date														9/8/2018		10/31/2018		10/31/2018		10/31/2018		6/13/2012		6/13/2012		6/13/2012		6/13/2012	
Sample Interval (bgs)														4 - 8 ft		5 - 5 ft		5.25 - 5.25 ft		1 - 1 ft		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	1.3	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	130	--	<100 U	--	<100 U	--	<100 U	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	--	--	--	--	--	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	5.4	--	--	--	--	--	--	--	<10 U	--	20	--	<10 U	--	<10 U	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	68	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	--	--	--	--	--	--	<3 U	--	<3 U	--	<3 U	--	<3 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	470	[1,2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	<0.2 U	--	--	--	--	--	--	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	--	--	--	--	--	--	<0.2 U	--	0.59	[3]	<0.2 U	--	<0.2 U	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	9.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																													
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.3 U	--	<5.3 U	--	<5.2 U	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	<1.0 U	--	--	--	--	--	--	--	--	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	<1.0 U	--	--	--	--	--	--	--	--	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	<1.0 U	--	--	--	--	--	--	--	--	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	2.2	[1]	--	--	--	--	--	--	--	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	2.5	[4]	--	--	--	--	--	--	--	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	4.2	[1,2,4]	--	--	--	--	--	--	--	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	1.7	[1,2,4]	--	--	--	--	--	--	--	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	1.5	[1,2,4]	--	--	--	--	--	--	--	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	2.3	[1,2,4]	--	--	--	--	--	--	--	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	4.5	[3]	--	--	--	--	--	--	--	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	<1.0 U	--	--	--	--	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.1 U	--	<2.1 U	--	<2.1 U	--	--	--	--	--	--	--	--	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	<1.0 U	--	--	--	--	--	--	--	--	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	1.5	--	--	--	--	--	--	--	--	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.1 U	--	<1.1 U	--	3.8	--	--	--	--	--	--	--	--	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area G								Area H							
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW66		QMCP-GW75		QMCP-GW76		QMCP-GW77		GP-1		GP-2		GP-3		GP-4	
Field Sample ID														QMCP-GW 66 4-8ft		QMCP-GW 75 5ft		QMCP-GW 76 5.25ft		QMCP-GW 77 1ft		GP-1		GP-2		GP-3		GP-4	
Sample Date														9/8/2018		10/31/2018		10/31/2018		10/31/2018		6/13/2012		6/13/2012		6/13/2012		6/13/2012	
Sample Interval (bgs)														4 - 8 ft		5 - 5 ft		5.25 - 5.25 ft		1 - 1 ft		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	<50 U	--	<50 U	--	<50 U	--	58	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	--	--	--	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	ND	--	ND	--	ND	--	ND	--	<3 U	--	<3 U	--	<3 U	--	<3 U	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	170	--	220	--	580	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	<530 U	--	690	--	1,800	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.0															
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.429															
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.6															
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.87															
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area H								Area I							
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	GP-5		MW-1		MW-2		MW-3		QMCP-GW30		QMCP-GW31		QMCP-GW32		QMCP-GW33	
Field Sample ID														GP-5		MW-1		MW-2		MW-3		QMCP-GW 30 7-11ft		QMCP-GW 31 6-10ft		QMCP-GW32 5-9		QMCP-GW33 5-9	
Sample Date														6/13/2012		11/7/2013		11/7/2013		11/7/2013		9/8/2018		9/8/2018		9/9/2018		9/9/2018	
Sample Interval (bgs)														--		--		--		--		7 - 11 ft		6 - 10 ft		5 - 9 ft		5 - 9 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<100 U	--	180	--	<100 U	--	<100 U	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<0.2 U	--	<0.2 U	--	0.3	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	<10 U	--	<10 U	--	<10 U	--	<10 U	--	5.9	--	1.6	--	31	--	1.4	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	46	[3]	15	[3]	4,300	[1,2,3]	290	[3]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	<3 U	--	<3 U	--	<3 U	--	<3 U	--	2.2	--	<1.0 U	--	3.8	--	<1.0 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	510	[1,2]	230	[1,2]	960	[1,2]	400	[1,2]
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	<0.2 U	--	0.66	[3,8,9]	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	1.1	[3,8,9]	<0.2 U	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	5.9	[3]	<5 U	--	<5 U	--	<5 U	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	1.5	[3]	0.51	[3]	0.64	[3]	<0.2 U	--	<0.2 U	--	7.9	[3]	0.6	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	15	--	11	--	77	[3]	<5.0 U	--
Organics - PCBs as Aroclors (ug/l)																													
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<0.10 U	--	<0.10 U	--	<0.10 U	--	<0.10 U	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	ND	--	ND	--	ND	--	ND	--
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<5.0 U	--	<5.1 U	--	<5.0 U	--	<5.0 U	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area H								Area I							
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	GP-5		MW-1		MW-2		MW-3		QMCP-GW30		QMCP-GW31		QMCP-GW32		QMCP-GW33	
Field Sample ID														GP-5		MW-1		MW-2		MW-3		QMCP-GW 30 7-11ft		QMCP-GW 31 6-10ft		QMCP-GW32 5-9		QMCP-GW33 5-9	
Sample Date														6/13/2012		11/7/2013		11/7/2013		11/7/2013		9/8/2018		9/8/2018		9/9/2018		9/9/2018	
Sample Interval (bgs)														--		--		--		--		7 - 11 ft		6 - 10 ft		5 - 9 ft		5 - 9 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	<50 U	--	<50 U	--	<50 U	--	<50 U	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	<3 U	--	<3 U	--	<3 U	--	<3 U	--	ND	--	ND	--	ND	--	ND	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									16.8		14.5		13.3		12.4	
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									0.640		0.820		0.510		1.030	
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									39.4		43.9		14.5		0.2	
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA									7.16		7.07		7.31		6.87	
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area I								Area L					
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW34		QMCP-GW35				QMCP-GW36		QMCP-GW59		QMCP-GW60		QMCP-GW73	
Field Sample ID														QMCP-GW34 5-9		QMCP-GW35 6-10		QMCP-GW35 6-10 DUP		QMCP-GW36 5-9		QMCP-GW59 5-9		QMCP-GW60 7-11		QMCP-GW73 22-24	
Sample Date														9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/11/2018	
Sample Interval (bgs)														5 - 9 ft		6 - 10 ft		6 - 10 ft		5 - 9 ft		5 - 9 ft		7 - 11 ft		22 - 24 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																											
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	1.3	--	1.8	--	1.2	--	<1.0 U	--	--	--	--	--	5.9	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	0.3	--	0.2	--	<0.2 U	--	--	--	--	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	26	--	31	--	20	--	3.9	--	--	--	--	--	27	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	200	[3]	15,000	[1,2,3]	9,500	[1,2,3]	1,200	[1,2,3]	--	--	--	--	240	[3]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	1.2	--	12	[1,2]	7.3	[1,2]	9.7	[1,2]	<1.0 U	--	11	[1,2]	4.9	[1,2]
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	820	[1,2]	1,600	[1,2,3]	1,300	[1,2,3]	1,100	[1,2,3]	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	<0.2 U	--	3.2	[1,2,3,8,9,10]	2.2	[1,2,3,8,9,10]	0.7	[3,8,9]	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	20	[3]	16	[3]	2.3	[3]	--	--	--	--	0.6	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	52	--	90	[3]	59	--	25	--	--	--	--	--	24	--
Organics - PCBs as Aroclors (ug/l)																											
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10 U	--	<0.10 U	--	<0.10 U	--	<0.10 U	--	--	--	--	--	<0.1 UJ	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	ND	--	ND	--	ND	--	ND	--	--	--	--	--	ND	--
Organics - SVOCs (ug/l)																											
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	9.3	--	<5.1 U	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.4	--	<1.0 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	14	[3]	<1.0 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.1	--	<1.0 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area I										Area L					
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW34		QMCP-GW35				QMCP-GW36		QMCP-GW59		QMCP-GW60		QMCP-GW73	
Field Sample ID														QMCP-GW34 5-9		QMCP-GW35 6-10		QMCP-GW35 6-10 DUP		QMCP-GW36 5-9		QMCP-GW59 5-9		QMCP-GW60 7-11		QMCP-GW73 22-24	
Sample Date														9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/9/2018		9/11/2018	
Sample Interval (bgs)														5 - 9 ft		6 - 10 ft		6 - 10 ft		5 - 9 ft		5 - 9 ft		7 - 11 ft		22 - 24 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	34	--	<1 UJ	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	49	[3,8,9]	<1 UJ	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	45	[8,9]	<1 UJ	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	46	[3]	<5 UJ	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.2	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	33	--	<5 UJ	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	2.7	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	14	[8,9]	<1 UJ	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	2.3	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	10	--	<1 UJ	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	1.9	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	2.1	--	<1 UJ	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	46	--	<2 UJ	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	40	[3]	<5 UJ	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	4.5	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.9	--	<1 UJ	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	47	--	<1 UJ	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.5	--	<1 UJ	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	3	--	<1 UJ	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	ND	--	ND	--	ND	--	ND	--	ND	--	93	[3,8]	NDJ	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																											
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16.6		11.7				11.3		15.5		16.3		15.0	
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.147		0.292				0.462		0.036		0.600		0.219	
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.0		7.5				6.5		54.3		3.7		51.1	
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.61		6.66				6.84		6.30		6.39		6.75	
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA														

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area M													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	OW #1						PW #2							
Field Sample ID														OW1		OW2		OW3		Dollar Bay #2		#2		#2		#2	
Sample Date														12/14/1994		12/14/1994		12/14/1994		5/20/2010		8/28/1994		1/5/1995		6/7/1995	
Sample Interval (bgs)														--		--		--		33.2 - 44 ft		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																											
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	4.7	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	35	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	--	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	5.6	[3]	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5 U	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	62	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<10 U	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																											
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																											
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5 U	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 UJ	--	--	--	--	--	--	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<2 UJ	--	--	--	--	--	--	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	<0.1 U	--	<0.0 U	--	<0.0 U	--	--	--	0.6	--	1	--	0	--	0.5	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area M													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	OW #1						PW #2							
Field Sample ID														OW1		OW2		OW3		Dollar Bay #2		#2		#2		#2		#2	
Sample Date														12/14/1994		12/14/1994		12/14/1994		5/20/2010		8/28/1994		1/5/1995		6/7/1995		9/11/1995	
Sample Interval (bgs)														--		--		--		33.2 - 44 ft		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5 U	--	--	--	--	--	--	--	--	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5 U	--	--	--	--	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<2 U	--	--	--	--	--	--	--	--	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5 U	--	--	--	--	--	--	--	--	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	0.93	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area M													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	PW #2						PW #3								QMCP-GW37	
Field Sample ID														#2		#2		#2		Dollar Bay #3		#3		#3		#3		QMCP-GW37 5-9	
Sample Date														1/16/1996		3/19/1996		6/25/1996		5/20/2010		9/12/1994		10/18/1994		4/15/1997		9/11/2018	
Sample Interval (bgs)														--		--		--		46 - 64 ft		--		--		--		5 - 9 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	19	[1,2,3]
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	33	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	--	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	5.2	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	6.5	[3]	--	--	--	--	--	--	1,400	[1,2,3]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	8.4	[1,2]
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	7.5	--	--	--	--	--	--	--	67	[1,2]
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<0.2 U	--	--	--	--	--	--	--	0.3	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	62	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<10 U	--	--	--	--	--	--	--	12	--
Organics - PCBs as Aroclors (ug/l)																													
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.10 U	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5 U	--	--	--	--	--	--	--	<5.1 U	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 UJ	--	--	--	--	--	--	--	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<2 UJ	--	--	--	--	--	--	--	<2.0 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	0.4	--	0.5	--	0.3	--	--	--	0.3	--	0.3	--	<0.1 U	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area M													
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	PW #2						PW #3								QMCP-GW37
Field Sample ID														#2		#2		#2		Dollar Bay #3		#3		#3		#3		QMCP-GW37 5-9	
Sample Date														1/16/1996		3/19/1996		6/25/1996		5/20/2010		9/12/1994		10/18/1994		4/15/1997		9/11/2018	
Sample Interval (bgs)														--		--		--		46 - 64 ft		--		--		--		5 - 9 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																													
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5 U	--	--	--	--	--	--	--	<5.0 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5 U	--	--	--	--	--	--	--	<5.0 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.0 U	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<2 U	--	--	--	--	--	--	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<5 U	--	--	--	--	--	--	--	<5.0 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	<1 U	--	--	--	--	--	--	--	<1.0 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	1.29	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA															13.5	
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA															0.235	
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA															40.1	
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA															7.42	
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area M										Area N					
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW38		QMCP-GW39		QMCP-GW40		QMCP-GW41		QMCP-GW42		QMCP-GW43		QMCP-GW44		QMCP-GW45	
Field Sample ID														QMCP-GW38 5-9		QMCP-GW39 8-12ft		QMCP-GW40 12-16		QMCP-GW41 9-13		QMCP-GW42 12-16		QMCP-GW43 6-10		QMCP-GW44 4-8ft		QMCP-GW45 5-9	
Sample Date														9/11/2018		9/11/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018	
Sample Interval (bgs)														5 - 9 ft		8 - 12 ft		12 - 16 ft		9 - 13 ft		12 - 16 ft		6 - 10 ft		4 - 8 ft		5 - 9 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	1.1	--	16	[1,2,3]	14	[1,2,3]	8.8	--	2.7	--	7.6	--	4.4	--	9.9	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	<0.2 U	--	0.4	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.3	--	0.5	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	3.2	--	16	--	120	[1,2,3]	7.3	--	4.1	--	1.9	--	9.3	--	22	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	42	[3]	210	[3]	4,200	[1,2,3]	46	[3]	39	[3]	75	[3]	250	[3]	2,400	[1,2,3]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	1.0	--	2.0	--	9	[1,2]	1.4	--	<1.0 U	--	1.8	--	3.0	--	7.0	[1,2]
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	280	[1,2]	220	[1,2]	970	[1,2]	400	[1,2]	200	[1,2]	560	[1,2]	650	[1,2]	490	[1,2]
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	--	--	--	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.4	[3,8,9]
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	<0.2 U	--	0.7	[3]	0.4	[3]	<0.2 U	--	<0.2 U	--	0.3	[3]	1.7	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<5.0 U	--	22	--	160	[3]	8.4	--	<5.0 U	--	11	--	7.6	--	18	--
Organics - PCBs as Aroclors (ug/l)																													
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10 U	--	<0.10 U	--	<0.10 U	--	<0.10 U	--	<0.10 U	--	<0.1 UJ	--	<0.1 UJ	--	<0.10 U	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.1 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5 UJ	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--	1.4	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--	1.4	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	1.4	--	<1.0 U	--	<1.0 U	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	1.2	--	<1.0 U	--	<1.0 U	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	1.4	--	<1.0 U	--	<1.0 U	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	1.1	--	<1.0 U	--	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	2.6	[3]	<1.0 U	--	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--	2	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2 UJ	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<20 UJ	--	<20 U	--	--	--	--	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	<1.0 U	--	<1.0 U	--	5.2	[3]
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	2.1	--	1.2	--	4.4	--

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area M												Area N					
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW38		QMCP-GW39		QMCP-GW40		QMCP-GW41		QMCP-GW42		QMCP-GW43		QMCP-GW44		QMCP-GW45	
Field Sample ID														QMCP-GW38 5-9		QMCP-GW39 8-12ft		QMCP-GW40 12-16		QMCP-GW41 9-13		QMCP-GW42 12-16		QMCP-GW43 6-10		QMCP-GW44 4-8ft		QMCP-GW45 5-9	
Sample Date														9/11/2018		9/11/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/10/2018	
Sample Interval (bgs)														5 - 9 ft		8 - 12 ft		12 - 16 ft		9 - 13 ft		12 - 16 ft		6 - 10 ft		4 - 8 ft		5 - 9 ft	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																															
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	9.4	--	<1.0 U	--	<1.0 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																													
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.6		14.5		13.1		13.8		13.9		14.1		14.4		18.6	
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.256		0.200		0.190		0.204		0.103		0.308		0.225		0.076	
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.0		87.9		70.0		7.0		39.7		25.6		1.8		1.4	
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.89		7.35		6.48		6.79		7.28		6.09		6.22		5.63	
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area N								Area O									
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW46		QMCP-GW47		QMCP-GW49		QMCP-GW50		E-1		E-2		E-4		E-5		Lake	
Field Sample ID														QMCP-GW46 4-8ft		QMCP-GW47 5-9		QMCP-GW49 5-9		QMCP-GW50 2-6		E-1		E-2		E-4		E-5		Lake	
Sample Date														9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/21/1994		9/21/1994		9/21/1994		9/21/1994		9/21/1994	
Sample Interval (bgs)														4 - 8 ft		5 - 9 ft		5 - 9 ft		2 - 6 ft		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)																															
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	32	[1,2,3]	4.2	--	9.3	--	9.5	--	--	--	--	--	--	--	--	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CADMIUM	7440-43-9	5.0 (A,B)	5.0 (A,B)	1.3 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	0.9	--	<0.2 U	--	0.3	--	<0.2 U	--	--	--	--	--	--	--	--	--	--	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	32	--	6.4	--	120	[1,2,3]	3.4	--	--	--	--	--	--	--	--	--	--	--
COPPER	7440-50-8	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	2,800	[1,2,3]	2,800	[1,2,3]	3,800	[1,2,3]	1,300	[1,2,3]	--	--	--	--	--	--	--	--	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	NVL	NLV	NA	NA	NA	NA	NA	NA	NA	16	[1,2,3]	15	[1,2,3]	73	[1,2,3]	67	[1,2,3]	--	--	--	--	--	--	--	--	--	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	420	[1,2]	540	[1,2]	2,000	[1,2,3]	1,500	[1,2,3]	--	--	--	--	--	--	--	--	--	--
MERCURY	7439-97-6	2.0 (A,B,Z)	2.0 (A,B,Z)	0.0013 (B,Z)	56 (B,S,Z)	56 (B,S,Z)	56 (B,Z)	0.088	0.14	1.4	4.3	7.2	14	0.3	[3,8,9]	0.2	[3,8,9]	0.2	[3,8,9]	<0.2 U	--	--	--	--	--	--	--	--	--	--	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	2.4	[3]	2.9	[3]	3.1	[3]	0.7	[3]	--	--	--	--	--	--	--	--	--	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	27	--	16	--	160	[3]	43	--	--	--	--	--	--	--	--	--	--	--
Organics - PCBs as Aroclors (ug/l)																															
AROCLOR-1254	11097-69-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.23 UJ	--	<0.10 U	--	<0.1 UJ	--	<0.10 U	--	--	--	--	--	--	--	--	--	--	--
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	45 (J,S,T)	45 (J,S,T)	44.7 (J,T)	NA	NA	NA	NA	NA	NA	ND	--	ND	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--
Organics - SVOCs (ug/l)																															
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<50 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	--	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
BENZO(A)PYRENE	50-32-8	5.0 (A,Q)	5.0 (A,Q)	ID	NLV	NLV	1.62 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
BENZO(B)FLUORANTHENE	205-99-2	1.5 (Q,S,AA)	1.5 (Q,S,AA)	ID	ID	ID	1.5 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
BENZO(G,H,I)PERYLENE	191-24-2	1.0 (M)	1.0 (M)	ID	NLV	NLV	0.26	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M)	1.0 (M)	NA	NLV	NLV	0.8	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<10 U	--	<1.0 U	--	1	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	11	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
INDENO(1,2,3-CD)PYRENE	193-39-5	2.0 (M,Q)	2.0 (M,Q)	ID	NLV	NLV	0.022 (Q)	NA	NA	NA	NA	NA	NA	<20 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	--	--	--	--	--	--	--	--	--	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<10 U	--	1.1	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
PENTACHLOROPHENOL	87-86-5	1.0 (A)	1.0 (A)	1.8 (G,X)	NLV	NLV	1.85E+06	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	<0.0 U	--	<0.0 U	--	0	--	<0.0 U	--	<0.0 U	--
PHENANTHRENE	85-01-8	52	150	2.0 (M); 1.7	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	25	[3]	0.96 J	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	17	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code														Area N								Area O									
Station Name	CAS Number	[1] Residential Drinking Water Criteria (Dec 2013)	[2] Nonresidential Drinking Water Criteria (Dec 2013)	[3] Groundwater Surface Water Interface Criteria (June 2018)	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	[6] Water Solubility	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	[10] Groundwater Residential RIASL (Int Aug 2017)	[11] Groundwater Residential TSRIASL (Int Aug 2017)	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	QMCP-GW46		QMCP-GW47		QMCP-GW49		QMCP-GW50		E-1		E-2		E-4		E-5		Lake	
Field Sample ID														QMCP-GW46 4-8ft		QMCP-GW47 5-9		QMCP-GW49 5-9		QMCP-GW50 2-6		E-1		E-2		E-4		E-5		Lake	
Sample Date														9/10/2018		9/10/2018		9/10/2018		9/10/2018		9/21/1994		9/21/1994		9/21/1994		9/21/1994		9/21/1994	
Sample Interval (bgs)														4 - 8 ft		5 - 9 ft		5 - 9 ft		2 - 6 ft		--		--		--		--		--	
														Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - VOCs (ug/l)																															
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000	1,330,000 (S)	180	750	8,600	8,600	41,000	41,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43	71	800	2,400	3,900	7,900	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
1,2,4-TRIMETHYLBENZENE	95-63-6	63 (E,I)	63 (E,I)	17 (I)	56,000 (I,S)	56,000 (I,S)	55,890 (I)	25	44	440	1,300	2,200	4,400	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
1,3,5-TRIMETHYLBENZENE	108-67-8	72 (E,I)	72 (E,I)	45 (I)	61,000 (I,S)	61,000 (I,S)	61,150 (I)	18	34	310	940	1,500	3,100	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	--	--	--	--	--	--	--	--	--	--
ACETONE	--	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (I)	1.0E+9 (D,I,S)	50,000	62,000	1.20E+07	1.20E+07	4.70E+07	4.70E+07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BENZENE	71-43-2	5.0 (A,I)	5.0 (A,I)	12 (I,X)	5,600 (I)	35,000 (I)	1,750,000 (I)	1	3	14	82	120	230	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	--	--	--	--	--	--	--	--	--	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	8.5	45	450	360	710	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000	12,000 (S)	29	130	29	33	130	130	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--	--	--	--	--	--	--	--	--	--	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000	31,000	31,000	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	--	--	--	--	--	--	--	--	--	--
N-BUTYLBENZENE	104-51-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	1	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
SEC-BUTYLBENZENE	135-98-8	80	230	ID	ID	ID	NA	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	4.4	96	96	320	640	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	850	23,000	33,000	110,000	110,000	1.7	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.21 (M)	6.1	18	21	41	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
TRICHLOROFLUOROMETHANE (CFC-11)	75-69-4	2,600	7,300	NA	1,100,000 (S)	1,100,000 (S)	1,100,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	--	--	--	--	--	--	--	--	--	--
XYLENE - TOTAL	--	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75	140	1,200	3,600	6,000	12,000	ND	--	ND	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--
CHLORIDE (mg/l)	--	250,000 (E)	250,000 (E)	(FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel Range Org(C10-C20) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (C20-C34) (ug/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrocarbons, total (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Field Measurements																															
Temperature (C°)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.3		14.8		15.6		17.6											
Conductivity (mS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.101		0.295		0.257		0.233											
Dissolved Oxygen (%)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.0		2.6		10.5		2.5											
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.20		6.37		6.60		6.13											
Turbidity (nTu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA																		

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Groundwater Table Footnotes:

- EGLE Part 201 residential and non-residential generic cleanup criteria and screening levels criteria were originally promulgated December 21, 2002 within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. This table reflects revisions to the criteria pursuant to the December 2010 Part 201 amendments and new criteria consistent with the provisions of R299.5706a. Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Release Date: December 30, 2013.

- Only detected analytes are listed - Gray rows indicate requested analyses. If no analytes are listed below a gray row then all analytes of that group were either not analyzed or not detected. ND indicates that one or more analyte of that group was tested and not detected and a – indicates not analyzed.

- **Bold** values are concentrations detected above the laboratory reporting limit.

- **Bold/Shaded** cells indicate analyte concentration exceeded applicable criteria. EGLE Part 201 criteria exceeded is indicated by the footnote in [brackets] following the result value and defined below:

[1] - Residential Drinking Water Criteria
[2] - Nonresidential Drinking Water Criteria
[3] - Groundwater Surface Water Interface Criteria
[4] - Water Solubility
[5] - Residential Groundwater Volatilization to Indoor Air Inhalation Criteria
[6] - Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria
[7] - Flammability and Explosivity Screening Level
Evaluation based on EGLE Criteria at time of Project completion.

[8] Shallow Groundwater Residential RIASL (Int Aug 2017)
[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)
[10] Groundwater Residential RIASL (Int Aug 2017)
[11] Groundwater Residential TSRIASL (Int Aug 2017)
[12] Groundwater Nonresidential RIASL (Int Aug 2017)
[13] Groundwater Nonresidential RIASL12 (Int Aug2017)
[14] - EGLE Interim Response - Groundwater - nonres TSRIASL (Aug 2017)

-- = Not analyzed/Not reported
bgs = Below ground surface
ft = Feet
PCBs = Polychlorinated biphenyls
SVOC = Semi-volatile organic compound
VOC = Volatile organic compound
RIASL = Recommended Interim Action Screen Level

ug/l = Micrograms per liter
mg/l = Miligrams per liter
°C = Degrees Celsius
mS/cm = MilliSiemens per centimeter
% = Percentage
nTu = Nephelometric Turbidity Unit
TSRIASL = Time Sensitive Recommended Interim Action Screening Level

Groundwater Table Footnotes:

ID = Insufficient data to develop criterion.
NA = A criterion or value is not available
NLV = Hazardous substance is not likely to volatilize under most conditions.

(A) = Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

(AA) = Use 10,000 ug/l where groundwater enters a structure through the use of a water well, sump or other device. Use 28,000 ug/l for all other uses.

(B) = Background, as defined in R 299.1(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.

(D) = Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

(E) = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). A notice of aesthetic impact may be employed as an institutional control mechanism if groundwater concentrations exceed the aesthetic drinking water criterion, but do not exceed the applicable health-based drinking water value provided in a table available on the Department of Environment, Great Lakes, and Energy (EGLE) internet web site. (See R 299.49 Footnotes for generic cleanup criteria tables for additional information)

(G) = Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg CaCO3/L, use 400 mg CaCO3/L for the FCV calculation. The FCV formula provides values in units of ug/L or ppb. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote. A spreadsheet that may be used to calculate GSI and GSI protection criteria for (G)-footnoted hazardous substances is available on the Department of Environment, Great Lakes, and Energy (EGLE) internet web site. A hardness value of 47.5 CaCO3/L and pH of 7, derived from the Michigan Department of Environmental Quality Draft Site Inspection Report for Lake Linden Operations dated 3/29/13, was used in the footnote G calculation spreadsheet.

(H) = Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/L. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.

(HH) = The residential criterion for sodium is 230,000 ug/l in accordance with the Sodium Advisory Council recommendation and revised Groundwater Discharge Standards.

(I) = Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at EGLE, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the EGLE, Remediation and Redevelopment Division (RRD), 525 West Allegan Street, Lansing, Michigan 48933, at cost.

(J) = Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.

(L) = Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(9) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 ug/L is linked to the generic residential soil direct contact criterion of 400 mg/kg. A higher concentration in the drinking water, up to the state action level of 15 ug/L, may be allowed as a site-specific remedy and still allow for drinking water use, under Section 20120a(2) and 20120b of the NREPA if soil concentrations are appropriately lower than 400 mg/kg. If a site-specific criterion is approved based on this subdivision, a notice shall be filed on the deed for all property where the groundwater concentrations will exceed 4 ug/L to provide notice of the potential for unacceptable risk if soil or groundwater concentrations increase. Acceptable combinations of site-specific soil and drinking water concentrations are presented in a table available on the Department of Environment, Great Lakes, and Energy (EGLE) internet web site (See R 299.49 Footnotes for generic cleanup criteria tables for additional information).

(M) = Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

(Q) = Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

(S) = Criterion defaults to the hazardous substance-specific water solubility limit.

(T) = Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, Subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards. Subpart D and Subpart G of 40 C.F.R. §761 (July 1, 2001) are adopted by reference in these rules and are available for inspection at the EGLE, 525 West Allegan Street, Lansing, Michigan. Copies of the regulations may be purchased, at a cost as of the time of adoption of these rules of $55, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401, or from the EGLE, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost. Alternatives to compliance with the TSCA standards listed below are possible under 40 C.F.R. §761 Subpart D. New releases may be subject to the standards identified in 40 C.F.R. §761, Subpart G. Use Part 201 soil direct contact cleanup criteria in the published table if TSCA standards are not applicable.

(X) = The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. (See R 299.49 Footnotes for generic cleanup criteria tables for additional information.)

(Z) = Mercury is typically measured as total mercury. The generic cleanup criteria, however, are based on data for different species of mercury. Specifically, data for elemental mercury, chemical abstract service (CAS) number 7439976, serve as the basis for the soil volatilization to indoor air criteria, groundwater volatilization to indoor air, and soil inhalation criteria. Data for methyl mercury, CAS number 22967926, serve as the basis for the GSI criterion; and data for mercuric chloride, CAS number 7487947, serve as the basis for the drinking water, groundwater contact, soil direct contact, and the groundwater protection criteria. Comparison to criteria shall be based on species-specific analytical data only if sufficient facility characterization has been conducted to rule out the presence of other species of mercury.

Laboratory Footnotes:

J = The result is an estimated quantity

ND = Not Detected

U = Analyte analyzed for but not detected above the reported sample reporting limit.

TABLE 5-5
Sample Analytical Summary - Groundwater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

	Part 201 Generic Cleanup Criteria Evaluated	Exceedance
EGLE Part 201 Generic Cleanup Criteria (June 2018)	[1] Residential Drinking Water Criteria (Dec 2013)	YES
	[2] Nonresidential Drinking Water Criteria (Dec 2013)	YES
	[3] Groundwater Surface Water Interface Criteria (June 2018)	YES
	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	YES
	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria (Dec 2013)	YES
	[6] Water Solubility	YES
	[7] Flammability and Explosivity Screening	NO
Volatilization to Indoor Air Interim Action Screening Levels (August 2017)	[8] Shallow Groundwater Residential RIASL (Int Aug 2017)	YES
	[9] Shallow Groundwater Nonresidential RIASL (Int Aug 2017)	YES
	[10] Groundwater Residential RIASL (Int Aug 2017)	YES
	[11] Groundwater Residential TSRIASL (Int Aug 2017)	YES
	[12] Groundwater Nonresidential RIASL (Int Aug 2017)	YES
	[13] Groundwater Nonresidential RIASL12 (Int Aug2017)	YES
	[14] - EGLE Interim Response - Groundwater - Nonresidential TSRIASL (Aug 2017)	NO

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TABLE 5-6
Sample Analytical Summary - Sediment
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

Station Name	CAS Number	[1] EPA Region IV Ecological Screening Values (ESV)	[2] Threshold Effect Concentration (TEC)	[3] Probable Effect Concentration (PEC)	QMCP-SD01				QMCP-SD02						QMCP-SD03		QMCP-SD04				QMCP-SD05			
Sample ID					QMCP-SD01-0-6"		QMCP-SD01-6-26"		QMCP-SD02-0-12"		QMCP-SD02-0-12" FD		QMCP-SD02-12-21.5"		QMCP-SD 03-0-6"		QMCP-SD 04-0-4.5"		QMCP-SD 04-4.5-9"		QMCP-SD 05-0-6"		QMCP-SD 05-6-18"	
Sample Depth (bgs)					0 - 0.5 ft		0.5 - 2.2 ft		0 - 1 ft		0 - 1 ft		1 - 1.79 ft		0 - 0.5 ft		0 - 0.375 ft		0.375 - 0.75 ft		0 - 0.5 ft		0.5 - 1.5 ft	
Sample Date					9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Description					FINES, Dark brown, loose, very soft		SAND, Brown, fine grain, well sorted; SAND, Brown fine grain, well sorted, roots		SAND with GRAVEL, Dark brown-black, coarse grain, some organics (wood and roots), oily odor		SAND with GRAVEL, Dark brown-black, coarse grain, some organics (wood and roots), oily odor		FINES, Soft, few sands and gravel, wet		GRAVELLY SAND, Brownish purple, coarse grain sand, angular gravel		FINES, brown, trace gravel, very soft, oily sheen		SAND and FINES, brown, coarse grain, soft, loose		FINES, Brown soft, loose		CLAY, Brown, trace to some gravel, firm, strong sulfur odor; CLAY with wood debris	
					Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																								
ARSENIC	7440-38-2	9.8	9.79	33	3	--	0.6	--	6.8	--	8	--	20	[1,2]	2.7	--	8.2	--	11	[1,2]	22	[1,2]	2.8	--
CADMIUM	7440-43-9	1	0.99	4.98	<0.2 U	--	<0.2 U	--	0.2	--	0.3	--	0.9	--	<0.2 U	--	0.4	--	0.4	--	0.7	--	0.2	--
CHROMIUM	7440-47-3	43.4	43.4	111	20	--	2.3	--	20	--	20	--	41	--	98	[1,2]	48	[1,2]	56	[1,2]	58	[1,2]	27	--
COPPER	7440-50-8	31.6	31.6	149	220	[1,2,3]	4.4	--	690	[1,2,3]	680	[1,2,3]	2,100	[1,2,3]	1,200	[1,2,3]	1,100	[1,2,3]	1,100	[1,2,3]	1,300	[1,2,3]	1,500	[1,2,3]
LEAD	7439-92-1	35.8	35.8	128	11	--	<1.0 U	--	78	[1,2]	82	[1,2]	180	[1,2,3]	17	--	52	[1,2]	67	[1,2]	84	[1,2]	11	--
MANGANESE	7439-96-5	460	NA	NA	210	--	35	--	890	[1]	750	[1]	660	[1]	690	[1]	490	[1]	560	[1]	640	[1]	460	--
MERCURY	7439-97-6	0.18	0.18	1.06	0.09	--	<0.06 U	--	0.3	[1,2]	0.1	--	0.4	[1,2]	0.1	--	0.5	[1,2]	0.6	[1,2]	0.7	[1,2]	0.2	[1,2]
SILVER	7440-22-4	1	NA	NA	0.4	--	<0.1 U	--	1.2	[1]	1.3	[1]	8.5	[1]	3.5	[1]	2.5	[1]	2.2	[1]	2.6	[1]	3.1	[1]
ZINC	7440-66-6	121	121	459	34	--	3.6	--	110	--	99	--	250	[1,2]	94	--	99	--	130	[1,2]	140	[1,2]	66	--
Organics - PCBs (ug/kg)																								
TOTAL PCBS	1336-36-3	59.8	59.8	676	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Organics - SVOCs (ug/kg)																								
ACENAPHTHENE	83-32-9	6.7	NA	NA	<710 U	--	<240 U	--	330	[1]	600	[1]	<850 U	--	<250 U	--	<870 U	--	<940 U	--	<1800 U	--	<300 U	--
ACENAPHTHYLENE	208-96-8	5.9	NA	NA	<710 U	--	<240 U	--	<290 U	--	290	[1]	<850 U	--	<250 U	--	<870 U	--	<940 U	--	<1800 U	--	<300 U	--
ANTHRACENE	120-12-7	57	57.2	845	<710 U	--	<240 U	--	650	[1,2]	3,300	[1,2,3]	<850 U	--	<250 U	--	<870 U	--	<940 U	--	<1800 U	--	<300 U	--
BENZO(A)ANTHRACENE	56-55-3	108	108	1,050	<710 U	--	<240 U	--	1,900	[1,2,3]	5,300	[1,2,3]	1,800	[1,2,3]	390	[1,2]	1,000	[1,2]	2,200	[1,2,3]	<1800 U	--	<300 U	--
BENZO(A)PYRENE	50-32-8	150	150	1,450	<1400 U	--	<490 U	--	1,800	[1,2,3]	4,900	[1,2,3]	1,700	[1,2,3]	680	[1,2]	<1700 U	--	2,100	[1,2,3]	<3600 U	--	<600 U	--
BENZO(B)FLUORANTHENE	205-99-2	190	NA	NA	<1400 U	--	<490 U	--	2,900	[1]	7,800	[1]	2,800	[1]	990	[1]	1,700	[1]	3,300	[1]	<3600 U	--	<600 U	--
BENZO(K)FLUORANTHENE	207-08-9	240	NA	NA	<1400 U	--	<490 U	--	850	[1]	2,300	[1]	<1700 U	--	<510 U	--	<1700 U	--	<1900 U	--	<3600 U	--	<600 U	--
CHRYSENE	218-01-9	166	166	1,290	<710 U	--	<240 U	--	1,600	[1,2,3]	4,600	[1,2,3]	1,800	[1,2,3]	440	[1,2]	1,100	[1,2]	2,100	[1,2,3]	<1800 U	--	<300 U	--
FLUORANTHENE	206-44-0	423	423	2,230	<710 U	--	<240 U	--	4,400	[1,2,3]	12,000	[1,2,3]	4,100	[1,2,3]	780	[1,2]	2,100	[1,2]	4,100	[1,2,3]	2,000	[1,2]	350	--
FLUORENE	86-73-7	77	77.4	536	<710 U	--	<240 U	--	550	[1,2,3]	1,100	[1,2,3]	<850 U	--	<250 U	--	<870 U	--	<940 U	--	<1800 U	--	<300 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	200	NA	NA	<1400 U	--	<490 U	--	<580 U	--	1,100	[1]	<1700 U	--	<510 U	--	<1700 U	--	<1900 U	--	<3600 U	--	<600 U	--
NAPHTHALENE (SVOC)	91-20-3	176	176	561	<710 U	--	<240 U	--	360	[1,2]	920	[1,2,3]	<850 U	--	<250 U	--	<870 U	--	1,100	[1,2,3]	<1800 U	--	<300 U	--
PHENANTHRENE	85-01-8	204	204	1,170	<710 U	--	<240 U	--	2,900	[1,2,3]	7,600	[1,2,3]	3,100	[1,2,3]	1,000	[1,2]	990	[1,2]	2,200	[1,2,3]	<1800 U	--	290 J	[1,2]
PYRENE	129-00-0	195	195	1,520	<710 U	--	<240 U	--	3,600	[1,2,3]	11,000	[1,2,3]	3,600	[1,2,3]	730	[1,2]	1,700	[1,2,3]	3,600	[1,2,3]	1,900	[1,2,3]	290 J	[1,2]
Organics - VOCs (ug/kg)																								
TOLUENE		10	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-6
Sample Analytical Summary - Sediment
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

Station Name	CAS Number	[1] EPA Region IV Ecological Screening Values (ESV)	[2] Threshold Effect Concentration (TEC)	[3] Probable Effect Concentration (PEC)	QMCP-SD06						QMCP-SD07		QMCP-SD08				QMCP-SD09		QMCP-SD10			
Sample ID					QMCP-SD 06-0-15"		QMCP-SD 06-0-15" FD		QMCP-SD 06-15-35"		QMCP-SD 07-0-11"		QMCP-SD 08-0-8"		QMCP-SD08-8-20"		QMCP-SD09-0-6"		QMCP-SD10-0-4"		QMCP-SD10-4-11"	
Sample Depth (bgs)					0 - 1.25 ft		0 - 1.25 ft		1.25 - 2.9 ft		0 - 0.92 ft		0 - 0.667 ft		0.87 - 1.67 ft		0 - 0.5 ft		0 - 0.333 ft		0.333 - 0.92 ft	
Sample Date					9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Description					SAND and GRAVEL, Coarse grain (stamp sands); SILTY SAND, Brown, fine to coarse grain, firm		SAND and GRAVEL, Coarse grain (stamp sands); SILTY SAND, Brown, fine to coarse grain, firm		SAND, Dark brown, coarse grain (stamp sands), trace organics, some fines 1.7-1.9ft		SAND with GRAVEL, Dark brown-purple, coarse grain, some fines		FINES, Dark brown, organics/wood debris, soft		SILT, Gray-brown, well sorted, firm, wet		SANDY GRAVEL, Dark brown, few fines and wood debris		FINES, Dark brown-black, organics (wood), soft, loose		SAND, Dark brown, medium grain, well sorted	
					Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																						
ARSENIC	7440-38-2	9.8	9.79	33	1.2	--	1.4	--	1.1	--	3.3	--	7.4	--	1	--	22	[1,2]	4.1	--	2.5	--
CADMIUM	7440-43-9	1	0.99	4.98	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.2	--	0.4	--	0.3	--	<0.2 U	--	<0.2 U	--	<0.2 U	--
CHROMIUM	7440-47-3	43.4	43.4	111	9.5	--	12	--	12	--	18	--	32	--	23	--	27	--	11	--	13	--
COPPER	7440-50-8	31.6	31.6	149	340	[1,2,3]	420	[1,2,3]	2,300	[1,2,3]	1,700	[1,2,3]	1,100	[1,2,3]	2,200	[1,2,3]	5,300	[1,2,3]	4,100	[1,2,3]	1,500	[1,2,3]
LEAD	7439-92-1	35.8	35.8	128	10	--	15	--	16	--	26	--	65	[1,2]	6.5	--	33	--	7.6	--	3.6	--
MANGANESE	7439-96-5	460	NA	NA	160	--	240	--	390	--	510	[1]	360	--	590	[1]	200	--	100	--	78	--
MERCURY	7439-97-6	0.18	0.18	1.06	<0.06 U	--	<0.06 U	--	0.2	[1,2]	0.1	--	0.6	[1,2]	0.3	[1,2]	0.1	--	<0.09 U	--	<0.07 U	--
SILVER	7440-22-4	1	NA	NA	0.4	--	0.8	--	4.2	[1]	2.8	[1]	2	[1]	4.3	[1]	3	[1]	0.4	--	0.2	--
ZINC	7440-66-6	121	121	459	26	--	40	--	61	--	100	--	97	--	73	--	72	--	20	--	12	--
Organics - PCBs (ug/kg)																						
TOTAL PCBS	1336-36-3	59.8	59.8	676	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Organics - SVOCs (ug/kg)																						
ACENAPHTHENE	83-32-9	6.7	NA	NA	<250 U	--	<250 U	--	330	[1]	<260 U	--	<630 U	--	<280 U	--	<310 U	--	<360 U	--	<280 U	--
ACENAPHTHYLENE	208-96-8	5.9	NA	NA	<250 U	--	<250 U	--	<250 U	--	<260 U	--	<630 U	--	<280 U	--	<310 U	--	<360 U	--	<280 U	--
ANTHRACENE	120-12-7	57	57.2	845	<250 U	--	<250 U	--	310	[1,2]	<260 U	--	<630 U	--	<280 U	--	<310 U	--	<360 U	--	<280 U	--
BENZO(A)ANTHRACENE	56-55-3	108	108	1,050	<250 U	--	<250 U	--	520	[1,2]	300	[1,2]	<630 U	--	<280 U	--	970	[1,2]	<360 U	--	<280 U	--
BENZO(A)PYRENE	50-32-8	150	150	1,450	<510 U	--	<500 U	--	<500 U	--	<530 U	--	<1300 U	--	<550 U	--	1,000	[1,2]	<710 U	--	<560 U	--
BENZO(B)FLUORANTHENE	205-99-2	190	NA	NA	<510 U	--	<500 U	--	600	[1]	<530 U	--	<1300 U	--	<550 U	--	1,900	[1]	<710 U	--	<560 U	--
BENZO(K)FLUORANTHENE	207-08-9	240	NA	NA	<510 U	--	<500 U	--	<500 U	--	<530 U	--	<1300 U	--	<550 U	--	600 J	[1]	<710 U	--	<560 U	--
CHRYSENE	218-01-9	166	166	1,290	<250 U	--	<250 U	--	460	[1,2]	290	[1,2]	<630 U	--	<280 U	--	1,300	[1,2,3]	<360 U	--	<280 U	--
FLUORANTHENE	206-44-0	423	423	2,230	510	[1,2]	<250 U	--	1,300	[1,2]	730	[1,2]	1,200	[1,2]	<280 U	--	3,000	[1,2,3]	460	[1,2]	<280 U	--
FLUORENE	86-73-7	77	77.4	536	<250 U	--	<250 U	--	350	[1,2]	<260 U	--	<630 U	--	<280 U	--	<310 U	--	<360 U	--	<280 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	200	NA	NA	<510 U	--	<500 U	--	<500 U	--	<530 U	--	<1300 U	--	<550 U	--	<620 U	--	<710 U	--	<560 U	--
NAPHTHALENE (SVOC)	91-20-3	176	176	561	<250 U	--	<250 U	--	360	[1,2]	410	[1,2]	1,100	[1,2,3]	<280 U	--	330	[1,2]	<360 U	--	<280 U	--
PHENANTHRENE	85-01-8	204	204	1,170	350	[1,2]	<250 U	--	1,400	[1,2,3]	510	[1,2]	980	[1,2]	<280 U	--	2,300	[1,2,3]	<360 U	--	<280 U	--
PYRENE	129-00-0	195	195	1,520	380	[1,2]	<250 U	--	1,000	[1,2]	640	[1,2]	1,100	[1,2]	<280 U	--	2,400	[1,2,3]	440	[1,2]	<280 U	--
Organics - VOCs (ug/kg)																						
TOLUENE		10	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

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TABLE 5-6
Sample Analytical Summary - Sediment
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

Station Name	CAS Number	[1] EPA Region IV Ecological Screening Values (ESV)	[2] Threshold Effect Concentration (TEC)	[3] Probable Effect Concentration (PEC)	QMCP-SD11						QMCP-SD12				QMCP-SD13				QMCP-SD14				QMCP-SS61		QMCP-SS62	
Sample ID					QMCP-SD 11-6-12"		QMCP-SD 11-6-12" FD		QMCP-SD11-0-6"		QMCP-SD 12-0-12"		QMCP-SD 12-12-23"		QMCP-SD 13-0-7"		QMCP-SD 13-7-38"		QMCP-SD 14-0-12"		QMCP-SD 14-12-36"		QMCP-SS61-0-3in		QMCP-SS62-0-3in	
Sample Depth (bgs)					0.5 - 1 ft		0.5 - 1 ft		0 - 0.5 ft		0 - 1 ft		1 - 1.92 ft		0 - 0.58 ft		0.58 - 3.2 ft		0 - 1 ft		1 - 3 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Date					9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/6/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/28/2018		9/28/2018	
Sample Description					SAND, Dark brown, medium grain, well sorted		SAND, Dark brown, medium grain, well sorted		SAND, Dark brown, medium grain, some organics (roots), well sorted		FINES, Brown, with organics (mostly in top 1 ft), cohesive, nonplastic, loose		FINES, Brown, with organics (mostly in top 1 ft), cohesive, nonplastic, loose		SAND, Dark brown, coarse grain, organics, trace gravel		PEAT, Peat-like organics with fines; FINES, dark brown, pudding like texture, organics, cohesive, nonplastic, very soft		SAND, Dark brown, medium grain, well sorted, moist		SAND, Brown, medium grain, well sorted, moist		Bank sediment with sheen		Bank sediment with sheen	
					Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																										
ARSENIC	7440-38-2	9.8	9.79	33	1.5	--	1.1	--	1.6	--	3.9	--	4.3	--	16	[1,2]	2.9	--	1.4	--	0.6	--	NM	--	NM	--
CADMIUM	7440-43-9	1	0.99	4.98	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.2	--	0.3	--	<0.2 U	--	0.4	--	<0.2 U	--	<0.2 U	--	NM	--	NM	--
CHROMIUM	7440-47-3	43.4	43.4	111	5.0 J	--	4.6 J	--	5.6	--	14	--	17	--	110	[1,2]	10	--	5.0 J	--	4.8 J	--	NM	--	NM	--
COPPER	7440-50-8	31.6	31.6	149	5.2	--	5.1	--	20	--	100	[1,2]	74	[1,2]	1,400	[1,2,3]	67	[1,2]	14	--	6.9	--	NM	--	NM	--
LEAD	7439-92-1	35.8	35.8	128	1.1	--	1.2	--	3.3	--	2.2	--	1.9	--	17	--	1.2	--	1.4	--	<1.0 U	--	NM	--	NM	--
MANGANESE	7439-96-5	460	NA	NA	29 J	--	32	--	97	--	120	--	120	--	230	--	130	--	32	--	31	--	NM	--	NM	--
MERCURY	7439-97-6	0.18	0.18	1.06	<0.06 U	--	<0.06 U	--	<0.06 U	--	<0.3 U	--	<0.3 U	--	<0.1 U	--	<0.3 U	--	<0.06 U	--	<0.06 U	--	NM	--	NM	--
SILVER	7440-22-4	1	NA	NA	<0.1 U	--	<0.1 U	--	<0.1 U	--	0.1	--	0.2	--	0.4	--	0.1	--	<0.1 U	--	<0.1 U	--	NM	--	NM	--
ZINC	7440-66-6	121	121	459	7.2	--	7.7	--	11	--	24	--	34	--	180	[1,2]	21	--	6.3	--	5	--	NM	--	NM	--
Organics - PCBs (ug/kg)																										
TOTAL PCBS	1336-36-3	59.8	59.8	676	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Organics - SVOCs (ug/kg)																										
ACENAPHTHENE	83-32-9	6.7	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<350 U	--	<360 U	--
ACENAPHTHYLENE	208-96-8	5.9	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<350 U	--	570	[1]
ANTHRACENE	120-12-7	57	57.2	845	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<350 U	--	750	[1,2]
BENZO(A)ANTHRACENE	56-55-3	108	108	1,050	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	700	[1,2]	3,900	[1,2,3]
BENZO(A)PYRENE	50-32-8	150	150	1,450	<480 U	--	<480 U	--	<510 U	--	<5600 U	--	<6500 U	--	<840 U	--	<2500 U	--	<470 U	--	<480 U	--	700	[1,2]	<7300 U	--
BENZO(B)FLUORANTHENE	205-99-2	190	NA	NA	<480 U	--	<480 U	--	<510 U	--	<5600 U	--	<6500 U	--	<840 U	--	<2500 U	--	<470 U	--	<480 U	--	1,400	[1]	<7300 U	--
BENZO(K)FLUORANTHENE	207-08-9	240	NA	NA	<480 U	--	<480 U	--	<510 U	--	<5600 U	--	<6500 U	--	<840 U	--	<2500 U	--	<470 U	--	<480 U	--	<690 U	--	<7300 U	--
CHRYSENE	218-01-9	166	166	1,290	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	680	[1,2]	3,600	[1,2,3]
FLUORANTHENE	206-44-0	423	423	2,230	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	1,500	[1,2]	8,100	[1,2,3]
FLUORENE	86-73-7	77	77.4	536	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<350 U	--	<360 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	200	NA	NA	<480 U	--	<480 U	--	<510 U	--	<5600 U	--	<6500 U	--	<840 U	--	<2500 U	--	<470 U	--	<480 U	--	<690 U	--	<7300 U	--
NAPHTHALENE (SVOC)	91-20-3	176	176	561	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<350 U	--	560	[1,2]
PHENANTHRENE	85-01-8	204	204	1,170	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	760	[1,2]	2,900	[1,2,3]
PYRENE	129-00-0	195	195	1,520	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	1,400	[1,2]	8,000	[1,2,3]
Organics - VOCs (ug/kg)																										
TOLUENE		10	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<140 U	--	280 J	[1]

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-6
Sample Analytical Summary - Sediment
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Sediment Table Footnotes:

- TECs, and PECs are adapted from Appendix A and Appendix B of Michigan Department of Environment, Great Lakes, and Energy (EGLE) - Remediation and Redevelopment Division Operational Memorandum No. 4 Attachment 3, Interim Final August 2, 2006.

- EPA Ecological Screening Values are adapted from Region 4 Ecological Risk Assessment Supplemental Guidance dated March 2018.

- Only detected analytes are listed - Gray rows indicate requested analyses. If no analytes are listed below a gray row then all analytes of that group were either not analyzed or not detected. ND indicates that one or more analyte of that group was tested and not detected and a -- indicates not analyzed.

- **Bold** values are concentrations detected above the laboratory reporting limit.
- **Bold/Shaded** cells indicate analyte concentration exceeded applicable criteria. Criteria exceeded is indicated by the footnote in [brackets] following the result value and defined below:

  [1] - EPA Region 4 ESVs dated March 2018

  [2] - TECs from MacDonald *et al.* 2000

  [3] - PECs from MacDonald *et al.* 2000

  Evaluation based on EGLE Criteria at time of Project completion.

  Samples described in this evaluation may actually refer to stamp sands or to other mining waste from the historic mining and reclamation processes conducted in the area.

-- = Not analyzed/Not Reported

bgs = Below ground surface

ESL = Ecological Screening Level

ft = Feet

in = Inches

mg/kg = Milligrams per kilogram.

PCBs = Polychlorinated biphenyls

PEC = Probable Effect Concentration

RCRA = Resource Conservation and Recovery Act

SVOCs = Semi-volatile organic compounds

TEC = Threshold Effect Concentration

ug/kg = Micrograms per kilogram

VOCs = Volatile organic compounds

Criteria Footnotes:

NA = A criterion or value is not available

Laboratory Footnotes:

J = The result is an estimated quantity

J+ = The result is an estimated quantity, but the result may be biased high

J- = The result is an estimated quantity, but the result may be biased low

ND = Not Detected

U = Analyte analyzed for but not detected above the reported sample reporting limit.

TABLE 5-6
Footnote Table - Sediment
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

	Applicable Criteria Evaluated	Exceedance
EGLE Remediation and Redevelopment Division Operational Memorandum No. 4 Attachment 3 (August 2006)	[1] EPA Region IV Ecological Screening Values	YES
	[2] Threshold Effect Concentration	YES
	[3] Probable Effect Concentration	YES

TABLE 5-7
Sample Analytical Summary - Porewater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Station Name	CasNumber	[GW1] Res Drinking Water (Dec 2013)	[GW2] NonRes Drinking Water (Dec 2013)	[GW3] GSI (June 2018)	[SW1] Region IV ESL - Chronic (March 2018)	[SW2] Region IV ESL - Acute (March 2018)	[SW3] SW57-HNV EGLE Rule 57 HNV Drink (3/15/2018)	QMCP-PS02		QMCP-PS04		QMCP-PS05	
Sample ID								QMCP PS02		QMCP-PS04		QMCP PS05	
Sample Date								9/6/2018		9/10/2018		9/6/2018	
Sample Interval (bgs)								--		--		--	
Sample Description								Collected near QMCP-SD02 where sediments indicated signs of contamination (oily odor)		Collected near QMCP-SD04 where sediments indicated signs of contamination (oily sheen)		Collected near QMCP-SD05 where sediments indicated signs of contamination (strong sulfur odor)	
								Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)													
ARSENIC	7440-38-2	10 (A)	10 (A)	10	150	340	10	3.2	--	<1.0 U	--	<1.0 U	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	220	2,000	1,900	8.9	--			85	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)			120	5.1	--	2.2	--	4.2	--
COPPER	7440-50-8	1,000 (B,E)	1,000 (B,E)	4.7 (B,G)	5.16	7.3	470	820	[GW3, SW1, SW2, SW3]	420	[GW3, SW1, SW2]	210	[GW3, SW1, SW2]
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	1.32	33.8	14	110	[GW1, GW2, GW3, SW1, SW2, SW3]	4.4	[GW1, GW2, SW1]	13	[GW1, GW2, SW1]
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	93	1,680	1,300	150	[GW1, GW2, SW1]	410	[GW1, GW2, SW1]	1,300	[GW1, GW2, GW3, SW1]
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	--	1.15	130	0.5	[GW3]	0.4	[GW3]	<0.2 U	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	67	67	3,300	50	--	11	--	19	--
Organics - PCBs (ug/l)													
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	0.014	0.014	NLS	ND	--	ND	--	ND	--
Organics - SVOCs (ug/l)													
ACENAPHTHENE	83-32-9	1,300	3,800	38	15	19	580	<1.0 U	--	<1.0 U	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)		0.02	0.18	1,900	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	0.8	3.7	18	1.1	[SW1]	<1.0 U	--	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	19	110	140	<1.0 U	--	<1.0 U	--	<1.0 U	--
PHENANTHRENE	85-01-8	52	150	2.0	2.3	31	ID*	1.4	--	<1.0 U	--	<1.0 U	--
PYRENE	129-00-0	140 (S)	140 (S)		4.6	42	15	<1.0 U	--	<1.0 U	--	<1.0 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-7
Sample Analytical Summary - Porewater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Station Name	CasNumber	[GW1] Res Drinking Water (Dec 2013)	[GW2] NonRes Drinking Water (Dec 2013)	[GW3] GSI (June 2018)	[SW1] Region IV ESL - Chronic (March 2018)	[SW2] Region IV ESL - Acute (March 2018)	[SW3] SW57-HNV EGLE Rule 57 HNV Drink (3/15/2018)	QMCP-PS06		QMCP-PS07		QMCP-PS10		QMCP-PS45	
Sample ID								QMCP PS06		QMCP PS07		QMCP-PS10		QMCP-PS45	
Sample Date								9/6/2018		9/6/2018		9/10/2018		9/10/2018	
Sample Interval (bgs)								--		--		--		--	
Sample Description								Collected near QMCP-SD06		Collected near QMCP-SD07		Collected near QMCP-SD10 where sediments indicated signs of contamination (oily sheen)		Collected offshore of terrestrial location QMCP-SB45/GW45	
								Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (ug/l)															
ARSENIC	7440-38-2	10 (A)	10 (A)	10	150	340	10	2.4	--	1.3	--	1.8	--	--	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	220	2,000	1,900	56	--	51	--			--	--
CHROMIUM	7440-47-3	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)			120	7.0	--	2.1	--	5.3	--	--	--
COPPER	7440-50-8	1,000 (B,E)	1,000 (B,E)	4.7 (B,G)	5.16	7.3	470	3,500	[GW1, GW2, GW3, SW1, SW2, SW3]	210	[GW3, SW1, SW2]	250	[GW3, SW1, SW2]	--	--
LEAD	7439-92-1	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	1.32	33.8	14	26	[GW1, GW2, GW3, SW1, SW3]	5.6	[GW1, GW2, SW1]	2.0	[SW1]	--	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	93	1,680	1,300	760	[GW1, GW2, SW1]	81	[GW1, GW2]	390	[GW1, GW2, SW1]	--	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	--	1.15	130	5.3	[GW3, SW2]	<0.2 U	--	0.3	[GW3]	--	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	67	67	3,300	32	--	7.4	--	<5.0 U	--	--	--
Organics - PCBs (ug/l)															
TOTAL PCBS	1336-36-6	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	0.014	0.014	NLS	ND	--	ND	--	ND	--	--	--
Organics - SVOCs (ug/l)															
ACENAPHTHENE	83-32-9	1,300	3,800	38	15	19	580	2.8	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)		0.02	0.18	1,900	2.3	[SW1, SW2]	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	0.8	3.7	18	5.1	[GW3, SW1, SW2]	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORENE	86-73-7	880	2,000 (S)	12	19	110	140	4.0	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
PHENANTHRENE	85-01-8	52	150	2.0	2.3	31	ID*	12	[GW3, SW1]	<1.0 U	--	<1.0 U	--	<1.0 U	--
PYRENE	129-00-0	140 (S)	140 (S)		4.6	42	15	3.9	--	<1.0 U	--	<1.0 U	--	<1.0 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-7
Sample Analytical Summary - Porewater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Porewater Table Footnotes:

- EGLE Part 201 residential and non-residential generic cleanup criteria and screening levels criteria were originally promulgated December 21, 2002 within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. This table reflects revisions to the criteria pursuant to the December 2010 Part 201 amendments and new criteria consistent with the provisions of R299.5706a. Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Release Date: January 10, 2018 and GSIP Criteria updated June 25, 2018.
- EGLE Rule 57 values derived from the Michigan Department of Environment Great Lakes and Energy, Water Bureau, Water Resources Protection, filed with the Secretary of State on January 13, 2006. Part 4 Water Quality Standards, Rule 323.1057 Toxic Substances, as amended. Updated on March 15, 2018.
- ESLs are adapted from the Environmental Protection Agency Region 4 Ecological Risk Assessment Supplemental Guidance, published November 1995, updated March 2018.
- Only detected analytes are listed - Gray rows indicate requested analyses.
- **Bold** values are concentrations detected above the laboratory reporting limit.
- **Bold/Shaded** cells indicate analyte concentration exceeded applicable criteria. Criteria exceeded is indicated by the footnote in [brackets] following the result value and defined below:
  - [GW1] - EGLE Part 201 Residential Drinking Water RBSL dated January 10, 2018
  - [GW2] - EGLE Part 201 Nonresidential Drinking Water RBSL dated January 10, 2018
  - [GW3] - EGLE Part 201 Groundwater Surface Water Interface RBSL updated June 25, 2018
  - [SW1] - EPA Region 4 Surface Water Screening ESL-Chronic dated March 2018
  - [SW2] - EPA Region 4 Surface Water Screening ESL-Acute dated March 2018
  - [SW3] - EGLE Rule 57 Water Quality Value, HNV, drinking water source, dated March 15,2018

Evaluation based on EGLE Criteria at time of Project completion.
-- = Not analyzed/Not reported
RBSL = Risk Based Screening Level
EPA = United States Environmental Protection Agency
ESL = Ecological Screening Level
ft = feet
bgs = below ground surface
HNV = Human Non-Cancer Value
EGLE = Michigan Department of Environment, Great Lakes, and Energy
PCBs = Polychlorinated biphenyls
ug/l = Micrograms per liter
WV = Wildlife Value

Porewater Table Footnotes:

ID = Insufficient data to develop criterion.

NA = A criterion or value is not available

NLV = Hazardous substance is not likely to volatilize under most conditions.

(A) = Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

(AA) = Use 10,000 ug/l where groundwater enters a structure through the use of a water well, sump or other device. Use 28,000 ug/l for all other uses.

(B) = Background, as defined in R 299.1(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.

(E) = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). A notice of aesthetic impact may be employed as an institutional control mechanism if groundwater concentrations exceed the aesthetic drinking water criterion, but do not exceed the applicable health-based drinking water value provided in a table available on EGLE internet web site. (See R 299.49 Footnotes for generic cleanup criteria tables for additional information)

(G) = Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg CaCO3/L, use 400 mg CaCO3/L for the FCV calculation. The FCV formula provides values in units of ug/L or ppb. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote. A spreadsheet that may be used to calculate GSI and GSI protection criteria for (G)-footnoted hazardous substances is available on the EGLE internet web site. A hardness value of 47.5 CaCO3/L and pH of 7, derived from the Michigan Department of Environmental Quality Draft Site Inspection Report for Lake Linden Operations dated 3/29/13, was used in the footnote G calculation spreadsheet.

(H) = Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/L. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.

(J) = Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.

(L) = Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(9) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 ug/L is linked to the generic residential soil direct contact criterion of 400 mg/kg. A higher concentration in the drinking water, up to the state action level of 15 ug/L, may be allowed as a site-specific remedy and still allow for drinking water use, under Section 20120a(2) and 20120b of the NREPA if soil concentrations are appropriately lower than 400 mg/kg. If a site-specific criterion is approved based on this subdivision, a notice shall be filed on the deed for all property where the groundwater concentrations will exceed 4 ug/L to provide notice of the potential for unacceptable risk if soil or groundwater concentrations increase. Acceptable combinations of site-specific soil and drinking water concentrations are presented in a table available on the EGLE internet web site (See R 299.49 Footnotes for generic cleanup criteria tables for additional information).

(M) = Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

(S) = Criterion defaults to the hazardous substance-specific water solubility limit.

(T) = Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, Subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards. Subpart D and Subpart G of 40 C.F.R. §761 (July 1, 2001) are adopted by reference in these rules and are available for inspection at the EGLE, 525 West Allegan Street, Lansing, Michigan. Copies of the regulations may be purchased, at a cost as of the time of adoption of these rules of $55, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401, or from the EGLE, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost. Alternatives to compliance with the TSCA standards listed below are possible under 40 C.F.R. §761 Subpart D. New releases may be subject to the standards identified in 40 C.F.R. §761, Subpart G. Use Part 201 soil direct contact cleanup criteria in the published table if TSCA standards are not applicable.

(X) = The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. (See R 299.49 Footnotes for generic cleanup criteria tables for additional information.)

Laboratory Footnotes:

ND = Not Detected

U = Analyte analyzed for but not detected above the reported sample reporting limit.

TABLE 5-7
Footnote Table - Porewater
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

	Applicable Criteria Evaluated	Exceedance
EGLE Part 201 Generic Cleanup Criteria (June 2018)	[GW1] Residential Drinking Water RBSL	YES
	[GW2] Nonresidential Drinking Water RBSL	YES
	[GW3] Groundwater Surface Water Interface RBSL	YES
EPA Region 4 Surface Water Ecological Screening Levels (March 2018)	[SW1] Region IV Ecological Screening Value-Chronic	YES
	[SW2] Region IV Ecological Screening Value-Acute	YES
EGLE Rule 57 Water Quality Values (March 2018)	[SW3] Human Non-Cancer Value-Drinking Water Source	YES
	[SW4] Human Cancer Value-Drinking Water Source	NO
	[SW5] Wildlife Value	NO

TABLE 5-8
Sample Analytical Summary - Submerged Drum Contents
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Station Name	CASNumber	[1] EPA Region IV Ecological Screening Level (ESL)	[2] Threshold Effect Concentration (TEC)	[3] Probable Effect Concentration (PEC)	QMCP-SDM01		QMCP-SDM02		QMCP-SDM03	
Sample ID					QMCP-SDM01		QMCP-SDM02		QMCP-SDM03	
Sample Date					9/9/2018		9/9/2018		9/9/2018	
Sample Top					12.66 ft		14.82 ft		14.56 ft	
					Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics- Metals (mg/kg)										
ARSENIC	7440-38-2	9.8	9.79	33	8.4	--	4.5	--	9.8	[2]
CADMIUM	7440-43-9	1	0.99	4.98	0.5	--	0.3	--	0.5	--
CHROMIUM	7440-47-3	43.4	43.4	111	21	--	22	--	26	--
COPPER	7440-50-8	31.6	31.6	149	750	[1,2,3]	1,100	[1,2,3]	560	[1,2,3]
LEAD	7439-92-1	35.8	35.8	128	63	[1,2]	38	[1,2]	89	[1,2]
MANGANESE	7439-96-5	460			470	[1]	480	[1]	350	--
MERCURY	7439-97-6	0.18	0.18	1.06	0.2	[1,2]	0.4	[1,2]	0.3	[1,2]
SILVER	7440-22-4	1			1.5	[1]	2.0	[1]	1.0	--
ZINC	7440-66-6	121	121	459	91	--	85	--	100	--
Organics- PCBs (ug/kg)										
TOTAL PCBS	1336-36-3	59.8	59.8	676	ND	--	ND	--	ND	--
Organics- SVOCs (ug/kg)										
FLUORENE	86-73-7	77	77.4	536	<2000 U	--	<1500 U	--	<1600 U	--
PYRENE	129-00-0	195	195	1,520	<2000 U	--	1,600	[1,2,3]	<1600 U	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-8
Sample Analytical Summary - Submerged Drum Contents
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Sediment Table Footnotes:

- ESLs, TECs, and PECs are adapted from Appendix A and Appendix B of Michigan Department of Environment, Great Lakes, and Energy (EGLE) - Remediation and Redevelopment Division Operational Memorandum No. 4 Attachment 3, Interim Final August 2, 2006.

- Only detected analytes are listed - Gray rows indicate requested analyses. If no analytes are listed below a gray row then all analytes of that group were either not analyzed or not detected. ND indicates that one or more analyte of that group was tested and not detected and a -- indicates not analyzed.

- **Bold** values are concentrations detected above the laboratory reporting limit.
- **Bold/Shaded** cells indicate analyte concentration exceeded applicable criteria. Criteria exceeded is indicated by the footnote in [brackets] following the result value and defined below:

  [1] - EPA Region 4 RCRA ESLs dated March 2018

  [2] - TECs from MacDonald *et al.* 2000

  [3] - PECs from MacDonald *et al.* 2000

  Evaluation based on EGLE Criteria at time of Project completion.

  Samples described in this evaluation may actually refer to stamp sands or to other mining waste from the historic mining and reclamation processes conducted in the area.

-- = Not analyzed/Not Reported

bgs = Below ground surface

ESL = Ecological Screening Level

ft = Feet

in = Inches

mg/kg = Milligrams per kilogram.

PCBs = Polychlorinated biphenyls

PEC = Probable Effect Concentration

RCRA = Resource Conservation and Recovery Act

SVOCs = Semi-volatile organic compounds

TEC = Threshold Effect Concentration

ug/kg = Micrograms per kilogram

VOCs = Volatile organic compounds

Criteria Footnotes:

NA = A criterion or value is not available

Laboratory Footnotes:

J = The result is an estimated quantity

J+ = The result is an estimated quantity, but the result may be biased high

J- = The result is an estimated quantity, but the result may be biased low

ND = Not Detected

U = Analyte analyzed for but not detected above the reported sample reporting limit.

TABLE 5-8
Footnote Table - Submerged Drum Contents
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

	Applicable Criteria Evaluated	Exceedance
EGLE Remediation and Redevelopment Division Operational Memorandum No. 4 Attachment 3 (August 2006)	[1] EPA Region IV Ecological Screening Values	YES
	[2] Threshold Effect Concentration	YES
	[3] Probable Effect Concentration	YES

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																							
Field Sample ID						QMCP-D-01			QMCP-D-02			QMCP-D-03			QMCP-D-04			QMCP-D-05			QMCP-D-06			QMCP-D-07			QMCP-D-08			QMCP-D-09		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 2			XRF File 3			XRF File 4			XRF File 5			XRF File 6			XRF File 11			XRF File 10			XRF File 9			XRF File 8		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																	
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	3	--	< LOD	3	--	< LOD	4	--	< LOD	3	--	< LOD	4	--	< LOD	5	--	< LOD	4	--	11	7	[10]	7	5	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	173	107	--	287	133	--	621	162	--	292	131	--	337	155	--	440	195	--	475	163	--	< LOD	140	--	561	159	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	20	--	< LOD	24	--	< LOD	27	--	< LOD	24	--	< LOD	28	--	< LOD	34	--	< LOD	28	--	< LOD	26	--	< LOD	27	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	< LOD	223	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	64	6	--	180	10	--	407	17	--	256	12	--	184	12	--	27	6	--	216	12	--	2,493	44	--	2,461	41	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	21	20	--	< LOD	22	--	< LOD	25	--	< LOD	23	--	< LOD	27	--	< LOD	32	--	< LOD	27	--	288	33	--	93	27	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	275	56	--	< LOD	59	--	< LOD	53	--	126	64	--	< LOD	49	--	< LOD	53	--	< LOD	53	--	1,075	84	--	254	72	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	2	--	< LOD	2	--	< LOD	2	--	< LOD	2	--	< LOD	2	--	< LOD	1	--	< LOD	2	--	< LOD	6	--	< LOD	4	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	5	--	< LOD	5	--	< LOD	6	--	< LOD	5	--	< LOD	6	--	< LOD	8	--	< LOD	6	--	< LOD	7	--	< LOD	6	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	13	--	< LOD	15	--	29	18	--	< LOD	15	--	< LOD	19	--	< LOD	22	--	< LOD	18	--	< LOD	14	--	23	16	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	27	5	--	28	6	--	33	8	--	32	7	--	18	7	--	33	9	--	31	8	--	635	26	--	122	13	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																							
Field Sample ID						QMCP-D-10			QMCP-D-11			QMCP-D-12			QMCP-D-13			QMCP-D-14			QMCP-D-15			QMCP-D-16			QMCP-D-17			QMCP-D-18		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 7			XRF File 24			XRF File 12			XRF File 13			XRF File 14			XRF File 15			XRF File 16			XRF File 23			XRF File 21		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	5	--	5	3	--	< LOD	3	--	< LOD	5	--	< LOD	4	--	16	7	[10]	< LOD	7	--	< LOD	5	--	< LOD	9	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	295	150	--	192	98	--	202	95	--	< LOD	147	--	273	217	--	188	113	--	297	151	--	262	113	--	188	99	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	27	--	< LOD	19	--	< LOD	18	--	< LOD	27	--	< LOD	36	--	< LOD	23	--	< LOD	28	--	< LOD	21	--	< LOD	20	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	175	11	--	369	12	--	133	7	--	299	16	--	53	8	--	390	15	--	257	14	--	266	11	--	329	13	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	114	31	--	96	20	--	70	20	--	61	29	--	< LOD	30	--	464	35	[10]	354	37	--	254	28	--	1,114	41	[10,17]
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	< LOD	55	--	890	88	--	< LOD	56	--	525	63	--	< LOD	55	--	310	61	--	< LOD	54	--	128	62	--	196	59	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	2	--	< LOD	2	--	< LOD	2	--	< LOD	6	--	< LOD	1	--	< LOD	3	--	< LOD	2	--	< LOD	2	--	< LOD	3	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	7	--	< LOD	4	--	< LOD	4	--	< LOD	7	--	< LOD	7	--	< LOD	6	--	< LOD	7	--	< LOD	5	--	< LOD	5	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	17	--	< LOD	12	--	< LOD	12	--	< LOD	15	--	30	23	--	< LOD	14	--	< LOD	17	--	< LOD	13	--	< LOD	13	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	743	28	--	77	8	--	54	7	--	643	26	--	54	11	--	568	22	--	605	26	--	162	12	--	410	17	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-D-19			QMCP-D-20			QMCP-D-21			QMCP-D-22			QMCP-D-23			QMCP-D-24			QMCP-D-25			QMCP-D-26			QMCP-D-27		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 19			XRF File 20			XRF File 18			XRF File 17			XRF File 22			XRF File 25			XRF File 26			XRF File 29			XRF File 30		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	12	5	[10]	< LOD	4	--	< LOD	6	--	4	4		< LOD	4	--	5	4	--	14	8	[10]	< LOD	4	--	21	20	[10]
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	648	161	--	149	103	--	209	165	--	281	145	--	331	134	--	292	139	--	307	157	--	438	185	--	412	196	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	27	--	< LOD	20	--	< LOD	29	--	< LOD	26	--	< LOD	24	--	< LOD	25	--	< LOD	29	--	< LOD	31	--	< LOD	35	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	< LOD	103	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	1,218	33	--	174	9	--	259	15	--	224	12	--	218	12	--	337	15	--	373	18	--	32	7	--	1,725	52	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	52	29	--	126	21	--	207	31	--	70	26	--	45	24	--	61	25	--	402	39	[10]	< LOD	28	--	2,120	70	[10,17]
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	370	64	--	351	65	--	269	61	--	< LOD	54	--	76	62	--	227	65	--	424	71	--	< LOD	59	--	1,376	101	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	4	--	< LOD	3	--	< LOD	3	--	< LOD	2	--	< LOD	2	--	< LOD	3	--	< LOD	4	--	< LOD	2	--	< LOD	16	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	7	--	< LOD	4	--	< LOD	6	--	< LOD	6	--	< LOD	5	--	< LOD	6	--	< LOD	7	--	< LOD	7	--	< LOD	10	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	17	--	< LOD	13	--	< LOD	17	--	< LOD	17	--	< LOD	15	--	< LOD	16	--	< LOD	17	--	< LOD	20	--	< LOD	11	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	112	13	--	104	9	--	147	14	--	139	13	--	118	11	--	54	8	--	1,051	35	--	214	17	--	3,386	70	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																							
Field Sample ID						QMCP-D-28			QMCP-D-29			QMCP-D-30			QMCP-D-31			QMCP-D-32			QMCP-D-33			QMCP-D-34			QMCP-D-35			QMCP-D-36		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 31			XRF File 35			XRF File 34			XRF File 33			XRF File 32			XRF File 36			XRF File 45			XRF File 44			XRF File 43		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	7	6	--	< LOD	6	--	6	4	--	< LOD	11	--	< LOD	8	--	< LOD	3	--	< LOD	7	--	< LOD	4	--	< LOD	5	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	248	157	--	1,223	255	--	< LOD	165	--	316	141	--	< LOD	133	--	199	103	--	< LOD	244	--	274	187	--	< LOD	172	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	28	--	< LOD	40	--	< LOD	29	--	< LOD	26	--	< LOD	25	--	< LOD	28	--	< LOD	43	--	< LOD	33	--	< LOD	31	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	537	20	--	2,364	53	--	1,898	38	--	738	23	--	461	17	--	108	7	--	224	18	--	164	12	--	222	14	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	198	30	--	54	35	--	< LOD	27	--	1,063	52	[10,17]	557	39	[10]	40	21	--	52	44	--	< LOD	27	--	86	32	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	672	76	--	< LOD	54	--	762	73	--	192	61	--	505	62	--	< LOD	56	--	160	37	--	< LOD	57	--	469	58	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	5	--	< LOD	3	--	< LOD	4	--	< LOD	2	--	< LOD	2	--	< LOD	2	--	< LOD	0	--	< LOD	2	--	< LOD	1	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	6	--	< LOD	9	--	< LOD	7	--	< LOD	7	--	< LOD	6	--	< LOD	5	--	< LOD	11	--	< LOD	6	--	< LOD	7	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	18	16	--	30	24	--	28	18	--	< LOD	17	--	< LOD	16	--	< LOD	13	--	< LOD	30	--	< LOD	21	--	< LOD	21	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	224	16	--	43	14	--	63	11	--	1,208	36	--	1,394	36	--	61	7	--	147	19	--	50	10	--	63	11	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-D-37			QMCP-D-38			QMCP-D-39			QMCP-D-40			QMCP-D-41			QMCP-D-42			QMCP-DB-01			QMCP-DB-02			QMCP-DB-03		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 42			XRF File 37			XRF File 38			XRF File 39			XRF File 40			XRF File 41			XRF File 27			XRF File 28			XRF File 46		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	3	--	< LOD	3	--	< LOD	3	--	< LOD	4	--	6	4	--	14	8	[10]	< LOD	6	--	< LOD	6	--	< LOD	6	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	< LOD	78	--	193	96	--	269	106	--	418	144	--	260	136	--	211	132	--	353	176	--	691	221	--	447	149	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	17	--	< LOD	26	--	< LOD	19	--	< LOD	25	--	< LOD	25	--	< LOD	25	--	< LOD	30	--	< LOD	37	--	< LOD	26	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	232	9	--	187	9	--	448	14	--	514	18	--	435	18	--	255	13	--	203	13	--	282	18	--	290	14	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	133	20	--	54	18	--	64	22	--	79	25	--	58	26	--	664	40	[10]	156	32	--	112	39	--	241	31	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	823	76	--	331	69	--	171	66	--	194	69	--	489	70	--	520	71	--	< LOD	58	--	< LOD	51	--	148	66	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	3	--	< LOD	3	--	< LOD	2	--	< LOD	3	--	< LOD	3	--	< LOD	3	--	< LOD	3	--	< LOD	2	--	< LOD	3	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	4	--	< LOD	4	--	< LOD	5	--	< LOD	6	--	< LOD	6	--	< LOD	6	--	< LOD	7	--	< LOD	8	--	< LOD	6	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	10	--	< LOD	12	--	< LOD	13	--	18	16	--	< LOD	15	--	< LOD	16	--	< LOD	19	--	< LOD	24	--	< LOD	16	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	185	10	--	55	7	--	37	6	--	71	10	--	465	22	--	55	9	--	323	20	--	318	24	--	358	19	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-04			QMCP-DB-05			QMCP-DB-06			QMCP-DB-07			QMCP-DB-08			QMCP-DB-09			QMCP-DB-10			QMCP-DB-11			QMCP-DB-12		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 47			XRF File 48			XRF File 49			XRF File 50			XRF File 51			XRF File 52			XRF File 53			XRF File 54			XRF File 55		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	7	5	--	< LOD	6	--	7	6	--	10	6	[10]	18	7	[10]	< LOD	6	--	< LOD	5	--	< LOD	5	--	< LOD	5	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	331	168	--	245	144	--	298	122	--	277	136	--	217	164	--	269	134	--	175	122	--	183	131	--	237	141	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	30	--	< LOD	27	--	< LOD	23	--	< LOD	25	--	< LOD	28	--	< LOD	34	--	< LOD	23	--	< LOD	24	--	< LOD	27	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	700	24	--	216	13	--	367	15	--	491	19	--	715	23	--	437	17	--	299	14	--	187	11	--	247	15	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	107	31	--	285	34	--	260	29	--	280	31	--	297	33	--	291	30	--	213	28	--	135	25	--	163	29	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	90	59	--	105	57	--	635	77	--	535	73	--	744	79	--	485	72	--	920	83	--	1,327	97	--	4,075	153	[9,16]
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	3	--	< LOD	2	--	< LOD	6	--	< LOD	5	--	< LOD	4	--	< LOD	4	--	< LOD	4	--	< LOD	6	--	< LOD	6	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	7	--	< LOD	6	--	< LOD	6	--	< LOD	6	--	< LOD	6	--	< LOD	5	--	< LOD	5	--	< LOD	5	--	< LOD	6	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	18	--	< LOD	17	--	< LOD	13	--	< LOD	15	--	< LOD	17	--	< LOD	15	--	< LOD	14	--	< LOD	13	--	< LOD	14	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	196	16	--	577	25	--	878	27	--	1,117	32	--	683	26	--	644	24	--	578	22	--	314	17	--	168	14	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-13			QMCP-DB-14			QMCP-DB-15			QMCP-DB-16			QMCP-DB-17			QMCP-DB-18			QMCP-DB-19			QMCP-DB-20			QMCP-DB-21		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 56			XRF File 57			XRF File 58			XRF File 59			XRF File 60			XRF File 61			XRF File 62			XRF File 63			XRF File 64		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	9	5	[10]	< LOD	5	--	20	10	[10]	27	9	[10]	9	8	[10]	17	8	[10]	28	10	[10]	10	8	[10]	43	17	[10,17]
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	189	104	--	132	90	--	462	232	--	212	110	--	308	134	--	194	101	--	376	150	--	167	90	--	375	188	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	20	--	< LOD	18	--	< LOD	39	--	< LOD	21	--	< LOD	25	--	< LOD	20	--	< LOD	27	--	< LOD	25	--	< LOD	33	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	578	16	--	274	11	--	512	26	--	1,066	24	--	526	19	--	1,049	23	--	1,072	29	--	857	19	--	984	34	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	294	26	--	256	25	--	435	50	[10]	1,066	41	[10,17]	514	36	[10]	978	37	[10,17]	810	43	[10]	987	34	[10,17]	1,696	68	[10,17]
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	1,249	95	--	697	76	--	6,456	190	[9,16]	1,287	96	--	1,172	105	--	1,549	102	[16]	1,696	108	[16]	1,767	109	[16]	864	83	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	4	--	< LOD	4	--	< LOD	4	--	< LOD	7	--	< LOD	6	--	< LOD	7	--	< LOD	7	--	< LOD	8	--	< LOD	7	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	5	--	< LOD	5	--	< LOD	9	--	< LOD	6	--	< LOD	6	--	< LOD	5	--	< LOD	6	--	< LOD	5	--	< LOD	9	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	12	--	< LOD	11	--	46	23	--	< LOD	12	--	16	14	--	< LOD	11	--	< LOD	15	--	< LOD	10	--	< LOD	17	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	278	14	--	460	17	--	955	40	--	738	23	--	493	21	--	1,207	28	--	1,042	32	--	885	22	--	721	33	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-22			QMCP-DB-23			QMCP-DB-24			QMCP-DB-25			QMCP-DB-26			QMCP-DB-27			QMCP-DB-28			QMCP-DB-29			QMCP-DB-30		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 65			XRF File 66			XRF File 67			XRF File 68			XRF File 69			XRF File 70			XRF File 71			XRF File 72			XRF File 73		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	37	9	[10,17]	36	9	[10]	< LOD	33	--	< LOD	21	--	25	14	[10]	13	9	[10]	4	3	--	< LOD	10	--	7	4	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	234	122	--	155	113	--	743	202	--	619	169	--	382	152	--	389	143	--	148	88	--	240	151	--	273	143	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	23	--	< LOD	21	--	< LOD	37	--	< LOD	30	--	< LOD	28	--	< LOD	26	--	< LOD	18	--	< LOD	28	--	< LOD	26	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	< LOD	329	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	884	23	--	2,334	36	--	2,929	68	--	5,672	72	--	1,018	29	--	617	22	--	144	7	--	681	25	--	85	8	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	883	40	[10]	862	40	[10]	6,461	123	[10,17]	4,197	89	[10,17]	1,595	58	[10,17]	755	42	[10]	136	20	--	828	46	[10]	57	26	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	1,815	110	[16]	541	68	--	1,038	92	--	784	83	--	780	81	--	589	75	--	307	65	--	783	78	--	< LOD	49	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	8	--	< LOD	4	--	< LOD	15	--	< LOD	10	--	< LOD	7	--	< LOD	5	--	< LOD	2	--	< LOD	6	--	< LOD	1	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	6	--	< LOD	6	--	< LOD	11	--	< LOD	8	--	< LOD	7	--	< LOD	6	--	< LOD	4	--	< LOD	7	--	< LOD	6	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	13	--	< LOD	13	--	< LOD	15	--	< LOD	15	--	< LOD	15	--	< LOD	15	--	< LOD	12	--	< LOD	15	--	< LOD	18	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	1,900	38	--	1,153	30	--	8,590	113	--	5,823	80	--	1,621	41	--	1,530	38	--	148	9	--	1,170	36	--	231	15	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-31			QMCP-DB-32			QMCP-DB-35			QMCP-DB-36			QMCP-DB-37			QMCP-DB-38			QMCP-DB-39			QMCP-DB-40			QMCP-DB-41		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 74			XRF File 75			XRF File 76			XRF File 77			XRF File 78			XRF File 79			XRF File 80			XRF File 81			XRF File 82		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	8	--	< LOD	3	--	< LOD	6	--	< LOD	5	--	10	8	[10]	< LOD	3	--	< LOD	9	--	< LOD	4	--	< LOD	4	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	294	123	--	239	120	--	1,413	258	--	360	283	--	2,773	410	--	206	152	--	409	132	--	712	164	--	501	164	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	24	--	< LOD	22	--	< LOD	41	--	< LOD	44	--	< LOD	59	--	< LOD	27	--	< LOD	24	--	< LOD	28	--	< LOD	28	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	748	21	--	154	9	--	3,872	70	--	151	14	--	5,766	105	--	249	13	--	344	14	--	1,296	30	--	2,840	44	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	819	39	[10]	32	22	--	58	34	--	< LOD	31	--	69	47	--	< LOD	23	--	1,179	45	[10,17]	36	25	--	77	26	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	596	74	--	< LOD	53	--	< LOD	65	--	< LOD	49	--	< LOD	58	--	451	70	--	368	72	--	183	75	--	< LOD	58	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	5	--	< LOD	1	--	< LOD	5	--	< LOD	1	--	< LOD	3	--	< LOD	3	--	< LOD	4	--	< LOD	3	--	< LOD	2	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	6	--	< LOD	5	--	< LOD	9	--	< LOD	8	--	< LOD	12	--	< LOD	6	--	< LOD	6	--	< LOD	6	--	< LOD	6	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	13	--	< LOD	15	--	49	23	--	68	29	--	88	35	--	< LOD	17	--	< LOD	15	--	23	17	--	< LOD	18	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	1,371	33	--	59	8	--	77	16	--	71	13	--	72	23	--	134	12	--	791	25	--	556	24	--	261	18	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																							
Field Sample ID						QMCP-DB-42			QMCP-DB-43			QMCP-DB-44			QMCP-DB-45			QMCP-DB-46			QMCP-DB-47			QMCP-DB-48			QMCP-DB-49			QMCP-DB-50		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 83			XRF File 84			XRF File 85			XRF File 86			XRF File 87			XRF File 88			XRF File 89			XRF File 90			XRF File 91		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																	
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	3	--	5	3	--	< LOD	4	--	< LOD	2	--	< LOD	2	--	< LOD	9	--	< LOD	8	--	15	8	[10]	< LOD	14	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	< LOD	83	--	182	123	--	327	178	--	< LOD	64	--	123	79	--	408	133	--	487	151	--	475	178	--	< LOD	308	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	17	--	< LOD	23	--	< LOD	31	--	< LOD	12	--	< LOD	16	--	< LOD	24	--	< LOD	26	--	< LOD	30	--	< LOD	59	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	83	6	--	241	11	--	1,476	35	--	63	4	--	34	3	--	373	14	--	257	13	--	512	21	--	558	48	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	22	19	--	29	21	--	63	27	--	61	16	--	< LOD	17	--	1,017	41	[10,17]	621	36	[10]	465	38	[10]	604	58	[10]
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	311	51	--	< LOD	56	--	668	78	--	624	67	--	< LOD	45	--	296	71	--	371	74	--	417	73	--	4,803	168	[9,16]
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	1	--	< LOD	2	--	< LOD	4	--	< LOD	2	--	< LOD	1	--	< LOD	4	--	< LOD	5	--	< LOD	6	--	< LOD	16	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	4	--	< LOD	5	--	< LOD	6	--	< LOD	3	--	< LOD	4	--	< LOD	6	--	< LOD	6	--	< LOD	7	--	< LOD	13	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	12	--	< LOD	15	--	44	18	--	< LOD	8	--	< LOD	11	--	30	15	--	< LOD	15	--	20	16	--	< LOD	8	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	114	9	--	99	9	--	85	12	--	281	10	--	82	7	--	461	19	--	934	28	--	691	27	--	178	26	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-51			QMCP-DB-52			QMCP-DB-53			QMCP-DB-54			QMCP-DB-55			QMCP-DB-56			QMCP-DB-57			QMCP-DB-58			QMCP-DB-60		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 92			XRF File 93			XRF File 94			XRF File 95			XRF File 96			XRF File 100			XRF File 101			XRF File 102			XRF File 103		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	14	9	[10]	< LOD	5	--	22	6	[10]	9	4	[10]	10	5	[10]	< LOD	6	--	< LOD	5	--	9	5	[10]	6	4	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	297	128	--	219	121	--	283	131	--	242	108	--	342	146	--	202	151	--	292	182	--	199	117	--	325	117	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	24	--	< LOD	22	--	< LOD	23	--	53	21	--	< LOD	26	--	< LOD	28	--	< LOD	34	--	< LOD	22	--	< LOD	22	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	< LOD	63	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	465	18	--	230	11	--	473	16	--	140	8	--	862	27	--	425	19	--	435	21	--	560	18	--	312	13	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	890	43	[10]	272	28	--	286	29	--	112	22	--	115	27	--	108	34	--	54	37	--	237	28	--	127	25	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	777	81	--	426	71	--	< LOD	61	--	< LOD	61	--	1,112	89	--	468	71	--	< LOD	42	--	776	80	--	702	84	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	5	--	< LOD	2	--	< LOD	2	--	< LOD	2	--	< LOD	9	--	< LOD	2	--	< LOD	1	--	< LOD	4	--	< LOD	4	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	6	--	< LOD	5	--	< LOD	5	--	< LOD	4	--	< LOD	6	--	< LOD	7	--	< LOD	9	--	< LOD	6	--	< LOD	5	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	14	--	< LOD	14	--	< LOD	15	--	< LOD	13	--	< LOD	14	--	< LOD	19	--	< LOD	23	--	< LOD	13	--	< LOD	14	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	673	25	--	220	13	--	547	21	--	105	9	--	436	20	--	158	15	--	126	16	--	506	20	--	205	13	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-61			QMCP-DB-62			QMCP-DB-63			QMCP-DB-64			QMCP-DB-65			QMCP-DB-66			QMCP-DB-67			QMCP-DB-68			QMCP-DB-69		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 104			XRF File 106			XRF File 107			XRF File 108			XRF File 109			XRF File 110			XRF File 111			XRF File 112			XRF File 113		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	22	--	28	10	[10]	8	6	[10]	< LOD	5	--	< LOD	3	--	< LOD	5	--	< LOD	16	--	< LOD	5	--	< LOD	5	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	394	152	--	410	160	--	< LOD	122	--	116	91	--	< LOD	93	--	346	152	--	194	105	--	191	128	--	259	115	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	27	--	33	28	--	< LOD	24	--	< LOD	26	--	< LOD	19	--	< LOD	27	--	< LOD	20	--	< LOD	23	--	< LOD	21	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	< LOD	126	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	1,688	37	--	2,212	44	--	515	18	--	739	18	--	153	8	--	1,912	38	--	1,214	24	--	379	15	--	256	11	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	4,701	88	[10,17]	801	44	[10]	293	32	--	220	25	--	64	21	--	85	29	--	3,930	68	[10,17]	179	27	--	263	27	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	1,157	90	--	1,052	91	--	1,730	100	[16]	1,336	94	--	521	62	--	404	69	--	609	75	--	727	78	--	480	76	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	9	--	< LOD	8	--	< LOD	3	--	< LOD	4	--	< LOD	2	--	< LOD	4	--	< LOD	6	--	< LOD	5	--	< LOD	3	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	8	--	< LOD	7	--	< LOD	6	--	< LOD	5	--	< LOD	5	--	< LOD	7	--	< LOD	6	--	< LOD	6	--	< LOD	5	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	25	16	--	< LOD	14	--	< LOD	15	--	< LOD	11	--	< LOD	13	--	< LOD	16	--	< LOD	12	--	< LOD	14	--	< LOD	13	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	1,150	34	--	1,463	39	--	581	23	--	424	17	--	103	9	--	155	15	--	3,695	49	--	316	17	--	233	13	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-70			QMCP-DB-71			QMCP-DB-72			QMCP-DB-73			QMCP-DB-74			QMCP-DB-75			QMCP-DB-76			QMCP-DB-77			QMCP-DB-78		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 114			XRF File 115			XRF File 116			XRF File 117			XRF File 118			XRF File 119			XRF File 120			XRF File 121			XRF File 122		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	5	--	< LOD	5	--	< LOD	4	--	< LOD	9	--	23	11	[10]	27	18	[10]	< LOD	4	--	16	13	[10]	41	18	[10,17]
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	< LOD	184	--	386	148	--	246	134	--	342	144	--	257	145	--	343	174	--	185	135	--	< LOD	269	--	326	138	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	32	--	< LOD	26	--	< LOD	24	--	< LOD	27	--	< LOD	28	--	< LOD	32	--	< LOD	25	--	< LOD	49	--	< LOD	26	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	327	17	--	677	22	--	445	16	--	1,231	34	--	1,116	33	--	598	26	--	191	11	--	229	21	--	658	23	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	67	33	--	168	30	--	28	25	--	676	41	[10]	781	45	[10]	2,102	76	[10,17]	144	27	--	372	66	--	3,091	74	[10,17]
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	245	44	--	660	81	--	< LOD	58	--	1,388	99	--	1,156	90	--	523	70	--	485	69	--	180	36	--	824	81	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	1	--	< LOD	3	--	< LOD	2	--	< LOD	10	--	< LOD	10	--	< LOD	5	--	< LOD	4	--	< LOD	1	--	< LOD	8	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	8	--	< LOD	6	--	< LOD	6	--	< LOD	7	--	< LOD	8	--	< LOD	9	--	< LOD	6	--	< LOD	13	--	< LOD	7	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	22	--	< LOD	16	--	< LOD	16	--	< LOD	13	--	< LOD	13	--	< LOD	18	--	< LOD	15	--	< LOD	32	--	< LOD	14	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	98	13	--	1,011	31	--	104	11	--	956	32	--	2,147	49	--	1,466	45	--	143	12	--	659	43	--	2,055	45	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-79			QMCP-DB-80			QMCP-DB-81			QMCP-DB-82			QMCP-DB-83			QMCP-DB-84			QMCP-DB-85			QMCP-DB-86			QMCP-DB-87		
Sample Date						7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019			7/17/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 123			XRF File 124			XRF File 125			XRF File 126			XRF File 127			XRF File 128			XRF File 129			XRF File 130			XRF File 131		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	12	--	9	7	[10]	62	19	[10,17]	< LOD	5	--	8	6	[10]	20	11	[10]	< LOD	11	--	11	11	[10]	< LOD	6	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	344	150	--	330	130	--	258	212	--	224	110	--	195	163	--	293	201	--	275	222	--	268	172	--	311	103	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	28	--	< LOD	24	--	< LOD	39	--	< LOD	20	--	< LOD	29	--	< LOD	36	--	< LOD	40	--	< LOD	33	--	< LOD	20	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	756	25	--	678	21	--	696	35	--	98	7	--	784	25	--	648	28	--	375	23	--	656	30	--	792	19	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	1,141	51	[10,17]	478	34	[10]	1,568	76	[10,17]	197	26	--	107	33	--	511	54	[10]	557	58	[10]	571	44	[10]	548	29	[10]
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	731	80	--	509	72	--	1,218	90	--	< LOD	46	--	158	57	--	< LOD	42	--	< LOD	49	--	1,993	113	[16]	498	75	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	7	--	< LOD	5	--	< LOD	9	--	< LOD	1	--	< LOD	2	--	< LOD	1	--	< LOD	2	--	< LOD	12	--	< LOD	4	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	8	--	< LOD	6	--	< LOD	11	--	< LOD	5	--	< LOD	7	--	< LOD	9	--	< LOD	10	--	< LOD	9	--	< LOD	4	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	15	--	< LOD	14	--	< LOD	18	--	< LOD	14	--	< LOD	19	--	< LOD	24	--	< LOD	25	--	< LOD	13	--	< LOD	12	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	1,995	46	--	1,522	35	--	2,714	70	--	356	16	--	242	18	--	2,013	59	--	1,258	49	--	781	33	--	1,458	29	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-88			QMCP-DB-89			QMCP-DB-91			QMCP-DB-92			QMCP-DB-93			QMCP-DB-94			QMCP-DB-95			QMCP-DB-96			QMCP-DB-97		
Sample Date						7/17/2019			7/17/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 132			XRF File 133			XRF File 134			XRF File 135			XRF File 136			XRF File 137			XRF File 138			XRF File 139			XRF File 140		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	11	7	[10]	15	8	[10]	< LOD	4	--	< LOD	4	--	< LOD	5	--	< LOD	4	--	16	4	[10]	< LOD	5	--	9	5	[10]
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	250	121	--	237	153	--	357	174	--	325	163	--	280	145	--	274	145	--	302	131	--	< LOD	188	--	310	151	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	24	23	--	< LOD	28	--	< LOD	31	--	< LOD	29	--	< LOD	26	--	< LOD	26	--	< LOD	24	--	< LOD	33	--	< LOD	27	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	< LOD	234	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	377	15	--	814	26	--	232	14	--	124	11	--	329	15	--	226	12	--	267	13	--	175	13	--	785	24	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	559	34	[10]	476	41	[10]	34	28	--	< LOD	25	--	86	28	--	72	25	--	< LOD	23	--	49	31	--	121	28	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	487	70	--	193	58	--	< LOD	55	--	429	72	--	107	59	--	162	62	--	543	70	--	387	53	--	576	76	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	5	--	< LOD	3	--	< LOD	2	--	< LOD	5	--	< LOD	3	--	< LOD	3	--	< LOD	5	--	< LOD	2	--	< LOD	5	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	5	--	< LOD	7	--	< LOD	7	--	< LOD	7	--	< LOD	7	--	< LOD	6	--	< LOD	5	--	< LOD	7	--	< LOD	6	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	13	--	< LOD	18	--	< LOD	20	--	< LOD	17	--	< LOD	16	--	< LOD	16	--	< LOD	14	--	< LOD	21	--	< LOD	15	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	827	25	--	1,221	38	--	35	8	--	53	9	--	88	11	--	58	9	--	38	7	--	61	11	--	572	24	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																										
Field Sample ID						QMCP-DB-98			QMCP-DB-99			QMCP-DB-100			QMCP-DB-101			QMCP-DB-102			QMCP-DB-103			QMCP-DB-104			QMCP-DB-105			QMCP-DB-106		
Sample Date						7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 141			XRF File 142			XRF File 143			XRF File 144			XRF File 145			XRF File 146			XRF File 147			XRF File 148			XRF File 149		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	5	--	< LOD	4	--	< LOD	4	--	< LOD	5	--	< LOD	4	--	< LOD	4	--	< LOD	3	--	< LOD	3	--	< LOD	4	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	354	164	--	398	145	--	312	167	--	501	189	--	573	161	--	773	169	--	< LOD	124	--	282	133	--	174	139	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	29	--	< LOD	25	--	< LOD	29	--	< LOD	33	--	< LOD	28	--	< LOD	28	--	< LOD	23	--	< LOD	24	--	< LOD	25	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	388	18	--	318	14	--	327	16	--	1,533	37	--	877	26	--	735	24	--	90	7	--	177	10	--	157	10	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	69	31	--	46	25	--	44	28	--	< LOD	30	--	44	26	--	37	25	--	< LOD	23	--	< LOD	23	--	< LOD	25	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	66	62	--	< LOD	58	--	< LOD	53	--	< LOD	51	--	273	72	--	460	83	--	315	53	--	< LOD	58	--	155	59	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	2	--	< LOD	2	--	< LOD	2	--	< LOD	2	--	< LOD	5	--	< LOD	4	--	< LOD	1	--	< LOD	2	--	< LOD	2	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	7	--	< LOD	6	--	< LOD	7	--	< LOD	7	--	< LOD	6	--	< LOD	6	--	< LOD	5	--	< LOD	6	--	< LOD	6	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	19	--	< LOD	16	--	< LOD	19	--	< LOD	21	--	< LOD	16	--	26	17	--	< LOD	15	--	< LOD	16	--	< LOD	16	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	58	10	--	43	8	--	40	9	--	31	10	--	51	9	--	72	11	--	28	6	--	30	7	--	36	7	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code	CAS Number	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	QMCP-D																							
Field Sample ID						QMCP-DB-107			QMCP-DB-108			QMCP-DB-109			QMCP-DB-110			QMCP-DB-111			QMCP-DB-112			QMCP-DB-113			QMCP-DB-114			QMCP-DB-115		
Sample Date						7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019			7/18/2019		
Sample Interval (bgs)						0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft			0 - 0 ft		
Instrument Sample ID						XRF File 150			XRF File 151			XRF File 152			XRF File 153			XRF File 154			XRF File 155			XRF File 156			XRF File 157			XRF File 158		
						Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds	Result	+/- Range	Exceeds
Metals (mg/kg)																																	
ARSENIC, XRF	7440-38-2X	720	7.6	910	37	< LOD	4	--	5	4	--	< LOD	5	--	< LOD	5	--	< LOD	5	--	13	6	[10]	< LOD	4	--	5	5	--	< LOD	7	--
BARIUM, XRF	7440-39-3X	330,000	37,000	150,000	130,000	427	174	--	416	170	--	355	188	--	525	161	--	714	203	--	959	228	--	619	153	--	343	128	--	248	205	--
CADMIUM, XRF	7440-43-9X	1,700	550	2,200	2,100	< LOD	30	--	< LOD	42	--	< LOD	33	--	< LOD	27	--	< LOD	33	--	< LOD	37	--	< LOD	26	--	< LOD	23	--	< LOD	36	--
CHROMIUM, XRF	7440-47-3X	330,000	790,000	150,000	1,000,000	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--	NM	--	--
COPPER, XRF	7440-50-8X	130,000	20,000	59,000	73,000	396	18	--	695	24	--	375	19	--	526	20	--	1,886	42	--	3,127	59	--	424	17	--	323	13	--	333	19	--
LEAD, XRF	7439-92-1X	100,000	400	44,000	900	43	30	--	33	28	--	58	31	--	125	29	--	80	32	--	55	35	--	38	26	--	157	26	--	218	43	--
MANGANESE, XRF	7439-96-5X	3,300	25,000	1,500	90,000	< LOD	52	--	< LOD	62	--	2,528	128	[16]	339	76	--	< LOD	68	--	< LOD	63	--	< LOD	59	--	476	77	--	< LOD	43	--
MERCURY, XRF	7439-97-6X	20,000	160	8,800	580	< LOD	1	--	< LOD	3	--	< LOD	3	--	< LOD	3	--	< LOD	4	--	< LOD	4	--	< LOD	3	--	< LOD	4	--	< LOD	1	--
SELENIUM, XRF	7782-49-2X	130,000	2,600	59,000	9,600	< LOD	7	--	< LOD	7	--	< LOD	7	--	< LOD	6	--	< LOD	7	--	< LOD	8	--	< LOD	6	--	< LOD	6	--	< LOD	9	--
SILVER, XRF	7440-22-4X	6,700	2,500	2,900	9,000	< LOD	20	--	< LOD	18	--	< LOD	20	--	< LOD	17	--	< LOD	20	--	< LOD	22	--	< LOD	17	--	< LOD	14	--	< LOD	24	--
ZINC, XRF	7440-66-6X	ID	170,000	ID	630,000	48	10	--	61	10	--	50	11	--	94	11	--	65	13	--	70	15	--	49	9	--	154	12	--	137	17	--

Note: Analytical and Criteria Footnotes are included on the last page of the table.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Soil Table Footnotes:

- EGLE Part 201 residential and non-residential generic cleanup criteria and screening levels criteria were originally promulgated December 21, 2002 within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. This table reflects revisions to the criteria pursuant to the December 2010 Part 201 amendments and new criteria consistent with the provisions of R299.5706a. Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Release Date: December 30, 2013.

- A subset of screened metal analytes are listed.

- **Bold** values are concentrations detected above the instrument's limit of detection.

- **Bold/Shaded** cells indicate screened concentration exceeded applicable criteria. EGLE Part 201 criteria exceeded is indicated by the footnote in [brackets] following the result value and defined below:

[9] - Residential Particulate Soil Inhalation Criteria
[10] - Residential Direct Contact Criteria
[16] - Nonresidential Particulate Soil Inhalation Criteria
[17] - Nonresidential Direct Contact Criteria

Evaluation based on EGLE Criteria at time of Project completion.
Samples described in this evaluation may actually refer to stamp sands or to other mining waste from the historic mining and reclamation processes conducted in the area.

CAS = Chemical Abstracts Service
NM = Not Measured
-- = Not analyzed/Not Reported
ID = Identification
bgs = Below ground surface
ft = Feet
XRF= X-ray fluorescence
mg/kg = Milligrams per kilogram.
< LOD = Less than limit of detection

Criteria Footnotes

ID = Insufficient data to develop criterion.

TABLE 5-9
Field Screening Results Summary - Surface Soil
Quincy Mining Company Portage Operations Area - Area D
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

	Part 201 Generic Cleanup Criteria Evaluated	Exceedance
EGLE Part 201 Generic Cleanup Criteria (June 2018)	[9] - Residential Particulate Soil Inhalation Criteria	YES
	[10] - Residential Direct Contact Criteria	YES
	[16] - Nonresidential Particulate Soil Inhalation Criteria	YES
	[17] - Nonresidential Direct Contact Criteria	YES