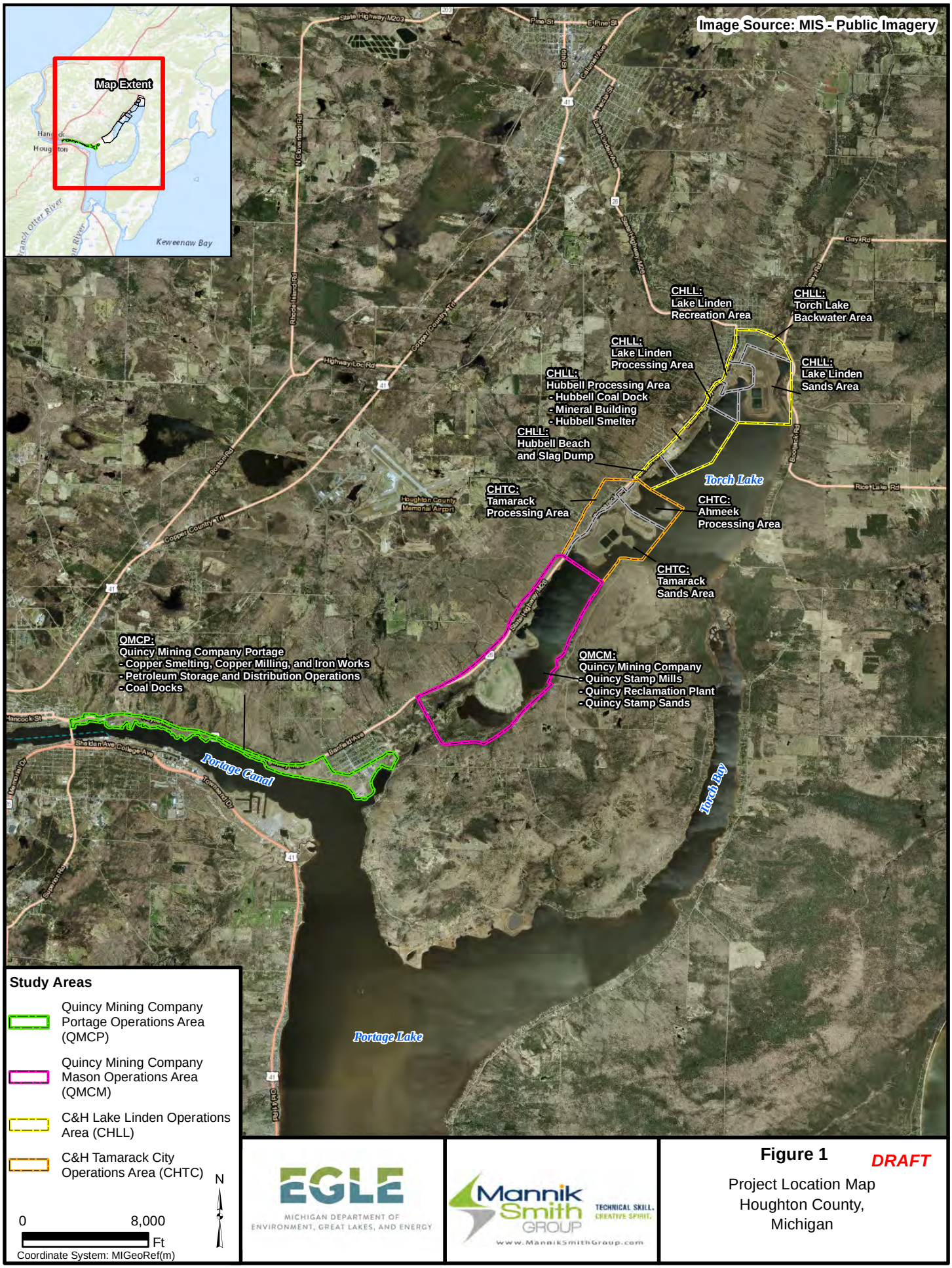

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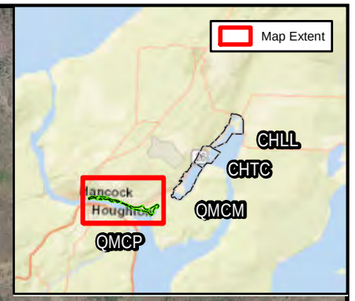
Figure 1 *DRAFT*

Project Location Map
Houghton County,
Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20200106_QMCP_SI_Report3\Fig1_QMCP_Project_Location_v20200212.mxd 1:42:07 PM 2/12/2020 AMiller

Image Source: MIS - Public Imagery



HANCOCK

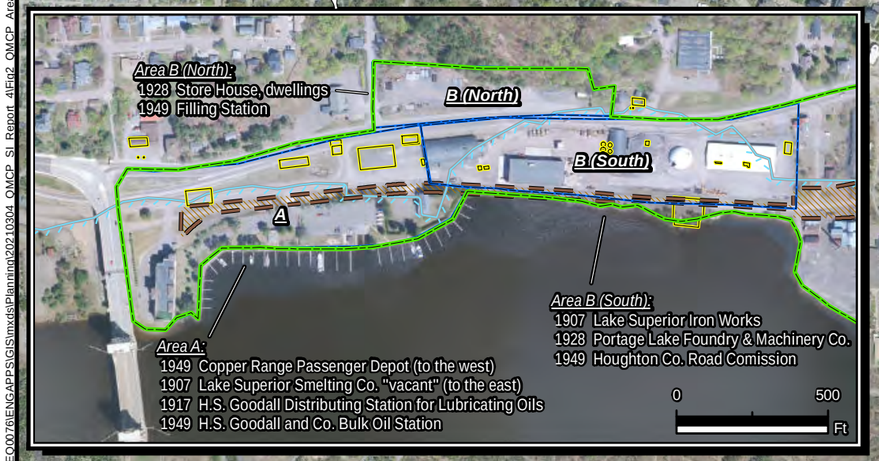
RIPLEY

Portage Bridge

HOUGHTON

Portage Canal

DOLLAR BAY



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

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

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 Smelting Co.

MDNR Property

Approximate 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.
MDNR = Michigan Department of Natural Resources

N
0
1,500
Ft

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Figure 2

DRAFT

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

File: W:\Projects\Projects K-O\MDEQ0076\ENG\APPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4Fig2_QMCP_Area_Features_Map_v20210402.mxd 10:23:41 AM 4/2/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

Filling Station

Gas Tanks

TH #12 10/2/1990
(5.5-9.5 ft)
NAPHTHALENE (SVOC) 1.8 mg/kg [2]
PHENANTHRENE 3.4 mg/kg [2]

6 Gas Tanks

Furnace

Oil Storage

TH #4 4/17/1990

TH #1 4/17/1990

Barreled Oil Warehouse

Barreled Oil Warehouse

TH #3 4/17/1990

MW #10 10/2/1990

TH #2 4/17/1990

Barreled Oil Warehouse

Oil Tank on ground

TH #8 4/17/1990

TH #10 4/17/1990

TH #11 4/17/1990

TH #9 4/17/1990

Oil Storage

AREA A

SS-4 6/5/2002
(0-1 ft)
MERCURY 0.08 mg/kg [18,19]

MW #9 10/2/1990

MW #8 10/2/1990

TH #6 4/17/1990

TH #7 4/17/1990

SS-2 6/5/2002

SS-3 6/5/2002
(0-0.25 ft)
1,2,4-TRIMETHYLBENZENE 260 ug/kg [18]
XYLENE - TOTAL 640 ug/kg [18]
(0-1 ft)
MERCURY 0.07 mg/kg [18,19]

Open Ditch 10/2/1990

TH #5 4/17/1990
(unknown depth)
NAPHTHALENE (SVOC) 3.7 mg/kg [2]
ETHYLBENZENE 76 ug/kg [18,19]
XYLENE - TOTAL 620 ug/kg [18]

SS-1 6/5/2002
(0-1 ft)
CYANIDE 0.15 J mg/kg [2]

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

- Approximate 1865 Shoreline
- MDNR Property
- Approximate Parcel Boundaries
- Features Idenitfied on Sanborn Maps
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *ug/kg = micrograms per kilogram*
- *mg/kg = milligrams per kilogram*
- *MDNR = Michigan Department of Natural Resources*
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

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 (VIAC)
[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
Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[18]=Soil Residential MSSL
[19]=Soil Nonresidential MSSL
* 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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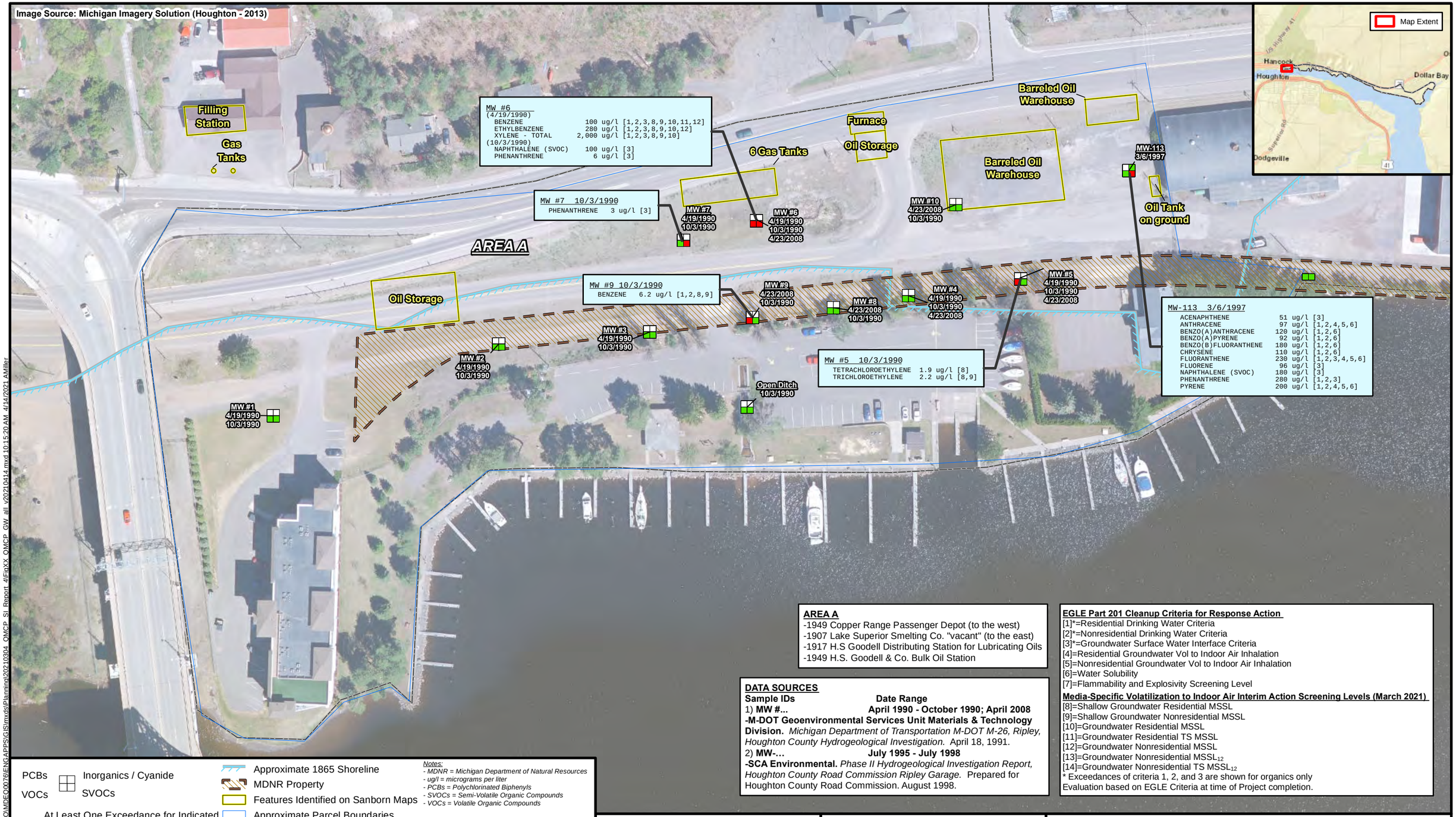
Figure 3 DRAFT
Soil Analytical Results
(Area A)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4\FigXX_QMCP_SOIL_all_v20210408.mxd 1:06:41 PM 4/8/2021 AMiller



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; April 2008**

-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.

EGLE 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

Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[8]=Shallow Groundwater Residential MSSL
[9]=Shallow Groundwater Nonresidential MSSL
[10]=Groundwater Residential MSSL
[11]=Groundwater Residential TS MSSL
[12]=Groundwater Nonresidential MSSL
[13]=Groundwater Nonresidential $MSSL_{12}$
[14]=Groundwater Nonresidential TS $MSSL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on EGLE Criteria at time of Project completion.

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Figure 4
Groundwater Analytical Results
(Area A)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE - W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4FinXX_QMCP_GW_all_v20210414.mxd 10:15:20 AM 4/14/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

SB-102 7/19/1995
(unknown depth)
NAPHTHALENE (SVOC)* 1,600 J ug/kg [2]
ETHYLBENZENE 36 ug/kg [18]

SB-103 7/19/1995
(unknown depth)
NAPHTHALENE (SVOC) 3,400 ug/kg [2]
BENZENE 5,200 ug/kg [2,4,5,11,18,19]
ETHYLBENZENE 29,000 ug/kg [2,4,11,18,19]
TOLUENE 4,400 ug/kg [18]
XYLENE - TOTAL 80,000 ug/kg [2,4,11,18,19]

SB-101 7/19/1995
(unknown depth)
NAPHTHALENE (SVOC) 12,000 ug/kg [2]
NAPHTHALENE (SVOC)* 2,100 J ug/kg [2]
BENZENE 3,700 ug/kg [2,4,5,11,18,19]
ETHYLBENZENE 19,000 ug/kg [2,4,11,18,19]
TOLUENE 27,000 ug/kg [2,4,11,18,19]
XYLENE - TOTAL 94,000 ug/kg [2,4,11,18,19]

SB-104 7/19/1995
(unknown depth)
BENZO(A)PYRENE 3,100 ug/kg [10]
FLUORANTHENE 6,200 ug/kg [2]

SB-109 7/19/1995
(unknown depth)
NAPHTHALENE (SVOC) 1,300 ug/kg [2]
BENZENE 270 ug/kg [2,4,11,18,19]
ETHYLBENZENE 3,000 ug/kg [2,4,11,18,19]
XYLENE - TOTAL 17,000 ug/kg [2,4,11,18,19]

MW-401
7/18/1995
(chloride only)

SB-501
7/20/1995

Filling Station

Gasoline Tanks

AREA B (North)

SB-201 7/20/1995
(unknown depth)
NAPHTHALENE (SVOC) 15,000 ug/kg [2]
NAPHTHALENE (SVOC)* 3,100 J ug/kg [2]
BENZENE 215 ug/kg [4,11,18,19]
ETHYLBENZENE 360 ug/kg [18,19]
XYLENE - TOTAL 2,300 ug/kg [2,18,19]

SB-107 7/19/1995
(unknown depth)
BENZENE 14 ug/kg [18,19]

SB-105
7/19/1995

SB-106
7/19/1995

PR-1 7/8/1998
(unknown depth)
2-METHYLNAPHTHALENE (SVOC) 9,700 ug/kg [2]
PHENANTHRENE 2,200 ug/kg [2]
ETHYLBENZENE 310 ug/kg [18,19]
XYLENE - TOTAL 950 ug/kg [18,19]

Core Oven

SB-114 7/20/1995
(unknown depth)
BENZO(A)PYRENE 2,100 ug/kg [10]
ETHYLBENZENE 220 ug/kg [18,19]
XYLENE - TOTAL 460 ug/kg [18]

MW-104 7/20/1995
(unknown depth)
ETHYLBENZENE 13 ug/kg [18]

Oil Tanks
10,000 Gallons Each

MW-303 7/18/1995
CHLORIDE (only) 2,100 [10,17]

Coke and Sand

Coal Bin

Core Oven

Oil Pump House

MW-103
7/20/1995

Oil Tank

T2-N
7/8/1998

T3-N
7/8/1998

T1-N
7/8/1998

T1-S
7/8/1998

T2-S
7/8/1998

T3-S
7/8/1998

SB-112
7/19/1995

SB-108 7/19/1995
(unknown depth)
BENZO(A)PYRENE 3,000 ug/kg [10]
ETHYLBENZENE 47 ug/kg [18]

SS-8 6/5/2002
(0-1 ft)
MERCURY 0.07 mg/kg [18,19]

SS-9 6/5/2002
(0-0.5 ft)
1,2,4-TRIMETHYLBENZENE 190 ug/kg [18]
XYLENE - TOTAL 570 ug/kg [18]
(0-1 ft)
ARSENIC 9.4 mg/kg [10]
MERCURY 0.08 mg/kg [18,19]
CYANIDE 0.57 J mg/kg [2]

SS-32 6/5/2002
(0-1 ft)
CYANIDE 0.27 J mg/kg [2]

SS-5
6/5/2002

SS-6 6/5/2002
(0-0.5 ft)
1,2,4-TRIMETHYLBENZENE 280 ug/kg [18]
ETHYLBENZENE 54 ug/kg [18]
XYLENE - TOTAL 640 ug/kg [18]
(0-1 ft)
MERCURY 0.07 mg/kg [18,19]

QMCP-SB7
9/11/2018

MW-302
7/18/1995
(chloride only)

Coal Dock

QMCP-SB67 9/11/2018
(0-3 ft)
XYLENE - TOTAL 450 ug/kg [18]

QMCP-SB68 9/11/2018
(0-3 ft)
NAPHTHALENE (SVOC) 780 ug/kg [2]
1,2,4-TRIMETHYLBENZENE 230 ug/kg [18]
ETHYLBENZENE 82 ug/kg [18,19]
HEXANE 77 J ug/kg [18,19]
XYLENE - TOTAL 750 ug/kg [18]

SB-110 7/19/1995
(unknown depth)
FLUORANTHENE 15,000 ug/kg [2]
FLUORANTHENE* 6,800 J ug/kg [2]
FLUORENE 8,600 ug/kg [2]
NAPHTHALENE (SVOC) 17,000 ug/kg [2]
NAPHTHALENE (SVOC)* 5,300 J ug/kg [2]
PHENANTHRENE 7,000 ug/kg [2]
PHENANTHRENE* 8,800 J ug/kg [2]
BENZENE 23 ug/kg [18,19]
ETHYLBENZENE 92 ug/kg [18,19]

SB-113 7/20/1995
(unknown depth)
BENZO(A)PYRENE 14,000 ug/kg [10,17]
DIBENZO(A,H)ANTHRACENE 3,000 ug/kg [10]
FLUORANTHENE 6,200 ug/kg [2]

SB-111 7/19/1995
(unknown depth)
NAPHTHALENE (SVOC) 28,000 ug/kg [2]
NAPHTHALENE (SVOC)* 3,400 J ug/kg [2]
PHENANTHRENE 3,600 ug/kg [2]
BENZENE 21 ug/kg [18,19]
ETHYLBENZENE 68 ug/kg [18,19]

SS-7 6/5/2002
(0-0.5 ft)
XYLENE - TOTAL 1,100 ug/kg [2,18,19]

AREA B (South)

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

- Approximate 1865 Shoreline
- MDNR Property
- Approximate Parcel Boundaries
- Features Idenitfied on Sanborn Maps
- QMCP Study Area Boundary

Notes:
- * = result is from cleanup run
- J = estimated value
- MDNR = Michigan Department of Natural Resources
- ug/kg = micrograms per kilogram
- mg/kg = milligrams per kilogram
- PCBs = Polychlorinated Biphenyls
- PCBs = Polychlorinated Biphenyls
- SVOCs = Semi-Volatile Organic Compound
- VOCs = Volatile Organic Compounds

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 (VIAC)
[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
Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[18]=Soil Residential MSSL
[19]=Soil Nonresidential MSSL
* 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 5 DRAFT
Soil Analytical Results
(Area B)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Plannin\20210304_QMCP_SI_Report_4\FigXX_QMCP_SOIL_all_v20210408.mxd 1:07:08 PM 4/8/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

Map Extent

Hancock
Houghton
Dollar Bay
Dodgeville
US Highway 41
Superior Rd
41

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	1,800 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 [1,2,3,8,9,10,11,12]

MW-108 10/11/1996

BENZO(A)ANTHRACENE	11 ug/l [1,2,6]
BENZO(A)PYRENE	11 ug/l [1,2,6]
BENZO(B)FLUORANTHENE	10 ug/l [1,2,6]
BENZO(G,H,I)PERYLENE	8 ug/l [1,2,6]
BENZO(K)FLUORANTHENE	8 ug/l [1,2,6]
CHRYSENE	12 ug/l [1,2,6]
FLUORANTHENE	24 ug/l [3]
INDENO(1,2,3-CD)PYRENE	9 ug/l [1,2,6]
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 [1,2,3,8,9,10,11,12]
ETHYLBENZENE	430 ug/l [1,2,3,8,9,10,12,13]
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]

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]

MW-109 10/11/1996

BENZENE	30 ug/l [1,2,3,8,9,10]
BENZO(A)ANTHRACENE	24 ug/l [1,2,6]
BENZO(A)PYRENE	22 ug/l [1,2,6]
BENZO(B)FLUORANTHENE	24 ug/l [1,2,6]
BENZO(G,H,I)PERYLENE	13 ug/l [1,2,6]
BENZO(K)FLUORANTHENE	18 ug/l [1,2,6]
CHRYSENE	25 ug/l [1,2,6]
ETHYLBENZENE	9 ug/l [8,9]
FLUORANTHENE	56 ug/l [3]
INDENO(1,2,3-CD)PYRENE	15 ug/l [1,2,6]
NAPHTHALENE (SVOC)	18 ug/l [3]
PHENANTHRENE	36 ug/l [3]

QMCP-GW67 9/11/2018
(3-7 ft)

BENZO(A)ANTHRACENE	23 J ug/l [1,2,6]
BENZO(A)PYRENE	19 J ug/l [1,2,6]
BENZO(B)FLUORANTHENE	30 J ug/l [1,2,6]
BENZO(G,H,I)PERYLENE	4.2 J ug/l [1,2,6]
BENZO(K)FLUORANTHENE	12 J ug/l [1,2,6]
CHRYSENE	21 J ug/l [1,2,6]
FLUORANTHENE	46 J ug/l [3]
INDENO(1,2,3-CD)PYRENE	4.5 J ug/l [1,2,6]
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 only)
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 7/9/1998
QMCP-MW501 9/7/2018 9/23/2020
MW-502 10/11/1996 7/9/1998
MW-503 10/11/1996 7/9/1998
QMCP-MW503 9/7/2018 9/23/2020
MW-504 10/11/1996
SB-112 7/19/1995
MW-505 10/11/1996 7/9/1998
QMCP-MW505 9/6/2018 9/23/2020
QMCP-GW68 9/11/2018
QMCP-GW7 9/11/2018
MW-302 7/25/1995 7/9/1998 (chloride only)
MW-301 7/25/1995 7/9/1998 (chloride only)
QMCP-MW302 9/6/2018 9/23/2020
QMCP-MW301 9/6/2018 9/23/2020
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

EGLE 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

Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[8]=Shallow Groundwater Residential MSSL
[9]=Shallow Groundwater Nonresidential MSSL
[10]=Groundwater Residential MSSL
[11]=Groundwater Residential TS MSSL
[12]=Groundwater Nonresidential MSSL
[13]=Groundwater Nonresidential $MSSL_{12}$
[14]=Groundwater Nonresidential TS $MSSL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on EGLE 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 - September 2020**
- **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

Approximate 1865 Shoreline
MDNR Property
Features Identified on Sanborn Maps
Approximate Parcel Boundaries
QMCP Study Area Boundary

Notes:
- *-# = results are from cleanup run*
- *- J = estimated value*
- *- MDNR = Michigan Department of Natural Resources*
- *- ug/l = micrograms per lite*
- *- PCBs = Polychlorinated Biphenyls*
- *- SVOCs = Semi-Volatile Organic Compounds*
- *- ug/l = micrograms per liter*
- *- VOCs = Volatile Organic Compounds*

N
0 90 Ft
Coordinate System: MIGeoRef(m)

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Figure 6
Groundwater Analytical Results
(Area B)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210204_QMCP_SI_Report_4FinXX_QMCP_GW_all_v20210414.mxd 10:16:33 AM 4/14/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

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-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]

QMCP-SB20 9/7/2018
(0-0.5 ft)
MERCURY 0.1 mg/kg [18,19]
(0.5-4 ft)
MERCURY 0.5 mg/kg [18,19]

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 [18,19]
HEXANE	75 ug/kg [18,19]
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]

AREA E

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-SS09 9/5/2018
(0-0.5 ft)
MERCURY 0.2 mg/kg [18,19]

AREA E
- Historic land use and/or operations unknown

DATA SOURCES

Sample IDs	Date Range
1) **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

- Approximate 1865 Shoreline
- MDNR Property
- Approximate Parcel Boundaries
- QMCP Study Area Boundary

Notes:
- *MDNR = Michigan Department of Natural Resources*
- *ug/kg = micrograms per kilogram*
- *mg/kg = milligrams per kilogram*
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

N
0 100 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 (VIAC)
[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
Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[18]=Soil Residential MSSL
[19]=Soil Nonresidential MSSL
* 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 7
Soil Analytical Results
(Area E)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

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FILE: W:\Projects\Projects K,O\MDEQ0076\ENG\APPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4FigXX_QMCP_SOIL_all_v20210408.mxd 1:07:36 PM 4/8/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

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

QMCP-GW20 9/7/2018
(5-9 ft)
MERCURY 1.7 ug/l [8,9,10]

QMCP-GW61 9/7/2018
(5-9 ft)
MERCURY 0.4 ug/l [8,9]
MERCURY (DUP) 0.3 ug/l [8,9]

AREA E

QMCP-GW21 9/7/2018
(4-8 ft)
MERCURY 0.2 ug/l [8,9]

AREA E
- Historic land use and/or operations unknown

DATA SOURCES

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

Approximate 1865 Shoreline
MDNR Property
Features Identified on Sanborn Maps
Approximate Parcel Boundaries
QMCP Study Area Boundary

Notes:
- *MDNR = Michigan Department of Natural Resources*
- *ug/l = micrograms per liter*
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

N
0 100 Ft
Coordinate System: MIGeoRef(m)

EGLE 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

Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[8]=Shallow Groundwater Residential MSSL
[9]=Shallow Groundwater Nonresidential MSSL
[10]=Groundwater Residential MSSL
[11]=Groundwater Residential TS MSSL
[12]=Groundwater Nonresidential MSSL
[13]=Groundwater Nonresidential $MSSL_{12}$
[14]=Groundwater Nonresidential TS $MSSL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on EGLE Criteria at time of Project completion.

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Figure 8
Groundwater Analytical Results
(Area E)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4\FigXX_QMCP_GW_all_v20210414.mxd 10:17:41 AM 4/14/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

Gasoline Tanks
Filling Station
Oil House
Oil Pump House
Gasoline, Kerosene and Fuel Oil Tanks
Foundry Warehouse
Ward Brass Foundry
AREA F
Coal Pockets
Coal Shed
Tractor Sales & Service
Warehouse
Propane Gas Tank
Coal Piles

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]

QMCP-SS310 9/24/2020
(0-0.25 ft)
XYLENE - TOTAL 380 ug/kg [18]

QMCP-SS311 9/24/2020
(0-0.25 ft)
XYLENE - TOTAL 350 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]

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]

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]

SS-24 6/5/2002

(0-0.33 ft)		
BENZENE	210	ug/kg [4,11,18,19]
ETHYLBENZENE	400	ug/kg [2,18,19]
1,2,4-TRIMETHYLBENZENE	920	ug/kg [2,18,19]
1,3,5-TRIMETHYLBENZENE	200	ug/kg [18]
NAPHTHALENE (VOC)	2,600	ug/kg [2]
XYLENE - TOTAL	2,800	ug/kg [2,18,19]
(0-1 ft)		
ARSENIC	8.4	mg/kg [10]
MERCURY	0.14 J	mg/kg [18,19]
CYANIDE	12.5 J	mg/kg [2,4,10,11]
BENZO(A)PYRENE	10,000 J	ug/kg [10,17]
FLUORANTHENE	25,000	ug/kg [2]
NAPHTHALENE (SVOC)	2,200 J	ug/kg [2]
PHENANTHRENE	13,000 J	ug/kg [2]

Mickelson-6 9/12/2007
(surface)
ARSENIC 14 J mg/kg [10]

AREA F
- Manufactured Gas Plant
- Filling 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) **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 - September 2020**

-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

Approximate 1865 Shoreline
MDNR Property
Approximate Parcel Boundaries
Features Idenitfied on Sanborn Maps
QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *MDNR = Michigan Department of Natural Resources*
- *ug/kg = micrograms per kilogra*
- *mg/kg = milligrams per kilogram*
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

N
0 100 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 (VIAC)
[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
Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[18]=Soil Residential MSSL
[19]=Soil Nonresidential MSSL
* 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 9
Soil Analytical Results
(Area F)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

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Image Source: Michigan Imagery Solution (Houghton - 2013)

Gasoline Tanks
Filling Station
Oil Pump House
Oil House
Gasoline, Kerosene and Fuel Oil Tanks
Foundry Warehouse
Ward Brass Foundry
Coal Pockets
AREA F
QMCP-GW64 9/7/2018
(5-9 ft)
MERCURY 1.0 ug/l [8,9]
Coal Pockets
Coal Shed
Coal Shed
Propane Gas Tank
Coal Piles

AREA F
- Manufactured Gas Plant
- Filling Station

DATA SOURCES

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

Approximate 1865 Shoreline
MDNR Property
Features Identified on Sanborn Maps
Approximate Parcel Boundaries
QMCP Study Area Boundary

Notes:
- *MDNR = Michigan Department of Natural Resources*
- *ug/l = micrograms per liter*
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

N
0 100 Ft
Coordinate System: MIGeoRef(m)

EGLE 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

Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[8]=Shallow Groundwater Residential MSSL
[9]=Shallow Groundwater Nonresidential MSSL
[10]=Groundwater Residential MSSL
[11]=Groundwater Residential TS MSSL
[12]=Groundwater Nonresidential MSSL
[13]=Groundwater Nonresidential $MSSL_{12}$
[14]=Groundwater Nonresidential TS $MSSL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on EGLE Criteria at time of Project completion.

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Figure 10
Groundwater Analytical Results
(Area F)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_dlFigXX_QMCP_GW_all_v20210414.mxd 10:18:55 AM 4/14/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

GP-1 6/13/2012
(7 ft)

MERCURY	310 ug/kg [18,19]
1,2,4-TRIMETHYLBENZENE	1,100 ug/kg [2,18,19]
1,3,5-TRIMETHYLBENZENE	330 ug/kg [18,19]
ETHYLBENZENE	150 ug/kg [18,19]
XYLENE - TOTAL	1,200 ug/kg [2,18,19]

GP-2 6/13/2012
(4 ft)
MERCURY 360 ug/kg [18,19]

AREA H

GP-3
6/13/2012

GP-5 6/13/2012
(2 ft)
MERCURY 230 ug/kg [18,19]

GP-4 6/13/2012
(2 ft)
MERCURY 260 ug/kg [18,19]

Map Extent
Keweenaw National Historical Park
Hancock
Houghton
Dollar Bay
Dodgeville
Superior Rd
Townsend Dr

AREA H
- Historic land use and/or operations unknown

DATA SOURCES

Sample IDs	Date Range
1) **"GP-"**	**June 2012**

-Trimedia Environmental & Engineering. *Baseline Environmental Assessment:Royce Road Marina, Royce Road, Franklin Township, Houghton County, MI 49930.* October 26, 2015.

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

- Approximate 1865 Shoreline
- MDNR Property
- Approximate Parcel Boundaries
- QMCP Study Area Boundary

Notes:
- *MDNR = Michigan Department of Natural Resources*
- *ug/kg = micrograms per kilogram*
- *mg/kg = milligrams per kilogram*
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

N
0 100 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 (VIAC)
[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
Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[18]=Soil Residential MSSL
[19]=Soil Nonresidential MSSL
* 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 11
Soil Analytical Results
(Area H)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

DRAFT

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_AllFigXX_QMCP_SOIL_all_v20210408.mxd 1:08:56 PM 4/8/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

GP-1 6/13/2012

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

GP-2 6/13/2012

AREA H

MW-3 11/7/2013

GP-3 6/13/2012

GP-5 6/13/2012

MW-2 11/7/2013

GP-4 6/13/2012

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**
- **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

Approximate 1865 Shoreline
MDNR Property
Features Identified on Sanborn Maps
Approximate Parcel Boundaries
QMCP Study Area Boundary

Notes:
- *MDNR = Michigan Department of Natural Resources*
- *ug/l = micrograms per liter*
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

N
0 100 Ft
Coordinate System: MIGeoRef(m)

EGLE 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

Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[8]=Shallow Groundwater Residential MSSL
[9]=Shallow Groundwater Nonresidential MSSL
[10]=Groundwater Residential MSSL
[11]=Groundwater Residential TS MSSL
[12]=Groundwater Nonresidential MSSL
[13]=Groundwater Nonresidential $MSSL_{12}$
[14]=Groundwater Nonresidential TS $MSSL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on EGLE Criteria at time of Project completion.

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Figure 12
Groundwater Analytical Results
(Area H)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4\FigXX_QMCP_GW_all_v20210414.mxd 10:20:13 AM 4/14/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

SS-29
6/5/2002

Oil House

Iron Refuse Burner and Spark Arrestor

Dutch Oven

AREA J

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]

SS-30 6/5/2002
(0-0.33 ft)

1,2,4-TRIMETHYLBENZENE	240	ug/kg [18]
BENZENE	56	ug/kg [18,19]
ETHYLBENZENE	82	ug/kg [18,19]
NAPHTHALENE (VOC)	820	ug/kg [2]
XYLENE - TOTAL	720	ug/kg [18]

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) **"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*

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

- Approximate 1865 Shoreline
- MDNR Property
- Approximate Parcel Boundaries
- Features Idenitfied on Sanborn Maps
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *MDNR = Michigan Department of Natural Resources*
- *ug/kg = micrograms per kilogram*
- *mg/kg = milligrams per kilogram*
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

N

0 100 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 (VIAC)
[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
Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[18]=Soil Residential MSSL
[19]=Soil Nonresidential MSSL
* 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 13
Soil Analytical Results
(Area J)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

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Image Source: Michigan Imagery Solution (Houghton - 2013)

QMCP-ASBBLK58A/B

AREA M

Smelter Building w/ approx. 7 furnaces

Underground Oil House

Smelter Building w/ furnaces

DATA SOURCES

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

-EGLE RRD. *SI results not published.*

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

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

Notes:
- ACM = Asbestos Containing Material

N

0 175 Ft

Coordinate System: MIGeoRef(m)

EGLE Part 201 NREPA Particulate Inhalation Criteria (PSIC) [1%] Evaluation based on EGLE Criteria at time of Project completion.

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Figure 14 ***DRAFT***

ACM Analytical Results
(Area M)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4\FinXX_QMCP_ASBBLK_v20210402.mxd 10:10:26 AM 4/2/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

QMCP-SB42 9/10/2018
(0-0.5 ft)

NAPHTHALENE (SVOC)	1,000 ug/kg [2]
1,2,4-TRIMETHYLBENZENE	380 ug/kg [18]
BENZENE	82 ug/kg [18,19]
ETHYLBENZENE	95 ug/kg [18,19]
HEXANE	150 ug/kg [18,19]
NAPHTHALENE (VOC)	740 ug/kg [2]
XYLENE - TOTAL	1,190 ug/kg [2,18,19]

QMCP-SS22 9/6/2018

QMCP-SB41 9/10/2018
(0-0.5 ft)

ARSENIC	22 mg/kg [10]
MERCURY	0.06 mg/kg [18]
XYLENE - TOTAL	460 ug/kg [18]

(0.5-9 ft)

ARSENIC	17 mg/kg [10]
1,2,4-TRIMETHYLBENZENE	170 ug/kg [18]
HEXANE	64 ug/kg [18]
XYLENE - TOTAL	500 ug/kg [18]

QMCP-SS23 9/6/2018

AREA M

QMCP-SB39 9/11/2018
(0-0.5 ft)

ARSENIC	78 mg/kg [10,17]
MERCURY	0.2 mg/kg [18,19]
FLUORANTHENE	5,800 ug/kg [2]
PHENANTHRENE	4,100 ug/kg [2]
XYLENE - TOTAL	330 ug/kg [18]

(0.5-8 ft)

ARSENIC	110 mg/kg [10,17]
COPPER	24,000 mg/kg [10]
MERCURY	0.06 mg/kg [18]

QMCP-SS26 9/6/2018
(0-0.5 ft)

ARSENIC	110 mg/kg [10,17]
NAPHTHALENE (SVOC)	2,200 ug/kg [2]

Underground Oil House

Smelter Building w/ approx. 7 furnaces

QMCP-SB37 9/11/2018
(0.5-5 ft)

ARSENIC	38 mg/kg [10,17]

QMCP-SB40 9/10/2018
(0-0.5 ft)

ARSENIC	19 mg/kg [10]

QMCP-SS24 9/6/2018
(0-0.5 ft)

ARSENIC	73 mg/kg [10,17]

Smelter Building w/ furnaces

QMCP-SS25 9/6/2018

QMCP-SB38 9/11/2018
(0.5-5 ft)

ARSENIC	48 mg/kg [10,17]
MERCURY	0.07 mg/kg [18,19]

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

DATA SOURCES

Sample IDs	Date Range
1) **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

- Approximate 1865 Shoreline
- Approximate Parcel Boundaries
- EPA Cap Boundary
- Features Idenitfied on Sanborn Maps
- QMCP Study Area Boundary

Notes:
- *J = estimated value*
- *ug/kg = micrograms per kilogram*
- *mg/kg = milligrams per kilogram*
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

N

0 175 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 (VIAC)
[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
Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[18]=Soil Residential MSSL
[19]=Soil Nonresidential MSSL
* 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 15 DRAFT
Soil Analytical Results
(Area M)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4\FinXX_QMCP_SOIL_all_v20210408.mxd 1:09:58 PM 4/8/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

AREA M

QMCP-GW42
9/10/2018

QMCP-GW41
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

OW.#1
12/14/1994

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

Smelter Building w/ approx. 7 furnaces

QMCP-GW39
9/11/2018

Underground Oil House

QMCP-GW40
9/10/2018

QMCP-GW37
9/11/2018

Smelter Building w/ furnaces

QMCP-GW38
9/11/2018

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

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) "**QMCP-GW..**"	**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

- Approximate 1865 Shoreline
- Features Identified on Sanborn Maps
- Approximate Parcel Boundaries
- EPA Cap Boundary
- QMCP Study Area Boundary

Notes:
- PCBs = Polychlorinated Biphenyls
- SVOCs = Semi-Volatile Organic Compounds
- VOCs = Volatile Organic Compounds

N
0 180 Ft
Coordinate System: MIGeoRef(m)

EGLE 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

Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[8]=Shallow Groundwater Residential MSSL
[9]=Shallow Groundwater Nonresidential MSSL
[10]=Groundwater Residential MSSL
[11]=Groundwater Residential TS MSSL
[12]=Groundwater Nonresidential MSSL
[13]=Groundwater Nonresidential $MSSL_{12}$
[14]=Groundwater Nonresidential TS $MSSL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on EGLE Criteria at time of Project completion.

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Figure 16
Groundwater Analytical Results
(Area M)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE - W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20221030\4_QMCP_SI_Report_dlEnXX_QMCP_GW_all_v20210414.mxd 10:21:25 AM 4/14/2021 AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)

AREA O

E-1 9/21/1994

E-2 9/21/1994

E-4 9/21/1994

E-5 9/21/1994

Lake 9/21/1994

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

DATA SOURCES

Sample IDs	Date Range
1) E-.../Lake...	September 1994

-Correspondence with Horner Flooring.

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

- Approximate 1865 Shoreline
- Features Identified on Sanborn Maps
- Approximate Parcel Boundaries
- EPA Cap Boundary
- QMCP Study Area Boundary

Notes:
- *PCBs = Polychlorinated Biphenyls*
- *SVOCs = Semi-Volatile Organic Compounds*
- *VOCs = Volatile Organic Compounds*

N

0 260 Ft

Coordinate System: MIGeoRef(m)

EGLE 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

Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)
[8]=Shallow Groundwater Residential MSSL
[9]=Shallow Groundwater Nonresidential MSSL
[10]=Groundwater Residential MSSL
[11]=Groundwater Residential TS MSSL
[12]=Groundwater Nonresidential MSSL
[13]=Groundwater Nonresidential $MSSL_{12}$
[14]=Groundwater Nonresidential TS $MSSL_{12}$
* Exceedances of criteria 1, 2, and 3 are shown for organics only
Evaluation based on EGLE Criteria at time of Project completion.

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Figure 17
Groundwater Analytical Results
(Area O)
Quincy Mining Company Portage Operations Area
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4\FigXX_QMCP_GW_all_v20210414.mxd 10:22:34 AM, 4/14/2021 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-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,SW1]
FLUORANTHENE	1.1	ug/l [SW1]

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-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,SW1,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-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-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-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-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,SW1]

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]

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]

OIL SHEEN OBSERVED ON SURFACE WATER DRAINING TO PORTAGE CANAL (Fall 2018 - Fall 2019)

AREA A
AREA B (North)
AREA B (South)
AREA E
AREA F
AREA H
AREA J

Map Extent
Houghton
Hancock
Dollar Bay

DATA SOURCES

Sample IDs	Date Range
1) **QMCP-SD/PS/SDM...**	**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

- Approximate 1865 Shoreline
- MDNR Property
- Feature Identified on Sanborn Maps
- Approximate Parcel Boundaries
- EPA Cap Boundary

Notes:
- *J = estimated value*
- *MDNR = Michigan Department of Natural Resources*
- *mg/kg = milligrams per kilogram*
- *ug/kg = micrograms per kilogram*
- *ug/l = micrograms per liter*
- *PCBs = Polychlorinated Biphenlys*
- *VOCs = Volatile Organic Compounds*
- *SVOCs = Semi-Volatile Organic Compounds*

Porewater sample locations shown have been adjusted due to symbol size

N

0 550 Ft

Coordinate System: MIGeoRef(m)

EGLE 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 EGLE Criteria at time of Project completion.

EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

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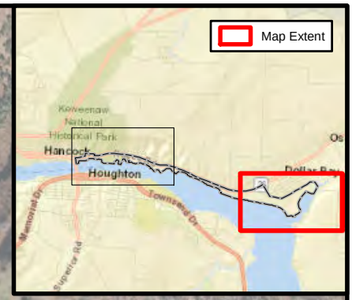
Figure 18a **DRAFT**

Sediment, Pore Water, and Submerged Drum Contents
Analytical Results
(AMW - QMCP)
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210304_QMCP_SI_Report_4\Fig\XX_QMCP_SED_SDMs_SW_PW_v20210402.mxd 4/2/2021 9:51:42 AM AMiller

Image Source: Michigan Imagery Solution (Houghton - 2013)



AREA P

AREA O

AREA M

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

COPPER	100	mg/kg [1,2]

(1-1.9 ft)

COPPER	74	mg/kg [1,2]

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

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]

QMCP-PS45

QMCP-SD11

QMCP-SD14

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,SW1]

DATA SOURCES

Sample IDs	Date Range
1) **QMCP-SD/PS...**	**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

- Approximate 1865 Shoreline
- MDNR Property
- Feature Identified on Sanborn Maps
- Approximate Parcel Boundaries
- EPA Cap Boundary

Notes:
- *J = estimated value*
- *MDNR = Michigan Department of Natural Resources*
- *mg/kg = milligrams per kilogram*
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- *ug/l = micrograms per liter*
- *PCBs = Polychlorinated Biphenlys*
- *VOCs = Volatile Organic Compounds*
- *SVOCs = Semi-Volatile Organic Compounds*

Porewater sample locations shown have been adjusted due to symbol size

N

0 550 Ft

Coordinate System: MIGeoRef(m)

EGLE 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 EGLE Criteria at time of Project completion.

EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

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Figure 18b ***DRAFT***

Sediment, Pore Water, and Submerged Drum Contents Analytical Results
(AMW - QMCP)
Houghton County, Michigan

FILE: W:\Projects\Projects K-O\MDEQ0076\ENGAPPS\GIS\mxds\Planning\20210204_QMCP_SI_Report_4\FigXX_QMCP_SED_SDMs_SW_PW_v20210402.mxd 9:52:05 AM 4/2/2021 AMiller

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Table 1
Summary of Historical Operations
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Area	Year	Historical Operations	Potential Contaminant Sources
A	1907, 1917, 1928, 1949 1907 1917 1928, 1949	Copper Range Passenger Depot (to the west) Lake Superior Smelting Co. "vacant" (to the east) H.S. Goodell Distributing Station for Lubricating Oils H.S. Goodell & Co. Bulk Oil Station	-Petroleum contamination from valve pit. Valve pit emptied and removed and the surrounding area excavated in 1989. -Potential storage and handling of other oils and lubricants. -Potential ACM used for insulation of equipment and fire retardant, along with uses in roofing material.
B (South)	1907 1917, 1928 1949	Lake Superior Iron Works Portage Lake Foundry & Machinery Co. Houghton Co. Road Commission	-Historic AST/UST systems removed during the 1960's and 1970's. -Gasoline spill excavated in late 1970's. -500 gallon UST removed in 1996. -Potential for the use of oils and lubricants for maintenance of equipment. -Potential chloride contamination from road salt storage. -Potential ACM used for insulation of equipment and fire retardant, along with uses in roofing material.
B (North)	1907, 1917, 1928 1949	Store House, dwellings Filling Station	-Petroleum contamination from former AST/UST systems on site. -UST System decommissioned in 1998.
E		Historic land use and/or operations unknown.	-Observations of impacted soils within MDNR ROW in July 2018.
F	1907, 1917 1928 1949 	Houghton Co. Gas & Coke Co. (to the west) Portage Coal & Dock Co. (to the east) Ward & Williams Brass Furnace (to the north) Michigan Gas & Electric Co. Gas Plant (to the west) Portage Coal & Dock Co. (to the east) Ward & Williams Brass Furnace (to the north) 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)	-Environmental concerns previously addressed.
H		Historic land use and/or operations unknown	-Unknown.
J	1907, 1917 1928 1949	Houghton Lumber Yard Co. Dollar Bay Lumber Co. Henry Borth Co. Manufacturing R.R. Shims, UP Oil Company	-Potential for the use of oils and lubricants for maintenance of equipment.
K	1907 1917 1928, 1949	Tamarack & Osceola Mining Co. Calumet & Hecla Mining Co. Coal Dock not found	-Coal storage. -Potential for the use of oils and lubricants for maintenance of equipment.
M	1907, 1917, 1928 1949	Lake Superior Smelting Co. Ice Houses	-PCP detections in prior investigations. -Observations of industrial ruins, debris, suspected ACM, stamp sand and slag piles. -One parcel was capped as part of the Torch Lake Superfund Site Dollar Bay remedial action.
O	1907 1917 1928, 1949 1949	Dollar Bay Land and Improvement Co. Dollar Bay Lumber Company Dollar Bay Lumber Co. Saw Mill & Lumber Yard Horner Flooring Co. Wood Flooring Mill	-PCP detections during prior investigations. The use of PCP was reportedly discontinued in mid-1980's. A contaminated utility pole was removed in 1995. -Potential for the use of oils and lubricants for maintenance of equipment. -A portion of the property was capped as part of the Torch Lake Superfund Site Dollar Bay remedial action.
P	1917	Slag Dump, Lake Superior Smelting Co.	-Slag storage.

Notes:

AST = Above ground storage tank
UST = Underground storage tank
EPA = United States Environmental Protection Agency
ACM = Asbestos containing material
MDNR = Michigan Department of Natural Resources
ROW = Right of way
PCP = Pentachlorophenol

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Table 2
Sampling and Analysis
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Proposed Sampling Location	Sample Date	Field Sample Identification	Laboratory Work Order Number	Longitude	Latitude	Sampling Rationale	Sample Description	Friable/ Non-Friable	Sample Notes	Sampling Method	Sample Type/Matrix						Sample Analyses						Water Quality Parameters					Duplicate Analyses					Trail ROW	Property Ownership
											Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment	Drums, Containers, and SACM	VOCs	SVOCs	PCBs	Metals	Cyanide	Asbestos	Temperature (C°)	Conductivity (mS/cm)	Dissolved Oxygen (%)	pH	Turbidity (nTu)	VOCs	SVOCs	PCBs	Metals	Cyanide		
Area A																																	
QMCP-SB01		QMCP-SB01 a_1-b_1"		-88.5732228	47.1254654	Data Gap - Area A, proximal to historic oil house		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
		QMCP-SB01 a_2-b_2"				Data Gap - Area A, proximal to historic oil house		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
QMCP-SB02		QMCP-SB02 a_1-b_1"		-88.5719018	47.1256306	Data Gap - Area A, proximal to historic bulk oil station, MW #9 (10/3/1990)		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
		QMCP-SB02 a_2-b_2"				Data Gap - Area A, proximal to historic bulk oil station, MW #9 (10/3/1990)		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
QMCP-SB03		QMCP-SB03 a_1-b_1"		-88.5716499	47.1256591	Area A, proximal to historic bulk oil station, TH#5 (4/17/1990)		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
		QMCP-SB03 a_2-b_2"				Area A, proximal to historic bulk oil station, TH#5 (4/17/1990)		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
QMCP-SB04		QMCP-SB04 a_1-b_1"		-88.5704147	47.1257691	Data Gap - Area A, proximal to historic bulk oil station, MW-113 (3/6/1997)		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
		QMCP-SB04 a_2-b_2"				Data Gap - Area A, proximal to historic bulk oil station, MW-113 (3/6/1997)		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
QMCP-GW01		QMCP-GW01 a_1-b_1"		-88.5732228	47.1254654	Data Gap - Area A, proximal to historic oil house		--	Location not sampled.	Low-Flow Sampling			X																			Y	State of Michigan
QMCP-GW02		QMCP-GW02 a_1-b_1"		-88.5719018	47.1256306	Data Gap - Area A, proximal to historic bulk oil station, MW #9 (10/3/1990)		--	Location not sampled.	Low-Flow Sampling			X																			Y	State of Michigan
QMCP-GW03		QMCP-GW03 a_1-b_1"		-88.5716499	47.1256591	Area A, proximal to historic bulk oil station, TH#5 (4/17/1990)		--	Location not sampled.	Low-Flow Sampling			X																			Y	State of Michigan
QMCP-GW04		QMCP-GW04 a_1-b_1"		-88.5704147	47.1257691	Data Gap - Area A, proximal to historic bulk oil station, MW-113 (3/6/1997)		--	Location not sampled.	Low-Flow Sampling			X																			Y	State of Michigan
Area B																																	
QMCP-SB05		QMCP-SB05 a_2-b_2"		-88.56933348	47.12578863	Area B (South), proximal to historic oil pump house and oil tank		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
		QMCP-SB05 a_2-b_2"				Area B (South), proximal to historic oil pump house and oil tank		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
QMCP-SB06		QMCP-SB06 a_1-b_1"		-88.56832514	47.12576694	Area B (South), proximal to SS-7 (6/5/2002) and SB-113 (7/20/1995)		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
		QMCP-SB06 a_2-b_2"				Area B (South), proximal to SS-7 (6/5/2002) and SB-113 (7/20/1995)		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
QMCP-SB07	9/11/2018	QMCP-SB7 0-3	1809120	-88.5675852	47.12573925	Data Gap -Area B (South), proximal to historic mining operation	SAND, Fine to medium, brown, saturated at 3 feet	--	Listed as QMCP-SB7 0-3 on lab report. Cyanide analysis omitted.	Soil Core		X					X	X	X	X												Y	State of Michigan
		QMCP-SB07 a_2-b_2"				Data Gap -Area B (South), proximal to historic mining operation		--	Sample not collected.	Soil Core		X																				Y	State of Michigan
QMCP-SB08		QMCP-SB08 a_1-b_1"		-88.56559461	47.12570969	Data Gap - Area B (South), proximal to historic mining operation		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
		QMCP-SB08 a2-b2"				Data Gap - Area B (South), proximal to historic mining operation		--	Location not sampled.	Soil Core		X																				Y	State of Michigan
QMCP-SB67	9/11/2018	QMCP-SB67 0-3	1809120	-88.5687629	47.12576855	Data Gap - Area B (South), proximal to historic mining operation	SAND, Fine to medium, brown, saturated at 3 feet	--	Limited metal analysis requested. PCB/Cyanide analysis omitted.	Soil Core		X					X	X		X												Y	State of Michigan
		QMCP-SB67 a_2-b_2'				Data Gap - Area B (South), proximal to historic mining operation		--	Sample not collected.	Soil Core		X																				Y	State of Michigan

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Table 2
Sampling and Analysis
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Proposed Sampling Location	Sample Date	Field Sample Identification	Laboratory Work Order Number	Longitude	Latitude	Sampling Rationale	Sample Description	Friable/ Non-Friable	Sample Notes	Sampling Method	Sample Type/Matrix						Sample Analyses						Water Quality Parameters					Duplicate Analyses						Trail ROW	Property Ownership
											Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment	Drums, Containers, and SACM	VOCs	SVOCs	PCBs	Metals	Cyanide	Asbestos	Temperature (C°)	Conductivity (mS/cm)	Dissolved Oxygen (%)	pH	Turbidity (nTu)	VOCs	SVOCs	PCBs	Metals	Cyanide		
Area B (Continued)																																		
QMCP-SB68	9/11/2018	QMCP-SB68 0-3	1809120	-88.56793407	47.12573848	Data Gap - Area B (South), proximal to historic mining operation	SAND, Fine to medium, brown, saturated at 3 feet	--	Limited metal analysis requested. PCB/Cyanide analysis omitted.	Soil Core		X					X	X		X													Y	State of Michigan
		QMCP-SB68 a_2-b_2'				Data Gap - Area B (South), proximal to historic mining operation		--	Sample not collected.	Soil Core		X																					Y	State of Michigan
QMCP-SB69		QMCP-SB69 a_1-b_1"		-88.56674588	47.12571488	Data Gap - Area B (South), near historic coal dock		--	Location not sampled.	Soil Core		X																					Y	State of Michigan
		QMCP-SB69 a_2-b_2'				Data Gap - Area B (South), near historic coal dock		--	Location not sampled.	Soil Core		X																					Y	State of Michigan
QMCP-GW05		QMCP-GW05 a_1-b_1"		-88.56933348	47.12578863	Area B (South), proximal to historic oil pump house and oil tank		--	Location not sampled.	Low-Flow Sampling			X																				Y	State of Michigan
QMCP-GW06		QMCP-GW06 a_1-b_1"		-88.56832514	47.12576694	Area B (South), proximal to SS-7 (6/5/2002) and SB-113 (7/20/1995)		--	Location not sampled.	Low-Flow Sampling			X																				Y	State of Michigan
QMCP-GW07	9/11/2018	QMCP-GW7 3-7	1809119	-88.5675852	47.12573925	Data Gap -Area B (South), proximal to historic mining operation		--		Low-Flow Sampling			X				X	X	X	X			17.8	0.880	2.4	6.48	NM						Y	State of Michigan
QMCP-GW08		QMCP-GW08 a_1-b_1"		-88.56559461	47.12570969	Data Gap - Area B (South), proximal to historic mining operation		--	Location not sampled.	Low-Flow Sampling			X																				Y	State of Michigan
QMCP-GW67	9/11/2018	QMCP-GW67 3-7'	1809119	-88.5687629	47.12576855	Data Gap - Area B (South), proximal to historic mining operation		--		Low-Flow Sampling			X				X	X	X	X			18.7	0.235	3.0	6.75	NM						Y	State of Michigan
QMCP-GW68	9/11/2019	QMCP-GW68 3-7	1809119	-88.56793407	47.12573848	Data Gap - Area B (South), proximal to historic mining operation		--		Low-Flow Sampling			X				X	X	X	X			19.5	0.660	1.4	7.72	NM						Y	State of Michigan
QMCP-GW69		QMCP-GW69 a_1-b_1"		-88.56674588	47.12571488	Data Gap - Area B (South), near historic coal dock		--	Location not sampled.	Low-Flow Sampling			X																				Y	State of Michigan
QMCP-MW301	9/6/2018	QMCP-MW-301	1809070	-88.56703238	47.12563383	Sample collection from existing monitoring wells.		--		Low-Flow Sampling			X				X	X		X			10.8	0.394	64.6	7.82	2.65						Y	State of Michigan
	9/23/2020	QMCP-MW-301	2009215			Re-sample collection from existing monitoring wells.		--		Low-Flow Sampling			X				X	X					11.7	0.459	87.5	7.81	4.38						Y	State of Michigan
QMCP-MW302	9/6/2018	QMCP-MW-302	1809070	-88.56717724	47.12564987	Sample collection from existing monitoring wells.		--		Low-Flow Sampling			X				X	X		X			15.6	1.38	0.8	7.64	7.6						Y	State of Michigan
	9/23/2020	QMCP-MW-302	2009215			Re-sample collection from existing monitoring wells		--		Low-Flow Sampling			X				X	X					14.0	1.70	6.6	5.01	8.3						Y	State of Michigan
QMCP-MW501	9/7/2018	QMCP-MW-501	1809070	-88.56967665	47.12576912	Sample collection from existing monitoring wells.		--	Duplicated added: QMCP-MW501-DUP1.	Low-Flow Sampling			X				X	X		X			18.5	0.19	0.8	6.55	5.3	X	X				Y	State of Michigan
	9/23/2020	QMCP-MW-501	2009215			Re-sample collection from existing monitoring wells.		--	Duplicated added: QMCP-MW501-DUP1.	Low-Flow Sampling			X				X	X					15.8	0.29	2.7	6.73	2.3	X	X				Y	State of Michigan
QCMP-MW502	9/7/2018	QMCP-MW502		-88.56940964	47.1257554	Sample collection from existing monitoring wells.		--	Location not sampled, filled with sediment.	Low-Flow Sampling			X																				Y	State of Michigan
		QMCP-MW502				Re-sample collection from existing monitoring wells.		--	Location not sampled, filled with sediment.	Low-Flow Sampling			X																				Y	State of Michigan
QMCP-MW503	9/7/2018	QMCP-MW-503	1809070	-88.56901491	47.12574808	Sample collection from existing monitoring wells.		--		Low-Flow Sampling			X				X	X		X			18.3	0.256	8.4	6.56	160						Y	State of Michigan
	9/23/2020	QMCP-MW-503	2009215			Re-sample collection from existing monitoring wells.		--		Low-Flow Sampling			X				X	X					16.0	0.334	17.9	4.38	14.8						Y	State of Michigan
QMCP-MW505	9/6/2018	QMCP-MW-505	1809070	-88.56833961	47.12572934	Sample collection from existing monitoring wells.		--		Low-Flow Sampling			X				X	X		X			17.5	0.32	1.0	7.24	1.5						Y	State of Michigan
	9/23/2020	QMCP-MW-505	2009215			Re-sample collection from existing monitoring wells.		--		Low-Flow Sampling			X				X	X		X			16.7	0.29	7.0	7.37	2.74						Y	State of Michigan

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Table 2
Sampling and Analysis
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Proposed Sampling Location	Sample Date	Field Sample Identification	Laboratory Work Order Number	Longitude	Latitude	Sampling Rationale	Sample Description	Friable/ Non-Friable	Sample Notes	Sampling Method	Sample Type/Matrix						Sample Analyses						Water Quality Parameters					Duplicate Analyses					Trail ROW	Property Ownership
											Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment	Drums, Containers, and SACM	VOCs	SVOCs	PCBs	Metals	Cyanide	Asbestos	Temperature (C°)	Conductivity (mS/cm)	Dissolved Oxygen (%)	pH	Turbidity (nTu)	VOCs	SVOCs	PCBs	Metals	Cyanide		
Area E																																		
QMCP-SS06	9/5/2018	QMCP-SS-06-0-6"	1809076	-88.5566732	47.1263296	Data Gap - Area E	Black stamp SAND, fine grained, darkened staining	--		Hand Tools	X							X		X	X											Y	State of Michigan
QMCP-SS07		QMCP-SS07 a1-b1"		-88.5570633	47.1258315	Data Gap - Area E		--	Sample not collected.	Hand Tools	X																					N	Unknown
QMCP-SS08	9/5/2018	QMCP-SS-08-0-6"	1809076	-88.5560079	47.1262809	Data Gap - Area E, near MDNR observations of contaminated soil	Brown medium SAND, black darker staining	--	Duplicate collected: QMCP-SS-08-0-6" DUP1	Hand Tools	X							X		X	X								X		X	X	Y	State of Michigan
QMCP-SS09	9/5/2018	QMCP-SS-09-0-6"	1809076	-88.5561683	47.1255791	Data Gap - Area E	Red coarse stamp SAND with darkened finer stamp SAND	--	Near waste dump.	Hand Tools	X							X	X	X	X											N	Unknown
QMCP-SB19		QMCP-SB19 a_1-b_1"		-88.5567006	47.1256310	Data Gap - Area E, proximal to historic mining operation location		--	Location not sampled.	Soil Core		X																				N	Unknown
		QMCP-SB19 a_2-b_2"				Data Gap - Area E, proximal to historic mining operation location		--	Location not sampled.	Soil Core		X																				N	Unknown
QMCP-SB20	9/7/2018	QMCP-SB 20-0-6"	1809084	-88.5563715	47.1262121	Data Gap - Area E, proximal to observations of soil contamination	SAND, Fine to medium, brown	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												Y	State of Michigan
	9/7/2018	QMCP-SB 20-6"-4'	1809084			Data Gap - Area E, proximal to observations of soil contamination	SAND, Medium to coarse, brown, saturated at 4 feet	--	Cyanide analysis omitted. Duplicate sample omitted.	Soil Core		X					X	X	X	X												Y	State of Michigan
QMCP-SB21	9/7/2018	QMCP-SB 21-0-6"	1809084	-88.5558833	47.1257233	Data Gap - Area E, proximal to historic mining operation location	SAND, Medium to coarse, brown, saturated at 4 feet	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Unknown
	9/7/2018	QMCP-SB 21-6"-4'	1809084			Data Gap - Area E, proximal to historic mining operation location	SAND, Medium to coarse, brown, saturated at 4 feet	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Unknown
QMCP-SB61	9/7/2018	QMCP-SB 61-0-6"	1809084	-88.5560688	47.1262113	Data Gap - Area E, proximal to observations of soil contamination	SAND, Fine to medium, brown	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												Y	State of Michigan
	9/7/2018	QMCP-SB 61-6"-4'	1809084			Data Gap - Area E, proximal to observations of soil contamination	SAND, Medium to coarse, brown, saturated at 4 feet	--	Cyanide analysis omitted. Duplicated added: QMCP-SB 61 6"-4' DUP	Soil Core		X					X	X	X	X								X	X	X	X		Y	State of Michigan
QMCP-GW19		QMCP-GW19 a_1-b_1"		-88.5567006	47.1256310	Data Gap - Area E, proximal to historic mining operation location		--	Location not sampled.	Low-Flow Sampling			X																			N	Dianne Sprague
QMCP-GW20	9/7/2018	QMCP-GW 20 5-9'	1809086	-88.5563715	47.1262121	Data Gap - Area E, proximal to observations of soil contamination		--	PCB analysis omitted. Duplicate sample omitted.	Low-Flow Sampling			X				X	X		X			15.2	0.280	2.90	7.19	NM						Y	State of Michigan
QMCP-GW21	9/7/2018	QMCP-GW 21 4-8'	1809086	-88.5558833	47.1257233	Data Gap - Area E, proximal to historic mining operation location		--	PCB analysis omitted.	Low-Flow Sampling			X				X	X		X			17.7	0.700	2.30	7.21	NM						N	Dianne Sprague
QMCP-GW61	9/7/2018	QMCP-GW 61 5-9'	1809086	-88.5560688	47.1262113	Data Gap - Area E, proximal to observations of soil contamination		--	Duplicate collected: QMCP-GW61 5-9' DUP	Low-Flow Sampling			X				X	X	X	X			14.6	0.900	21.70	7.08	NM	X	X	X	X		Y	State of Michigan
Area F																																		
QMCP-SS51	9/28/2018	QMCP-SS51-0-3"	1810006	-88.5544913	47.1259296	Data Gap - Area F, proximal to historic filling station/tank farm	Soil in pile along trail	--	Slight petro-like odor.	Hand Tools	X						X	X														Y	State of Michigan
QMCP-SS310	9/24/2020	QMCP-SS310	2009271	-88.554443	47.1259100	Hand auger to approximately 1-2' ft within pile sampled as QMCP-SS51, PCE exceedance					X																						
QMCP-SS311	9/24/2020	QMCP-SS311	2009271	-88.554507	47.1259150	Hand auger to approximately 1-2' ft within pile sampled as QMCP-SS51, PCE exceedance					X																						
QMCP-SB64	9/7/2018	QMCP-SB 64-0-6"	1809084	-88.5546749	47.1258830	Data Gap - Area F, proximal to historic filling station/tank farm	SAND, Fine to medium, brown	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												Y	State of Michigan
	9/7/2018	QMCP-SB 64-6"-5'	1809084			Data Gap - Area F, proximal to historic filling station/tank farm	SAND, Medium to coarse, brown, saturated at 5 feet	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												Y	State of Michigan
QMCP-GW64	9/7/2018	QMCP-GW 64 5-9'	1809086	-88.5546749	47.1258830	Data Gap - Area F, proximal to historic filling station/tank farm		--		Low-Flow Sampling			X				X	X	X	X			17.4	0.710	5.1	7.13	NM						Y	State of Michigan

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Sampling and Analysis
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Proposed Sampling Location	Sample Date	Field Sample Identification	Laboratory Work Order Number	Longitude	Latitude	Sampling Rationale	Sample Description	Friable/ Non-Friable	Sample Notes	Sampling Method	Sample Type/Matrix						Sample Analyses						Water Quality Parameters					Duplicate Analyses					Trail ROW	Property Ownership
											Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment	Drums, Containers, and SACM	VOCs	SVOCs	PCBs	Metals	Cyanide	Asbestos	Temperature (C°)	Conductivity (mS/cm)	Dissolved Oxygen (%)	pH	Turbidity (nTu)	VOCs	SVOCs	PCBs	Metals	Cyanide		
Area H																																	
QMCP-SB53		QMCP-SB53 a_1-b_1"		-88.5488116	47.1252472	Data Gap - Area H, proximal to GP-1 (6/13/2002)		--	Location not sampled.	Soil Core		X																				N	Wuebben Properties
		QMCP-SB53 a_2-b_2"				Data Gap - Area H, proximal to GP-1 (6/13/2002)		--	Location not sampled.	Soil Core		X																				N	Wuebben Properties
QMCP-SB54		QMCP-SB54 a_1-b_1"		-88.5488836	47.1244346	Data Gap - Area H, proximal to GP-4, GP-5 (6/13/2002)		--	Location not sampled.	Soil Core		X																				N	Wuebben Properties
		QMCP-SB54 a_2-b_2"				Data Gap - Area H, proximal to GP-4, GP-5 (6/13/2002)		--	Location not sampled.	Soil Core		X																				N	Wuebben Properties
QMCP-SB55		QMCP-SB55 a_1-b_1"		-88.5479865	47.1238867	Data Gap - Area H		--	Location not sampled.	Soil Core		X																				N	Wuebben Properties
		QMCP-SB55 a_2-b_2"				Data Gap - Area H		--	Location not sampled.	Soil Core		X																				N	Wuebben Properties
QMCP-GW53		QMCP-GW53 a_1-b_1"		-88.5488116	47.1252472	Data Gap - Area H, proximal to GP-1 (6/13/2002)		--	Location not sampled.	Low-Flow Sampling			X																			N	Wuebben Properties
QMCP-GW54		QMCP-GW54 a_1-b_1"		-88.5488836	47.1244346	Data Gap - Area H, proximal to GP-4, GP-5 (6/13/2002)		--	Location not sampled.	Low-Flow Sampling			X																			N	Wuebben Properties
QMCP-GW55		QMCP-GW55 a_1-b_1"		-88.5479865	47.1238867	Data Gap - Area H		--	Location not sampled.	Low-Flow Sampling			X																			N	Wuebben Properties
Area J																																	
QMCP-SS266		QMCP-SS266-0-3"		-88.5448985	47.1240380	North of H & Y Marina B-19, PCB detection, arsenic, lead, and manganese exceedances		--	Location not sampled.	Hand Tools	X																					N	H&Y Marina
QMCP-SS267		QMCP-SS267-0-3"		-88.5448959	47.1239832	South of H & Y Marina B-19, PCB detection arsenic, lead, and manganese exceedances		--	Location not sampled.	Hand Tools	X																					N	H&Y Marina
QMCP-SS268		QMCP-SS268-0-3"		-88.5448570	47.1240115	East of H & Y Marina B-19, PCD detection, arsenic, lead, and manganese exceedances		--	Location not sampled.	Hand Tools	X																					N	H&Y Marina
QMCP-SS269		QMCP-SS269-0-3"		-88.5449374	47.1240097	West of H & Y Marina B-19, PCB detection, arsenic, lead, and manganese exceedances		--	Location not sampled.	Hand Tools	X																					N	H&Y Marina
Area M																																	
QMCP-SS22	9/6/2018	QMCP-SS-22-0-6"	1809080	-88.5030825	47.1173416	Data Gap - Area M	Dark brown TOPSOIL to 5", then brown fine to medium SAND	--	Duplicate collected: QMCP-SS-22-0-6" DUP3	Hand Tools	X							X		X	X								X		X	X	N	Lois Stout
QMCP-SS23	9/6/2018	QMCP-SS-23-0-6"	1809080	-88.5033041	47.1167080	Data Gap - Area M	Brown fine to medium SAND	--		Hand Tools	X							X		X	X										N	Lois Stout
QMCP-SS24	9/6/2018	QMCP-SS-24-0-6"	1809080	-88.5027590	47.1157938	Data Gap - Area M	Brown/black to red very fine to fine SAND with some gravel	--		Hand Tools	X							X		X	X										N	Osceola Twp.
QMCP-SS25	9/6/2018	QMCP-SS-25-0-6"	1809080, 240-100981-1	-88.5017602	47.1156862	Data Gap - Area M	Dark brown fine to medium SAND	--	Asbestos in soil analysis.	Hand Tools	X							X		X	X	X									N	Lois Stout
QMCP-SS26	9/6/2018	QMCP-SS-26-0-6"	1809080, 240-100981-1	-88.5013573	47.1162314	Data Gap - Area M, near historic smelter building	Dark brown/black TOPSOIL, organics and slag/metal bits	--	Asbestos in soil analysis.	Hand Tools	X							X		X	X	X									N	Lois Stout
QMCP-SB37	9/11/2018	QMCP-SB37 0-6"	1809120	-88.5034322	47.1157449	Data Gap - Area M, within historic mining operation location	SAND, Fine to medium, brown, saturated at 5 feet	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X											N	Lois Stout
	9/11/2018	QMCP-SB37 6"-5'	1809120			Data Gap - Area M, within historic mining operation location	SAND, Fine to medium, brown, saturated at 5 feet	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X										N	Lois Stout

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Proposed Sampling Location	Sample Date	Field Sample Identification	Laboratory Work Order Number	Longitude	Latitude	Sampling Rationale	Sample Description	Friable/ Non-Friable	Sample Notes	Sampling Method	Sample Type/Matrix						Sample Analyses						Water Quality Parameters					Duplicate Analyses						Trail ROW	Property Ownership
											Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment	Drums, Containers, and SACM	VOCs	SVOCs	PCBs	Metals	Cyanide	Asbestos	Temperature (C°)	Conductivity (mS/cm)	Dissolved Oxygen (%)	pH	Turbidity (nTu)	VOCs	SVOCs	PCBs	Metals	Cyanide		
Area M (Continued)																																		
QMCP-SB38	9/11/2018	QMCP-SB38 0-6"	1809120	-88.5022596	47.1152597	Data Gap - Area M, within historic mining operation location	SAND, Medium, brown	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Lois Stout
	9/11/2018	QMCP-SB38 6"-5'	1809120			Data Gap - Area M, within historic mining operation location	SAND, Medium to coarse, brown, saturated at 5 feet	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Lois Stout
QMCP-SB39	9/11/2018	QMCP-SB39 0-6"	1809120	-88.5020364	47.1159543	Data Gap - Area M, proximal to underground oil house	SAND, Fine, gray	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Osceola Twp.
	9/11/2018	QMCP-SB39 6"-8'	1809120			Data Gap - Area M, proximal to underground oil house	FILL, Gravel, and SAND, Medium, brown, saturated at 8 feet	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Osceola Twp.
QMCP-SB40	9/10/2018	QMCP-SB40 0-6"	1809100	-88.5012057	47.1158847	Data Gap - Area M, within historic footprint of smelter building	SAND, Medium to coarse, gray	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Lois Stout
	9/10/2018	QMCP-SB40 6"-5'	1809100			Data Gap - Area M, within historic footprint of smelter building	SAND, Medium to coarse, gray	--	Cyanide analysis omitted. Duplicate omitted.	Soil Core		X					X	X	X	X												N	Lois Stout
QMCP-SB41	9/10/2018	QMCP-SB41 0-6"	1809100	-88.5010088	47.1166893	Data Gap - Area M, within historic mining operation location	SAND, Medium to coarse, gray	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Lois Stout
	9/10/2018	QMCP-SB41 6"-9'	1809100			Data Gap - Area M, within historic mining operation location	SAND, Fine to medium, brown, saturated at 9 feet	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Lois Stout
QMCP-SB42	9/10/2018	QMCP-SB42 0-6"	1809100	-88.5014653	47.1173806	Data Gap - Area M, within historic mining operation location	SAND, Medium to coarse, gray	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Lois Stout
	9/10/2018	QMCP-SB42 6"-12'	1809100			Data Gap - Area M, within historic mining operation location	SAND, Medium to coarse, brown, saturated at 12 feet	--	Cyanide analysis omitted.	Soil Core		X					X	X	X	X												N	Lois Stout
QMCP-GW37	9/11/2018	QMCP-GW37 5-9	1809119	-88.5034322	47.1157449	Data Gap - Area M, within historic mining operation location		--		Low-Flow Sampling			X				X	X	X	X			13.5	0.235	40.1	7.42	NM							N	Lois Stout
QMCP-GW38	9/11/2018	QMCP-GW38 5-9	1809119	-88.5022596	47.1152597	Data Gap - Area M, within historic mining operation location		--		Low-Flow Sampling			X				X	X	X	X			14.6	0.256	13.0	6.89	NM							N	Lois Stout
QMCP-GW39	9/11/2018	QMCP-GW39 8-12'	1809119	-88.5020364	47.1159543	Data Gap - Area M, proximal to underground oil house		--		Low-Flow Sampling			X				X	X	X	X			14.5	0.200	87.9	7.35	NM							N	Osceola Twp.
QMCP-GW40	9/10/2018	QMCP-GW40 12-16	1809102	-88.5012057	47.1158847	Data Gap - Area M, within historic footprint of smelter building		--	Duplicate omitted.	Low-Flow Sampling			X				X	X	X	X			13.1	0.190	70.0	6.48	NM							N	Lois Stout
QMCP-GW41	9/10/2018	QMCP-GW41 9-13	1809102	-88.5010088	47.1166893	Data Gap - Area M, within historic mining operation location		--		Low-Flow Sampling			X				X	X	X	X			13.8	0.204	7.0	6.79	NM							N	Lois Stout
QMCP-GW42	9/10/2018	QMCP-GW42 12-16	1809102	-88.5014653	47.1173806	Data Gap - Area M, within historic mining operation location		--		Low-Flow Sampling			X				X	X	X	X			13.9	0.103	39.7	7.28	NM							N	Lois Stout
QMCP-ASBBLK58	10/01/2018	QMCP-ASBBLK58A-100118	240-102329-1	-88.5016254	47.1170794	Suspect ACM	Green roofing	non-friable		Hand Tools						X					X												N	Lois Stout
	10/01/2018	QMCP-ASBBLK58B-100118	240-102329-1			Suspect ACM	Green roofing	non-friable		Hand Tools						X					X												N	Lois Stout
In Lake - Surface Water																																		
QMCP-SW01		QMCP-SW01 a-b'		-88.5693512	47.1256429	Offshore from Area B (South)		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW02		QMCP-SW02 a-b'		-88.5667598	47.1254447	Offshore from Area B (South)		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW03		QMCP-SW03 a-b'		-88.5590899	47.1244247	Offshore from Area D		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW04		QMCP-SW04 a-b'		-88.5582963	47.1248768	Offshore from Area D		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan

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Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Proposed Sampling Location	Sample Date	Field Sample Identification	Laboratory Work Order Number	Longitude	Latitude	Sampling Rationale	Sample Description	Friable/ Non-Friable	Sample Notes	Sampling Method	Sample Type/Matrix						Sample Analyses						Water Quality Parameters					Duplicate Analyses					Trail ROW	Property Ownership
											Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment	Drums, Containers, and SACM	VOCs	SVOCs	PCBs	Metals	Cyanide	Asbestos	Temperature (C°)	Conductivity (mS/cm)	Dissolved Oxygen (%)	pH	Turbidity (nTu)	VOCs	SVOCs	PCBs	Metals	Cyanide		
In Lake - Surface Water (Continued)																																	
QMCP-SW05		QMCP-SW05 a-b'		-88.5580048	47.1255540	Offshore from Area D		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW06		QMCP-SW06 a-b'		-88.5560179	47.1253390	Offshore from Area E		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW07		QMCP-SW07 a-b'		-88.5521526	47.1250307	Outlet of Ripley Creek, offshore from Area G		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW08		QMCP-SW08 a-b'		-88.5462552	47.1233848	Offshore from Area I		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW09		QMCP-SW09 a-b'		-88.5029253	47.1152426	Offshore from Area M		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW10		QMCP-SW10 a-b'		-88.4998632	47.1135537	Offshore from Area N		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW11		QMCP-SW11 a-b'		-88.4965812	47.1144752	Offshore from Area N		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW12		QMCP-SW12 a-b'		-88.4959901	47.1179606	Offshore from Area O		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW13		QMCP-SW13 a-b'		-88.4925184	47.1184816	Outlet of creek, offshore from Area P		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
QMCP-SW14		QMCP-SW14 a-b'		-88.4963341	47.1136151	Offshore of beach area		--	Location not sampled.	Low-Flow Sampling				X																			N	State of Michigan
In Lake - Pore Water, Sediments, and Submerged Drum Content Samples																																	
QMCP-PS02	9/6/2018	QMCP-PS02	1809077	-88.56675225	47.12545041	Collected near QMCP-SD02 where sediments indicated signs of contamination (sheen and/or odor)	No odor or anything else remarkable noted. (GSS email)	--	Collected near SD02	Low-Flow Sampling				X				X	X	X			16.3	1092	0.1	8.82	32.8						N	State of Michigan
QMCP-PS04	9/12/2018	QMCP-PS04	1809097	-88.55834467	47.1250394	Collected near QMCP-SD04 where sediments indicated signs of contamination (sheen and/or odor)	No odor or anything else remarkable noted. (GSS email)	--	Collected near SD04	Low-Flow Sampling				X				X	X	X			16.1	306.5	0.4	7.33	28.2						N	State of Michigan
QMCP-PS05	9/6/2018	QMCP-PS05	1809077	-88.55766583	47.12581048	Collected near QMCP-SD05 where sediments indicated signs of contamination (sheen and/or odor)	No odor or anything else remarkable noted. (GSS email)	--	Collected near SD05	Low-Flow Sampling				X				X	X	X			15.2	1496	0.8	6.71	19.6						N	State of Michigan
QMCP-PS06	9/6/2018	QMCP-PS06	1809077	-88.5562018	47.12506187	Collected near QMCP-SD06 where sediments indicated signs of contamination (sheen and/or odor)	No odor or anything else remarkable noted. (GSS email)	--	Collected near SD06	Low-Flow Sampling				X				X	X	X			17.5	474	0.1	7.1	25						N	State of Michigan
QMCP-PS07	9/6/2018	QMCP-PS07	1809077	-88.55219432	47.12503331	Collected near QMCP-SD07 where sediments indicated signs of contamination (sheen and/or odor)	No odor or anything else remarkable noted. (GSS email)	--	Collected near SD07	Low-Flow Sampling				X				X	X	X			17.6	364.4	1	6.81	9.48						N	State of Michigan
QMCP-PS10	9/12/2018	QMCP-PS10	1809097	-88.49986642	47.11352579	Collected near QMCP-SD10 where sediments indicated signs of contamination (sheen and/or odor)	No odor or anything else remarkable noted. (GSS email)	--		Low-Flow Sampling				X				X	X	X			16.8	224.4	1.3	7.22	78.4						N	State of Michigan
QMCP-PS45	9/12/2018	QMCP-PS45	1809097	-88.50117709	47.11380566	Collected offshore of terrestrial location QMCP-SB45/GW45 that indicated potential contamination.	No odor or anything else remarkable noted. (GSS email)	--		Low-Flow Sampling				X				X	X	X			15.8	490	0.8	6.94	37.6						N	State of Michigan

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Table 2
Sampling and Analysis
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Proposed Sampling Location	Sample Date	Field Sample Identification	Laboratory Work Order Number	Longitude	Latitude	Sampling Rationale	Sample Description	Friable/ Non-Friable	Sample Notes	Sampling Method	Sample Type/Matrix						Sample Analyses						Water Quality Parameters					Duplicate Analyses					Trail ROW	Property Ownership
											Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment	Drums, Containers, and SACM	VOCs	SVOCs	PCBs	Metals	Cyanide	Asbestos	Temperature (C°)	Conductivity (mS/cm)	Dissolved Oxygen (%)	pH	Turbidity (nTu)	VOCs	SVOCs	PCBs	Metals	Cyanide		
In Lake - Pore Water, Sediments, and Submerged Drum Content Samples (Continued)																																	
QMCP-SD01	9/5/2018	QMCP-SD01-0-6"	1809079	-88.5693522	47.12561867	Offshore from Area B (South)	FINES, Dark brown, loose, very soft	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/5/2018	QMCP-SD01-6-26"	1809079			Offshore from Area B (South)	SAND, Brown, fine grain, well sorted; SAND, Brown fine grain, well sorted, roots	--	Metals analysis added.	Vibracore Sampler					X			X	X	X												N	State of Michigan
QMCP-SD02	9/5/2018	QMCP-SD02-0-12"	1809079	-88.56672473	47.12542612	Offshore from Area B (South)	SAND with GRAVEL, Dark brown-black, coarse grain, some organics (wood and roots), oily odor	--	Duplicate collected: QMCP-SD02-0-12" FD	Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/5/2018	QMCP-SD02-12-21.5"	1809079			Offshore from Area B (South)	FINES, Soft, few sands and gravel, wet	--	Metals analysis added.	Vibracore Sampler					X			X	X	X												N	State of Michigan
QMCP-SD03	9/5/2018	QMCP-SD 03-0-6"	1809083	-88.55908871	47.12441587	Offshore from Area D	GRAVELLY SAND, Brownish purple, coarse grain sand, angular gravel	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
		QMCP-SD03 a_2-b_2'				Offshore from Area D		--	Sample not collected.	Vibracore Sampler					X																		N	State of Michigan
QMCP-SD04	9/5/2018	QMCP-SD 04-0-4.5"	1809083	-88.55827779	47.12487192	Offshore from Area D	FINES, brown, trace gravel, very soft, oily sheen	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/5/2018	QMCP-SD 04-4.5-9"	1809083			Offshore from Area D	SAND and FINES, brown, coarse grain, soft, loose	--		Vibracore Sampler					X			X	X													N	State of Michigan
QMCP-SD05	9/5/2018	QMCP-SD 05-0-6"	1809083	-88.55801724	47.12555193	Offshore from Area D	FINES, Brown soft, loose	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/5/2018	QMCP-SD 05-6-18"	1809083			Offshore from Area D	CLAY, Brown, trace to some gravel, firm, strong sulfur odor; CLAY with wood debris	--	Metals analysis added. Duplicate omitted.	Vibracore Sampler					X			X	X	X												N	State of Michigan
QMCP-SD06	9/5/2018	QMCP-SD 06-0-15"	1809083	-88.55622784	47.12504701	Offshore from Area E	SAND and GRAVEL, Coarse grain (stamp sands); SILTY SAND, Brown, fine to coarse grain, firm	--	Duplicate collected: QMCP-SD 06-0-15" FD	Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/5/2018	QMCP-SD 06-15-35"	1809083			Offshore from Area E	SAND, Dark brown, coarse grain (stamp sands), trace organics, some fines 1.7-1.9ft	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
QMCP-SD07	9/5/2018	QMCP-SD 07-0-11"	1809083	-88.55217782	47.12503516	Outlet of Ripley Creek, offshore from Area G	SAND with GRAVEL, Dark brown-purple, coarse grain, some fines	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
		QMCP-SD07 a_2-b_2'				Outlet of Ripley Creek, offshore from Area G		--	Sample not collected.	Vibracore Sampler					X																		N	State of Michigan
QMCP-SD08	9/5/2018	QMCP-SD 08-0-8"	1809083	-88.54623293	47.12340147	Offshore from Area I	FINES, Dark brown, organics/wood debris, soft	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/5/2018	QMCP-SD08-8-20"	1809079			Offshore from Area I	SILT, Gray-brown, well sorted, firm, wet	--	Metals analysis added.	Vibracore Sampler					X			X	X													N	State of Michigan
QMCP-SD09	9/6/2018	QMCP-SD09-0-6"	1809079	-88.50300745	47.11520776	Offshore from Area M	SANDY GRAVEL, Dark brown, few fines and wood debris	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
		QMCP-SD09 a_2-b_2'				Offshore from Area M		--	Sample not collected.	Vibracore Sampler					X																		N	State of Michigan
QMCP-SD10	9/6/2018	QMCP-SD10-0-4"	1809079	-88.499874	47.113501	Offshore from Area N	FINES, Dark brown-black, organics (wood), soft, loose	--	First core attempt in location was abandoned due to poor recovery; however, the fines had oily sheen.	Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/6/2018	QMCP-SD10-4-11"	1809079			Offshore from Area N	SAND, Dark brown, medium grain, well sorted	--	Metals analysis added. Duplicate omitted.	Vibracore Sampler					X			X	X	X												N	State of Michigan
QMCP-SD11	9/6/2018	QMCP-SD11-0-6"	1809079	-88.49667141	47.11454763	Offshore from Area N	SAND, Dark brown, medium grain, well sorted	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/6/2018	QMCP-SD11-6-12"	1809082			Offshore from Area N	SAND, Dark brown, medium grain, some organics (roots), well sorted	--	Duplicate collected: QMCP-SD 11-6-12" FD	Vibracore Sampler					X			X	X	X												N	State of Michigan

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Table 2
Sampling and Analysis
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Proposed Sampling Location	Sample Date	Field Sample Identification	Laboratory Work Order Number	Longitude	Latitude	Sampling Rationale	Sample Description	Friable/ Non-Friable	Sample Notes	Sampling Method	Sample Type/Matrix						Sample Analyses						Water Quality Parameters					Duplicate Analyses					Trail ROW	Property Ownership
											Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment	Drums, Containers, and SACM	VOCs	SVOCs	PCBs	Metals	Cyanide	Asbestos	Temperature (C°)	Conductivity (mS/cm)	Dissolved Oxygen (%)	pH	Turbidity (nTu)	VOCs	SVOCs	PCBs	Metals	Cyanide		
In Lake - Pore Water, Sediments, and Submerged Drum Content Samples (Continued)																																		
QMCP-SD12	9/6/2018	QMCP-SD12-0-12"	1809082	-88.49596223	47.11793862	Offshore from Area O	FINES, Brown, with organics (mostly in top 1 ft), cohesive, nonplastic, loose	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/6/2018	QMCP-SD12-12-23"	1809082			Offshore from Area O	FINES, Brown, with organics (mostly in top 1 ft), cohesive, nonplastic, loose	--	Metals analysis added.	Vibracore Sampler					X			X	X	X												N	State of Michigan
QMCP-SD13	9/7/2018	QMCP-SD13-0-7"	1809082	-88.49253192	47.11852565	Outlet of creek, offshore from Area P	SAND, Dark brown, coarse grain, organics, trace gravel	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/7/2018	QMCP-SD13-7-38"	1809082			Outlet of creek, offshore from Area P	PEAT, Peat-like organics with fines; FINES, dark brown, pudding like texture, organics, cohesive, nonplastic, very soft	--	Metals analysis added.	Vibracore Sampler					X			X	X	X												N	State of Michigan
QMCP-SD14	9/7/2018	QMCP-SD14-0-12"	1809082	-88.49607782	47.11364307	Offshore of beach area	SAND, Dark brown, medium grain, well sorted, moist	--		Vibracore Sampler					X			X	X	X												N	State of Michigan
	9/7/2018	QMCP-SD14-12-36"	1809082			Offshore of beach area	SAND, Brown, medium grain, well sorted, moist	--	Metals analysis added.	Vibracore Sampler					X			X	X	X												N	State of Michigan
QMCP-SDM01	9/9/2018	QMCP-SDM01	1809098	-88.558	47.1256467	Collected from drums located with SSS, observed with AUV-mounted video, and determined to have contents	Brown FINES, soft, with some organics (leaves), no odor	--	Sampled at 12.66ft depth.	AUV Arm					X			X	X	X												N	State of Michigan
QMCP-SDM02	9/9/2018	QMCP-SDM02	1809098	-88.5575517	47.1255183	Collected from drums located with SSS, observed with AUV-mounted video, and determined to have contents	Brown FINES, soft, with some organics (leaves), no odor	--	Sampled at 14.82ft depth.	AUV Arm					X			X	X	X												N	State of Michigan
QMCP-SDM03	9/9/2018	QMCP-SDM03	1809098	-88.55821	47.1252983	Collected from drums located with SSS, observed with AUV-mounted video, and determined to have contents	Brown FINES, soft, with some organics (leaves), no odor	--	Sampled at 14.56ft depth.	AUV Arm					X			X	X	X												N	State of Michigan
										Total Sample Count	12	27	32	0	28	2	53	96	72	89	8	4	32	32	32	32	17	4	7	3	5	2		
										Proposed Sample Count	16	54	46	14	31	2																		

Notes:

QMCP = Quincy Mining Company Mason Operations Area
PCBs = Polychlorinated Biphenyls
SACM = Suspect Asbestos Containing Material
SVOCs = Semi-Volatile Organic Compounds
VOCs = Volatile Organic Compounds
AUV = Autonomous Underwater Vehicle
ROW = Right of Way
X = Completed sample based on the sampling rationale

NM = Not Measured
-- = Not Applicable
ft = feet
°C = Degrees Celsius
mS/cm = Milisiemens per centimeter
% = Percentage
nTU = Nephalometric Turbidity Units
EGLE = Michigan Department of Environment, Great Lakes, and Energy

For the purposes of this investigation, sediments include residues and waste material associated with chemical containers and deposits on the lake bottom historically discarded in Torch Lake and the Canal.
In areas that have been resurfaced or capped, analytical samples were collected from directly beneath the cap/resurfacing medium (i.e. soil cap, beach sand, gravel, etc...) so that samples are representative of historical waste deposits.
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.
Evaluation based on EGLE Criteria at time of Project completion.

TABLE 3
Summary of ACM Analytical Results
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 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	

-- = Not Analyzed
ND = Not detected
EGLE = Michigan Department of Environment, Great Lakes, and Energy

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 4
Summary of Soil Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area A																			
Station Name	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	TH #1		TH #2		TH #3		TH #3		TH #4		TH #5		TH #6		TH #7		TH #8		TH #9		TH #10		TH #11	
Field Sample ID											TH #1		TH #2		TH #3		TH #3		TH #4		TH #5		TH #6		TH #7		TH #8		TH #9		TH #10		TH #11	
Sample Date											4/17/1990		4/17/1990		4/17/1990		4/17/1990		4/17/1990		4/17/1990		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	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																																		
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																																		
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																																		
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--	220	--	<100 U	--	<100 U	--	<100 U	--	180	--	<100 U	--	<100 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	<500 U	--	<500 U	--	540	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	<500 U	--	600	--	<500 U	--	<500 U	--

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

DRAFT

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area A																			
Station Name	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	TH #1		TH #2		TH #3		TH #3		TH #4		TH #5		TH #6		TH #7		TH #8		TH #9		TH #10		TH #11	
Field Sample ID											TH #1		TH #2		TH #3		TH #3		TH #4		TH #5		TH #6		TH #7		TH #8		TH #9		TH #10		TH #11	
Sample Date											4/17/1990		4/17/1990		4/17/1990		4/17/1990		4/17/1990		4/17/1990		4/17/1990		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	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																																		
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	200	--	<150 U	--	390	--	<100 U	--	<100 U	--	150	--	370	--	<100 U	--	<100 U	--	780	--	<100 U	--	230	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	<200 U	--	<200 U	--	270	--	<200 U	--	<200 U	--	1,000	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--	<200 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--	<1000 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<100 U	--	<100 U	--	<150 U	--	<100 U	--	<100 U	--	3,700	[2]	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--	<100 U	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	<100 U	--	<100 U	--	550	--	<100 U	--	<100 U	--	2,000	--	260	--	<100 U	--	<100 U	--	640	--	<100 U	--	<100 U	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	240	--	<100 U	--	470	--	<100 U	--	<100 U	--	260	--	370	--	<100 U	--	<100 U	--	670	--	<100 U	--	190	--
Organics - VOCs (ug/kg)																																		
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<10 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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	76	[18,19]	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<10 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	59	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	<3 U	--	<3 U	--	<3 U	--	<3 U	--	<3 U	--	620	[18]	<3 U	--	<3 U	--	<3 U	--	<3 U	--	<3 U	--	<3 U	--
Organics - Pesticides (ug/kg)																																		
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																																		
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	938	--	46	--	3,740	--	363	--	358	--	308	--	77	--	39	--	64	--	266	--	48	--	65	--

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

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area A																			
Station Name	CAS Number										TH #12		TH #12		MW #8		MW #8		MW #9		MW #9		MW #10		MW #10		Open Ditch Bottom		SS-1		SS-2		SS-3	
Field Sample ID											TH #12		TH #12		MW #8		MW #8		MW #9		MW #9		MW #10		MW #10		Open Ditch Bottom		SS 1		SS 2		SS 3	
Sample Date											10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)											5.5 - 9.5 ft		--		5.5 - 9.5 ft		--		5.5 - 9.5 ft		--		5.5 - 9.5 ft		--		--		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in	
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	--		--		--		--		--		--		--		--		--		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.	
											Result	Exceeds	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)																																		
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	30,000	[4,11]	17,700	[4,11]	21,800	[4,11]
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<0.8 UJ	--	1.1 J	--	<0.81 UJ	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	7.1	[2,4,11]	6.7	[2,4,11]	7.5	[2,4,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	20.8	--	187	[2]	113	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	0.14	--	0.12	--	0.24	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	0.13	--	<0.11 U	--	0.24	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	45,000 J	--	26,200 J	--	38,700 J	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	76.9	--	50.2	--	59.9	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	33.2	[2,4,11]	19.7	[2,4,11]	25.4	[2,4,11]
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	1,630	[2]	2,460 J	[2]	2,130	[2]
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	31,100	[4,11]	27,100	[4,11]	34,700	[4,11]
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	64.7 J	--	165 J	--	46.8 J	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	26,400	[4,11]	14,300	[4]	18,600	[4]
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	849	[2,4,11]	471	[2,4,11]	659	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<0.05 U	--	<0.05 U	--	0.07	[18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	80.1	[2]	44.1	[2]	58	[2]
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	278 J	--	565 J	--	865 J	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	0.5	[2]	<0.47 U	--	<0.47 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<0.23 U	--	0.75	--	0.45	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	809 J	--	1,160 J	--	1,470 J	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	82.9	[4]	52.4	--	70.6	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	157	[2]	197	[2]	73.9	[2]
Inorganics - Cyanide (mg/kg)																																		
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	0.15 J	[2]	0.07 J	--	<0.04 UJ	--
Organics - PCBs (ug/kg)																																		
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<34 U	--	<36 U	--	<3500 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	ND	--	ND	--	ND	--
Organics - SVOCs (ug/kg)																																		
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--	<1800 U	--	<3500 U	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--	<1800 U	--	600 J	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<200 U	--	NM	--	<200 U	--	NM	--	<200 U	--	NM	--	<200 U	--	NM	--	<200 U	--	<1700 U	--	<1800 U	--	<1400 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	<1700 U	--	<1800 U	--	<3500 U	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--	<1800 U	--	<3500 U	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	<1700 U	--	<1800 U	--	<3500 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1700 UJ	--	<1800 UJ	--	<3500 UJ	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	300 J	--	<1800 U	--	<3500 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	280 J	--	<1800 U	--	<3500 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	350 J	--	<1800 U	--	<3500 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	<1700 U	--	<1800 U	--	<3500 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	340 J	--	<1800 U	--	<3500 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	230 J	--	220 J	--	<3500 UJ	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1700 UJ	--	1,200 J	--	<3500 UJ	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	NM	--	<500 U	--	390 J	--	<1800 U	--	<3500 U	--

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Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area A																					
Station Name	CAS Number										TH #12				MW #8				MW #9				MW #10				Open Ditch Bottom		SS-1		SS-2		SS-3	
Field Sample ID											TH #12		TH #12		MW #8		MW #8		MW #9		MW #9		MW #10		MW #10		Open Ditch Bottom		SS 1		SS 2		SS 3	
Sample Date											10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		10/2/1990		6/5/2002		6/5/2002		6/5/2002	
Sample Interval (bgs)											5.5 - 9.5 ft		--		5.5 - 9.5 ft		--		5.5 - 9.5 ft		--		5.5 - 9.5 ft		--		--		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in		0 - 3 in 0 - 12 in	
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	--		--		--		--		--		--		--		--		--		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.	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																																
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	<1700 U	--	<1800 U	--	<3500 U	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1700 U	--	<1800 U	--	<3500 U	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	110	--	NM	--	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	NM	--	440	--	540 J	--	<1800 U	--	370 J	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	1,400	--	NM	--	<200 U	--	NM	--	<200 U	--	NM	--	<200 U	--	NM	--	<200 U	--	<1700 U	--	<1800 U	--	<3500 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	NM	--	<1000 U	--	<1700 U	--	<1800 U	--	<3500 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	1,800	[2]	NM	--	<100 U	--	NM	--	110	--	NM	--	<100 U	--	NM	--	<100 U	--	<1700 U	--	<1800 U	--	360 J	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	3,400	[2]	NM	--	<100 U	--	NM	--	320	--	NM	--	<100 U	--	NM	--	220	--	290 J	--	<1800 U	--	510 J	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	380	--	NM	--	100	--	NM	--	180	--	NM	--	<100 U	--	NM	--	410	--	460 J	--	<1800 U	--	<3500 U	--
Organics - VOCs (ug/kg)																																
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	260	[18]
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	63	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<260 U	--	<270 U	--	530	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	NM	--	<25 U	--	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<52 U	--	<53 U	--	<62 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	NM	--	<100 U	--	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<5 U	--	NM	--	<52 U	--	<53 U	--	<62 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<62 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<100 U	--	<110 U	--	360	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<260 U	--	<270 U	--	450	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<62 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	280	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<62 U	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<52 U	--	<53 U	--	<62 U	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<52 U	--	300	--	<62 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	NM	--	<5 U	--	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<52 U	--	<53 U	--	<62 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	NM	--	<50 U	--	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	<5 U	--	NM	--	52	--	<53 U	--	220	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	NM	--	<5000 U	--	NM	--	<1 U	--	NM	--	<5 U	--	NM	--	<5 U	--	NM	--	ND	--	ND	--	640	[18]
Organics - Pesticides (ug/kg)																																
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<3.4 U	--	<3.6 U	--	<350 U	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<3.4 U	--	<3.6 U	--	<350 U	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1.7 U	--	<1.8 U	--	<180 U	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	1.9	--	4.1	--	370	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1.7 U	--	3.2	--	<180 U	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1.7 U	--	<1.8 U	--	<180 U	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	3.5	--	<3.6 U	--	<350 U	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	1.8	--	4.4	--	390	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1.7 U	--	2.3	--	170 J	--
Other																																
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,526	--	NM	--	264	--	NM	--	208	--	NM	--	118	--	NM	--	175	--	NM	--	NM	--	NM	--

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

DRAFT

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area A		Area B															
Station Name	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	SS-4		MW-103		MW-104		MW-104		MW-302		MW-303		MW-401		SB-101			
Field Sample ID											SS 4		5413 MW-103		5414 MW-103 Cleanup		5413 MW-104		5413 MW-104 Cleanup		5379 MW-302		5378 MW-303		5376 MW-401		5394 SB-101	5394 SB-101 Cleanup	
Sample Date											6/5/2002		7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/18/1995		7/18/1995		7/18/1995		7/19/1995	7/19/1995	
Sample Interval (bgs)											0 - 3 in 0 - 12 in		--		--		--		--		--		--		--		--	--	
Sample Description											0-3" - Slightly moist, medium dark brown sand with some fine gravel.		--		--		--		--		--		--		--		--	--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	9,290	[4,11]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	<0.81 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	5.2	[2,4,11]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	35.3	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	0.1	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	<0.11 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,200 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	18.9	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	11.7	[2,4,11]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	1,260	[2]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	12,900	[4,11]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	28.9 J	--	72	--	NM	--	38	--	NM	--	NM	--	NM	--	NM	--	0.016	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	7,620	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	267	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	0.08	[18,19]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	23.7	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	468 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	<0.47 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	<0.24 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	683 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	30.6	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	74.9	[2]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	0.08 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<35 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	NM	--	NM	--	NM	--	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	<1700 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	<1700 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	<1700 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1700 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	230 J	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	260 J	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	390 J	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	670 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	<1700 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	270 J	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--

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

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area A		Area B																	
Station Name	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	SS-4		MW-103		MW-104		MW-104		MW-302		MW-303		MW-401		SB-101			
Field Sample ID											SS 4		5413 MW-103		5414 MW-103 Cleanup		5413 MW-104		5413 MW-104 Cleanup		5379 MW-302		5378 MW-303		5376 MW-401		5394 SB-101		5394 SB-101 Cleanup	
Sample Date											6/5/2002		7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/18/1995		7/18/1995		7/18/1995		7/19/1995		7/19/1995	
Sample Interval (bgs)											0 - 3 in 0 - 12 in		--		--		--		--		--		--		--		--		--	
Sample Description											0-3" - Slightly moist, medium dark brown sand with some fine gravel.		--		--		--		--		--		--		--		--		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	<1700 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	440 J	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<1700 U	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	12,000	[2]	2,100 J	[2]
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	200 J	--	<380 U	--	<330 UJ	--	<1300 U	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	390 J	--	1,400	--	<330 UJ	--	1,500	--	<330 UJ	--	NM	--	NM	--	NM	--	<2900 U	--	<330 UJ	--
Organics - VOCs (ug/kg)																														
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	<51 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	<51 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	<250 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	<51 U	--	<10 U	--	NM	--	<10 U	--	NM	--	NM	--	NM	--	NM	--	3,700	[2,4,5,11,18,19]	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	<51 U	--	<10 U	--	NM	--	13	[18]	NM	--	NM	--	NM	--	NM	--	19,000	[2,4,11,18,19]	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	<51 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<100 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<250 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	<51 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	<51 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	<51 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	<51 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	<51 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	<51 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	<51 U	--	<10 U	--	NM	--	<10 U	--	NM	--	NM	--	NM	--	NM	--	27,000	[2,4,11,18,19]	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	ND	--	<30 U	--	NM	--	<30 U	--	NM	--	NM	--	NM	--	NM	--	94,000	[2,4,11,18,19]	NM	--
Organics - Pesticides (ug/kg)																														
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	<3.5 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	<3.5 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.7 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	<1.8 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	<20 U	--	2,100	[2,10,17]	<20 U	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	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 4
Summary of Soil Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area B																	
Station Name	CAS Number										SB-102				SB-103		SB-104				SB-105		SB-106				SB-107			
Field Sample ID											5395 SB-102		5396 SB-102 Cleanup		5396 SB-103		5397 SB-104		5397 SB-104 Cleanup		5398 SB-105		5399 SB-106		5399 SB-106 Cleanup		5400 SB-107		5400 SB-107 Cleanup	
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		7/19/1995		7/19/1995	
Sample Interval (bgs)											--		--		--		--		--		--		--		--		--		--	
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	--		--		--		--		--		--		--		--		--		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	0.008	--	NM	--	0.008	--	0.084	--	NM	--	0.01	--	0.028	--	NM	--	0.014	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																														
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	650	--	740 J	--	<2100 U	--	3,400	--	880 J	--	<330 U	--	3,100	--	970 J	--	<1400 U	--	<330 UJ	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<330 U	--	<330 UJ	--	<2100 U	--	3,900	--	1,200 J	--	<330 U	--	<1700 U	--	610 J	--	<1400 U	--	<330 UJ	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	<330 U	--	<330 UJ	--	<2100 U	--	3,100	[10]	940 J	--	<330 U	--	<1700 U	--	480 J	--	<1400 U	--	<330 UJ	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<330 U	--	<330 UJ	--	2,600	--	7,000	--	1,100 J	--	<330 U	--	<1700 U	--	490 J	--	<1400 U	--	<330 UJ	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	500 J	--	<330 U	--	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	<330 U	--	<330 UJ	--	2,400	--	<1600 U	--	760 J	--	<330 U	--	<1700 U	--	430 J	--	<1400 U	--	<330 UJ	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	<330 U	--	<330 UJ	--	<2100 U	--	3,600	--	1,200 J	--	<330 U	--	<1700 U	--	530 J	--	<1400 U	--	<330 UJ	--

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

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area B																			
Station Name	CAS Number										SB-102				SB-103		SB-104				SB-105		SB-106				SB-107			
Field Sample ID											5395 SB-102		5396 SB-102 Cleanup		5396 SB-103		5397 SB-104		5397 SB-104 Cleanup		5398 SB-105		5399 SB-106		5399 SB-106 Cleanup		5400 SB-107		5400 SB-107 Cleanup	
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		7/19/1995		7/19/1995	
Sample Interval (bgs)											--		--		--		--		--		--		--		--		--		--	
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	--		--		--		--		--		--		--		--		--		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	610	--	<330 UJ	--	<2100 U	--	6,200	[2]	1,900 J	--	<330 U	--	3,100	--	920 J	--	<1400 U	--	<330 UJ	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	<330 U	--	360 J	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<330 U	--	<330 UJ	--	<2100 U	--	<1600 U	--	500 J	--	<330 U	--	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<330 U	--	1,600 J	[2]	3,400	[2]	<1600 U	--	<330 UJ	--	<330 U	--	<1700 U	--	<330 UJ	--	<1400 U	--	<330 UJ	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	<330 U	--	660 J	--	<2100 U	--	<1600 U	--	<330 UJ	--	<330 U	--	<1700 U	--	860 J	--	<1400 U	--	<330 UJ	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	560	--	<330 UJ	--	5,200	--	9,700	--	1,800 J	--	1,000	--	2,700	--	880 J	--	<1400 U	--	<330 UJ	--
Organics - VOCs (ug/kg)																														
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	<10 U	--	NM	--	5,200	[2,4,5,11,18,19]	<10 U	--	NM	--	<10 U	--	<10 U	--	NM	--	14	[18,19]	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	36	[18]	NM	--	29,000	[2,4,11,18,19]	<10 U	--	NM	--	<10 U	--	<10 U	--	NM	--	<10 U	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	31	--	NM	--	4,400	[18]	<10 U	--	NM	--	<10 U	--	<10 U	--	NM	--	<10 U	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	150	--	NM	--	80,000	[2,4,11,18,19]	<30 U	--	NM	--	<30 U	--	<30 U	--	NM	--	<30 U	--	NM	--
Organics - Pesticides (ug/kg)																														
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	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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Summary of Soil Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area B																	
Station Name	CAS Number										SB-108				SB-109				SB-110				SB-111				SB-112	
Field Sample ID											5401 SB-108		5401 SB-108 Cleanup		5402 SB-109		5402 SB-109 Cleanup		5403 SB-110		5403 SB-110 Cleanup		5404 SB-111		5404 SB-111 Cleanup		5405 SB-112	5405 SB-112 Cleanup
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		7/19/1995	7/19/1995
Sample Interval (bgs)											--		--		--		--		--		--		--		--		--	--
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	--		--		--		--		--		--		--		--		--	--
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	24	--	NM	--	11	--	NM	--	13	--	NM	--	8	--	NM	--	8	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																												
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<560 U	--	<330 UJ	--	<560 U	--	<330 UJ	--	4,500	--	1,700 J	--	2,500	--	410 J	--	<690 U	--	<330 UJ	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	<560 U	--	<330 UJ	--	<560 U	--	<330 UJ	--	<1700 U	--	480 J	--	<1700 U	--	<330 UJ	--	<690 U	--	<330 UJ	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	970	--	<330 UJ	--	<560 U	--	340 J	--	28,000	--	11,000 J	--	15,000	--	3,000 J	--	<690 U	--	<330 UJ	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	3,200	--	<330 UJ	--	<560 U	--	<330 UJ	--	4,100	--	2,100 J	--	<1700 U	--	340 J	--	740	--	<330 UJ	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	3,000	[10]	<330 UJ	--	<560 U	--	<330 UJ	--	<1700 U	--	850 J	--	<1700 U	--	<330 UJ	--	730	--	<330 UJ	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	4,200	--	<330 UJ	--	<560 U	--	<330 UJ	--	1,900	--	2,000 J	--	<1700 U	--	<330 UJ	--	1,300	--	<330 UJ	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	2,100	--	<330 UJ	--	<560 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--	<690 U	--	<330 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	5,100	--	<330 UJ	--	<560 U	--	<330 UJ	--	<1700 U	--	1,800 J	--	<1700 U	--	<330 UJ	--	900	--	<330 UJ	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	3,000	--	<330 UJ	--	<560 U	--	<330 UJ	--	3,800	--	2,000 J	--	<1700 U	--	360 J	--	1,000	--	<330 UJ	--

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

DRAFT

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area B																	
Station Name	CAS Number										SB-108				SB-109				SB-110				SB-111				SB-112	
Field Sample ID											5401 SB-108		5401 SB-108 Cleanup		5402 SB-109		5402 SB-109 Cleanup		5403 SB-110		5403 SB-110 Cleanup		5404 SB-111		5404 SB-111 Cleanup		5405 SB-112	5405 SB-112 Cleanup
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		7/19/1995	7/19/1995
Sample Interval (bgs)											--		--		--		--		--		--		--		--		--	--
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	--		--		--		--		--		--		--		--		--	--
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	640	--	<330 UJ	--	<560 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--	<690 U	--	<330 UJ	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	830	--	<330 UJ	--	<560 U	--	<330 UJ	--	15,000	[2]	6,800 J	[2]	5,300	--	1,400 J	--	<690 U	--	<330 UJ	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	<560 U	--	<330 UJ	--	<560 U	--	<330 UJ	--	8,600	[2]	3,400 J	--	5,200	--	1,100 J	--	<690 U	--	<330 UJ	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	1,600	--	<330 UJ	--	<560 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--	<1700 U	--	<330 UJ	--	<690 U	--	<330 UJ	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<560 U	--	<330 UJ	--	1,300	[2]	560 J	--	17,000	[2]	5,300 J	[2]	28,000	[2]	3,400 J	[2]	<690 U	--	<330 UJ	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	860	--	<330 UJ	--	<560 U	--	<330 UJ	--	7,000	[2]	8,800 J	[2]	3,600	[2]	660 J	--	<690 U	--	<330 UJ	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	16,000	--	<330 UJ	--	2,300	--	<330 UJ	--	12,000	--	5,100 J	--	6,100	--	1,100 J	--	3,500	--	<330 UJ	--
Organics - VOCs (ug/kg)																														
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	<10 U	--	NM	--	270	[2,4,11,18,19]	NM	--	23	[18,19]	NM	--	21	[18,19]	NM	--	<10 U	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	47	[18]	NM	--	3,000	[2,4,11,18,19]	NM	--	92	[18,19]	NM	--	68	[18,19]	NM	--	<10 U	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	<10 U	--	NM	--	310	--	NM	--	120	--	NM	--	26	--	NM	--	<10 U	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	<30 U	--	NM	--	17,000	[2,4,11,18,19]	NM	--	270	--	NM	--	180	--	NM	--	<30 U	--	NM	--
Organics - Pesticides (ug/kg)																														
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	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 4
Summary of Soil Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area B																	
Station Name	CAS Number										SB-113				SB-114				SB-201				SB-501		PR-1		T1-N		T1-S		T2-N	
Field Sample ID											5406 SB-113		5406 SB-113 Cleanup		5412 SB-114		5412 SB-114 Cleanup		5410 SB-201		5410 SB-201 Cleanup		5408 SB-501		PR-1 10149		T1-N 10143		T1-S 10144		T2-N 10145	
Sample Date											7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/8/1998		7/8/1998		7/8/1998		7/8/1998	
Sample Interval (bgs)											--		--		--		--		--		--		--		--		--		--		--	
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	--		--		--		--		--		--		--		--		--		--		--	
											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)																																
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	<0.05 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	NM	--	8.7	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	7	--	NM	--	17	--	NM	--	40	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																																
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																																
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	<330 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	<330 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	ND	--	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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	9,700	[2]	<330 U	--	<330 U	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<560 U	--	<330 UJ	--	<690 U	--	<330 UJ	--	<4500 U	--	<330 UJ	--	NM	--	560	--	<330 U	--	<330 U	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	700	--	<330 UJ	--	<690 U	--	<330 UJ	--	<4500 U	--	<330 UJ	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	8,700	--	870 J	--	1,300	--	640 J	--	5,400	--	1,300 J	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	16,000	--	<330 UJ	--	2,900	--	1,500 J	--	<4500 U	--	600 J	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	14,000	[10,17]	<330 UJ	--	2,100	[10]	930 J	--	<4500 U	--	330 J	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	13,000	--	<330 UJ	--	2,400	--	1,200 J	--	<4500 U	--	410 J	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	5,800	--	<330 UJ	--	<690 U	--	<330 UJ	--	<4500 U	--	<330 UJ	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	13,000	--	<330 UJ	--	2,300	--	710 J	--	<4500 U	--	<330 UJ	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	13,000	--	<330 UJ	--	2,500	--	1,400 J	--	<4500 U	--	550 J	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--

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Summary of Soil Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area B																	
Station Name	CAS Number										SB-113				SB-114				SB-201				SB-501		PR-1		T1-N		T1-S		T2-N	
Field Sample ID											5406 SB-113		5406 SB-113 Cleanup		5412 SB-114		5412 SB-114 Cleanup		5410 SB-201		5410 SB-201 Cleanup		5408 SB-501		PR-1 10149		T1-N 10143		T1-S 10144		T2-N 10145	
Sample Date											7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/20/1995		7/8/1998		7/8/1998		7/8/1998		7/8/1998	
Sample Interval (bgs)											--		--		--		--		--		--		--		--		--		--		--	
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	--		--		--		--		--		--		--		--		--		--		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																																
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	3,000	[10]	<330 UJ	--	<690 U	--	<330 UJ	--	<4500 U	--	<330 UJ	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	6,200	[2]	700 J	--	4,000	--	2,200 J	--	<4500 U	--	930 J	--	NM	--	<330 U	--	740	--	<330 U	--	NM	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	940	--	<330 UJ	--	<690 U	--	<330 UJ	--	<4500 U	--	<330 UJ	--	NM	--	1,200	--	<330 U	--	<330 U	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	5,700	--	<330 UJ	--	<690 U	--	<330 UJ	--	<4500 U	--	<330 UJ	--	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<560 U	--	<330 UJ	--	<690 U	--	<330 UJ	--	15,000	[2]	3,100 J	[2]	NM	--	<330 U	--	<330 U	--	<330 U	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	1,700	--	<330 UJ	--	<690 U	--	<330 UJ	--	<4500 U	--	<330 UJ	--	NM	--	2,200	[2]	<330 U	--	<330 U	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	39,000	--	620 J	--	6,100	--	2,600 J	--	<4500 U	--	970 J	--	NM	--	710	--	880	--	<330 U	--	NM	--
Organics - VOCs (ug/kg)																																
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	<10 U	--	NM	--	<10 U	--	NM	--	215	[4,11,18,19]	NM	--	NM	--	<10 U	--	NM	--	NM	--	<10 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	<10 U	--	NM	--	220	[18,19]	NM	--	360	[18,19]	NM	--	NM	--	310	[18,19]	NM	--	NM	--	<10 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	NM	--	NM	--	NM	--	NM	--	<12 U	--	NM	--	<10 U	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	<10 U	--	NM	--	31	--	NM	--	440	--	NM	--	NM	--	79	--	NM	--	NM	--	<10 U	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	<30 U	--	NM	--	460	[18]	NM	--	2,300	[2,18,19]	NM	--	NM	--	950	[18,19]	NM	--	NM	--	<30 U	--
Organics - Pesticides (ug/kg)																																
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																																
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

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

DRAFT

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area B																			
Station Name	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	T2-S		T3-N		T3-S		SS-5		SS-6		SS-7		SS-8		SS-9		SS-32		QMCP-SB07		QMCP-SB67		QMCP-SB68	
Field Sample ID											T2-S 10146		T3-N 10147		T3-S 10148		SS 5		SS 6		SS 7		SS 8		SS 9		SS 32		QMCP-SB7 0-3		QMCP-SB67 0-3		QMCP-SB68 0-3	
Sample Date											7/8/1998		7/8/1998		7/8/1998		6/5/2002		6/5/2002		6/5/2002		6/5/2002		6/5/2002		6/5/2002		9/11/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)											--		--		--		0 - 3 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 3 ft		0 - 3 ft		0 - 3 ft	
Sample Description											--		--		--		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.		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.		0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve.		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	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																																		
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	6,110	--	9,970	[4,11]	6,260	--	9,470	[4,11]	9,740	[4,11]	15,400	[4,11]	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	<0.81 UJ	--	0.92 J	--	<0.8 UJ	--	0.84 J	--	1.9 J	[2]	<0.78 UJ	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	NM	--	NM	--	NM	--	3.6	--	2.3	--	5.7	[2,4,11]	5.2	[2,4,11]	9.4	[2,4,10,11]	3.7	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	28.7	--	24.7	--	54.4	--	60.6	--	40.6	--	7	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	<0.06 U	--	<0.06 U	--	0.14	--	<0.06 U	--	0.22	--	0.08	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	NM	--	NM	--	NM	--	<0.11 U	--	<0.11 U	--	<0.1 U	--	<0.11 U	--	<0.11 U	--	<0.1 U	--	<0.2 U	--	<0.2 U	--	0.7	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	6,430 J	--	14,900 J	--	17,400 J	--	13,500 J	--	55,600 J	--	24,500	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	NM	--	NM	--	NM	--	13.8	--	25.9	--	15	--	28.1	--	20.4	--	34.6	--	10	--	13	--	63	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	10.6	[2,4,11]	21.1	[2,4,11]	8.3	[2,4,11]	14.7	[2,4,11]	13.5	[2,4,11]	22.8	[2,4,11]	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	1,340	[2]	2,260 J	[2]	1,750	[2]	1,230	[2]	2,270 J	[2]	1,440 J	[2]	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	10,600	--	16,700	[4,11]	13,800	[4,11]	24,600	[4,11]	25,500	[4,11]	16,100	[4,11]	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	NM	--	NM	--	NM	--	18.3 J	--	29 J	--	30.1 J	--	34.4 J	--	113 J	--	1.4 J	--	5.4	--	31	--	63	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	5,540	--	9,930	[4]	5,430	--	8,430	[4]	8,980	[4]	17,100	[4]	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	243	--	460	[2,4,11]	206	--	551	[2,4,11]	468	[2,4,11]	465	[2,4,11]	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	NM	--	NM	--	NM	--	<0.05 U	--	0.07	[18,19]	<0.05 U	--	0.07	[18,19]	0.08	[18,19]	<0.05 UJ	--	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	14.5	--	19.1	--	14.9	--	20.9	--	23.8	--	39.8	[2]	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	379 J	--	325 J	--	676 J	--	457 J	--	409 J	--	214 J	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	<0.47 U	--	<0.46 U	--	<0.46 U	--	<0.47 U	--	0.55	[2]	0.68 J	[2]	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	NM	--	NM	--	NM	--	<0.24 U	--	0.5	--	0.63	--	0.44 J	--	0.99 J	--	<0.22 U	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	541 J	--	684 J	--	657 J	--	938 J	--	995 J	--	2,500 J	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	30	--	47	--	26.2	--	41.8	--	35.2	--	51	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	57.3	--	62	--	47.3	--	57.6	--	95.1	[2]	56.2 J	--	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																																		
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	0.08 J	--	<0.04 UJ	--	<0.04 UJ	--	<0.1 UJ	--	0.57 J	[2]	0.27 J	[2]	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																																		
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<34 U	--	<35 U	--	<34 U	--	<35 U	--	<77 U	--	<34 U	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																																		
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1700 U	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	<330 U	--	<330 U	--	<1700 U	--	240 J	--	380 J	--	<1700 U	--	450 J	--	<340 U	--	<600 U	--	700	--	990	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	NM	--	<330 U	--	<330 U	--	<1700 U	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	<240 U	--	<230 U	--	<260 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	NM	--	<330 U	--	<330 U	--	<1700 U	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	<240 U	--	<230 U	--	<260 U	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	<1700 U	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	NM	--	<330 U	--	<330 U	--	<1700 U	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	<240 U	--	<230 U	--	<260 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1700 UJ	--	<1800 UJ	--	<680 UJ	--	<1700 UJ	--	<1900 U	--	<340 U	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	690 J	--	<1800 U	--	81 J	--	<1700 U	--	200 J	--	<340 U	--	480	--	680	--	360	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	390 J	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	<480 U	--	580	--	<520 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<760 U	--	<1800 U	--	110 J	--	<1700 U	--	<1900 U	--	<340 U	--	710	--	830	--	770	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	NM	--	<330 U	--	<330 U	--	<1700 U	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	<480 U	--	<460 U	--	<520 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	620 J	--	<1800 U	--	86 J	--	<1700 U	--	<1900 U	--	<340 U	--	<480 U	--	<460 U	--	<520 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	640 J	--	330 J	--	230 J	--	350 J	--	340 J	--	<340 U	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	<1700 UJ	--	<1800 U	--	<680 UJ	--	<1700 U	--	<1900 U	--	<340 U	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	1,000 J	--	<1800 U	--	110 J	--	<1700 U	--	270 J	--	<340 U	--	380	--	680	--	460	--

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

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area B																			
Station Name	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	T2-S		T3-N		T3-S		SS-5		SS-6		SS-7		SS-8		SS-9		SS-32		QMCP-SB07		QMCP-SB67		QMCP-SB68	
Field Sample ID											T2-S 10146		T3-N 10147		T3-S 10148		SS 5		SS 6		SS 7		SS 8		SS 9		SS 32		QMCP-SB7 0-3		QMCP-SB67 0-3		QMCP-SB68 0-3	
Sample Date											7/8/1998		7/8/1998		7/8/1998		6/5/2002		6/5/2002		6/5/2002		6/5/2002		6/5/2002		6/5/2002		9/11/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)											--		--		--		0 - 3 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 6 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 3 ft		0 - 3 ft		0 - 3 ft	
Sample Description											--		--		--		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.		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.		0-4" - Dry, dark brown, medium sand, with 50-70% black stamp sand. Sample was sieved through #30 size sieve.		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	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																																		
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<1700 U	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	<480 U	--	<460 U	--	<520 U	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	<1700 U	--	<1800 U	--	97 J	--	<1700 U	--	<1900 U	--	<340 U	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	NM	--	<330 U	--	<330 U	--	1,500 J	--	<1800 U	--	170 J	--	<1700 U	--	330 J	--	<340 U	--	770	--	1,200	--	790	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	NM	--	<330 U	--	<330 U	--	<1700 U	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	<240 U	--	<230 U	--	<260 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	NM	--	<330 U	--	<330 U	--	<1700 U	--	<1800 U	--	<680 U	--	<1700 U	--	<1900 U	--	<340 U	--	<480 U	--	<460 U	--	<520 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	NM	--	<330 U	--	<330 U	--	<1700 U	--	<1800 U	--	240 J	--	<1700 U	--	270 J	--	<340 U	--	<240 U	--	490	--	780	[2]
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	NM	--	<330 U	--	<330 U	--	210 J	--	210 J	--	260 J	--	<1700 U	--	420 J	--	<340 U	--	260	--	590	--	700	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	NM	--	<330 U	--	400	--	1,300 J	--	<1800 U	--	140 J	--	<1700 U	--	330 J	--	<340 U	--	660	--	890	--	620	--
Organics - VOCs (ug/kg)																																		
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<69 U	--	<68 U	--	87	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	NM	--	NM	--	NM	--	<53 U	--	280	[18]	<1100 U	--	<1000 U	--	190	[18]	<52 U	--	<69 U	--	130	--	230	[18]
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	NM	--	NM	--	NM	--	<53 U	--	74	--	<1100 U	--	<1000 U	--	<54 U	--	<52 U	--	<69 U	--	<68 U	--	<78 U	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<340 U	--	<340 U	--	<390 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	<270 U	--	660	--	<5300 U	--	<5200 U	--	390	--	<260 U	--	<340 U	--	<340 U	--	<390 U	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	<10 U	--	NM	--	NM	--	<53 U	--	<52 U	--	<1100 U	--	<1000 U	--	<54 U	--	<52 U	--	<69 U	--	<68 U	--	<78 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<340 U	--	<340 U	--	<390 U	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	<10 U	--	NM	--	NM	--	<53 U	--	54	[18]	<1100 U	--	<1000 U	--	<54 U	--	<52 U	--	<69 U	--	<68 U	--	82	[18,19]
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<69 UJ	--	<68 UJ	--	77 J	[18,19]
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	NM	--	NM	--	NM	--	<53 U	--	<52 U	--	<1100 U	--	<1000 U	--	<54 U	--	<52 U	--	<69 U	--	<68 U	--	<78 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<110 U	--	310	--	<2100 U	--	<2100 U	--	340	--	<100 U	--	<140 U	--	270	--	420	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	<270 U	--	480	--	<5300 U	--	<5200 U	--	320	--	<260 U	--	<340 U	--	<340 U	--	390	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	NM	--	NM	--	NM	--	<53 U	--	<53 U	--	<1100 U	--	<1000 U	--	<54 U	--	<52 U	--	<69 U	--	<68 U	--	<78 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<53 U	--	330	--	1,100	--	<1000 U	--	230	--	<52 U	--	<69 U	--	180	--	330	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<53 U	--	<53 U	--	<1100 U	--	<1000 U	--	<54 U	--	<52 U	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	<53 U	--	<53 U	--	<1100 U	--	<1000 U	--	<54 U	--	<52 U	--	<69 U	--	<68 U	--	<78 U	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	NM	--	NM	--	NM	--	<53 U	--	<52 U	--	<1100 U	--	<1000 U	--	<54 U	--	<52 U	--	<69 U	--	<68 U	--	<78 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	NM	--	NM	--	NM	--	<53 U	--	<52 U	--	<1100 U	--	<1000 U	--	<54 U	--	<52 U	--	<69 U	--	<68 U	--	<78 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	<10 U	--	NM	--	NM	--	64	--	240	--	1,300	--	1,300	--	290	--	<52 U	--	<69 U	--	300	--	310	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	<30 U	--	NM	--	NM	--	ND	--	640	[18]	1,100	[2,18,19]	ND	--	570	[18]	ND	--	ND	--	450	[18]	750	[18]
Organics - Pesticides (ug/kg)																																		
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	<3.4 U	--	<3.5 U	--	<3.4 U	--	<3.5 U	--	<7.7 U	--	<3.4 U	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	<3.4 U	--	<3.5 U	--	<3.4 U	--	<3.5 U	--	<7.7 U	--	<3.4 U	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<4 U	--	<1.8 U	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	2.5	--	7.2	--	<1.8 U	--	35	--	<1.8 U	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<4 U	--	<1.8 U	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<1.8 U	--	<4 U	--	<1.8 U	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	1.8 J	--	1.8 J	--	<1.8 U	--	<3.5 U	--	4.7 J	--	<3.4 U	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	2	--	6.9	--	<1.8 U	--	39	--	<1.8 U	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	<1.8 U	--	<1.8 U	--	2.5	--	<1.8 U	--	20	--	<1.8 U	--	NM	--	NM	--	NM	--
Other																																		
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

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Field Sample ID											QMCP-SB 20 0in-6in		QMCP-SB 20 6in-4ft		QMCP-SB 21 0in-6in		QMCP-SB 21 6in-4ft		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		QMCP-SS-09-0-6in	
Sample Date											9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)											0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0.5 - 4 ft		0 - 0.5 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		SAND, Medium to coarse, brown, saturated at 4 feet		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		Red coarse stamp SAND with darkened finer stamp SA	
											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)																																
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	2	--	0.8	--	1.9	--	3.7	--	3	--	1.1	--	1.3	--	2	--	4.6	--	3.1	--	3	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	6.1	--	51	--	48	--	110	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	<0.2 U	--	0.3	--	0.3	--	0.3	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	2.5	[2]
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	11	--	19	--	19	--	21	--	16	--	18	--	17	--	8.1	--	3.2	--	4.4	--	21	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	350	[2]	6,300	[2,4,11]	3,900	[2]	2,400	[2]	2,400	[2]	9,100	[2,4,11]	5,400	[2]	3,500	[2]	460	[2]	290	[2]	4,500	[2]
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	18	--	8.5	--	37	--	47	--	39	--	11	--	15	--	15	--	100	--	73	--	180	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	240	--	620	[2,4,11]	600	[2,4,11]	570	[2,4,11]	500	[2,4,11]	630	[2,4,11]	610	[2,4,11]	330	--	170	--	97	--	870	[2,4,11]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	0.1	[18,19]	0.5	[2,18,19]	0.4	[2,18,19]	0.2	[2,18,19]	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]	0.2	[2,18,19]
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<0.2 U	--	<0.2 U	--	0.2	--	<0.2 U	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	0.5	--	6.8	[2,4]	4.5	[2]	4.1	[2]	4.9	[2,4]	21	[2,4,11]	7.1	[2,4]	2.9	[2]	0.7	--	0.6	--	4.3	[2]
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	37	--	74	[2]	100	[2]	140	[2]	110	[2]	80	[2]	81	[2]	43	--	31	--	21	--	190	[2]
Inorganics - Cyanide (mg/kg)																																
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<0.11 U	--	<0.13 U	--	<0.13 U	--	<0.12 U	--
Organics - PCBs (ug/kg)																																
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<120 U	--	<110 U	--	NM	--	NM	--	<170 U	--	<110 U	--	<130 U	--	NM	--	NM	--	NM	--	<120 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<120 U	--	<110 U	--	NM	--	NM	--	<170 U	--	<110 U	--	<130 U	--	NM	--	NM	--	NM	--	<120 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	NM	--	NM	--	ND	--	ND	--	ND	--	NM	--	NM	--	NM	--	ND	--
Organics - SVOCs (ug/kg)																																
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	<1500 U	--	<550 U	--	<550 U	--	<560 U	--	920	--	<560 U	--	<550 U	--	710	--	1,100	--	1,300	--	<590 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<600 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<250 U	--	<250 U	--	<230 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	<600 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<250 U	--	<250 U	--	<230 U	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	<600 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<250 U	--	<250 U	--	<230 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<600 U	--	<220 U	--	280	--	<220 U	--	380	--	<220 U	--	<220 U	--	<220 U	--	290	--	360	--	350	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	<1200 U	--	<440 U	--	<440 U	--	<450 U	--	<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--	<470 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<1200 U	--	<440 U	--	470	--	<450 U	--	570	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	570	--	590	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	<1200 U	--	<440 U	--	<440 U	--	<450 U	--	<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--	<470 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	<1200 U	--	<440 U	--	<440 U	--	<450 U	--	<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--	<470 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	<600 U	--	<220 U	--	300	--	230	--	420	--	<220 U	--	<220 U	--	<220 U	--	370	--	490	--	420	--

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

DRAFT

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area E																					
Station Name	CAS Number										QMCP-SB20				QMCP-SB21				QMCP-SB61						QMCP-SS06		QMCP-SS08				QMCP-SS09	
Field Sample ID											QMCP-SB 20 0in-6in		QMCP-SB 20 6in-4ft		QMCP-SB 21 0in-6in		QMCP-SB 21 6in-4ft		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		QMCP-SS-09-0-6in	
Sample Date											9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018	
Sample Interval (bgs)											0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0 - 0.5 ft		0.5 - 4 ft		0.5 - 4 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft		0 - 0.5 ft	
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	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		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		Red coarse stamp SAND with darkened finer stamp SA	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																																
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	<1200 U	--	<440 U	--	<440 U	--	<450 U	--	<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--	<470 U	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	580 J	--	<220 U	--	520	--	390	--	740	--	<220 U	--	<220 U	--	<220 U	--	510	--	710	--	580	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	<600 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<250 U	--	<250 U	--	<230 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<1200 U	--	<440 U	--	<440 U	--	<450 U	--	<450 U	--	<450 U	--	<440 U	--	<430 U	--	<510 U	--	<510 U	--	<470 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<600 U	--	<220 U	--	<220 U	--	<220 U	--	680	--	<220 U	--	230	--	480	--	770	[2]	890	[2]	<230 U	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	<600 U	--	<220 U	--	290	--	<220 U	--	670	--	<220 U	--	<220 U	--	430	--	860	--	990	--	330	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	590 J	--	<220 U	--	400	--	320	--	590	--	<220 U	--	<220 U	--	<220 U	--	470	--	610	--	550	--
Organics - VOCs (ug/kg)																																
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	<69 U	--	<62 U	--	<61 U	--	<62 U	--	80	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	<69 U	--	<62 U	--	61	--	<62 U	--	180	[18]	<63 U	--	85	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	<69 U	--	<62 U	--	<61 U	--	<62 U	--	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	<340 U	--	<310 U	--	<310 U	--	<310 U	--	<310 U	--	<310 U	--	<300 U	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	<340 U	--	<310 U	--	<310 U	--	<310 U	--	440	--	<310 U	--	<300 U	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	<69 U	--	<62 U	--	<61 U	--	<62 U	--	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<340 U	--	<310 U	--	<310 U	--	<310 U	--	<310 U	--	<310 U	--	<300 U	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	<69 U	--	<62 U	--	<61 U	--	<62 U	--	84	[18,19]	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	<69 U	--	<62 U	--	<61 U	--	<62 U	--	75	[18,19]	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	<69 U	--	<62 U	--	<61 U	--	<62 U	--	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<140 U	--	<120 U	--	<120 U	--	<120 U	--	370	--	<130 U	--	180	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<340 U	--	<310 U	--	<310 U	--	<310 U	--	400	--	<310 U	--	<300 U	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	<69 U	--	<62 U	--	<61 U	--	<62 U	--	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	<69 U	--	<62 U	--	73	--	<62 U	--	290	--	<63 U	--	110	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	<69 U	--	<62 U	--	<61 U	--	<62 U	--	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	<69 U	--	<62 U	--	<61 U	--	<62 U	--	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	<69 U	--	<62 U	--	<61 U	--	<62 U	--	<62 U	--	<63 U	--	<60 U	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	<69 U	--	<62 U	--	<61 U	--	<62 U	--	330	--	<63 U	--	160	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	ND	--	ND	--	73	--	ND	--	660	[18]	ND	--	290	[18]	NM	--	NM	--	NM	--	NM	--
Organics - Pesticides (ug/kg)																																
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																																
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	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 4
Summary of Soil Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area F															
Station Name	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	SS-24		SS-25		SS-35		Mickelson-6		QMCP-SB64				QMCP-SS51		QMCP-SS310		QMCP-SS311	
Field Sample ID											SS 24		SS 25		SS 35		Mickelson B-6		QMCP-SB 64 0in-6in		QMCP-SB 64 6in-5ft		QMCP-SS51-0-3in		QMCP-SS 310		QMCP-SS 311	
Sample Date											6/5/2002		6/5/2002		6/5/2002		9/12/2007		9/7/2018		9/7/2018		9/28/2018		9/24/2020		9/24/2020	
Sample Interval (bgs)											0 - 4 in 0 - 12 in		0 - 12 in		0 - 4 in		--		0 - 0.5 ft		0.5 - 5 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description											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)		--		SAND, Fine to medium, brown		SAND, Medium to coarse, brown, saturated at 5 feet		Soil in pile along trail		--		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																												
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	9,190	[4,11]	6,830	--	NM	--	7,800 J	[4,11]	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	<0.82 UJ	--	1.7 J	[2]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	8.4	[2,4,10,11]	14.9	[2,4,10,11]	NM	--	14 J	[2,4,10,11]	1.4	--	1.2	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	40	--	41.5	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	0.27	--	0.36	--	NM	--	0.73 J	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	0.23	--	0.29	--	NM	--	NM	--	<0.2 U	--	<0.2 U	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	14,100	--	6,270	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	22.7	--	12.7	--	NM	--	980 J	--	28	--	19	--	NM	--	NM	--	NM	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	18.6	[2,4,11]	17.3	[2,4,11]	NM	--	16 J	[2,4,11]	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	2,120 J	[2]	3,450 J	[2]	NM	--	490 J	[2]	3,200	[2]	6,100	[2,4,11]	NM	--	NM	--	NM	--
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	22,700	[4,11]	24,700	[4,11]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	59.6 J	--	51.8 J	--	NM	--	25 J	--	15	--	14	--	NM	--	NM	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	4	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	9,390	[4]	6,820	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	458	[2,4,11]	368	--	NM	--	650	[2,4,11]	630	[2,4,11]	600	[2,4,11]	NM	--	NM	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	0.14 J	[2,18,19]	0.2 J	[2,18,19]	NM	--	0.015 J	--	0.1	[18,19]	0.3	[2,18,19]	NM	--	NM	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	28.1	--	18.8	--	NM	--	180 J	[2,4,11]	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	274	--	214 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	1.5 J	[2]	2.3 J	[2]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	1.3 J	[2]	2.6 J	[2]	NM	--	0.51 J	--	4.1	[2]	5.8	[2,4]	NM	--	NM	--	NM	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	741 J	--	682 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	35.2	--	34.5	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	90.3 J	[2]	82.3 J	[2]	NM	--	43	--	77	[2]	72	[2]	NM	--	NM	--	NM	--
Inorganics - Cyanide (mg/kg)																												
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	12.5 J	[2,4,10,11]	<0.04 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																												
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<350 U	--	<37 U	--	NM	--	<42 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	<42 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	NM	--	<42 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - SVOCs (ug/kg)																												
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	<22000 U	--	1,300 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	<22000 U	--	15,000	[2]	NM	--	NM	--	<540 U	--	<540 U	--	660	--	420	--	330	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<22000 U	--	<11000 U	--	NM	--	NM	--	<210 U	--	<220 U	--	<240 U	--	<110 U	--	<110 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	4,600 J	--	<11000 U	--	NM	--	NM	--	<210 U	--	<220 U	--	1,500	--	<110 U	--	<110 U	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	<22000 U	--	1,300 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	22,000 J	--	<11000 U	--	NM	--	NM	--	<210 U	--	<220 U	--	1,600	--	<110 U	--	<110 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<22000 UJ	--	1,600 J	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	11,000 J	--	1,800 J	--	NM	--	NM	--	550	--	<220 U	--	13,000	--	400	--	560	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	10,000 J	[10,17]	1,300 J	--	NM	--	NM	--	530	--	<430 U	--	12,000	[10,17]	490	--	640	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	12,000 J	--	1,700 J	--	NM	--	NM	--	990	--	<430 U	--	26,000	[10]	960	--	1,200	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	7,600 J	--	<11000 U	--	NM	--	NM	--	<430 U	--	<430 U	--	3,500	--	280	--	350	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	10,000 J	--	1,400 J	--	NM	--	NM	--	<430 U	--	<430 U	--	8,800	--	300	--	430	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	<22000 UJ	--	<11000 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	<22000 UJ	--	<11000 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	12,000 J	--	2,700 J	--	NM	--	NM	--	520	--	<220 U	--	14,000	--	460	--	650	--

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Field Sample ID											SS 24		SS 25		SS 35		Mickelson B-6		QMCP-SB 64 0in-6in		QMCP-SB 64 6in-5ft		QMCP-SS51-0-3in		QMCP-SS 310		QMCP-SS 311	
Sample Date											6/5/2002		6/5/2002		6/5/2002		9/12/2007		9/7/2018		9/7/2018		9/28/2018		9/24/2020		9/24/2020	
Sample Interval (bgs)											0 - 4 in 0 - 12 in		0 - 12 in		0 - 4 in		--		0 - 0.5 ft		0.5 - 5 ft		0 - 0.25 ft		0 - 0.25 ft		0 - 0.25 ft	
Sample Description											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)		--		SAND, Fine to medium, brown		SAND, Medium to coarse, brown, saturated at 5 feet		Soil in pile along trail		--		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																												
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	<22000 U	--	<11000 U	--	NM	--	NM	--	<430 U	--	<430 U	--	2,800	[10]	<220 U	--	<220 U	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	<22000 U	--	4,000 J	[2]	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	25,000	[2]	2,900 J	--	NM	--	NM	--	1,100	--	<220 U	--	30,000	[2]	720	--	1,200	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	<22000 U	--	<11000 U	--	NM	--	NM	--	<210 U	--	<220 U	--	310	--	<110 U	--	<110 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	7,400 J	--	<11000 U	--	NM	--	NM	--	<430 U	--	<430 U	--	4,400	--	260	--	330	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	2,200 J	[2]	9,300 J	[2]	NM	--	NM	--	<210 U	--	<220 U	--	1,500	[2]	300	--	250	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	13,000 J	[2]	9,400 J	[2]	NM	--	NM	--	560	--	<220 U	--	8,000	[2]	420	--	630	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	20,000 J	--	2,900 J	--	NM	--	NM	--	900	--	<220 U	--	23,000	--	730	--	960	--
Organics - VOCs (ug/kg)																												
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	NM	--	NM	--	NM	--	NM	--	<59 U	--	<59 U	--	<83 U	--	64	--	65	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	920	[2,18,19]	920	[2,18,19]	1,800	[2,18,19]	NM	--	58 J	--	66	--	<83 U	--	140	--	140	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	200	[18]	200	[18]	490	[18,19]	NM	--	<59 U	--	<59 U	--	<83 U	--	<59 U	--	<61 U	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	<290 U	--	<290 U	--	<410 U	--	<300 U	--	<310 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	2,600	--	2,000	--	12,000	[2]	NM	--	<290 U	--	<290 U	--	<410 U	--	340	--	340	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	210	[4,11,18,19]	170	[4,11,18,19]	1,500	[2,4,11,18,19]	NM	--	<59 U	--	<59 U	--	<83 U	--	<59 U	--	<61 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	<290 U	--	<290 U	--	<410 U	--	<300 U	--	<310 U	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	400	[2,18,19]	290	[18,19]	490	[2,18,19]	NM	--	<59 U	--	<59 U	--	<83 U	--	<59 U	--	<61 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	NM	--	NM	--	NM	--	NM	--	<59 U	--	<59 U	--	<83 U	--	<59 U	--	<61 U	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	270	--	220	--	330	--	NM	--	<59 U	--	<59 U	--	<83 U	--	<59 U	--	<61 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,500	--	1,400	--	2,700	--	NM	--	<120 U	--	130	--	<170 U	--	210	--	200	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	2,600	[2]	1,700	[2]	26,000	[2]	NM	--	<290 U	--	<290 U	--	500	--	310	--	<310 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	310	--	210	--	360	--	NM	--	<59 U	--	<59 U	--	<83 U	--	<59 U	--	<61 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,300	--	1,200	--	2,100	--	NM	--	76	--	78	--	84	--	170	--	150	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	73	--	89	--	<270 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	100	--	77	--	<270 U	--	NM	--	<59 U	--	<59 U	--	<83 U	--	<59 U	--	<61 U	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	<63 U	--	<54 U	--	<270 U	--	NM	--	<59 U	--	<59 U	--	<83 U	--	<59 U	--	<61 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	<63 U	--	<54 U	--	<270 U	--	NM	--	<59 U	--	<59 U	--	2,000	[2,4,11,18,19]	<59 U	--	<61 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	1,400	--	1,000	--	2,800	--	NM	--	72	--	100	--	120	--	160	--	130	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	2,800	[2,18,19]	2,600	[2,18,19]	4,800	[2,18,19]	NM	--	76	--	208	--	84	[18]	380	[18]	350	[18]
Organics - Pesticides (ug/kg)																												
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	39 J	--	13	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	<35 U	--	12	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	<18 U	--	4.2	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	<18 U	--	3.8	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	<18 U	--	<1.9 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	<18 U	--	3.9	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<35 U	--	25	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	<18 U	--	<1.9 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	<18 U	--	<1.9 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																												
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	21	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	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.

DRAFT

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area H														Area J					
Station Name	CAS Number										GP-1		GP-2		GP-3		GP-3		GP-4		GP-4		GP-5		SS-29		SS-30		H&Ymarina-19	
Field Sample ID											GP-1 (7ft)		GP-2 (4ft)		GP-3 (2ft)		GP-3 (3ft)		GP-4 (2ft)		GP-4 (4ft)		GP-5 (2ft)		SS 29		SS 30		H & Y Marina B-19	
Sample Date											6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/5/2002		6/5/2002		9/12/2007	
Sample Interval (bgs)											7 ft		4 ft		2 ft		3 ft		2 ft		4 ft		2 ft		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 0 ft	
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	--		--		--		--		--		--		--		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.		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	5,560	--	20,200	[4,11]	1,800 J	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	1.8 J	[2]	<0.8 UJ	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	3.7	--	<0.1 U	--	0.53	--	NM	--	0.54	--	NM	--	0.47	--	4.8	[2,4,11]	6.4	[2,4,11]	30 J	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	58	--	6	--	12	--	NM	--	6	--	NM	--	9.6	--	23.7	--	10.6	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	0.12	--	0.16	--	<3.4 UJ	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	0.74	--	<0.2 U	--	<0.2 U	--	NM	--	<0.2 U	--	NM	--	<0.2 U	--	0.19	--	0.12	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	3,070	--	30,000	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	37	--	18	--	13	--	NM	--	18	--	NM	--	19	--	10.9	--	52.5	--	460 J	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	7.7	[2,4,11]	24.3	[2,4,11]	37 J	[2,4,11]
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	435 J	[2]	1,100 J	[2]	470 J	[2]
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	15,300	[4,11]	23,700	[4,11]	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	100	--	8.7	--	1.2	--	NM	--	9.5	--	NM	--	9.4	--	53.6 J	--	7.2 J	--	440 J	[10]
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	0.74	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	3,250	--	19,700	[4]	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	195	--	630	[2,4,11]	5,500	[2,4,9,11,16]
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	0.31	[2,18,19]	0.36	[2,18,19]	<0.05 U	--	NM	--	0.26	[2,18,19]	NM	--	0.23	[2,18,19]	<0.06 UJ	--	<0.05 UJ	--	0.0099 J	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	15.4	--	59.4	[2]	250 J	[2,4,11]
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	272 J	--	266 J	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	1.6	[2]	0.92	[2]	0.41	[2]	NM	--	0.9	[2]	NM	--	1.1	[2]	0.64 J	[2]	<0.46 UJ	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	2.8	[2]	3.1	[2]	<0.1 U	--	NM	--	1.9	[2]	NM	--	3.2	[2]	<0.27 U	--	<0.23 U	--	0.38 J	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	557 J	--	534 J	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	24.9	--	57.4	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	38.6 J	--	50.9 J	--	83	[2]
Inorganics - Cyanide (mg/kg)																														
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<0.04 UJ	--	<0.04 UJ	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<39 U	--	<36 U	--	<36 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	11 J	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	ND	--	ND	--	11 J	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	790 J	--	280 J	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	210 J	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	250 J	--	<1800 U	--	NM	--

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

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area H														Area J					
Station Name	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	GP-1		GP-2		GP-3		GP-3		GP-4		GP-4		GP-5		SS-29		SS-30		H&Ymarina-19	
Field Sample ID											GP-1 (7ft)		GP-2 (4ft)		GP-3 (2ft)		GP-3 (3ft)		GP-4 (2ft)		GP-4 (4ft)		GP-5 (2ft)		SS 29		SS 30		H & Y Marina B-19	
Sample Date											6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/5/2002		6/5/2002		9/12/2007	
Sample Interval (bgs)											7 ft		4 ft		2 ft		3 ft		2 ft		4 ft		2 ft		0 - 4 in 0 - 12 in		0 - 4 in 0 - 12 in		0 - 0 ft	
Sample Description											--		--		--		--		--		--		--		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.		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	220 J	--	<1800 U	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	280 J	--	210 J	--	NM	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1900 U	--	<1800 U	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	490 J	--	230 J	--	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	470 J	--	310 J	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	270 J	--	200 J	--	NM	--
Organics - VOCs (ug/kg)																														
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	1,100	[2,18,19]	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	<100 U	--	71	--	240	[18]	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	330	[18,19]	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	<100 U	--	<56 U	--	56	--	NM	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	1,800	--	<330 U	--	NM	--	<330 U	--	NM	--	<330 U	--	<330 U	--	340	--	900	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	<50 U	--	<50 U	--	NM	--	<50 U	--	NM	--	<50 U	--	<50 U	--	<56 U	--	56	[18,19]	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	150	[18,19]	<50 U	--	NM	--	<50 U	--	NM	--	<50 U	--	<50 U	--	<56 U	--	82	[18,19]	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	<250 U	--	<250 U	--	NM	--	<250 U	--	NM	--	<250 U	--	<250 U	--	<56 U	--	<50 U	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	710	--	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	<100 U	--	120	--	420	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	410	--	<330 U	--	NM	--	<330 U	--	NM	--	<330 U	--	<330 U	--	<280 U	--	820	[2]	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	100	--	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	<100 U	--	<56 U	--	<50 U	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	440	--	<50 U	--	NM	--	<50 U	--	NM	--	<50 U	--	<50 U	--	84	--	300	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<56 U	--	<50 U	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<56 U	--	<50 U	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	<50 U	--	<50 U	--	NM	--	<50 U	--	NM	--	<50 U	--	<50 U	--	<56 U	--	<50 U	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	<50 U	--	<50 U	--	NM	--	<50 U	--	NM	--	<50 U	--	<50 U	--	<56 U	--	<50 U	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	390	--	<100 U	--	NM	--	<100 U	--	NM	--	<100 U	--	<100 U	--	88	--	360	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	1,150	[2,18,19]	<150 U	--	NM	--	<150 U	--	NM	--	<150 U	--	<150 U	--	204	--	720	[18]	NM	--
Organics - Pesticides (ug/kg)																														
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<3.9 U	--	<3.6 U	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<3.9 U	--	<3.6 U	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<2 U	--	<1.8 U	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<2 U	--	<1.8 U	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<2 U	--	<1.8 U	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<2 U	--	<1.8 U	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	5.9	--	3.1 J	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<2 U	--	<1.8 U	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<2 U	--	<1.8 U	--	NM	--
Other																														
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	8.9	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

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Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area M																	
Station Name	CAS Number	[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	QMCP-SB37				QMCP-SB38				QMCP-SB39				QMCP-SB40				QMCP-SB41			
Field Sample ID											QMCP-SB37 0-6in		QMCP-SB37 6in-5ft		QMCP-SB38 0-6in		QMCP-SB38 6in-5ft		QMCP-SB39 0-6in		QMCP-SB39 6in-8ft		QMCP-SB40 0-6in		QMCP-SB40 6in-5ft		QMCP-SB41 0-6in		QMCP-SB41 6in-9ft	
Sample Date											9/11/2018		9/11/2018		9/11/2018		9/11/2018		9/11/2018		9/11/2018		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 - 5 ft		0 - 0.5 ft		0.5 - 8 ft		0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 9 ft	
Sample Description											SAND, Fine to medium, brown, saturated at 5 feet		SAND, Fine to medium, brown, saturated at 5 feet		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		SAND, Medium to coarse, gray		SAND, Medium to coarse, gray		SAND, Medium to coarse, gray		SAND, Fine to medium, brown, saturated at 9 feet	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	3.6	--	38	[2,4,10,11,17]	2.7	--	48	[2,4,10,11,17]	78	[2,4,10,11,17]	110	[2,4,10,11,17]	19	[2,4,10,11]	6.2	[2,4,11]	22	[2,4,10,11]	17	[2,4,10,11]
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.5	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.2	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	18	--	27	--	25	--	30	--	38	--	44	--	15	--	15	--	39	--	41	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	270	[2]	1,600	[2]	610	[2]	5,100	[2]	12,000	[2,4,11]	24,000	[2,4,10,11]	2,300	[2]	2,000	[2]	3,800	[2]	1,800	[2]
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	2.7	--	8.7	--	3.8	--	15	--	160	--	30	--	6.5	--	8.6	--	25	--	9.3	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	180	--	350	--	380	--	320	--	360	--	390	--	200	--	170	--	280	--	250	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	<0.05 U	--	<0.05 U	--	<0.06 U	--	0.07	[18,19]	0.2	[2,18,19]	0.06	[18]	<0.05 U	--	<0.06 U	--	0.06	[18]	<0.05 U	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	0.1	--	0.6	--	0.9	--	2.5	[2]	4.2	[2]	30	[2,4,11]	1.2	[2]	0.6	--	1.5	[2]	0.8	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	25	--	53	--	43	--	54	--	160	[2]	84	[2]	34	--	25	--	80	[2]	65	[2]
Inorganics - Cyanide (mg/kg)																														
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<550 U	--	<110 U	--	<100 U	--	<110 U	--	<530 U	--	<110 U	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<110 U	--	<110 U	--	<110 U	--	<110 U	--	<550 U	--	<110 U	--	<100 U	--	<110 U	--	<530 U	--	<110 U	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Organics - SVOCs (ug/kg)																														
1,1-BIPHENYL	92-52-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	<540 U	--	<540 U	--	<550 U	--	<540 U	--	<550 U	--	<530 U	--	<520 U	--	<550 U	--	1,000	--	<530 U	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<210 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<210 U	--	<210 U	--	<220 U	--	<210 U	--	<210 U	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	<210 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<210 U	--	<210 U	--	230	--	<210 U	--	<210 U	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	<210 U	--	<220 U	--	<220 U	--	<220 U	--	560	--	<210 U	--	<210 U	--	<220 U	--	<210 U	--	<210 U	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<210 U	--	<220 U	--	<220 U	--	220	--	2,500	--	960	--	<210 U	--	<220 U	--	660	--	<210 U	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	<430 U	--	<430 U	--	<440 U	--	<430 U	--	2,000	--	690	--	<420 U	--	<440 U	--	580	--	<430 U	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<430 U	--	<430 U	--	<440 U	--	710	--	4,200	--	1,400	--	<420 U	--	<440 U	--	1,200	--	<430 U	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	<430 U	--	<430 U	--	<440 U	--	<430 U	--	660	--	<420 U	--	<420 U	--	<440 U	--	<430 U	--	<430 U	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	<430 U	--	<430 U	--	<440 U	--	<430 U	--	1,200	--	440	--	<420 U	--	<440 U	--	<430 U	--	<430 U	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	<210 U	--	<220 U	--	<220 U	--	230	--	2,400	--	880	--	<210 U	--	<220 U	--	650	--	<210 U	--

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

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area M																	
Station Name	CAS Number										QMCP-SB37				QMCP-SB38				QMCP-SB39				QMCP-SB40				QMCP-SB41			
Field Sample ID											QMCP-SB37 0-6in		QMCP-SB37 6in-5ft		QMCP-SB38 0-6in		QMCP-SB38 6in-5ft		QMCP-SB39 0-6in		QMCP-SB39 6in-8ft		QMCP-SB40 0-6in		QMCP-SB40 6in-5ft		QMCP-SB41 0-6in		QMCP-SB41 6in-9ft	
Sample Date											9/11/2018		9/11/2018		9/11/2018		9/11/2018		9/11/2018		9/11/2018		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 - 5 ft		0 - 0.5 ft		0.5 - 8 ft		0 - 0.5 ft		0.5 - 5 ft		0 - 0.5 ft		0.5 - 9 ft	
Sample Description		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	SAND, Fine to medium, brown, saturated at 5 feet		SAND, Fine to medium, brown, saturated at 5 feet		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		SAND, Medium to coarse, gray		SAND, Medium to coarse, gray		SAND, Medium to coarse, gray		SAND, Fine to medium, brown, saturated at 9 feet	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	<430 U	--	<430 U	--	<440 U	--	<430 U	--	<440 U	--	<420 U	--	<420 U	--	<440 U	--	<430 U	--	<430 U	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	<210 U	--	<220 U	--	<220 U	--	400	--	5,800	[2]	1,600	--	<210 U	--	220	--	1,100	--	<210 U	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	<210 U	--	<220 U	--	<220 U	--	<220 U	--	<220 U	--	<210 U	--	<210 U	--	<220 U	--	<210 U	--	<210 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<430 U	--	<430 U	--	<440 U	--	<430 U	--	770	--	<420 U	--	<420 U	--	<440 U	--	<430 U	--	<430 U	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<210 U	--	<220 U	--	<220 U	--	290	--	400	--	<210 U	--	250	--	700	--	700	--	270	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	<210 U	--	<220 U	--	<220 U	--	360	--	4,100	[2]	690	--	<210 U	--	370	--	790	--	210	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	<210 U	--	<220 U	--	<220 U	--	320	--	4,600	--	1,500	--	<210 U	--	<220 U	--	900	--	<210 U	--
Organics - VOCs (ug/kg)																														
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	<66 U	--	<56 U	--	<67 U	--	<56 U	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	62	--	110	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	<66 U	--	76	--	<67 U	--	83	--	89	--	<59 U	--	68	--	<65 U	--	150	--	170	[18]
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	<66 U	--	<56 U	--	<67 U	--	<56 U	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	<62 U	--	<62 U	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	<330 U	--	<280 U	--	<330 U	--	<280 U	--	<290 U	--	<300 U	--	<270 U	--	<330 U	--	<310 U	--	<310 U	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	<330 U	--	<280 U	--	<330 U	--	<280 U	--	<290 U	--	<300 U	--	<270 U	--	<330 U	--	400	--	330	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	<66 U	--	<56 U	--	<67 U	--	<56 U	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	<62 U	--	<62 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<330 U	--	<280 U	--	<330 U	--	<280 U	--	<290 U	--	<300 U	--	<270 U	--	<330 U	--	<310 U	--	<310 U	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	<66 U	--	<56 U	--	<67 U	--	<56 U	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	<62 U	--	<62 U	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	<66 U	--	<56 UJ	--	<67 UJ	--	<56 UJ	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	<62 U	--	64	[18]
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	<66 U	--	<56 U	--	<67 U	--	<56 U	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	<62 U	--	<62 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	<130 U	--	150	--	<130 U	--	<110 U	--	200	--	<120 U	--	110	--	<130 U	--	260	--	300	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	<330 U	--	<280 U	--	<330 U	--	<280 U	--	<290 U	--	<300 U	--	<270 U	--	<330 U	--	320	--	<310 U	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	<66 U	--	<56 U	--	<67 U	--	<56 U	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	<62 U	--	<62 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	<66 U	--	100	--	<67 U	--	65	--	130	--	<59 U	--	77	--	<65 U	--	200	--	200	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	<66 U	--	<56 U	--	<67 U	--	<56 U	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	<62 U	--	<62 U	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	<66 U	--	<56 U	--	<67 U	--	<56 U	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	<62 U	--	<62 U	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	<66 U	--	<56 U	--	<67 U	--	<56 U	--	<57 U	--	<59 U	--	<53 U	--	<65 U	--	<62 U	--	<62 U	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	<66 U	--	110	--	<67 U	--	55 J	--	150	--	<59 U	--	93	--	<65 U	--	200	--	230	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	ND	--	250	--	ND	--	65	--	330	[18]	ND	--	187	--	ND	--	460	[18]	500	[18]
Organics - Pesticides (ug/kg)																														
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

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Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area M																	
Station Name	CAS Number										QMCP-SB42				QMCP-SS22				QMCP-SS23		QMCP-SS24		QMCP-SS25				QMCP-SS26	
Field Sample ID											QMCP-SB42 0-6in		QMCP-SB42 6in-12ft		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		QMCP-SS-26-0-6in	QMCP-SS26-0-6in
Sample Date											9/10/2018		9/10/2018		9/6/2018		9/6/2018		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		0.5 - 12 ft		0 - 0.5 ft		0 - 0.5 ft		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		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	SAND, Medium to coarse, gray		SAND, Medium to coarse, brown, saturated at 12 fee		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		Dark brown/black TOPSOIL, organics and slag/metal	Dark brown/black TOPSOIL, organics and slag/metal
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics - Metals (mg/kg)																														
ALUMINUM	7429-90-5	NA	6900 (B)	ID	50,000 (D,BB)	6,900 (B)	ID	3.7E+5 (D,BB)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTIMONY	7440-36-0	1.2 (X)	4.3	13,000	180	4.3	5,900	670	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ARSENIC	7440-38-2	4.6	4.6	720	7.6	4.6	910	37	NA	NA	7.1	[2,4,11]	3.9	--	6.6	[2,4,11]	5.6	[2,4,11]	1.4	--	73	[2,4,10,11,17]	4.8	[2,4,11]	NM	--	110	[2,4,10,11,17]	NM	--
BARIUM	7440-39-3	130 (B,G)	1,300 (B)	3.3E+5 (B)	37,000 (B)	1,300 (B)	1.5E+5 (B)	1.3E+5 (B)	NA	NA	NM	--	NM	--	35	--	35	--	8.9	--	280	[2]	14	--	NM	--	53	--	NM	--
BERYLLIUM	7440-41-7	24 (G)	51	1,300	410	51	590	1,600	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CADMIUM	7440-43-9	1.6 (B,G,X)	6.0 (B)	1,700 (B)	550 (B)	6.0 (B)	2,200 (B)	2,100 (B)	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--	0.8	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHROMIUM	7440-47-3	1.2E+6 (B,G,H,X)	1.0E+6 (B,D,H)	3.30E+8 (B,H)	7.90E+5 (B,H)	1.00E+6 (B,D,H)	1.50E+5 (B,H)	1.00E+6 (B,D,H)	NA	NA	38	--	29	--	15	--	16	--	7.5	--	230	--	33	--	NM	--	13	--	NM	--
COBALT	7440-48-4	2	0.8	13,000	2,600	2	5,900	9,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	32 (B,G)	5,800 (B)	130,000 (B)	20,000 (B)	5,800 (B)	59,000 (B)	73,000 (B)	NA	NA	4,600	[2]	1,700	[2]	990	[2]	910	[2]	53	[2]	6,200	[2,4,11]	1,100	[2]	NM	--	6,400	[2,4,11]	NM	--
IRON	7439-89-6	--	12,000 (B)	ID	160,000 (B)	12,000 (B)	ID	580,000 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
LEAD	7439-92-1	2,500 (B,G,X)	700 (B)	100,000 (B)	400 (B)	700 (B)	44,000 (B)	900 (B,DD)	NA	NA	24	--	7.7	--	20	--	17	--	1.3	--	30	--	5	--	NM	--	42	--	NM	--
LITHIUM	7439-93-2	9.8 (B)	9.8 (B)	2.30E+9 (B)	4,200 (B,DD)	9.8 (B)	1.00E+6 (B)	31,000 (B,DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	--	8,000 (B)	6.70E+6 (B)	1.0E+9 (B,D)	22,000 (B)	2.90E+6 (B)	1.00E+6 (B,D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	440 (B,G,X)	440 (B)	3,300 (B)	25,000 (B)	440 (B)	1,500 (B)	90,000 (B)	NA	NA	270	--	280	--	200	--	210	--	68	--	850	[2,4,11]	460	[2,4,11]	NM	--	210	--	NM	--
MERCURY	7439-97-6	0.13 (B,Z)	1.7 (B,Z)	20,000 (B,Z)	160 (B,Z)	1.7 (B,Z)	8,800 (B,Z)	580 (B,Z)	0.022 (M)	0.066	<0.05 U	--	<0.05 U	--	<0.06 U	--	<0.06 U	--	<0.05 U	--	<0.05 U	--	<0.05 U	--	NM	--	<0.07 U	--	NM	--
NICKEL	7440-02-0	29 (G)	100 (B)	13,000 (B)	40,000 (B)	100 (B)	16,000 (B)	1.50E+5 (B)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	0.41 (B)	4.0 (B)	130,000 (B)	2,600 (B)	4.0 (B)	59,000 (B)	9,600 (B)	NA	NA	NM	--	NM	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--	0.3	--	NM	--
SILVER	7440-22-4	1.0 (B,M)	4.5 (B)	6700 (B)	2500 (B)	13 (B)	2,900 (B)	9,000 (B)	NA	NA	1.6	[2]	0.5	--	0.8	--	0.5	--	<0.1 U	--	1.3	[2]	0.8	--	NM	--	4.8	[2,4]	NM	--
SODIUM	7440-23-5	NA	4,600	ID	1.0E+6 (D)	NA	ID	1.0E+6 (D)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
VANADIUM	7440-62-2	430	72	ID	750 (DD)	990	ID	5,500 (DD)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	62 (B,G)	2,400 (B)	ID	1.70E+5 (B)	5,000 (B)	ID	6.30E+5 (B)	NA	NA	46	--	39	--	31	--	35	--	9.6	--	140	[2]	51	--	NM	--	200	[2]	NM	--
Inorganics - Cyanide (mg/kg)																														
CYANIDE	57-12-5	0.1 (P,R)	4.0 (P,R)	250 (P,R)	12 (P,R)	4.0 (P,R)	250 (P,R)	250 (P,R)	NA	NA	NM	--	NM	--	<0.12 U	--	<0.12 U	--	<0.10 U	--	<0.11 U	--	<0.11 U	--	NM	--	<0.14 U	--	NM	--
Organics - PCBs (ug/kg)																														
AROCLOR-1260	11096-82-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<540 U	--	<110 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
AROCLOR-1262	37324-23-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<540 U	--	<110 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOTAL PCBS	1336-36-6	NLL	NLL	5.20E+6 (J,T)	1,000 (J,T)	NLL	6.50E+6 (J,T)	1,000 (J,T)	NA	NA	ND	--	ND	--	NM	--	NM	--	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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	1,600	--	<530 U	--	<610 U	--	<610 U	--	<520 U	--	<530 U	--	<530 U	--	NM	--	3,000	--	NM	--
ACENAPHTHENE	83-32-9	8,700	3.00E+05	1.40E+10	4.10E+07	8.80E+05	6.20E+09	1.30E+08	NA	NA	<220 U	--	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	<280 U	--	NM	--
ACENAPHTHYLENE	208-96-8	ID	5,900	2.30E+09	1.60E+06	17,000	1.00E+09	5.20E+06	NA	NA	<220 U	--	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	<280 U	--	NM	--
ACETOPHENONE	98-86-2	ID	30,000	3.30E+10	4.70E+7 (C)	88,000	1.40E+10	1.50E+8 (C)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	ID	41,000	6.70E+10	2.30E+08	41,000	2.90E+10	7.30E+08	NA	NA	<220 U	--	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	<280 U	--	NM	--
BENZALDEHYDE	100-52-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	470	--	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	730	--	NM	--
BENZO(A)PYRENE	50-32-8	NLL	NLL	1.50E+8 (Q)	2,000 (Q)	NLL	1.90E+6 (Q)	8,000 (Q)	NA	NA	<430 U	--	<430 U	--	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--	550 J	--	NM	--
BENZO(B)FLUORANTHENE	205-99-2	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	670	--	<430 U	--	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--	1,000	--	NM	--
BENZO(G,H,I)PERYLENE	191-24-2	NLL	NLL	8.00E+08	2.50E+06	NLL	3.50E+08	7.00E+06	NA	NA	<430 U	--	<430 U	--	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--	<560 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	NLL	NLL	ID	2.00E+5 (Q)	NLL	ID	8.00E+5 (Q)	NA	NA	<430 U	--	<430 U	--	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--	<560 U	--	NM	--
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	NLL	NLL	7.00E+08	2.80E+06	NLL	8.90E+08	1.20E+7 (C)	NA	NA	<540 U	--	<530 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BUTYL BENZYL PHTHALATE	85-68-7	13,000 (X)	2.20E+6 (C)	4.70E+10	3.60E+10 (C)	5.00E+6 (C)	2.10E+10	1.20E+8 (C)	NA	NA	<540 U	--	<530 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	NLL	NLL	ID	2.00E+6 (Q)	NLL	ID	8.00E+6 (Q)	NA	NA	520	--	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	900	--	NM	--

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

DRAFT

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

Location Code		EGLE Part 201 Generic Cleanup Criteria							Media-Specific Volatilization to Indoor Air Interim Action Screening Levels		Area M																			
Station Name	CAS Number										QMCP-SB42				QMCP-SS22				QMCP-SS23		QMCP-SS24		QMCP-SS25				QMCP-SS26			
Field Sample ID											QMCP-SB42 0-6in		QMCP-SB42 6in-12ft		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		QMCP-SS-26-0-6in		QMCP-SS26-0-6in	
Sample Date											9/10/2018		9/10/2018		9/6/2018		9/6/2018		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		0.5 - 12 ft		0 - 0.5 ft		0 - 0.5 ft		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		[2] Groundwater Surface Water Interface Protection Criteria	[4] Residential Drinking Water Protection Criteria	[9] Residential Particulate Soil Inhalation Criteria	[10] Residential Direct Contact Criteria	[11] Nonresidential Drinking Water Protection Criteria	[16] Nonresidential Particulate Soil Inhalation Criteria	[17] Nonresidential Direct Contact Criteria	[18] Soil Residential MSSL	[19] Soil Nonresidential MSSL	SAND, Medium to coarse, gray		SAND, Medium to coarse, brown, saturated at 12 fee		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		Dark brown/black TOPSOIL, organics and slag/metal		Dark brown/black TOPSOIL, organics and slag/metal	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics - SVOCs (ug/kg) Continued																														
DIBENZO(A,H)ANTHRACENE	53-70-3	NLL	NLL	ID	2,000 (Q)	NLL	ID	8,000 (Q)	NA	NA	<430 U	--	<430 U	--	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--	<560 U	--	NM	--
DIBENZOFURAN	132-64-9	1,700	ID	6.70E+06	ID	ID	2.90E+06	ID	NA	NA	<540 U	--	<530 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	5,500	730,000	9.30E+09	4.60E+07	730,000	4.10E+09	1.30E+08	NA	NA	1,200	--	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	1,400	--	NM	--
FLUORENE	86-73-7	5,300	390,000	9.30E+09	2.70E+07	890,000	4.10E+09	8.70E+07	NA	NA	<220 U	--	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	<280 U	--	NM	--
INDENO(1,2,3-CD)PYRENE	193-39-5	NLL	NLL	ID	20,000 (Q)	NLL	ID	80,000 (Q)	NA	NA	<430 U	--	<430 U	--	<490 U	--	<490 U	--	<420 U	--	<420 U	--	<430 U	--	NM	--	<560 U	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	1,000	[2]	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	2,200	[2]	NM	--
PHENANTHRENE	85-01-8	2,100	56,000	6.70E+06	1.60E+06	1.60E+05	2.90E+06	5.20E+06	NA	NA	1,400	--	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	2,100	--	NM	--
PYRENE	129-00-0	ID	4.80E+05	6.70E+09	2.90E+07	4.80E+05	2.90E+09	8.40E+07	NA	NA	870	--	<210 U	--	<240 U	--	<240 U	--	<210 U	--	<210 U	--	<210 U	--	NM	--	1,100	--	NM	--
Organics - VOCs (ug/kg)																														
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	NA	270 (JT)	800 (JT)	140	--	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,4-TRIMETHYLBENZENE	95-63-6	570 (I)	2,100 (I)	8.20E+10 (I)	3.2E+07 (C,I)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	150 (JT)	430 (JT)	380	[18]	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,3,5-TRIMETHYLBENZENE	108-67-8	1,100 (I)	1,800 (I)	8.20E+10 (I)	3.2E+07 (C)	2,100 (I)	3.60E+10 (I)	1.00E+8 (C,I)	100 (JT)	300 (JT)	89	--	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2,2,4-TRIMETHYLPENTANE	540-84-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	<280 U	--	<290 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	4,200	57,000	6.70E+08	8.10E+06	1.70E+05	2.90E+08	2.60E+07	NA	NA	820	--	<290 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZENE	71-43-2	240 (I,X)	100 (I)	3.80E+8 (I)	1.8E+5 (I)	100 (I)	4.70E+8 (I)	8.40E+5 (C,I)	1.7 (M)	7.9 (M)	82	[18,19]	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	540	--	<290 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	360	1,500	1.00E+10	2.20E+07	1,500	1.30E+10	7.10E+07	12 (M)	57	95	[18,19]	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	NA	1.8E+5 (C)	1.30E+10	9.2E+7 (C)	5.10E+5 (C)	5.90E+09	3.00E+8 (C)	25	74	150	[18,19]	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	3,200	91,000	5.80E+09	2.50E+7 (C)	2.60E+05	2.60E+09	8.00E+7 (C)	NA	NA	59	--	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	690	--	<120 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	730	35,000	2.00E+08	1.60E+07	1.00E+05	8.80E+07	5.20E+07	NA	NA	740	[2]	<290 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	ID	1,600 (I)	1.30E+9 (I)	2.50E+6 (I)	4,600	5.90E+08	8.00E+06	1,800	3,500	70	--	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	500	--	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
P-ISOPROPYL TOLUENE (p-CYMENE)	99-87-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SEC-BUTYLBENZENE	135-98-8	ID	1,600	4.00E+08	2.50E+06	4,600	1.80E+08	8.00E+06	NA	NA	<57 U	--	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STYRENE	100-42-5	530 (X)	2,700	5.50E+09	4.00E+05	2,700	6.90E+09	1.90E+6 (C)	NA	NA	<57 U	--	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	220 (X)	100	2.70E+09	2.0E+5 (C)	100	1.20E+09	9.30E+5 (C)	6.2 (M)	12 (M)	<57 U	--	<59 U	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	5,400 (I)	16,000 (I)	2.70E+10 (I)	5E+07 (C,I)	16,000 (I)	1.20E+10 (I)	1.60E+8 (C,I)	3,700	11,000	460	--	92	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	980 (I)	5,600 (I)	2.90E+11 (I)	4.1E+08 (C,I)	5,600 (I)	1.30E+11 (I)	1.00E+9 (C,D,I)	280 (J)	830 (J)	1,190	[2,18,19]	ND	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - Pesticides (ug/kg)																														
4,4-DDE	72-55-9	NLL	NLL	3.20E+07	45,000	NLL	4.00E+07	1.90E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
4,4-DDT	50-29-3	NLL	NLL	3.20E+07	57,000	NLL	4.00E+07	2.80E+05	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALDRIN	309-00-2	NLL	NLL	6.40E+05	1,000	NLL	8.00E+05	4,300	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ALPHA-CHLORDANE	5103-71-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BETA-BHC	319-85-7	ID	37	5.90E+06	5,400	150	7.40E+06	25,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDOSULFAN I	959-98-8	NLL	NLL	ID	1.4E+06 (J)	NLL	ID	4.40E+06 (J)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ENDRIN KETONE	53494-70-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
GAMMA-CHLORDANE	5103-74-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEPTACHLOR	76-44-8	NLL	NLL	2.40E+06	5,600	NLL	3.00E+06	23,000	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																														
CHLORIDE (mg/kg)	--	94 (X)	5,000	ID	500 (F)	5,000	ID	500 (F)	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PERCENT MOISTURE (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/kg)	--	NA	NA	NA	NA	NA	NA	NA	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.

TABLE 4
Summary of Soil Analytical Results
Quincy Mining Company Portage Operation 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. Updated June 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.
- **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 MSSL
[19] - Soil Nonresidential MSSL

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.

-- = No Exceedances
NM = Not Measured
ND = Not Detected
bgs = Below ground surface
ft = Feet
in = Inches
mg/kg = Milligrams per kilogram.
PCBs = Polychlorinated biphenyls
VOC = Volatile organic compound
SVOC = Semi-volatile organic compound
MSSL = Media-Specific Volatilization to Indoor Air Interim Action Screening Level
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.
(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 $CaCO_3$/L, use 400 mg $CaCO_3$/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 $CaCO_3$/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 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.

MSSL Footnotes:

J = Hazardous substance may be present in several isomer forms. Isomer-specific concentrations must be added together for comparison to screening level.
JT = Hazardous substance may be present in several isomer forms. Screening levels may be used for the individual isomer provided that it is the sole isomer detected; however, when multiple isomers are detected in a medium, the isomer-specific concentrations must be added together and compared to the most restrictive screening level of the detected isomers.
M = The screening level may be below target detection limits (TDL).

Laboratory Footnotes:

J = The result is an estimated quantity.
U = Analyte analyzed for but not detected above the reported sample reporting limit.
UJ = Analyte analyzed for but not detected above the reported sample reporting limit and is an estimated quantity.

TABLE 4
Summary of Soil Analytical Results
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)	NO
	[6] - Residential Infinite Source Volatile Soil Inhalation Criteria	NO
	[7] - Residential Finite VSIC for 5 Meter Source Thickness	NO
	[8] - Residential Finite VSIC for 2 Meter Source Thickness	NO
	[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	NO
	[13] - Nonresidential Infinite Source Volatile Soil Inhalation Criteria	NO
	[14] - Nonresidential Finite VSIC for 5 Meter Source Thickness	NO
	[15] - Nonresidential Finite VSIC for 2 Meter Source Thickness	NO
	[16] - Nonresidential Particulate Soil Inhalation Criteria	YES
	[17] - Nonresidential Direct Contact Criteria	YES
Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)	[18] - Soil Residential Media-Specific Screening Level (MSSL)	YES
	[19] - Soil Nonresidential MSSL	YES

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area A															
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																															
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--
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	--	NM	--
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	--	NM	--
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	--	NM	--
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	--	NM	--
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	--	NM	--
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	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	NM	--
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	--	NM	--
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	--	NM	--
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	--	NM	--
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	--	NM	--
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	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	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	--	NM	--
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	--	NM	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area A															
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	<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 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<5 U	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<20 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	2.7	14	82	66	130	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<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	7.6	45	450	210	420	<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 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1 U	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<2 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<5 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1 U	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	<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	570	23,000	33,000	66,000	66,000	<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)	0.14 (M)	6.1	18	12	24	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	<3 U	--	<1 U	--	<3 U	--	<1 U	--	<3 U	--	<1 U	--	<3 U	--	<1 U	--	NM	--
Other																															
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--
Water Quality Parameters																															
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area A															
Station Name	CAS Number													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)														--		--		--		--		--		--		--		--	
		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																													
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--	<2 U	--	<2 U	--	NM	--	<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	--	NM	--	<1 U	--	<1 U	--	NM	--	<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	--	NM	--	<1 U	--	<1 U	--	NM	--	<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	--	NM	--	<5 U	--	<5 U	--	NM	--	<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	--	NM	--	<5 U	--	<5 U	--	NM	--	<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	--	NM	--	<5 U	--	<5 U	--	NM	--	<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	--	NM	--	<10 U	--	<10 U	--	NM	--	<10 U	--	<10 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	NM	--	<5 U	--	<5 U	--	NM	--	<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	--	NM	--	<5 U	--	<5 U	--	NM	--	<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	--	NM	--	<1 U	--	<1 U	--	NM	--	<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	--	NM	--	<2 U	--	6	--	NM	--	<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	--	NM	--	<10 U	--	<10 U	--	NM	--	<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	--	NM	--	<1 U	--	100	[3]	NM	--	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1 U	--	<1 U	--	NM	--	<1 U	--	6	[3]	NM	--	<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	--	NM	--	<1 U	--	<1 U	--	NM	--	<1 U	--	2	--

Location Code		Area A																											
Station Name	CAS Number	MW #7		MW #8		MW #8																							
Field Sample ID		MW #7		MW #8		MW-8																							
Sample Date		10/3/1990		10/3/1990		4/23/2008																							
Sample Interval (bgs)		--		--		--																							
		Result	Exceeds	Result	Exceeds	Result	Exceeds																						
Inorganics - Metals (ug/l)																													
ARSENIC	7440-38-2	NM	--	NM	--	NM	--																						
BARIUM	7440-39-3	NM	--	NM	--	NM	--																						
CADMIUM	7440-43-9	NM	--	NM	--	NM	--																						
CALCIUM	7440-70-2	NM	--	NM	--	NM	--																						
CHROMIUM	7440-47-3	NM	--	NM	--	NM	--																						
COPPER	7440-50-8	NM	--	NM	--	NM	--																						
LEAD	7439-92-1	NM	--	NM	--	NM	--																						
MAGNESIUM	7439-95-4	NM	--	NM	--	NM	--																						
MANGANESE	7439-96-5	NM	--	NM	--	NM	--																						
MERCURY	7439-97-6	NM	--	NM	--	NM	--																						
POTASSIUM	7440-09-7	NM	--	NM	--	NM	--																						
SELENIUM	7782-49-2	NM	--	NM	--	NM	--																						
SILVER	7440-22-4	NM	--	NM	--	NM	--																						
SODIUM	7440-23-5	NM	--	NM	--	NM	--																						
STRONTIUM	7440-24-6	NM	--	NM	--	NM	--																						
ZINC	7440-66-6	NM	--	NM	--	NM	--																						
Organics - PCBs as Aroclors (ug/l)																													
TOTAL PCBS	1336-36-6	NM	--	NM	--	NM	--																						
Organics - SVOCs (ug/l)																													
2-METHYLNAPHTHALENE (SVOC)	91-57-6S	NM	--	NM	--	NM	--																						
ACENAPHTHENE	83-32-9	<2 U	--	NM	--	<2 U	--																						
ACENAPHTHYLENE	208-96-8	<1 U	--	NM	--	<1 U	--																						
ANTHRACENE	120-12-7	<1 U	--	NM	--	<1 U	--																						
BENZO(A)ANTHRACENE	56-55-3	<5 U	--	NM	--	<5 U	--																						
BENZO(A)PYRENE	50-32-8	<5 U	--	NM	--	<5 U	--																						
BENZO(B)FLUORANTHENE	205-99-2	<5 U	--	NM	--	<5 U	--																						
BENZO(G,H,I)PERYLENE	191-24-2	<10 U	--	NM	--	<10 U	--																						
BENZO(K)FLUORANTHENE	207-08-9	<5 U	--	NM	--	<5 U	--																						
CHRYSENE	218-01-9	<5 U	--	NM	--	<5 U	--																						
FLUORANTHENE	206-44-0	<1 U	--	NM	--	<1 U	--																						
FLUORENE	86-73-7	<2 U	--	NM	--	<2 U	--																						
INDENO(1,2,3-CD)PYRENE	193-39-5	<10 U	--	NM	--	<10 U	--																						
NAPHTHALENE (SVOC)	91-20-3S	<1 U	--	NM	--	<1 U	--																						
PENTACHLOROPHENOL	87-86-5	NM	--	NM	--	NM	--																						
PHENANTHRENE	85-01-8	3	[3]	NM	--	<1 U	--																						
PYRENE	129-00-0	2	--	3	--	NM	--																						

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area A															
Station Name	CAS Number													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)														--		--		--		--		--		--		--		--	
		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	<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 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	<1 U	--	NM	--	NM	--	<1 U	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	<1 U	--	NM	--	NM	--	<1 U	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	<1 U	--	NM	--	NM	--	<1 U	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5 U	--	NM	--	NM	--	<5 U	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	<20 U	--	NM	--	NM	--	<20 U	--	NM	--	NM	--
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	2.7	14	82	66	130	<1 U	--	<1 U	--	<1 U	--	100	[1,2,3,8,9,10,11,12]	<5 U	--	<1 U	--	<1 U	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5 U	--	NM	--	NM	--	<5 U	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	<1 U	--	<1 U	--	<1 U	--	280	[1,2,3,8,9,10,12]	<5 U	--	<1 U	--	<1 U	--	<5 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1 U	--	NM	--	NM	--	<1 U	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<2 U	--	NM	--	NM	--	<2 U	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5 U	--	NM	--	NM	--	<5 U	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	<1 U	--	NM	--	NM	--	<1 U	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1 U	--	NM	--	NM	--	<1 U	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	<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	570	23,000	33,000	66,000	66,000	<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)	0.14 (M)	6.1	18	12	24	<1 U	--	2.2	[8,9]	<1 U	--	<10 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	<3 U	--	<1 U	--	NM	--	2,000	[1,2,3,8,9,10]	<5 U	--	NM	--	6	--	<5 U	--
Other																													
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.1	--	<1 U	--	NM	--	23	--	1,020	--	NM	--	16	--	22	--
Water Quality Parameters																													
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area A												Area B			
Station Name	CAS Number													MW #9				MW #10				Open Ditch to Channel		MW-113		SB-101			
Field Sample ID														MW #9		MW-9		MW #10		MW-10		Open Ditch to Channel		7728 MW-113		5381 SB-101		5381 SB-101 Cleanup	
Sample Date														10/3/1990		4/23/2008		10/3/1990		4/23/2008		10/3/1990		3/6/1997		7/19/1995		7/19/1995	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	3.0	--	0.023	--	NM	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																													
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--	<2 U	--	NM	--	<2 U	--	51	[3]	<50 U	--	<25 UJ	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--	<25 U	--	<50 U	--	<25 UJ	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--	97	[1,2,4,5,6]	91	[1,2,4,5,6]	82 J	[1,2,4,5,6]
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	--	NM	--	<5 U	--	NM	--	<5 U	--	120	[1,2,6]	<50 U	--	<25 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	<5 U	--	NM	--	<5 U	--	NM	--	<5 U	--	92	[1,2,6]	<50 U	--	<25 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	<5 U	--	NM	--	<5 U	--	NM	--	<5 U	--	180	[1,2,6]	<50 U	--	<25 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	<10 U	--	NM	--	<10 U	--	NM	--	<10 U	--	<25 U	--	<50 U	--	<25 UJ	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	NM	--	<5 U	--	NM	--	<5 U	--	<25 U	--	<50 U	--	<25 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	<5 U	--	NM	--	<5 U	--	NM	--	<5 U	--	110	[1,2,6]	<50 U	--	<25 UJ	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--	230	[1,2,3,4,5,6]	<50 U	--	<25 UJ	--
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	--	NM	--	<2 U	--	NM	--	<2 U	--	96	[3]	55	[3]	56 J	[3]
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	--	NM	--	<10 U	--	NM	--	<10 U	--	<25 U	--	<50 U	--	<25 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	--	NM	--	<1 U	--	NM	--	<1 U	--	180	[3]	1,100	[1,3]	1,100 J	[1,3]
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--	280	[1,2,3]	<50 U	--	73 J	[1,3]
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--	200	[1,2,4,5,6]	<50 U	--	<25 UJ	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area A										Area B			
Station Name	CAS Number													MW #9				MW #10				Open Ditch to Channel		MW-113		SB-101			
Field Sample ID														MW #9		MW-9		MW #10		MW-10		Open Ditch to Channel		7728 MW-113		5381 SB-101		5381 SB-101 Cleanup	
Sample Date														10/3/1990		4/23/2008		10/3/1990		4/23/2008		10/3/1990		3/6/1997		7/19/1995		7/19/1995	
Sample Interval (bgs)														--		--		--		--		--		--		--		--	
		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	<1 U	--	<1 UJ	--	<1 U	--	<1 UJ	--	<1 U	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	<5 U	--	NM	--	<5 U	--	NM	--	NM	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	<20 U	--	NM	--	<20 U	--	NM	--	NM	--	NM	--	NM	--
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	2.7	14	82	66	130	6.2	[1,2,8,9]	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<5 U	--	1,800	[1,2,3,8,9,10,11,12,13]	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<5 U	--	NM	--	<5 U	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	1,200	[1,2,3,8,9,10,11,12,13]	NM	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<2 U	--	NM	--	<2 U	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	<5 U	--	NM	--	<5 U	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	<1 U	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	4,800	[1,2,3,8,9]	NM	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.14 (M)	6.1	18	12	24	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	<1 U	--	NM	--	<1 U	--	NM	--	<1 U	--	<3 U	--	5,600	[1,2,3,8,9,10,11,12]	NM	--
Other																													
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	100	[3]	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	--	NM	--	30	--	NM	--	<1 U	--	NM	--	NM	--	NM	--
Water Quality Parameters																													
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

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Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B													
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	SB-102		SB-103		SB-104		SB-105		SB-106		SB-107		SB-108		SB-109	
Field Sample ID														5382 SB-102		5383 SB-103		5384 SB-104		5385 SB-105		5386 SB-106		5387 SB-107		5388 SB-108		5389 SB-109	
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 U	--	0.003	--	<0.003 U	--	<0.003 U	--	<0.003 U	--	<0.003 U	--	0.009	--	0.012	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																													
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	<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	--	<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	--	<5 U	--	10	--	7	--
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	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	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	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	6	[3]	<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	--	<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	--	<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	--	37	[3]	<5 U	--	<5 U	--	<5 U	--	<5 U	--	23	[3]	82	[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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<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	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--

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Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B													
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	SB-102		SB-103		SB-104		SB-105		SB-106		SB-107		SB-108		SB-109	
Field Sample ID														5382 SB-102		5383 SB-103		5384 SB-104		5385 SB-105		5386 SB-106		5387 SB-107		5388 SB-108		5389 SB-109	
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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	2.7	14	82	66	130	<5 U	--	53	[1,2,3,8,9,10]	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	7	[1,2,8,9]
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	3.0	[8]	94	[1,2,3,8,9,10]	<1 U	--	<1 U	--	<1 U	--	<1 U	--	3.0	[8]	71	[3,8,9,10]
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	5	--	18	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	7	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	13	--	260	[3,8,9]	<3 U	--	5	--	<3 U	--	<3 U	--	19	--	380	[1,2,3,8,9]
Other																													
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																													
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B															
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	SB-110				SB-111		SB-112		SB-114				SB-201		SB-501		MW-101	
Field Sample ID														5390 SB-110		5390 SB-110 Cleanup		5391 SB-111		5392 SB-112		5411 SB-114		5411 SB-114 Cleanup		5409 SB-201		5407 SB-501		5417 MW-101	
Sample Date														7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/20/1995		7/20/1995		7/25/1995	
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	1.0	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	130	[1,2,3]	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	0.004	--	NM	--	<0.003 U	--	<0.003 U	--	0.029	--	NM	--	0.003	--	NM	--	0.003	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																													
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	ND	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	35	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	<25 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	34	--	10 J	--	7	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	71	[1,2,4,5,6]
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 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	<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 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	<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 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	<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 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	<25 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	<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 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	<25 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	40	[3]
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	41	[3]
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 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	<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	50	[3]	11 J	--	28	[3]	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	280	[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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	--	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<25 U	--	<5 UJ	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	<25 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<25 U	--	6 J	--	<5 U	--	<5 U	--	<25 U	--	<5 UJ	--	<5 U	--	NM	--	40	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B															
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	SB-110				SB-111		SB-112		SB-114				SB-201		SB-501		MW-101	
Field Sample ID														5390 SB-110		5390 SB-110 Cleanup		5391 SB-111		5392 SB-112		5411 SB-114		5411 SB-114 Cleanup		5409 SB-201		5407 SB-501		5417 MW-101	
Sample Date														7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/19/1995		7/20/1995		7/20/1995		7/25/1995	
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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1 U	--	<1 U	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	2.7	14	82	66	130	<5 U	--	NM	--	<5 U	--	<5 U	--	13	[1,2,3,8,9]	NM	--	35	[1,2,3,8,9,10]	NM	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	2	--	NM	--	<1 U	--	<1 U	--	12	[8,9]	NM	--	24	[3,8,9]	NM	--	11	[8,9]
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1 U	--	<1 U	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	2	--	NM	--	1	--	<1 U	--	2	--	NM	--	40	--	NM	--	2	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<1 U	--	<1 U	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	12	--	NM	--	NM	--	NM	--	42	--	NM	--	92	[3,8]	NM	--	60	[3]
Other																													
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																													
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B																	
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	MW-102		MW-103		MW-104		MW-105		MW-106		MW-108		MW-109		MW-110		MW-112	
Field Sample ID														5418 MW-102		5419 MW-103		5420 MW-104		8795 MW-105		8775 MW-106		8777 MW-108		8778 MW-109		8779 MW-110		8781 MW-112	
Sample Date														7/25/1995		7/25/1995		7/25/1995		10/29/1996		10/11/1996		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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 U	--	<0.003 U	--	0.006	--	160	[1,2,3]	6.0	[1,2]	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																															
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	16	--	<5 U	--	6	--	<25 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	--	8	--	<5 U	--	<5 U	--	<25 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	--	<5 U	--	9	--	<25 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	--	11	[1,2,6]	24	[1,2,6]	<25 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	--	11	[1,2,6]	22	[1,2,6]	<25 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	--	10	[1,2,6]	24	[1,2,6]	<25 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	--	8	[1,2,6]	13	[1,2,6]	<25 U	--	<5 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	8	[1,2,6]	18	[1,2,6]	<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	--	<5 U	--	<5 U	--	12	[1,2,6]	25	[1,2,6]	<25 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	--	7	[3]	24	[3]	56	[3]	<25 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	--	<5 U	--	9	--	<25 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	--	9	[1,2,6]	15	[1,2,6]	<25 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	--	85	[3]	<5 U	--	18	[3]	410	[3]	11	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	<5 U	--	<5 U	--	27	[3]	9	[3]	36	[3]	41	[3]	12	[3]
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	5	--	<5 U	--	<5 U	--	<5 U	--	6	--	19	--	40	--	<25 U	--	10	--

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Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B																	
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	MW-102		MW-103		MW-104		MW-105		MW-106		MW-108		MW-109		MW-110		MW-112	
Field Sample ID														5418 MW-102		5419 MW-103		5420 MW-104		8795 MW-105		8775 MW-106		8777 MW-108		8778 MW-109		8779 MW-110		8781 MW-112	
Sample Date														7/25/1995		7/25/1995		7/25/1995		10/29/1996		10/11/1996		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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	2.7	14	82	66	130	<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	[1,2,3,8,9,10,11,12]	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	<1 U	--	2	--	<1 U	--	28	[3,8,9]	22	[3,8,9]	<1 U	--	9.0	[8,9]	430	[1,2,3,8,9,10,12,13]	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	<1 U	--	3	--	<1 U	--	8	--	68	--	<1 U	--	21	--	28	--	1	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	<3 U	--	11	--	<3 U	--	72	[3]	500	[1,2,3,8,9]	<3 U	--	20	--	1,700	[1,2,3,8,9,10]	<3 U	--
Other																															
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	720	[3]	100	[3]	20	--	2,000	[3]	400	[3]	20	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																															
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B																	
Station Name	CAS Number													MW-301								MW-302								MW-303			
Field Sample ID		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	5421 MW-301		MW-301 10141		QMCP MW-301		QMCP-MW-301		5422 MW-302		MW-302 10142		QMCP MW-302		QMCP-MW-302		5423 MW-303		8787 MW-303D	
Sample Date														7/25/1995		7/9/1998		9/6/2018		9/23/2020		7/25/1995		7/9/1998		9/6/2018		9/23/2020		7/25/1995		10/11/1996	
Sample Interval (bgs)														--		--		30 - 35 ft		30 - 35 ft		--		--		1.7 - 6.7 ft		1.7 - 6.7 ft		--		--	
														Result	Exceeds	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	NM	--	NM	--	<1.0 U	--	NM	--	NM	--	NM	--	1.1	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	99	--	NM	--	NM	--	NM	--	17	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	66,000	--	NM	--	NM	--	NM	--	17,000	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	2.4	--	NM	--	NM	--	NM	--	<1.0 U	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	5.6	[3]	NM	--	NM	--	NM	--	110	[3]	NM	--	NM	--	NM	--
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	NM	--	NM	--	<1.0 U	--	NM	--	NM	--	NM	--	1.8	--	NM	--	NM	--	<3 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	18,000	--	NM	--	NM	--	NM	--	1,900	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	1,700	--	NM	--	NM	--	NM	--	2,700	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	NM	--	NM	--	NM	--	<1.0 U	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	18,000	--	NM	--	NM	--	NM	--	350,000	[1]	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	NM	--	NM	--	NM	--	<5.0 U	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																																	
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--	<5 UJ	--	<5.1 U	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<5 U	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<5 U	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<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	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<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	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<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	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<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	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<5 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<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	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<5 U	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<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	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<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	NM	--	NM	--	<2.0 U	--	<2 U	--	NM	--	NM	--	<2 UJ	--	<2.1 U	--	NM	--	<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	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<5 U	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1 UJ	--	<1 U	--	NM	--	<5 U	--

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Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B																	
Station Name	CAS Number													MW-301								MW-302								MW-303			
Field Sample ID														5421 MW-301		MW-301 10141		QMCP MW-301		QMCP-MW-301		5422 MW-302		MW-302 10142		QMCP MW-302		QMCP-MW-302		5423 MW-303		8787 MW-303D	
Sample Date														7/25/1995		7/9/1998		9/6/2018		9/23/2020		7/25/1995		7/9/1998		9/6/2018		9/23/2020		7/25/1995		10/11/1996	
Sample Interval (bgs)														--		--		30 - 35 ft		30 - 35 ft		--		--		1.7 - 6.7 ft		1.7 - 6.7 ft		--		--	
		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	Result	Exceeds	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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	<20 U	--	<20 U	--	NM	--	NM	--	<20 U	--	<20 U	--	NM	--	NM	--
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	2.7	14	82	66	130	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<2.0 U	--	<2 U	--	NM	--	NM	--	<2.0 U	--	<2 U	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	<1 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	NM	--	NM	--	ND	--	<0 U	--	NM	--	NM	--	ND	--	<0 U	--	NM	--	<3 U	--
Other																																	
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	48	--	1,200	[3]	NM	--	NM	--	530	[3]	16	--	NM	--	NM	--	630	[3]	170	[3]
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																																	
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	10.8	--	11.7	--	NM	--	NM	--	15.6	--	14	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	0.394	--	0.459	--	NM	--	NM	--	1.380	--	1.700	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	64.6	--	87.5	--	NM	--	NM	--	0.8	--	6.6	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	7.82	--	7.81	--	NM	--	NM	--	7.64	--	5.01	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	2.65	--	4.38	--	NM	--	NM	--	7.6	--	8.3	--	NM	--	NM	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B													
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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]	NM	--	NM	--	NM	--	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																													
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<5 U	--	<5 U	--	<5 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<5 U	--	<5 U	--	NM	--	NM	--	NM	--	<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	--	NM	--	NM	--	NM	--	<5 U	--	<5 U	--	<5 U	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B													
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential MSSL$_{12}$	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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	2.7	14	82	66	130	<5 U	--	<5 U	--	NM	--	NM	--	NM	--	<5 U	--	<5 U	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	<1 U	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	<1 U	--	<1 U	--	NM	--	NM	--	NM	--	<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)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	<3 U	--	<3 U	--	NM	--	NM	--	NM	--	<3 U	--	<3 U	--	3	--
Other																													
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	1,100	[3]	240	[3]	350	[3]	29	--	220	[3]	120	[3]	1,400	[3]	34	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																													
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B											
Station Name	CAS Number													MW-501										MW-502	
Field Sample ID		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	8782 MW-501		MW-501 10136		QMCP MW-501		QMCP MW-501-DUP1		QMCP-MW-501		8783 MW-502		MW-502 10137	
Sample Date														10/11/1996		7/9/1998		9/7/2018		9/7/2018		9/23/2020		10/11/1996		7/9/1998	
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
Inorganics - Metals (ug/l)																											
ARSENIC	7440-38-2	10 (A)	10 (A)	10	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	1.3	--	1.3	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	40	--	43	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<0.2 U	--	<0.2 U	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	26,000	--	28,000	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	9.7	[3]	13	[3]	NM	--	NM	--	NM	--
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	--	NM	--	6.0	[1,2]	<3 U	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	4,800	--	5,300	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	<0.2 U	--	<0.2 U	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	1,300	--	1,400	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<0.2 U	--	<0.2 U	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	7,000	--	7,400	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	7	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																											
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<5.1 U	--	<5.0 U	--	<5 U	--	NM	--	NM	--
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	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<10 U	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<10 U	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<10 U	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<10 U	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<2.0 U	--	<2.0 U	--	<2 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<10 U	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<10 U	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--

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

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Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B													
Station Name	CAS Number													MW-501										MW-502			
Field Sample ID		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	8782 MW-501		MW-501 10136		QMCP MW-501		QMCP MW-501-DUP1		QMCP-MW-501		8783 MW-502		MW-502 10137	
Sample Date														10/11/1996		7/9/1998		9/7/2018		9/7/2018		9/23/2020		10/11/1996		7/9/1998	
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
Organics - VOCs (ug/l)																											
1,1,1-TRICHLOROETHANE	71-55-6	200 (A)	200 (A)	89	660,000	1,300,000 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5.0 U	--	<5 U	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	<20 UJ	--	<20 U	--	<20 U	--	NM	--	NM	--
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	2.7	14	82	66	130	<5 U	--	<5 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<5 U	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5.0 U	--	<5 U	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<2.0 U	--	<2.0 U	--	<2 U	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5.0 U	--	<5 U	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	3	--	7.1	--	<1.0 U	--	<1.0 U	--	1.1	--	11	--	<1 U	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	<1.0 U	--	<1.0 U	--	<1 U	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	<3 U	--	<3 U	--	ND	--	ND	--	<0 U	--	<3 U	--	<3 U	--
Other																											
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	40	--	NM	--	NM	--	NM	--	NM	--	<10 U	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																											
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	18.5	--	NM	--	15.8	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	0.190	--	NM	--	0.292	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	0.8	--	NM	--	2.7	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	6.55	--	NM	--	6.73	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	5.3	--	NM	--	2.3	--	NM	--	NM	--

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Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B											
Station Name	CAS Number													MW-503								MW-504			
Field Sample ID		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	8784 MW-503		MW-503 10138		QMCP MW-503		QMCP-MW-503		8785 MW-504		MW-504 10139	
Sample Date														10/11/1996		7/9/1998		9/7/2018		9/23/2020		10/11/1996		7/9/1998	
Sample Interval (bgs)														--		--		1.5 - 6.5 ft		1.5 - 6.5 ft		--		--	
														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	NM	--	NM	--	1.9	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	49	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	35,000	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<1.0 U	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	25	[3]	NM	--	NM	--	NM	--
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	--	<1.0 U	--	NM	--	<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	NM	--	NM	--	5,500	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	1,900	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	16,000	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	12	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																									
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--
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	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	<5 U	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	<5 U	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	<5 U	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	--	NM	--	<2.0 U	--	<2 U	--	<5 U	--	NM	--
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	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<5 U	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	<5 U	--	NM	--	<1.0 U	--	<1 U	--	<5 U	--	NM	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B											
Station Name	CAS Number													MW-503								MW-504			
Field Sample ID														8784 MW-503		MW-503 10138		QMCP MW-503		QMCP-MW-503		8785 MW-504		MW-504 10139	
Sample Date														10/11/1996		7/9/1998		9/7/2018		9/23/2020		10/11/1996		7/9/1998	
Sample Interval (bgs)														--		--		1.5 - 6.5 ft		1.5 - 6.5 ft		--		--	
		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	<20 U	--	<20 U	--	NM	--	NM	--
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	2.7	14	82	66	130	<5 U	--	<5 U	--	<1.0 U	--	<1 U	--	<5 U	--	<5 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	<1 U	--	<1 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<2.0 U	--	<2 U	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5 U	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	<1 U	--	<1 U	--	<1.0 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)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	<1.0 U	--	<1 U	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	<3 U	--	<3 U	--	ND	--	<0 U	--	<3 U	--	<3 U	--
Other																									
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<10 U	--	NM	--	NM	--	NM	--	40	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																									
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	18.3	--	16	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	0.256	--	0.334	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	8.4	--	17.9	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	6.56	--	4.38	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	160	--	14.8	--	NM	--	NM	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B													
Station Name	CAS Number													MW-505								QMCP-GW07		QMCP-GW67		QMCP-GW68	
Field Sample ID		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	8786 MW-505		MW-505 10140		QMCP MW-505		QMCP-MW-505		QMCP-MW-505-DUP		QMCP-GW7 3-7		QMCP-GW67 3-7		QMCP-GW68 3-7	
Sample Date														10/11/1996		7/9/1998		9/6/2018		9/23/2020		9/23/2020		9/11/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)														--		--		2.5 - 7.5 ft		2.5 - 7.5 ft		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	NM	--	NM	--	2.4	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	54	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	<0.2 U	--	0.4	--	<0.2 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	34,000	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<1.0 U	--	NM	--	NM	--	7.4	--	42	[3]	5.3	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	98	[3]	NM	--	NM	--	NM	--	NM	--	NM	--
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	4	--	5.0	[1,2]	1.1	--	NM	--	NM	--	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	NM	--	NM	--	5,300	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	3,100	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	35,000	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																													
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<5.0 U	--	<5 U	--	<5 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	--	NM	--	<1.0 U	--	<1 U	--	<1 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	--	NM	--	<1.0 U	--	<1 U	--	<1 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	--	NM	--	<1.0 U	--	<1 U	--	<1 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	--	NM	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	23 J	[1,2,6]	<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	--	NM	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	19 J	[1,2,6]	<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	--	NM	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	30 J	[1,2,6]	<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	--	NM	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	4.2 J	[1,2,6]	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<5 U	--	NM	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	12 J	[1,2,6]	<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	--	NM	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	21 J	[1,2,6]	<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	--	NM	--	<1.0 U	--	<1 U	--	<1 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	--	NM	--	<1.0 U	--	<1 U	--	<1 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	--	NM	--	<2.0 U	--	<2 U	--	<2 U	--	<2.0 U	--	4.5 J	[1,2,6]	<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	--	NM	--	<1.0 U	--	<1 U	--	<1 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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<5 U	--	NM	--	<1.0 U	--	<1 U	--	<1 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	--	NM	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	36 J	--	<1.0 U	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area B													
Station Name	CAS Number													MW-505								QMCP-GW07		QMCP-GW67		QMCP-GW68	
Field Sample ID		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	8786 MW-505		MW-505 10140		QMCP MW-505		QMCP-MW-505		QMCP-MW-505-DUP		QMCP-GW7 3-7		QMCP-GW67 3-7		QMCP-GW68 3-7	
Sample Date														10/11/1996		7/9/1998		9/6/2018		9/23/2020		9/23/2020		9/11/2018		9/11/2018		9/11/2018	
Sample Interval (bgs)														--		--		2.5 - 7.5 ft		2.5 - 7.5 ft		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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 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	NM	--	NM	--	<5.0 U	--	<5 U	--	<5 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	<20 U	--	<20 U	--	<20 U	--	<20 U	--	<20 U	--	<20 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	2.7	14	82	66	130	<5 U	--	<5 U	--	<1.0 U	--	<1 U	--	<1 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	NM	--	NM	--	<5.0 U	--	<5 U	--	<5 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	7.6	45	450	210	420	<1 U	--	<1 U	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 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	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 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	NM	--	NM	--	<2.0 U	--	<2 U	--	<2 U	--	<2.0 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5.0 U	--	<5 U	--	<5 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 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	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 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	3	96	96	190	380	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 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	570	23,000	33,000	66,000	66,000	<1 U	--	<1 U	--	<1.0 U	--	<1 U	--	<1 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)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	<1.0 U	--	<1 U	--	<1 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	<3 U	--	<3 U	--	ND	--	<0 U	--	<0 U	--	ND	--	ND	--	ND	--
Other																													
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	30	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																													
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	17.5	--	16.7	--	16.7	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	0.320	--	0.290	--	0.290	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	1.0	--	7.0	--	7.0	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	7.24	--	7.37	--	7.37	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	1.5	--	2.74	--	2.74	--	NM	--	NM	--	NM	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area E								Area F	
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	QMCP-GW20		QMCP-GW21		QMCP-GW61				QMCP-GW64	
Field Sample ID														QMCP-GW 20 5-9ft		QMCP-GW 21 4-8ft		QMCP-GW 61 5-9ft		QMCP-GW 61 5-9ft DUP		QMCP-GW 64 5-9ft	
Sample Date														9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018	
Sample Interval (bgs)														5 - 9 ft		4 - 8 ft		5 - 9 ft		5 - 9 ft		5 - 9 ft	
														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	2.0	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	1.8	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
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	0.3	--	<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	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	<1.0 U	--	1.3	--	1.8	--	13	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	17,000	[1,2,3]	1,900	[1,2,3]	4,200	[1,2,3]	4,200	[1,2,3]	4,900	[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	9.3	[1,2]	<1.0 U	--	<1.0 U	--	<1.0 U	--	8.9	[1,2]
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	1,600	[1,2,3]	360	[1,2]	450	[1,2]	460	[1,2]	1,400	[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	4.3	8.5	1.7	[3,8,9,10]	0.2	[3,8,9]	0.4	[3,8,9]	0.3	[3,8,9]	1	[3,8,9]
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	19	[3]	4	[3]	9	[3]	8.9	[3]	12	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	94	[3]	5.9	--	95	[3]	99	[3]	58	--
Organics - PCBs as Aroclors (ug/l)																							
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	--	NM	--	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 UJ	--	<5.0 U	--	<5.0 U	--	<5.1 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 UJ	--	<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 UJ	--	<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	--
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 UJ	--	<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 UJ	--	<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 UJ	--	<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	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<1 UJ	--	<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	--
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	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	<1 UJ	--	<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	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<1 UJ	--	<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	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	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	--
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	--

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

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TABLE 5
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area E								Area F	
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	QMCP-GW20		QMCP-GW21		QMCP-GW61		QMCP-GW61		QMCP-GW64	
Field Sample ID														QMCP-GW 20 5-9ft		QMCP-GW 21 4-8ft		QMCP-GW 61 5-9ft		QMCP-GW 61 5-9ft DUP		QMCP-GW 64 5-9ft	
Sample Date														9/7/2018		9/7/2018		9/7/2018		9/7/2018		9/7/2018	
Sample Interval (bgs)														5 - 9 ft		4 - 8 ft		5 - 9 ft		5 - 9 ft		5 - 9 ft	
														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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	<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 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	<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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	<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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	<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	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	<20 U	--	<20 U	--	<20 U	--	<20 U	--	<20 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	2.7	14	82	66	130	<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	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	<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 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	<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	--
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	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	<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	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	<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	570	23,000	33,000	66,000	66,000	<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)	0.14 (M)	6.1	18	12	24	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	<3.0 U	--	ND	--	ND	--	ND	--	ND	--
Other																							
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																							
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.2	--	17.7	--	14.6	--	NM	--	17.4	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.280	--	0.700	--	0.900	--	NM	--	0.710	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.9	--	2.3	--	21.7	--	NM	--	5.1	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.19	--	7.21	--	7.08	--	NM	--	7.13	--
TURBIDITY (nTu)	--	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area H													
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	GP-1		GP-2		GP-3		GP-4		GP-5		MW-1		MW-2		MW-3	
Field Sample ID														GP-1		GP-2		GP-3		GP-4		GP-5		MW-1		MW-2		MW-3	
Sample Date														6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/13/2012		11/7/2013		11/7/2013		11/7/2013	
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	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<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	--	<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	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	20	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--	<10 U	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.66	[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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	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	--	0.59	[3]	<0.2 U	--	<0.2 U	--	<0.2 U	--	1.5	[3]	0.51	[3]	0.64	[3]
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																													
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area H													
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	GP-1		GP-2		GP-3		GP-4		GP-5		MW-1		MW-2		MW-3	
Field Sample ID														GP-1		GP-2		GP-3		GP-4		GP-5		MW-1		MW-2		MW-3	
Sample Date														6/13/2012		6/13/2012		6/13/2012		6/13/2012		6/13/2012		11/7/2013		11/7/2013		11/7/2013	
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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	<1 U	--	<1 U	--	<1 U	--	<1 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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	<1 U	--	<1 U	--	<1 U	--	<1 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 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--	<5 U	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	<50 U	--	<50 U	--	<50 U	--	58	--	<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	2.7	14	82	66	130	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	<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 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	<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	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
NAPHTHALENE (VOC)	91-20-3V	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	--	<5 U	--	<5 U	--	<5 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	<1 U	--	<1 U	--	<1 U	--	<1 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 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<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	3	96	96	190	380	<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	570	23,000	33,000	66,000	66,000	<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)	0.14 (M)	6.1	18	12	24	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--	<1 U	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Other																													
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																													
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area M													
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	OW #1		OW #2		OW #3		PW #2							
Field Sample ID														OW1		OW2		OW3		#2		#2		#2		#2	
Sample Date														12/14/1994		12/14/1994		12/14/1994		8/28/1994		1/5/1995		6/7/1995		9/11/1995	
Sample Interval (bgs)														--		--		--		--		--		--		--	
														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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																											
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHENE	83-32-9	1,300	3,800	38	4,200 (S)	4,200 (S)	4,240	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACENAPHTHYLENE	208-96-8	52	150	ID	3,900 (S)	3,900 (S)	3,930	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ANTHRACENE	120-12-7	43 (S)	43 (S)	ID	43 (S)	43 (S)	43.4	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(A)ANTHRACENE	56-55-3	2.1 (Q)	8.5 (Q)	ID	NLV	NLV	9.4 (Q)	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CHRYSENE	218-01-9	1.6 (Q,S)	1.6 (Q,S)	ID	ID	ID	1.6 (Q)	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORANTHENE	206-44-0	210 (S)	210 (S)	1.6	210 (S)	210 (S)	206	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
FLUORENE	86-73-7	880	2,000 (S)	12	2,000 (S)	2,000 (S)	1,980	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (SVOC)	91-20-3S	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	<0.06 U	--	<0.04 U	--	<0.04 U	--	0.55	--	0.8	--	0.50	--	0.54	--	0.43	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
PYRENE	129-00-0	140 (S)	140 (S)	ID	140 (S)	140 (S)	135	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--

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Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area M													
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	OW #1		OW #2		OW #3		PW #2							
Field Sample ID														OW1		OW2		OW3		#2		#2		#2		#2	
Sample Date														12/14/1994		12/14/1994		12/14/1994		8/28/1994		1/5/1995		6/7/1995		9/11/1995	
Sample Interval (bgs)														--		--		--		--		--		--		--	
														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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
2-METHYLNAPHTHALENE (VOC)	91-57-6V	260	750	19	25,000 (S)	25,000 (S)	24,600	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	2.7	14	82	66	130	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ISOPROPYLBENZENE	98-82-8	800	2,300	28	56,000 (S)	56,000 (S)	56,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
M,P-XYLENE	1330-20-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																											
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																											
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area M															
Station Name	CAS Number													PW #2						PW #3								QMCP-GW37		QMCP-GW38	
Field Sample ID														#2		#2		Dollar Bay #2		#3		#3		#3		Dollar Bay #3		QMCP-GW37 5-9		QMCP-GW38 5-9	
Sample Date														3/19/1996		6/25/1996		5/20/2010		9/12/1994		10/18/1994		4/15/1997		5/20/2010		9/11/2018		9/11/2018	
Sample Interval (bgs)														--		--		33.2 - 44 ft		--		--		--		46 - 64 ft		5 - 9 ft		5 - 9 ft	
		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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	NM	--	NM	--	4.7	--	NM	--	NM	--	NM	--	<1 U	--	19	[1,2,3]	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	NM	--	NM	--	35	--	NM	--	NM	--	NM	--	33	--	NM	--	NM	--
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	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--	<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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	5.2	--	3.2	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	5.6	[3]	NM	--	NM	--	NM	--	6.5	[3]	1,400	[1,2,3]	42	[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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	8.4	[1,2]	1.0	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5 U	--	NM	--	NM	--	NM	--	7.5	--	67	[1,2]	280	[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	4.3	8.5	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--	<0.2 U	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<0.2 U	--	NM	--	NM	--	NM	--	<0.2 U	--	0.3	[3]	<0.2 U	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	62	--	NM	--	NM	--	NM	--	62	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<10 U	--	NM	--	NM	--	NM	--	<10 U	--	12	--	<5.0 U	--
Organics - PCBs as Aroclors (ug/l)																															
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	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	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	NM	--	NM	--	<5 U	--	NM	--	NM	--	NM	--	<5 U	--	<5.1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 UJ	--	NM	--	NM	--	NM	--	<1 UJ	--	<1.0 U	--	<1.0 U	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<2 UJ	--	NM	--	NM	--	NM	--	<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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	0.51	--	0.35	--	NM	--	0.29	--	0.29	--	<0.1 U	--	NM	--	NM	--	NM	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	<1.0 U	--	<1.0 U	--

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Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area M															
Station Name	CAS Number													PW #2						PW #3								QMCP-GW37		QMCP-GW38	
Field Sample ID														#2		#2		Dollar Bay #2		#3		#3		#3		Dollar Bay #3		QMCP-GW37 5-9		QMCP-GW38 5-9	
Sample Date														3/19/1996		6/25/1996		5/20/2010		9/12/1994		10/18/1994		4/15/1997		5/20/2010		9/11/2018		9/11/2018	
Sample Interval (bgs)														--		--		33.2 - 44 ft		--		--		--		46 - 64 ft		5 - 9 ft		5 - 9 ft	
		[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	<1.0 U	--	<1.0 U	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<5 U	--	NM	--	NM	--	NM	--	<5 U	--	<5.0 U	--	<5.0 U	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	NM	--	NM	--	<20 U	--	NM	--	NM	--	NM	--	<20 U	--	<20 U	--	<20 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	2.7	14	82	66	130	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	<1.0 U	--	<1.0 U	--
CYCLOHEXANE	110-82-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5 U	--	NM	--	NM	--	NM	--	<5 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	7.6	45	450	210	420	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	<1.0 U	--	<1.0 U	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<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	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	NM	--	NM	--	<2 U	--	NM	--	NM	--	NM	--	<2 U	--	<2.0 U	--	<2.0 U	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<5 U	--	NM	--	NM	--	NM	--	<5 U	--	<5.0 U	--	<5.0 U	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	<1.0 U	--	<1.0 U	--
O-XYLENE	95-47-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	3	96	96	190	380	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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	570	23,000	33,000	66,000	66,000	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 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)	0.14 (M)	6.1	18	12	24	NM	--	NM	--	<1 U	--	NM	--	NM	--	NM	--	<1 U	--	<1.0 U	--	<1.0 U	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	NM	--	NM	--	ND	--	NM	--	NM	--	NM	--	ND	--	ND	--	ND	--
Other																															
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	0.93	--	NM	--	NM	--	NM	--	1.29	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																															
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	13.5	--	14.6	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	0.235	--	0.256	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	40.1	--	13.0	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	7.42	--	6.89	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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
Summary of Groundwater Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area M								Area O									
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	QMCP-GW39		QMCP-GW40		QMCP-GW41		QMCP-GW42		E-1		E-2		E-4		E-5		Lake	
Field Sample ID														QMCP-GW39 8-12ft		QMCP-GW40 12-16		QMCP-GW41 9-13		QMCP-GW42 12-16		E-1		E-2		E-4		E-5		Lake	
Sample Date														9/11/2018		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)														8 - 12 ft		12 - 16 ft		9 - 13 ft		12 - 16 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	16	[1,2,3]	14	[1,2,3]	8.8	--	2.7	--	NM	--	NM	--	NM	--	NM	--	NM	--
BARIUM	7440-39-3	2,000 (A,B)	2,000 (A,B)	200 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	0.4	--	<0.2 U	--	<0.2 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
CALCIUM	7440-70-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	16	--	120	[1,2,3]	7.3	--	4.1	--	NM	--	NM	--	NM	--	NM	--	NM	--
COPPER	7440-50-8	4.0 (B,E)	4.0 (B,E)	14 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	210	[3]	4,200	[1,2,3]	46	[3]	39	[3]	NM	--	NM	--	NM	--	NM	--	NM	--
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	2.0	--	9	[1,2]	1.4	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
MAGNESIUM	7439-95-4	400,000 (B)	1,100,000 (B)	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
MANGANESE	7439-96-5	50 (B,E)	50 (B,E)	1,000 (B,G,X)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	220	[1,2]	970	[1,2]	400	[1,2]	200	[1,2]	NM	--	NM	--	NM	--	NM	--	NM	--
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	4.3	8.5	NM	--	<0.2 U	--	<0.2 U	--	<0.2 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
POTASSIUM	7440-09-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SELENIUM	7782-49-2	50 (A,B)	50 (A,B)	5 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
SILVER	7440-22-4	34 (B)	98 (B)	0.2 (B,M)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	<0.2 U	--	0.7	[3]	0.4	[3]	<0.2 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
SODIUM	7440-23-5	230,000 (HH)	350,000	NA	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
STRONTIUM	7440-24-6	4,600 (B)	13,000 (B)	21,000 (B)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
ZINC	7440-66-6	2,400 (B)	5,000 (B,E)	63 (B,G)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	22	--	160	[3]	8.4	--	<5.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
Organics - PCBs as Aroclors (ug/l)																															
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	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
BENZO(K)FLUORANTHENE	207-08-9	1.0 (M,Q)	1.0 (M,Q)	NA	NLV	NLV	0.8 (Q)	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	NM	--	NM	--	NM	--	<20 UJ	--	<0.04 U	--	<0.04 U	--	0.05	--	<0.04 U	--	<0.04 U	--
PHENANTHRENE	85-01-8	52	150	2.0 (M)	1,000 (S)	1,000 (S)	1,000	NA	NA	NA	NA	NA	NA	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 UJ	--	NM	--	NM	--	NM	--	NM	--	NM	--

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Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EGLE Part 201 Generic Cleanup Criteria						Media-Specific Volatilization to Indoor Air Interim Action Screening Levels						Area M								Area O									
Station Name	CAS Number	[1] Residential Drinking Water Criteria	[2] Nonresidential Drinking Water Criteria	[3] Groundwater Surface Water Interface Criteria	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	[6] Water Solubility	[8] Shallow Groundwater Residential MSSL	[9] Shallow Groundwater Nonresidential MSSL	[10] Groundwater Residential MSSL	[11] Groundwater Residential TS MSSL	[12] Groundwater Nonresidential MSSL	[13] Groundwater Nonresidential $MSSL_{12}$	QMCP-GW39		QMCP-GW40		QMCP-GW41		QMCP-GW42		E-1		E-2		E-4		E-5		Lake	
Field Sample ID														QMCP-GW39 8-12ft		QMCP-GW40 12-16		QMCP-GW41 9-13		QMCP-GW42 12-16		E-1		E-2		E-4		E-5		Lake	
Sample Date														9/11/2018		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)														8 - 12 ft		12 - 16 ft		9 - 13 ft		12 - 16 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 (S)	1,330,000	180	500	8,600	8,600	24,000	24,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
1,2,3-TRIMETHYLBENZENE	526-73-8	NA	NA	NA	NA	NA	NA	43 (JT)	67 (JT)	800 (JT)	2,400 (JT)	2,300 (JT)	4,700 (JT)	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	44 (JT)	440 (JT)	1,300 (JT)	1,300 (JT)	2,600 (JT)	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
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 (JT)	30 (JT)	310 (JT)	940 (JT)	920 (JT)	1,800 (JT)	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--	NM	--	NM	--	NM	--	NM	--
ACETONE	67-64-1	730 (I)	2100 (I)	1700 (I)	1.0E+9 (D,I,S)	1.0E+9 (D,I,S)	1.0E+9 (I)	50,000	62,000	1.20E+07	1.20E+07	2.50E+07	2.50E+07	<20 U	--	<20 U	--	<20 U	--	<20 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	2.7	14	82	66	130	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--	NM	--	NM	--	NM	--	NM	--
ETHYLBENZENE	100-41-4	74 (E,I)	74 (E,I)	18 (I)	110,000 (I)	170,000 (I,S)	169,000 (I)	2.8	7.6	45	450	210	420	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
HEXANE	110-54-3	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000	29	85	29 (GW)	33	85 (GW)	170 (GW)	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--	NM	--	NM	--	NM	--	NM	--
NAPHTHALENE (VOC)	91-20-3V	520	1,500	11	31,000 (S)	31,000 (S)	31,000	NA	NA	NA	NA	NA	NA	<5.0 U	--	<5.0 U	--	<5.0 U	--	<5.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
N-PROPYLBENZENE	103-65-1	80 (I)	230 (I)	ID	ID	ID	NA	43	83	4100	12000	8100	8100	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
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	--	NM	--	NM	--	NM	--	NM	--	NM	--
TETRACHLOROETHYLENE	127-18-4	5.0 (A)	5.0 (A)	11 (X)	25,000	170,000	200,000	1.5	3	96	96	190	380	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
TOLUENE	108-88-3	790 (E,I)	790 (E,I)	270 (I)	530,000 (I,S)	530,000 (I,S)	526,000 (I)	300	570	23,000	33,000	66,000	66,000	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
TRICHLOROETHYLENE	79-01-6	5.0 (A)	5.0 (A)	29 (X)	2,200	4,900	1,100,000	0.073 (M)	0.14 (M)	6.1	18	12	24	<1.0 U	--	<1.0 U	--	<1.0 U	--	<1.0 U	--	NM	--	NM	--	NM	--	NM	--	NM	--
XYLENE - TOTAL	1330-20-7	280 (E,I)	280 (E,I)	49 (I)	190,000 (I,S)	190,000 (I,S)	186,000 (I)	75 (J)	120 (J)	1,200 (J)	3,600 (J)	3,500 (J)	7,100 (J)	ND	--	ND	--	ND	--	ND	--	NM	--	NM	--	NM	--	NM	--	NM	--
Other																															
CHLORIDE (mg/l)	16887-00-6	250,000 (E)	250,000 (E)	50 (FF)	NLV	NLV	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
NITROGEN (mg/l)	7727-37-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
HYDROCARBONS, TOTAL (mg/l)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--
Water Quality Parameters																															
TEMPERATURE (°C)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.5	--	13.1	--	13.8	--	13.9	--	NM	--	NM	--	NM	--	NM	--	NM	--
CONDUCTIVITY (mS/cm)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.200	--	0.190	--	0.204	--	0.103	--	NM	--	NM	--	NM	--	NM	--	NM	--
DISSOLVED OXYGEN (%)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	87.9	--	70.0	--	7.0	--	39.7	--	NM	--	NM	--	NM	--	NM	--	NM	--
pH	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.35	--	6.48	--	6.79	--	7.28	--	NM	--	NM	--	NM	--	NM	--	NM	--
TURBIDITY (nTu)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	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.

TABLE 5
Summary of Groundwater Analytical Results
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. Updated December 21, 2020.

- 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.

- **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
[8] Shallow Groundwater Residential MSSL
[9] Shallow Groundwater Nonresidential MSSL
[10] Groundwater Residential MSSL
[11] Groundwater Residential TS MSSL
[12] Groundwater Nonresidential MSSL
[13] Groundwater Nonresidential $MSSL_{12}$
[14] Groundwater Nonresidential TS MSSL

Evaluation based on EGLE Criteria at time of Project completion.

-- = No Exceedances
ND = Not Detected
NM = Not Measured
bgs = Below ground surface
ft = Feet
PCBs = Polychlorinated biphenyls
SVOC = Semi-volatile organic compound
VOC = Volatile organic compound
ug/l = Micrograms per liter
mg/l = Milligrams per liter
°C = Degrees Celsius
mS/cm = MilliSiemens per centimeter
% = Percentage
nTu = Nephelometric Turbidity Unit
pH = pH acid-base scale
MSSL = Media-Specific Volatilization to Indoor Air Interim Action Screening Level
TS MSSL = Time Sensitive Media-Specific Volatilization to Indoor Air 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)

(FF) = The chloride GSI criterion shall be 125 mg/l when the discharge is to surface waters of the state designated as public water supply sources or 50 mg/l when the discharge is to the Great Lakes or connecting waters. Chloride GSI criteria shall not apply for surface waters of the state that are not designated as a public water supply source, however, the total dissolved solids criterion is applicable.

(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 $CaCO_3$/L, use 400 mg $CaCO_3$/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 $CaCO_3$/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.

MSSL Footnotes:

GW = The calculated value for a hazardous substance based upon shallow groundwater is considered protective when it is greater than the calculated value for groundwater.

J = Hazardous substance may be present in several isomer forms. Isomer-specific concentrations must be added together for comparison to screening level.

JT = Hazardous substance may be present in several isomer forms. Screening levels may be used for the individual isomer provided that it is the sole isomer detected; however, when multiple isomers are detected in a medium, the isomer-specific concentrations must be added together and compared to the most restrictive screening level of the detected isomers.

Laboratory Footnotes:

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

TABLE 5
Summary of Groundwater Analytical Results
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 (December 2020)	[1] Residential Drinking Water Criteria	YES
	[2] Nonresidential Drinking Water Criteria	YES
	[3] Groundwater Surface Water Interface Criteria	YES
	[4] Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	YES
	[5] Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	YES
	[6] Water Solubility	YES
	[7] Flammability and Explosivity Screening	NO
Media-Specific Volatilization to Indoor Air Interim Action Screening Levels (March 2021)	[8] Shallow Groundwater Residential Media-Specific Screening Level (MSSL)	YES
	[9] Shallow Groundwater Nonresidential MSSL	YES
	[10] Groundwater Residential MSSL	YES
	[11] Groundwater Residential Time Sensitive Media-Specific Screening Level (TS MSSL)	YES
	[12] Groundwater Nonresidential MSSL	YES
	[13] Groundwater Nonresidential $MSSL_{12}$	YES
	[14] Groundwater Nonresidential TS $MSSL_{12}$	NO

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TABLE 6
Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EPA Region IV Sediment ESVs	Sediment Quality Guidelines		EGLE Part 201 Groundwater Generic Cleanup Criteria			EPA Region IV Surface Water ESVs		EGLE Rule 57 Water Quality Values	Sediment - Ripley Waterfront																			
Station Name	CAS Number										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 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 Interval (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 Description											--		--		--		--		--		--		--		--		--		--	
		[1] Region IV ESV - Freshwater Sediment	[2] Threshold Effect Concentration	[3] Probable Effect Concentration	[GW1] Residential Drinking Water Criteria	[GW2] Nonresidential Drinking Water Criteria	[GW3] Groundwater Surface Water Interface Criteria	[SW1] Region IV Freshwater ESV - Chronic	[SW2] Region IV Freshwater ESV - Acute	[SW3] Rule 57 Human Noncancer Value - Drink	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	NA	NA	NA	NA	NA	NA	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	NA	NA	NA	NA	NA	NA	<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	NA	NA	NA	NA	NA	NA	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	NA	NA	NA	NA	NA	NA	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	NA	NA	NA	NA	NA	NA	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	NA	NA	NA	NA	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	NA	NA	NA	NA	NA	NA	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	NA	NA	NA	NA	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	NA	NA	NA	NA	NA	NA	34	--	3.6	--	110	--	99	--	250	[1,2]	94	--	99	--	130	[1,2]	140	[1,2]	66	--
Inorganics - Metals (ug/l)																														
ARSENIC	7440-38-2	NA	NA	NA	10 (A)	10 (A)	10	150 ^	340 ^	10	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
BARIUM	7440-39-3	NA	NA	NA	2,000 (A,B)	2,000 (A,B)	200 (B,G)	220	2,000	1,900	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
CHROMIUM	7440-47-3	NA	NA	NA	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NA	120	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
COPPER	7440-50-8	NA	NA	NA	1,000 (B,E)	1,000 (B,E)	4.7 (B,G)	4.94 ^ *	6.94 ^ *	470	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
LEAD	7439-92-1	NA	NA	NA	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	1.23 ^ *	31.6 ^ *	14	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
MANGANESE	7439-96-5	NA	NA	NA	50 (B,E)	50 (B,E)	1,000 (B,G,X)	93	1,680	1,300	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
SILVER	7440-22-4	NA	NA	NA	34 (B)	98 (B)	0.2 (B,M)	0.06 ^ *	1.05 ^ *	130	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
ZINC	7440-66-6	NA	NA	NA	2,400 (B)	5,000 (B,E)	63 (B,G)	64 ^ *	64 ^ *	3,300	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
Organics- PCBs (ug/kg)																														
TOTAL PCBS	1336-36-3	59.8	59.8	676	NA	NA	NA	NA	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Organics - PCBs (ug/l)																														
TOTAL PCBS	1336-36-6	NA	NA	NA	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	0.014	0.014	NLS (#,@)	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 6
Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EPA Region IV Sediment ESVs	Sediment Quality Guidelines		EGLE Part 201 Groundwater Generic Cleanup Criteria			EPA Region IV Surface Water ESVs		EGLE Rule 57 Water Quality Values	Sediment - Ripley Waterfront																			
Station Name	CAS Number	[1] Region IV ESV - Freshwater Sediment	[2] Threshold Effect Concentration	[3] Probable Effect Concentration	[GW1] Residential Drinking Water Criteria	[GW2] Nonresidential Drinking Water Criteria	[GW3] Groundwater Surface Water Interface Criteria	[SW1] Region IV Freshwater ESV - Chronic	[SW2] Region IV Freshwater ESV - Acute	[SW3] Rule 57 Human Noncancer Value - Drink	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 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 Interval (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 Description											--		--		--		--		--		--		--		--		--		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics- SVOCs (ug/kg)																														
ACENAPHTHENE	83-32-9	6.7	NA	NA	NA	NA	NA	NA	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	NA	NA	NA	NA	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	NA	NA	NA	NA	NA	NA	<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	NA	NA	NA	NA	NA	NA	<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	NA	NA	NA	NA	NA	NA	<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	NA	NA	NA	NA	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	NA	NA	NA	NA	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	NA	NA	NA	NA	NA	NA	<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	NA	NA	NA	NA	NA	NA	<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	NA	NA	NA	NA	NA	NA	<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	NA	NA	NA	NA	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)	91-20-3S	176	176	561	NA	NA	NA	NA	NA	NA	<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	NA	NA	NA	NA	NA	NA	<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	NA	NA	NA	NA	NA	NA	<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 - SVOCs (ug/l)																														
ACENAPHTHENE	83-32-9	NA	NA	NA	1,300	3,800	38	15	19	580	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
ANTHRACENE	120-12-7	NA	NA	NA	43 (S)	43 (S)	ID	0.02	0.18	1,900	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
FLUORANTHENE	206-44-0	NA	NA	NA	210 (S)	210 (S)	1.6	0.8	3.7	18	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
FLUORENE	86-73-7	NA	NA	NA	880	2,000 (S)	12	19	110	140	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
PHENANTHRENE	85-01-8	NA	NA	NA	52	150	2.0	2.3	31	ID*	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
PYRENE	129-00-0	NA	NA	NA	140 (S)	140 (S)	ID	4.6	42	15	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
Organics - VOCs (ug/kg)																														
TOLUENE	108-88-3	10	NA	NA	NA	NA	NA	NA	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 6
Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EPA Region IV Sediment ESVs	Sediment Quality Guidelines		EGLE Part 201 Groundwater Generic Cleanup Criteria			EPA Region IV Surface Water ESVs		EGLE Rule 57 Water Quality Values	Sediment - Ripley Waterfront																Sediment - Dollar Bay					
Station Name	CAS Number										QMCP-SD06						QMCP-SD07		QMCP-SD08				QMCP-SS61		QMCP-SS62		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-SS61-0-3in		QMCP-SS62-0-3in		QMCP-SD09-0-6"		QMCP-SD10-0-4"		QMCP-SD10-4-11"	
Sample Date											9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/28/2018		9/28/2018		9/6/2018		9/6/2018		9/6/2018	
Sample Interval (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 - 0.25 ft		0 - 0.25 ft		0 - 0.5 ft		0 - 0.333 ft		0.333 - 0.92 ft	
Sample Description		[1] Region IV ESV - Freshwater Sediment	[2] Threshold Effect Concentration	[3] Probable Effect Concentration	[GW1] Residential Drinking Water Criteria	[GW2] Nonresidential Drinking Water Criteria	[GW3] Groundwater Surface Water Interface Criteria	[SW1] Region IV Freshwater ESV - Chronic	[SW2] Region IV Freshwater ESV - Acute	[SW3] Rule 57 Human Noncancer Value - Drink	--		--		--		--		--		--		--		--		--		--		--	
											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	NA	NA	NA	NA	NA	NA	1.2	--	1.4	--	1.1	--	3.3	--	7.4	--	1	--	NM	--	NM	--	22	[1,2]	4.1	--	2.5	--
CADMIUM	7440-43-9	1	0.99	4.98	NA	NA	NA	NA	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.2	--	0.4	--	0.3	--	NM	--	NM	--	<0.2 U	--	<0.2 U	--	<0.2 U	--
CHROMIUM	7440-47-3	43.4	43.4	111	NA	NA	NA	NA	NA	NA	9.5	--	12	--	12	--	18	--	32	--	23	--	NM	--	NM	--	27	--	11	--	13	--
COPPER	7440-50-8	31.6	31.6	149	NA	NA	NA	NA	NA	NA	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]	NM	--	NM	--	5,300	[1,2,3]	4,100	[1,2,3]	1,500	[1,2,3]
LEAD	7439-92-1	35.8	35.8	128	NA	NA	NA	NA	NA	NA	10	--	15	--	16	--	26	--	65	[1,2]	6.5	--	NM	--	NM	--	33	--	7.6	--	3.6	--
MANGANESE	7439-96-5	460	NA	NA	NA	NA	NA	NA	NA	NA	160	--	240	--	390	--	510	[1]	360	--	590	[1]	NM	--	NM	--	200	--	100	--	78	--
MERCURY	7439-97-6	0.18	0.18	1.06	NA	NA	NA	NA	NA	NA	<0.06 U	--	<0.06 U	--	0.2	[1,2]	0.1	--	0.6	[1,2]	0.3	[1,2]	NM	--	NM	--	0.1	--	<0.09 U	--	<0.07 U	--
SILVER	7440-22-4	1	NA	NA	NA	NA	NA	NA	NA	NA	0.4	--	0.8	--	4.2	[1]	2.8	[1]	2	[1]	4.3	[1]	NM	--	NM	--	3	[1]	0.4	--	0.2	--
ZINC	7440-66-6	121	121	459	NA	NA	NA	NA	NA	NA	26	--	40	--	61	--	100	--	97	--	73	--	NM	--	NM	--	72	--	20	--	12	--
Inorganics - Metals (ug/l)																																
ARSENIC	7440-38-2	NA	NA	NA	10 (A)	10 (A)	10	150 ^	340 ^	10	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
BARIUM	7440-39-3	NA	NA	NA	2,000 (A,B)	2,000 (A,B)	200 (B,G)	220	2,000	1,900	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
CHROMIUM	7440-47-3	NA	NA	NA	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NA	120	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
COPPER	7440-50-8	NA	NA	NA	1,000 (B,E)	1,000 (B,E)	4.7 (B,G)	4.94 ^ *	6.94 ^ *	470	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
LEAD	7439-92-1	NA	NA	NA	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	1.23 ^ *	31.6 ^ *	14	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
MANGANESE	7439-96-5	NA	NA	NA	50 (B,E)	50 (B,E)	1,000 (B,G,X)	93	1,680	1,300	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
SILVER	7440-22-4	NA	NA	NA	34 (B)	98 (B)	0.2 (B,M)	0.06 ^ *	1.05 ^ *	130	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
ZINC	7440-66-6	NA	NA	NA	2,400 (B)	5,000 (B,E)	63 (B,G)	64 ^ *	64 ^ *	3,300	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
Organics- PCBs (ug/kg)																																
TOTAL PCBS	1336-36-3	59.8	59.8	676	NA	NA	NA	NA	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Organics - PCBs (ug/l)																																
TOTAL PCBS	1336-36-6	NA	NA	NA	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	0.014	0.014	NLS (#,@)	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 6
Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EPA Region IV Sediment ESVs	Sediment Quality Guidelines		EGLE Part 201 Groundwater Generic Cleanup Criteria			EPA Region IV Surface Water ESVs		EGLE Rule 57 Water Quality Values	Sediment - Ripley Waterfront																Sediment - Dollar Bay					
Station Name	CAS Number	[1] Region IV ESV - Freshwater Sediment	[2] Threshold Effect Concentration	[3] Probable Effect Concentration	[GW1] Residential Drinking Water Criteria	[GW2] Nonresidential Drinking Water Criteria	[GW3] Groundwater Surface Water Interface Criteria	[SW1] Region IV Freshwater ESV - Chronic	[SW2] Region IV Freshwater ESV - Acute	[SW3] Rule 57 Human Noncancer Value - Drink	QMCP-SD06						QMCP-SD07		QMCP-SD08				QMCP-SS61		QMCP-SS62		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-SS61-0-3in		QMCP-SS62-0-3in		QMCP-SD09-0-6"	QMCP-SD10-0-4"		QMCP-SD10-4-11"	
Sample Date											9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/5/2018		9/28/2018		9/28/2018		9/6/2018	9/6/2018		9/6/2018	
Sample Interval (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 - 0.25 ft		0 - 0.25 ft		0 - 0.5 ft	0 - 0.333 ft		0.333 - 0.92 ft	
Sample Description											--		--		--		--		--		--		--		--		--	--		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics- SVOCs (ug/kg)																																
ACENAPHTHENE	83-32-9	6.7	NA	NA	NA	NA	NA	NA	NA	NA	<250 U	--	<250 U	--	330	[1]	<260 U	--	<630 U	--	<280 U	--	<350 U	--	<360 U	--	<310 U	--	<360 U	--	<280 U	--
ACENAPHTHYLENE	208-96-8	5.9	NA	NA	NA	NA	NA	NA	NA	NA	<250 U	--	<250 U	--	<250 U	--	<260 U	--	<630 U	--	<280 U	--	<350 U	--	570	[1]	<310 U	--	<360 U	--	<280 U	--
ANTHRACENE	120-12-7	57	57.2	845	NA	NA	NA	NA	NA	NA	<250 U	--	<250 U	--	310	[1,2]	<260 U	--	<630 U	--	<280 U	--	<350 U	--	750	[1,2]	<310 U	--	<360 U	--	<280 U	--
BENZO(A)ANTHRACENE	56-55-3	108	108	1,050	NA	NA	NA	NA	NA	NA	<250 U	--	<250 U	--	520	[1,2]	300	[1,2]	<630 U	--	<280 U	--	700	[1,2]	3,900	[1,2,3]	970	[1,2]	<360 U	--	<280 U	--
BENZO(A)PYRENE	50-32-8	150	150	1,450	NA	NA	NA	NA	NA	NA	<510 U	--	<500 U	--	<500 U	--	<530 U	--	<1300 U	--	<550 U	--	700	[1,2]	<7300 U	--	1,000	[1,2]	<710 U	--	<560 U	--
BENZO(B)FLUORANTHENE	205-99-2	190	NA	NA	NA	NA	NA	NA	NA	NA	<510 U	--	<500 U	--	600	[1]	<530 U	--	<1300 U	--	<550 U	--	1,400	[1]	<7300 U	--	1,900	[1]	<710 U	--	<560 U	--
BENZO(K)FLUORANTHENE	207-08-9	240	NA	NA	NA	NA	NA	NA	NA	NA	<510 U	--	<500 U	--	<500 U	--	<530 U	--	<1300 U	--	<550 U	--	<690 U	--	<7300 U	--	600 J	[1]	<710 U	--	<560 U	--
CHRYSENE	218-01-9	166	166	1,290	NA	NA	NA	NA	NA	NA	<250 U	--	<250 U	--	460	[1,2]	290	[1,2]	<630 U	--	<280 U	--	680	[1,2]	3,600	[1,2,3]	1,300	[1,2,3]	<360 U	--	<280 U	--
FLUORANTHENE	206-44-0	423	423	2,230	NA	NA	NA	NA	NA	NA	510	[1,2]	<250 U	--	1,300	[1,2]	730	[1,2]	1,200	[1,2]	<280 U	--	1,500	[1,2]	8,100	[1,2,3]	3,000	[1,2,3]	460	[1,2]	<280 U	--
FLUORENE	86-73-7	77	77.4	536	NA	NA	NA	NA	NA	NA	<250 U	--	<250 U	--	350	[1,2]	<260 U	--	<630 U	--	<280 U	--	<350 U	--	<360 U	--	<310 U	--	<360 U	--	<280 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	200	NA	NA	NA	NA	NA	NA	NA	NA	<510 U	--	<500 U	--	<500 U	--	<530 U	--	<1300 U	--	<550 U	--	<690 U	--	<7300 U	--	<620 U	--	<710 U	--	<560 U	--
NAPHTHALENE (SVOC)	91-20-3S	176	176	561	NA	NA	NA	NA	NA	NA	<250 U	--	<250 U	--	360	[1,2]	410	[1,2]	1,100	[1,2,3]	<280 U	--	<350 U	--	560	[1,2]	330	[1,2]	<360 U	--	<280 U	--
PHENANTHRENE	85-01-8	204	204	1,170	NA	NA	NA	NA	NA	NA	350	[1,2]	<250 U	--	1,400	[1,2,3]	510	[1,2]	980	[1,2]	<280 U	--	760	[1,2]	2,900	[1,2,3]	2,300	[1,2,3]	<360 U	--	<280 U	--
PYRENE	129-00-0	195	195	1,520	NA	NA	NA	NA	NA	NA	380	[1,2]	<250 U	--	1,000	[1,2]	640	[1,2]	1,100	[1,2]	<280 U	--	1,400	[1,2]	8,000	[1,2,3]	2,400	[1,2,3]	440	[1,2]	<280 U	--
Organics - SVOCs (ug/l)																																
ACENAPHTHENE	83-32-9	NA	NA	NA	1,300	3,800	38	15	19	580	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
ANTHRACENE	120-12-7	NA	NA	NA	43 (S)	43 (S)	ID	0.02	0.18	1,900	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
FLUORANTHENE	206-44-0	NA	NA	NA	210 (S)	210 (S)	1.6	0.8	3.7	18	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
FLUORENE	86-73-7	NA	NA	NA	880	2,000 (S)	12	19	110	140	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
PHENANTHRENE	85-01-8	NA	NA	NA	52	150	2.0	2.3	31	ID*	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
PYRENE	129-00-0	NA	NA	NA	140 (S)	140 (S)	ID	4.6	42	15	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
Organics - VOCs (ug/kg)																																
TOLUENE	108-88-3	10	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	NM	--	NM	--	NM	--	NM	--	<140 U	--	280 J	[1]	NM	--	NM	--	NM	--

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

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TABLE 6
Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EPA Region IV Sediment ESVs	Sediment Quality Guidelines		EGLE Part 201 Groundwater Generic Cleanup Criteria			EPA Region IV Surface Water ESVs		EGLE Rule 57 Water Quality Values	Sediment - Dollar Bay																		Submerged Drum Contents - Ripley Waterfront					
Station Name	CAS Number	[1] Region IV ESV - Freshwater Sediment	[2] Threshold Effect Concentration	[3] Probable Effect Concentration	[GW1] Residential Drinking Water Criteria	[GW2] Nonresidential Drinking Water Criteria	[GW3] Groundwater Surface Water Interface Criteria	[SW1] Region IV Freshwater ESV - Chronic	[SW2] Region IV Freshwater ESV - Acute	[SW3] Rule 57 Human Noncancer Value - Drink	QMCP-SD11						QMCP-SD12				QMCP-SD13				QMCP-SD14				QMCP-SDM01		QMCP-SDM02		QMCP-SDM03	
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-SDM01		QMCP-SDM02		QMCP-SDM03	
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		9/9/2018		9/9/2018		9/9/2018	
Sample Interval (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		12.66 ft		14.82 ft		14.56 ft	
Sample Description											--		--		--		--		--		--		--		--		--		--		--		--	
											Result	Exceeds	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	NA	NA	NA	NA	NA	NA	1.5	--	1.1	--	1.6	--	3.9	--	4.3	--	16	[1,2]	2.9	--	1.4	--	0.6	--	8.4	--	4.5	--	9.8	[2]
CADMIUM	7440-43-9	1	0.99	4.98	NA	NA	NA	NA	NA	NA	<0.2 U	--	<0.2 U	--	<0.2 U	--	0.2	--	0.3	--	<0.2 U	--	0.4	--	<0.2 U	--	<0.2 U	--	0.5	--	0.3	--	0.5	--
CHROMIUM	7440-47-3	43.4	43.4	111	NA	NA	NA	NA	NA	NA	5.0 J	--	4.6 J	--	5.6	--	14	--	17	--	110	[1,2]	10	--	5.0 J	--	4.8 J	--	21	--	22	--	26	--
COPPER	7440-50-8	31.6	31.6	149	NA	NA	NA	NA	NA	NA	5.2	--	5.1	--	20	--	100	[1,2]	74	[1,2]	1,400	[1,2,3]	67	[1,2]	14	--	6.9	--	750	[1,2,3]	1,100	[1,2,3]	560	[1,2,3]
LEAD	7439-92-1	35.8	35.8	128	NA	NA	NA	NA	NA	NA	1.1	--	1.2	--	3.3	--	2.2	--	1.9	--	17	--	1.2	--	1.4	--	<1.0 U	--	63	[1,2]	38	[1,2]	89	[1,2]
MANGANESE	7439-96-5	460	NA	NA	NA	NA	NA	NA	NA	NA	29 J	--	32	--	97	--	120	--	120	--	230	--	130	--	32	--	31	--	470	[1]	480	[1]	350	--
MERCURY	7439-97-6	0.18	0.18	1.06	NA	NA	NA	NA	NA	NA	<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	--	0.2	[1,2]	0.4	[1,2]	0.3	[1,2]
SILVER	7440-22-4	1	NA	NA	NA	NA	NA	NA	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	--	1.5	[1]	2.0	[1]	1.0	--
ZINC	7440-66-6	121	121	459	NA	NA	NA	NA	NA	NA	7.2	--	7.7	--	11	--	24	--	34	--	180	[1,2]	21	--	6.3	--	5	--	91	--	85	--	100	--
Inorganics - Metals (ug/l)																																		
ARSENIC	7440-38-2	NA	NA	NA	10 (A)	10 (A)	10	150 ^	340 ^	10	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
BARIUM	7440-39-3	NA	NA	NA	2,000 (A,B)	2,000 (A,B)	200 (B,G)	220	2,000	1,900	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
CHROMIUM	7440-47-3	NA	NA	NA	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NA	120	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
COPPER	7440-50-8	NA	NA	NA	1,000 (B,E)	1,000 (B,E)	4.7 (B,G)	4.94 ^ *	6.94 ^ *	470	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
LEAD	7439-92-1	NA	NA	NA	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	1.23 ^ *	31.6 ^ *	14	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
MANGANESE	7439-96-5	NA	NA	NA	50 (B,E)	50 (B,E)	1,000 (B,G,X)	93	1,680	1,300	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
SILVER	7440-22-4	NA	NA	NA	34 (B)	98 (B)	0.2 (B,M)	0.06 ^ *	1.05 ^ *	130	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
ZINC	7440-66-6	NA	NA	NA	2,400 (B)	5,000 (B,E)	63 (B,G)	64 ^ *	64 ^ *	3,300	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
Organics- PCBs (ug/kg)																																		
TOTAL PCBS	1336-36-3	59.8	59.8	676	NA	NA	NA	NA	NA	NA	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
Organics - PCBs (ug/l)																																		
TOTAL PCBS	1336-36-6	NA	NA	NA	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	0.014	0.014	NLS (#,@)	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 6
Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EPA Region IV Sediment ESVs	Sediment Quality Guidelines		EGLE Part 201 Groundwater Generic Cleanup Criteria			EPA Region IV Surface Water ESVs		EGLE Rule 57 Water Quality Values	Sediment - Dollar Bay																		Submerged Drum Contents - Ripley Waterfront					
Station Name	CAS Number	[1] Region IV ESV - Freshwater Sediment	[2] Threshold Effect Concentration	[3] Probable Effect Concentration	[GW1] Residential Drinking Water Criteria	[GW2] Nonresidential Drinking Water Criteria	[GW3] Groundwater Surface Water Interface Criteria	[SW1] Region IV Freshwater ESV - Chronic	[SW2] Region IV Freshwater ESV - Acute	[SW3] Rule 57 Human Noncancer Value - Drink	QMCP-SD11						QMCP-SD12				QMCP-SD13				QMCP-SD14				QMCP-SDM01		QMCP-SDM02		QMCP-SDM03	
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-SDM01		QMCP-SDM02		QMCP-SDM03	
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		9/9/2018		9/9/2018		9/9/2018	
Sample Interval (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		12.66 ft		14.82 ft		14.56 ft	
Sample Description											--		--		--		--		--		--		--		--		--		--		--		--	
											Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics- SVOCs (ug/kg)																																		
ACENAPHTHENE	83-32-9	6.7	NA	NA	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	<1500 U	--	<1600 U	--
ACENAPHTHYLENE	208-96-8	5.9	NA	NA	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	<1500 U	--	<1600 U	--
ANTHRACENE	120-12-7	57	57.2	845	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	<1500 U	--	<1600 U	--
BENZO(A)ANTHRACENE	56-55-3	108	108	1,050	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	<1500 U	--	<1600 U	--
BENZO(A)PYRENE	50-32-8	150	150	1,450	NA	NA	NA	NA	NA	NA	<480 U	--	<480 U	--	<510 U	--	<5600 U	--	<6500 U	--	<840 U	--	<2500 U	--	<470 U	--	<480 U	--	<4000 U	--	<2900 U	--	<3100 U	--
BENZO(B)FLUORANTHENE	205-99-2	190	NA	NA	NA	NA	NA	NA	NA	NA	<480 U	--	<480 U	--	<510 U	--	<5600 U	--	<6500 U	--	<840 U	--	<2500 U	--	<470 U	--	<480 U	--	<4000 U	--	<2900 U	--	<3100 U	--
BENZO(K)FLUORANTHENE	207-08-9	240	NA	NA	NA	NA	NA	NA	NA	NA	<480 U	--	<480 U	--	<510 U	--	<5600 U	--	<6500 U	--	<840 U	--	<2500 U	--	<470 U	--	<480 U	--	<4000 U	--	<2900 U	--	<3100 U	--
CHRYSENE	218-01-9	166	166	1,290	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	<1500 U	--	<1600 U	--
FLUORANTHENE	206-44-0	423	423	2,230	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	1,900	[1,2]	1,600	[1,2]
FLUORENE	86-73-7	77	77.4	536	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	<1500 U	--	<1600 U	--
INDENO(1,2,3-CD)PYRENE	193-39-5	200	NA	NA	NA	NA	NA	NA	NA	NA	<480 U	--	<480 U	--	<510 U	--	<5600 U	--	<6500 U	--	<840 U	--	<2500 U	--	<470 U	--	<480 U	--	<4000 U	--	<2900 U	--	<3100 U	--
NAPHTHALENE (SVOC)	91-20-3S	176	176	561	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	<1500 U	--	<1600 U	--
PHENANTHRENE	85-01-8	204	204	1,170	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	<1500 U	--	<1600 U	--
PYRENE	129-00-0	195	195	1,520	NA	NA	NA	NA	NA	NA	<240 U	--	<240 U	--	<260 U	--	<2800 U	--	<3200 U	--	<420 U	--	<1300 U	--	<240 U	--	<240 U	--	<2000 U	--	1,600	[1,2,3]	<1600 U	--
Organics - SVOCs (ug/l)																																		
ACENAPHTHENE	83-32-9	NA	NA	NA	1,300	3,800	38	15	19	580	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
ANTHRACENE	120-12-7	NA	NA	NA	43 (S)	43 (S)	ID	0.02	0.18	1,900	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
FLUORANTHENE	206-44-0	NA	NA	NA	210 (S)	210 (S)	1.6	0.8	3.7	18	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
FLUORENE	86-73-7	NA	NA	NA	880	2,000 (S)	12	19	110	140	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
PHENANTHRENE	85-01-8	NA	NA	NA	52	150	2.0	2.3	31	ID*	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
PYRENE	129-00-0	NA	NA	NA	140 (S)	140 (S)	ID	4.6	42	15	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
Organics - VOCs (ug/kg)																																		
TOLUENE	108-88-3	10	NA	NA	NA	NA	NA	NA	NA	NA	NM	--	NM	--	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 6
Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EPA Region IV Sediment ESVs	Sediment Quality Guidelines		EGLE Part 201 Groundwater Generic Cleanup Criteria			EPA Region IV Surface Water ESVs		EGLE Rule 57 Water Quality Values	Pore Water - Ripley Waterfront										Pore Water - Dollar Bay			
Station Name	CAS Number	[1] Region IV ESV - Freshwater Sediment	[2] Threshold Effect Concentration	[3] Probable Effect Concentration	[GW1] Residential Drinking Water Criteria	[GW2] Nonresidential Drinking Water Criteria	[GW3] Groundwater Surface Water Interface Criteria	[SW1] Region IV Freshwater ESV - Chronic	[SW2] Region IV Freshwater ESV - Acute	[SW3] Rule 57 Human Noncancer Value - Drink	QMCP-PS02		QMCP-PS04		QMCP-PS05		QMCP-PS06		QMCP-PS07		QMCP-PS10		QMCP-PS45	
Sample ID											QMCP PS02		QMCP-PS04		QMCP PS05		QMCP PS06		QMCP PS07		QMCP-PS10		QMCP-PS45	
Sample Date											9/6/2018		9/10/2018		9/6/2018		9/6/2018		9/6/2018		9/10/2018		9/10/2018	
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)		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	Result	Exceeds	Result	Exceeds	Result	Exceeds
Inorganics- Metals (mg/kg)																								
ARSENIC	7440-38-2	9.8	9.79	33	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
CADMIUM	7440-43-9	1	0.99	4.98	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
CHROMIUM	7440-47-3	43.4	43.4	111	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
COPPER	7440-50-8	31.6	31.6	149	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
LEAD	7439-92-1	35.8	35.8	128	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
MANGANESE	7439-96-5	460	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
MERCURY	7439-97-6	0.18	0.18	1.06	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
SILVER	7440-22-4	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
ZINC	7440-66-6	121	121	459	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
Inorganics - Metals (ug/l)																								
ARSENIC	7440-38-2	NA	NA	NA	10 (A)	10 (A)	10	150 ^	340 ^	10	3.2	--	<1.0 U	--	<1.0 U	--	2.4	--	1.3	--	1.8	--	NM	--
BARIUM	7440-39-3	NA	NA	NA	2,000 (A,B)	2,000 (A,B)	200 (B,G)	220	2,000	1,900	8.9	--	NM		85	--	56	--	51	--	NM		NM	--
CHROMIUM	7440-47-3	NA	NA	NA	100 (A,B,H)	100 (A,B,H)	40 (B,G,H,X)	NA	NA	120	5.1	--	2.2	--	4.2	--	7.0	--	2.1	--	5.3	--	NM	--
COPPER	7440-50-8	NA	NA	NA	1,000 (B,E)	1,000 (B,E)	4.7 (B,G)	4.94 ^ *	6.94 ^ *	470	820	[GW3,SW1,SW2,SW3]	420	[GW3,SW1,SW2]	210	[GW3,SW1,SW2]	3,500	[GW1,GW2,GW3,SW1,SW2,SW3]	210	[GW3,SW1,SW2]	250	[GW3,SW1,SW2]	NM	--
LEAD	7439-92-1	NA	NA	NA	4.0 (B,L)	4.0 (B,L)	14 (B,G,X)	1.23 ^ *	31.6 ^ *	14	110	[GW1,GW2,GW3,SW1,SW2,SW3]	4.4	[GW1,GW2,SW1]	13	[GW1,GW2,SW1]	26	[GW1,GW2,GW3,SW1,SW3]	5.6	[GW1,GW2,SW1]	2.0	[SW1]	NM	--
MANGANESE	7439-96-5	NA	NA	NA	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]	760	[GW1,GW2,SW1]	81	[GW1,GW2]	390	[GW1,GW2,SW1]	NM	--
SILVER	7440-22-4	NA	NA	NA	34 (B)	98 (B)	0.2 (B,M)	0.06 ^ *	1.05 ^ *	130	0.5	[GW3,SW1]	0.4	[GW3,SW1]	<0.2 U	--	5.3	[GW3,SW1,SW2]	<0.2 U	--	0.3	[GW3,SW1]	NM	--
ZINC	7440-66-6	NA	NA	NA	2,400 (B)	5,000 (B,E)	63 (B,G)	64 ^ *	64 ^ *	3,300	50	--	11	--	19	--	32	--	7.4	--	<5.0 U	--	NM	--
Organics- PCBs (ug/kg)																								
TOTAL PCBS	1336-36-3	59.8	59.8	676	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
Organics - PCBs (ug/l)																								
TOTAL PCBS	1336-36-6	NA	NA	NA	0.5 (A,J,T)	0.5 (A,J,T)	0.2 (J,M,T)	0.014	0.014	NLS (#,@)	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	NM	--

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

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Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

Location Code		EPA Region IV Sediment ESVs	Sediment Quality Guidelines		EGLE Part 201 Groundwater Generic Cleanup Criteria			EPA Region IV Surface Water ESVs		EGLE Rule 57 Water Quality Values	Pore Water - Ripley Waterfront										Pore Water - Dollar Bay			
Station Name	CAS Number	[1] Region IV ESV - Freshwater Sediment	[2] Threshold Effect Concentration	[3] Probable Effect Concentration	[GW1] Residential Drinking Water Criteria	[GW2] Nonresidential Drinking Water Criteria	[GW3] Groundwater Surface Water Interface Criteria	[SW1] Region IV Freshwater ESV - Chronic	[SW2] Region IV Freshwater ESV - Acute	[SW3] Rule 57 Human Noncancer Value - Drink	QMCP-PS02		QMCP-PS04		QMCP-PS05		QMCP-PS06		QMCP-PS07		QMCP-PS10		QMCP-PS45	
Sample ID											QMCP PS02		QMCP-PS04		QMCP PS05		QMCP PS06		QMCP PS07		QMCP-PS10		QMCP-PS45	
Sample Date											9/6/2018		9/10/2018		9/6/2018		9/6/2018		9/6/2018		9/10/2018		9/10/2018	
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)		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	Result	Exceeds	Result	Exceeds	Result	Exceeds
Organics- SVOCs (ug/kg)																								
ACENAPHTHENE	83-32-9	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
ACENAPHTHYLENE	208-96-8	5.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
ANTHRACENE	120-12-7	57	57.2	845	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
BENZO(A)ANTHRACENE	56-55-3	108	108	1,050	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
BENZO(A)PYRENE	50-32-8	150	150	1,450	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
BENZO(B)FLUORANTHENE	205-99-2	190	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
BENZO(K)FLUORANTHENE	207-08-9	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
CHRYSENE	218-01-9	166	166	1,290	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
FLUORANTHENE	206-44-0	423	423	2,230	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
FLUORENE	86-73-7	77	77.4	536	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
INDENO(1,2,3-CD)PYRENE	193-39-5	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
NAPHTHALENE (SVOC)	91-20-3S	176	176	561	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
PHENANTHRENE	85-01-8	204	204	1,170	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
PYRENE	129-00-0	195	195	1,520	NA	NA	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--	NA	--
Organics - SVOCs (ug/l)																								
ACENAPHTHENE	83-32-9	NA	NA	NA	1,300	3,800	38	15	19	580	<1.0 U	--	<1.0 U	--	<1.0 U	--	2.8	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
ANTHRACENE	120-12-7	NA	NA	NA	43 (S)	43 (S)	ID	0.02	0.18	1,900	<1.0 U	--	<1.0 U	--	<1.0 U	--	2.3	[SW1, SW2]	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORANTHENE	206-44-0	NA	NA	NA	210 (S)	210 (S)	1.6	0.8	3.7	18	1.1	[SW1]	<1.0 U	--	<1.0 U	--	5.1	[GW3, SW1, SW2]	<1.0 U	--	<1.0 U	--	<1.0 U	--
FLUORENE	86-73-7	NA	NA	NA	880	2,000 (S)	12	19	110	140	<1.0 U	--	<1.0 U	--	<1.0 U	--	4.0	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
PHENANTHRENE	85-01-8	NA	NA	NA	52	150	2.0	2.3	31	ID*	1.4	--	<1.0 U	--	<1.0 U	--	12	[GW3, SW1]	<1.0 U	--	<1.0 U	--	<1.0 U	--
PYRENE	129-00-0	NA	NA	NA	140 (S)	140 (S)	ID	4.6	42	15	<1.0 U	--	<1.0 U	--	<1.0 U	--	3.9	--	<1.0 U	--	<1.0 U	--	<1.0 U	--
Organics - VOCs (ug/kg)																								
TOLUENE	108-88-3	10	NA	NA	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 6
Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

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. Updated December 21, 2020.
- 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 August 1, 2019.
- ESVs are adapted from the Environmental Protection Agency Region IV Ecological Risk Assessment Supplemental Guidance, published November 1995, updated March 2018.
- 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.
- **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 IV Freshwater Sediment ESV
[2] - TECs (MacDonald et al. 2000)
[3] - PECs (MacDonald et al.2000)
[GW1] - EGLE Part 201 Residential Drinking Water Criteria
[GW2] - EGLE Part 201 Nonresidential Drinking Water Criteria
[GW3] - EGLE Part 201 Groundwater Surface Water Interface Criteria
[SW1] - EPA Region IV Surface Water Freshwater ESV - Chronic
[SW2] - EPA Region IV Surface Water Freshwater ESV - Acute
[SW3] - EGLE Rule 57 Water Quality Value - Human Noncancer Value - Drinking Water Source
[SW4] - EGLE Rule 57 Water Quality Value - Human Cancer Value-Drinking Water Source
[SW5] - EGLE Rule 57 Water Quality Value - Wildlife Value

Evaluation based on EGLE Criteria at time of Project completion.

-- = No Exceedances
NA = Not Applicable
NM = Not Measured
ND = Not Detected
ft = feet
bgs = below ground surface
ug/l = Micrograms per liter
mg/kg = Milligrams per kilogram.
ug/kg = Micrograms per kilogram
PCBs = Polychlorinated biphenyls
SVOC = Semi-volatile organic compound
VOC = Volatile organic compound
RBSL = Risk Based Screening Level
EPA = United States Environmental Protection Agency
ESV = Ecological Screening Value
PEC = Probable Effect Concentration
TEC = Threshold Effect Concentration

EGLE Critertia 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.
(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 $CaCO_3$/L, use 400 mg $CaCO_3$/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 $CaCO_3$/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.)

Rule 57 Footnotes: ID = insufficient data to derive value; NLS = no literature search has been conducted; @ = Bioaccumulative Chemical of Concern; * = the lowest Human Noncancer Value (HNV), Wildlife Value (WV), Human Cancer Value (HCV), or Final Chronic Value (FCV) given for this chemical will adequately protect the uses identified with an ID* or *

EPA Region IV ESV Footnote: Red font indicates a bioaccumulative chemical; ^ - Screening value is for filtered (dissolved) metals. A conversion factor (CF) was used to convert the screening value for total metals in surface water to a screening value for dissolved metals in surface water. CMC (dissolved) = CMC (total) × CF. See Table 1c for screening values for total (unfiltered) metals; * - The freshwater screening value is hardness dependent. The screening value shown in Table 1a is for dissolved metals assuming a hardness of 50 mg/L as $CaCO_3$. A correction for site-specific hardness was based on equations listed in Tables 1b and 1c. If hardness data are unavailable hardness may be estimated as: H = 2.497 × Ca (mg/L) + 4.118 × Mg (mg/L). A site-specific hardness value of 47.5 mg/kg $CaCo_3$ was used to determine values based on equations is Table 1b and 1c for total (unfiltered) metals.

Laboratory Footnotes:

J = The result is an estimated quantity.
U = Analyte analyzed for but not detected above the reported sample reporting limit.

TABLE 6
Sediment, Pore Water, and Submerged Drum Contents Analytical Results
Quincy Mining Company Portage Operations Area
Abandoned Mining Wastes - Torch Lake Non-Superfund Site

	Applicable Criteria Evaluated	Exceedance
EPA Region IV Sediment Ecological Screening Values (March 2018)	[1] Region IV Ecological Screening Value - Freshwater Sediment	YES
Sediment Quality Guidelines (August 2006)	[2] Threshold Effect Concentration	YES
	[3] Probable Effect Concentration	YES
EGLE Part 201 Generic Cleanup Criteria (December 2020)	[GW1] Residential Drinking Water Criteria	YES
	[GW2] Nonresidential Drinking Water Criteria	YES
	[GW3] Groundwater Surface Water Interface Criteria	YES
EPA Region IV Surface Water Ecological Screening Values (March 2018)	[SW1] Region IV Freshwater Ecological Screening Value - Chronic	YES
	[SW2] Region IV Freshwater Ecological Screening Value - Acute	YES
EGLE Rule 57 Water Quality Values (August 2019)	[SW3] Human Non-Cancer Value - Drinking Water Source	YES
	[SW4] Human Cancer Value - Drinking Water Source	NO
	[SW5] Wildlife Value	NO