

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 46 OF: 80

DATE: 10/13/11

DIRECTION OF
PHOTOGRAPH:
Down

PHOTOGRAPH BY:
Barb Vetort Tiffany



DESCRIPTION: Close-up view of MW-12.

DATE: 10/13/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
Barb Vetort Tiffany



DESCRIPTION: Distant view of MW-12.

FIELD PHOTOGRAPHY LOG SHEET

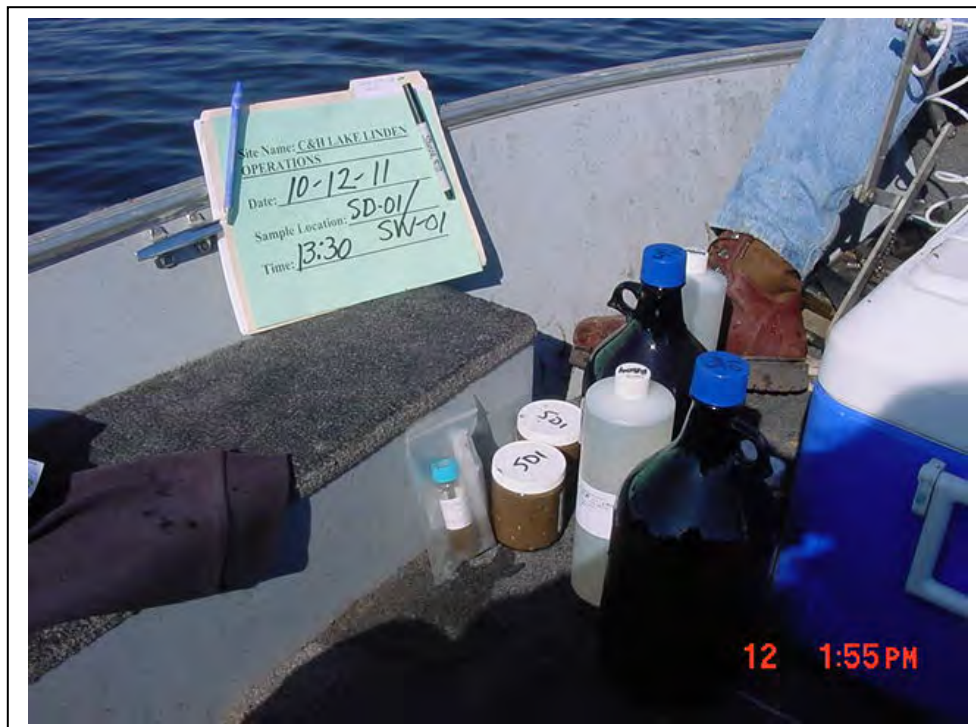
PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

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DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
North

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Close-up view of SW-01/SD-01.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
North

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Distant view of SW-01/SD-01.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
Down

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Close-up view of SW-02/SD-02.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
South

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Distant view of SW-02/SD-02.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
Northwest

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Close-up view of SW-03/SD-03.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
Northwest

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Distant view of SW-03/SD-03.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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PAGE: 50 OF: 80

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
Down

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Close-up view of SW-04/SD-04.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Distant view of SW-04/SD-04.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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PAGE: 51 OF: 80

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
Down

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Close-up view of SW-05/SD-05.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: Distant view of SW-05/SD-05.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 52 OF: 80

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
Northeast

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of slag area.

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of slag area.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 53 OF: 80

DATE: 10/10/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of slag area.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
Northwest

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of slag area.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 54 OF: 80

DATE: 10/10/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of slag area.

DATE: 10/10/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of slag area.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 55 OF: 80

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of slag area.

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
South

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of south side of slag area bordering the Torch Lake backwater.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
unknown



DESCRIPTION: Lake Linden Park.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
west

PHOTOGRAPH BY:
unknown



DESCRIPTION: Lake Linden Park.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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PAGE: 57 OF: 80

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
East

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of loon from Lake Linden Park.

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
East

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of loon from Lake Linden Park.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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PAGE: 58 OF: 80

DATE: _____

DIRECTION OF
PHOTOGRAPH:

PHOTOGRAPH BY:

DESCRIPTION: _____

DATE: 10/13/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of tennis courts in use near MW-12 at Lake Linden Park.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 59 OF: 80

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
Southeast

PHOTOGRAPH BY:
unknown



DESCRIPTION: Lake Linden Park.

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
Southeast

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of the arsenic removal area.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 60 OF: 80

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: Remains of the former Calumet Stamp Mill in the county Historical Society property.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
unknown



DESCRIPTION: Remains of the former Calumet Stamp Mill in the county Historical Society property.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 61 OF: 80

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
East

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: Remains of the former Calumet Stamp Mill in the county Historical Society property.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
East

PHOTOGRAPH BY:
unknown



DESCRIPTION: Remains of the former Calumet Stamp Mill in the county Historical Society property.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

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DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
Southeast

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of property where the former C & H Laboratory used to be.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
East

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of property where the former C & H Laboratory used to be.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
Southwest

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of inactive building that used to be the C & H Power Plant.

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
Southwest

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of inactive building that used to be the C & H Power Plant.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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PAGE: 64 OF: 80

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of inactive building that used to be the C & H Power Plant.

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of inactive building that used to be the C & H Power Plant.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of drums near the former C & H Power Plant.

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
Down

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of burn pile near the former C & H Power Plant.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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PAGE: 66 OF: 80

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
Southwest

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of the coal docks area during a rain event, which caused surface runoff.

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
South

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of the coal docks area, with surface runoff seen here entering Torch Lake at the north end of the existing concrete foundation of the former C & H dock. The lake is to the left in this stitching of two photos.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of the coal docks area, with coal pile on the left and rainwater at the base.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:



DESCRIPTION: View of drums, debris, and waste in the coal docks area.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE:68 OF: 80

DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
Down

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of debris pile in the coal docks area.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of drum with waste in the coal docks area.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

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DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of drums and debris in the coal docks area.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
Down

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of debris pile in the coal docks area.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
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DATE: 06/23/11

DIRECTION OF
PHOTOGRAPH:
Down

PHOTOGRAPH BY:
John Spielberg



DESCRIPTION: View of drum with waste in the coal docks area.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
North Northeast

PHOTOGRAPH BY:
Mark Henry



DESCRIPTION: View of the coal docks area, with portion of concrete foundation and former C & H dock pilings still present.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

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DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
Southwest

PHOTOGRAPH BY:
Mark Henry



DESCRIPTION: View of the coal docks area.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of the coal docks area.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 72 OF: 80

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
North

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of the Mineral Building.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
Northwest

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of the Mineral Building.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 73 OF: 80

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of area south of the Mineral Building with waste piles.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
South

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of fallen chimney south of the Mineral Building, with fire brick and gray sludge waste.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 74 OF: 80

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of fallen chimney south of the Mineral Building, with fire brick and gray sludge waste.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
unknown

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of fallen chimney south of the Mineral Building, with fire brick and gray sludge waste.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 75 OF: 80

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
North Northeast

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of fallen chimney south of the Mineral Building.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:

PHOTOGRAPH BY:



DESCRIPTION: View of fallen chimney south of the Mineral Building, showing gray sludge waste.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 76 OF: 80

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
South

PHOTOGRAPH BY:
unknown



DESCRIPTION: View from the Mineral Building toward Peninsula Copper Industries (PCI) and Torch Lake.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
Southeast

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of waste piles on the Mineral Building property.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 77 OF: 80

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
Southwest

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of waste piles or contaminated soils at the Mineral Building property looking toward the PCI property.

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
South

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of waste piles or contaminated soils at the Mineral Building property looking toward the PCI property.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 78 OF: 80

DATE: 10/11/11

DIRECTION OF
PHOTOGRAPH:
Southwest

PHOTOGRAPH BY:
unknown



DESCRIPTION: View of PCI south part of the Mineral Building property, showing piles of debris and waste.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
West

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: View of PCI from Torch Lake.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 79 OF: 80

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
Northwest

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: View of the Mineral Building from Torch Lake, showing two outfalls to the lake.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
North

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: View of coal docks area from Torch Lake.

FIELD PHOTOGRAPHY LOG SHEET

PROPERTY NAME: C & H Lake Linden Operations
U.S. EPA ID #: MIN000510619

PAGE: 80 OF: 80

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:
North Northwest

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: View of remaining dock pilings and concrete foundation from Torch Lake.

DATE: 10/12/11

DIRECTION OF
PHOTOGRAPH:

PHOTOGRAPH BY:
Teresa Ducsay



DESCRIPTION: View of the Power Plant building from Torch Lake.

Appendix E

Field Log Book

Th, 6/23/11
at Uhaul ~830.

Sch. Township's office on Front St.
~11:30 -12

Owen Brooks - Schoolcraft
(706) 296-8721 Township Supervisor

Matt Axha, assessor for
Schoolcraft & Torch Lake
(906) 482-0144 Township

Houghton bridge
location

- Matt work on updating
Schoolcraft & Torch Lake
Township ownership info
- said will become computerized

Western UP Planning & Devl.
Sheldon Ave. - 4 story
- do county maps

"Douglas
Agency" 482-7205
Kim Stoker

Th, 6/23/11

tx West-UP planning, Kim Stoker 13:50
- a left message to call me

Site visit/culture w/ Scott + Barb

Slag piles, Area A

- colors: blue, black,
brown, red

- ⊗ - Do: email Pat Martin, Mich.
Tech, ind. archeologist
- what's the risk from slag?
- how many bags? - large area

Area C, near marina + small ⊗
& PA' mural

- some slabs sands, some
regular rock, some waste
- lot of concrete (tons of conc. structures)
- 11 large round structures ⊗
~30' across
- some railers present ⊗
- small pieces slag near old
power plant

land

Th., 6/23/11 field visit

w/ Barb + Scott photo

Menagens is owner - Scott
says he has met him.

Coal pile under chute ⊗

Barb - Ralph Dalhoff, is
an OSC who has done some
site assessment in this
area - wrote report on it
Some asbestos - taking met. ⊗
6 round structures + 1 taller ⊗

Arsenic removal area

- whitish/yellowish mat. ⊗
- Barb thought could
be Arsenic

M. Blech. ⊗

Coal dock slag w/
M-BL. beach to right

Th., 6/23/11

Coal Dock photo

lots of small-size slag, ⊗
some coal bits

lichens, moss

Some dirt/waste? piles
near N end - Scott
says sometimes high w/
arsenic

Equisetum present (wet, moist)

Several foundations

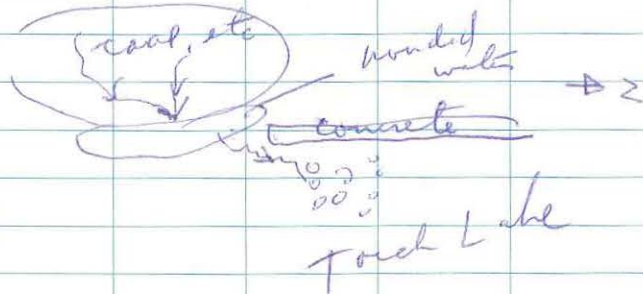
Some coal piles

lots of smaller coal piles

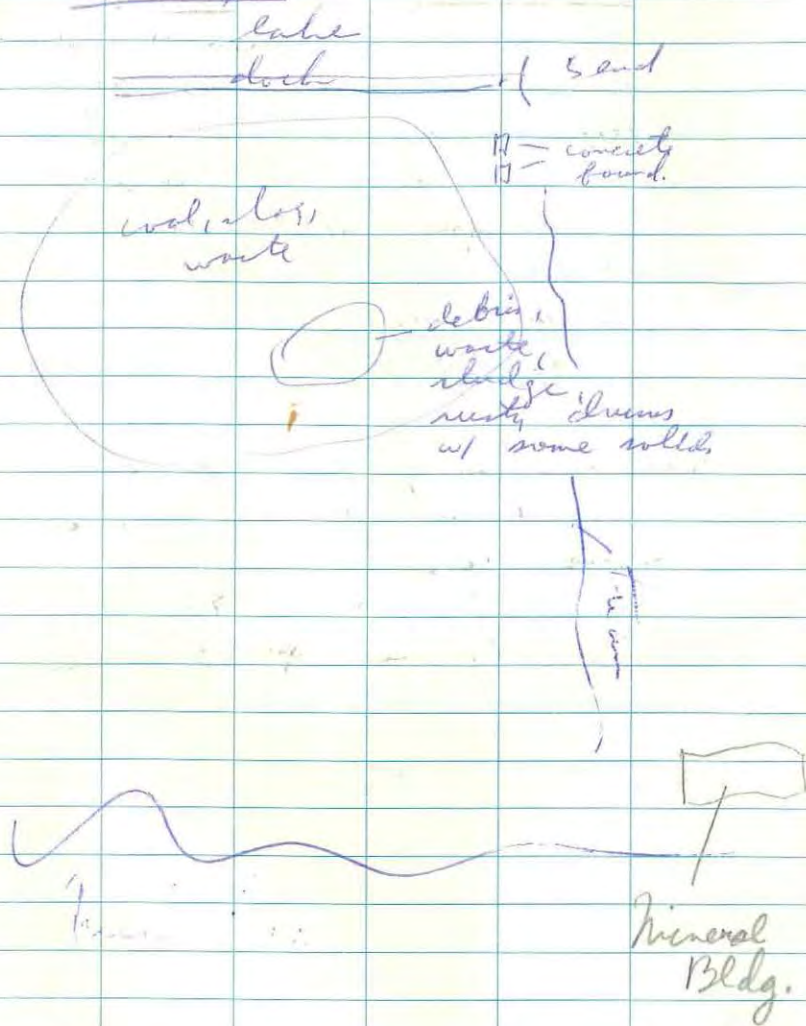
w/ ponded water between

Dock area w/ old piles, ⊗

Some runoff definitely
occurring at S end of dock ⊗



Th., 6/23/11



2007 - Emerg. removal, 11/30/07 rpt.

(75 samples/31 gals.
+ 21/0C)

(A) 7/26-31/2007 recon. + sampling

8/5-10/3/07 removal (TCRA)

- done in delisted part of TL NPL

8/6-7: 9 red samples w/ Mud Paddy

TL NPL:

- 700 acres stony sand/slag
"remediated"

6/21/07 - 050 sampled white, clayey
waste at shoreline W of beach

- found PCBs

- several metals > 20x TCLP

→ "characteristic hazardous"

7/24/07 - local HR observed blue
water in cove + at beach
(holes dug by children)

7/25 - DEQ, HD, LL requested
EPA assistance

(A) highest lead E of LL park (80K ppb)
highest As ~ 1200' S of park (65 ppb)

Lead

Th, 6/30/11 mty. 1:00 - 2 pm about 11

Wentover Joel

Present: Joel, Narda,
Patricia, David, me

Area C removal areas are not
part of SF site

Area D - Nephie says was part
of NPL; JK said only coal.
as part of stump sands

General - Patricia thinks may not
be able to use copper and
some CHL (because need
to scale TC NPL)

Agreed our template for PA
was OK, preferred
said they'll make PCS approval
will be priority

Th, 6/30/11

NSAS

2pm + 3
→ break

TCEQ

- ⊕ - activists thrive where
data locking - therefore, ⊕
not preliminary data to web
- community participation
better than engagement
- transparency → trust +
- we ⊕

(Karen) Kloo - NJ

- proactive notification
a good idea

last

Th, 6/14/11

(Mary) said she'd be willing to
join any CHU meetings / discussion.
- she said she asked to be taken
off Torch Lake site.

- Part RPMs include:

CHU build staff for SI

Mark - on 9/21/11 said OK for week 2
Oct 10

Joni - ~~OK for week of 10/10~~

Astoria - OK

Joe - OK

Jerese - OK

me - OK

~~Scott - OK (but not avail whole time)~~

Barb - OK

Chuck - OK

Carol - OK

end

who	gen.	Sun.	Mon 10/10/11	Tues 10/11	Wed 10/12	Th 10/13	Fri 10/14
Joe			XRF, SS, GPS				
Chuck							needs to be Bayne Inter. ← 2
Mark	operate merem probe						
Jenica	operate Jym -probe						
Antuan			XRF, SS, GPS				
Barb							
me							
Scott							
General	travel, planning 2 geopr.		(XRF), TMWs, (eval), XRF, ← GPS XRF local flag TMW/ SB, (SS)	SB SS TMW	SB TMWs		

and

DD

by Carol Heckerth's book/photos
cancel reservation for N00154

2008 blue Ranger

✓ meet w/ Joe to generate labels + OTAS
call owners of slag dump prop.

Sunday on way to VP

Change TmW to MWs

- make MW-05 a dup.

→ MW-05D in area C

- make MW-04 bhd. for area C

cooler

what

airbill

ship
date

durog 1

SS all

2538

10/13/11

durog 2

SD/SD all

2547

durog 3

MW-01 to 06

2556

FB-01, PB-01
+02

durog 4

MW-05 + 05D

2565

06, 07

~~PB-03, PB-02~~

durog 5

MW-08, 09, 10

2574

PB-02, FB-04

durog 6

all SW, MW-11

2583

Sum. am

✓ hook up 2 trailers

✓ unload + load black trailer

✓ call Barbara Wilke - Shoreline Del./slag

cancel N00154 - Mon.

label bottles - party?

(did not do)

✓ get cash

and

Mon, 10/10/11 - Do

Stay POSITIVE!

7am meeting - hand out wps ✓
- show data sheets, soil jars &

SS, XRF, GPS

Joe + Autumn

Preem Geoprobe

Mark + Barb

UofM Geoprobe

Jessica + Chuck

Trailer

John + Carol

Safety!!

Joe is SSO

- gear, water, breaks, lunch,

Mon 10/10 planned

get back
slader

- 2 bags ice (big ones)
or 6 small ones

Charge up PIDS & GPS on way

Chuck's extra truck key

- Joe - get all soil jars labelled
before doing XRF/SS/GPS

✓ Postures

General full reminders:

- be safe

- - soil density - keep it simple
→ show SB sheet, photo sheet
- - no borings until > 9 mty w/ util. before

✓ On way - get ice - Barb

At site

park. call 3 trailers

put up canopies

label soil jars for CLP

& unload main

& unhook from trucks

codex [bottles]

and

		<u>date</u>	<u>time</u>	<u>cooling</u> <u>Org</u>	<u>cooling</u> <u>dworg</u>
SS-01		10/10/11	1415	01 ✓	01 ✓
SS-02			1232	✓	✓
SS-02D			1232	✓	✓
SS-03			1352	✓	✓
SS-04	10/11	1155			
SS-05	10/11	1140			
SS-06	10/11/11	940			
SS-07	10/10/11	1740			
SS-08		1622			
SS-09		1727			
SS-10	10/12/11	933			
SS-11	10/12	1545			
SS-12	"	1615			
SS-12D	"	1615			
SS-13 ms/msd	10/12/11	1215			
SS-14	"	1300			
SS-15	10/11/11	1852			
SS-16		1708			
SS-17		1652			
SS-18		1520			
SS-19		1410			
SS-20		1337			

Get + buy
better rain gear ✓
UPS stuff ✓

buy - Sun.
✓ 500 tags - get on way Sun. } Sat Sun,
✓ fine point sharpies } ~ 13145
✓ big paper clips }

last

Sat, 10/8/11

reworked workplan maps at home
~ 2 hrs. in pm.

Planning to meet Joe at Filley 7pm.

Others:

tx Autumn 625 pm - left vm - OK

tx Barb 627 pm - going late

tx Ward 635 pm - left vm

tx Chuck 639 p - left vm

Sun Mon, 10/10.

- no messages on work phone 522 am

Wed. - DO

call CLP

call DEQ lab

John II Lite

mwrs instead of TmW

Wed, 10/12/11

Joe + Autumn still doing KPR,

SS, GPS

Mark + Chuck did mw-01 + 02

Terrell + Carl did mw-08 + 09

Wah + Terrell went to meet w/

DNR CO ~~Matt~~ ~~Stacy~~ Dennis
to use DNR brotup ~~half~~ spot
starting 100 pm. (Amy contacted
him + he agreed to do)

(Joe) said he talked to ally. John

Benny gave him access to co.

hist. loc. property

back

<u>order</u>	<u>what</u>	<u>airbill</u>	<u>ship date</u>
Org 1	SS all - 22	2387	10/13
Org 2	SB/SD all - 21	2396	10/13
Org 3	mw-01+02	2403	10/13
Org 4	mw-03+04	2412	10/13
Org 5	mw-05+05D	2421	10/11/11, 11/11
Org 6	mw-06 ms/msd	2430	10/12, BV
Org 7	mw-07+08	2449	10/12, BV
Org 8	mw-09+10	2458	10/13
Org 9	SW-01+02	2467	10/13
Org 10	SW-03+03D	2476	10/13
Org 11	SW-04 ms/msd	2485	10/13
Org 12	SW-05 + FB-09 ^{mw-11}	2494	10/13
Org 13	FB-01 only ←	2501	10/13
Org 14	FB-02 + PB-01	2510	10/13 ?
Org 15	FB-03 + PB-02 not used	2529	10/13

Dennis East

South
Glinville

Chassell, MI

49916

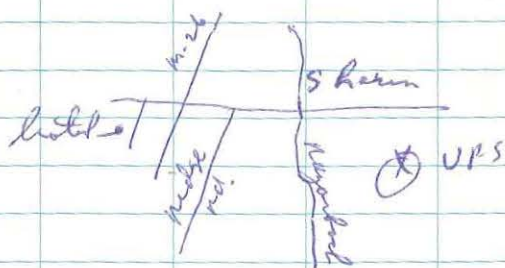
last

					<u>Org #</u>	<u>sqid</u>	<u>Org #</u>	<u>sqid</u>
	<u>date</u>	<u>time</u>						
SB-01	10/10/11	1701						
SB-02	}	1610	no dup. cell.					
SB-03		1600						
SB-04		1812						
SB-04D		1812	dup. - collected					
SB-05		1840						
SB-06	10/11/11	930						
SB-07	"	1015						
SB-08	"	1455						
SB-09	"	1408						
SB-10	10/11/11	1148						
SB-11	}	1630						
SB-12		1704						
SB-13	10/11/11	1053						
SB-14	"	1803						
SD-01	10/12/11	1330						
SD-02	}	1800						
03		1415						
04 ms/msd		1515						
05		1615						
03D ✓		1415						

end

UPS in Houghton

- 1) 901 W. Sharon Ave.
M-F latest pickup 4:30
12 mi. from LL



	<u>date</u>	<u>time</u>
SW-01	10/12/11	1330
02		1800
03		1415
04		1515
05		1615

mw-01

mw-02

mw-03

mw-04

mw-05

mw-05D

mw-06 ins/med

mw-07

mw-08

mw-09

mw-10

mw-11

mw-12

FB-01

FB-02

~~FB-03~~

PB-01

PB-02

date time

10/12/11 1015

10/12/11 1112

10/12/11 1610

10/11/11 1200

" 1305

" 1315

" 1650

" 1845

10/12/11 1025

10/12/11 1150

" 1810

" 1825

10/13/11 1005

10/11/11 1645

10/12/11 1805

10/11/11 1707

10/12/11 1800

also coll. 1 l
plastic for GA
anal. (ammonia)
pres - 1 HCl

also coll. 1 l
plastic for
GA/ammonia
med H₂SO₄

TABLE 1
SAMPLE ANALYSIS SUMMARY

C & H Lake Linden Operations

October 10 – 14, 2011

Sample Type	No. of Samples	Field Duplicate	Total Samples	MS/MSD ¹	Analysis (Lab)	Containers	Preservative	Turnaround Time (days)
Surficial Soil	20 A- C- E-	2	22	1	VOA (DEQ) BNA/Pesticide/PCB (CLP) Total Metals/Cyanide (CLP)	1-40 ml. glass vial 1-8 oz. glass jar 1-8 oz. glass jar	CH ₃ OH Ice only Ice only	7 21 21
Soil Boring	12 A-3✓ C-6 E-3	1	13	0	VOA (DEQ) BNA/Pesticide/PCB (CLP) Total Metals/Cyanide (CLP)	1-40 ml. glass vial 1-8 oz. glass jar 1-8 oz. glass jar	CH ₃ OH Ice only Ice only	7 21 21
Sediment	5	1	6	1	VOA (DEQ) BNA/Pesticide/PCB (CLP) Total Metals/Cyanide (CLP)	1-40 ml. glass vial 1-8 oz. glass jar 1-8 oz. glass jar	CH ₃ OH Ice only Ice only	7 21 21
Surface Water	5	1	6	1	VOA (CLP) BNA/Pesticide/PCB (CLP) Total Metals (CLP) Cyanide (CLP)	2-40 ml. glass vial 2-80 oz. amber bottle 1-1 l. HDPE bottle 1-1 l. HDPE bottle	HCl Ice only HNO ₃ NaOH	21 21 21 21
Temporary Monitoring Well	10 A-3✓ C-5 E-2	1	11	1	VOA (CLP) BNA/Pesticide/PCB (CLP) Total Metals (CLP) Cyanide (CLP)	2-40 ml. glass vial 2-80 oz. amber bottle 1-1 l. HDPE bottle 1-1 l. HDPE bottle	HCl Ice only HNO ₃ NaOH	21 21 21 21
Field Blank	4	---	4	---	VOA (CLP) BNA/Pesticide/PCB (CLP) Total Metals (CLP) Cyanide (CLP)	2-40 ml. glass vial 2-80 oz. amber bottle 1-1 l. HDPE bottle 1-1 l. HDPE bottle	HCl Ice only HNO ₃ NaOH	21 21 21 21
Pump Blank	2	---	2	---	VOA (CLP) BNA/Pesticide/PCB (CLP) Total Metals (CLP) Cyanide (CLP)	2-40 ml. glass vial 2-80 oz. amber bottle 1-1 l. HDPE bottle 1-1 l. HDPE bottle	HCl Ice only HNO ₃ NaOH	21 21 21 21

¹ – MS/MSD does not require additional sample volume for soil/sediment samples. Additional volume is required for water samples. Sample container requirements for water MS/MSD samples include:

6-40 ml. glass vials for VOA analysis

4-80 oz. amber bottles for BNA/Pest/PCB analysis

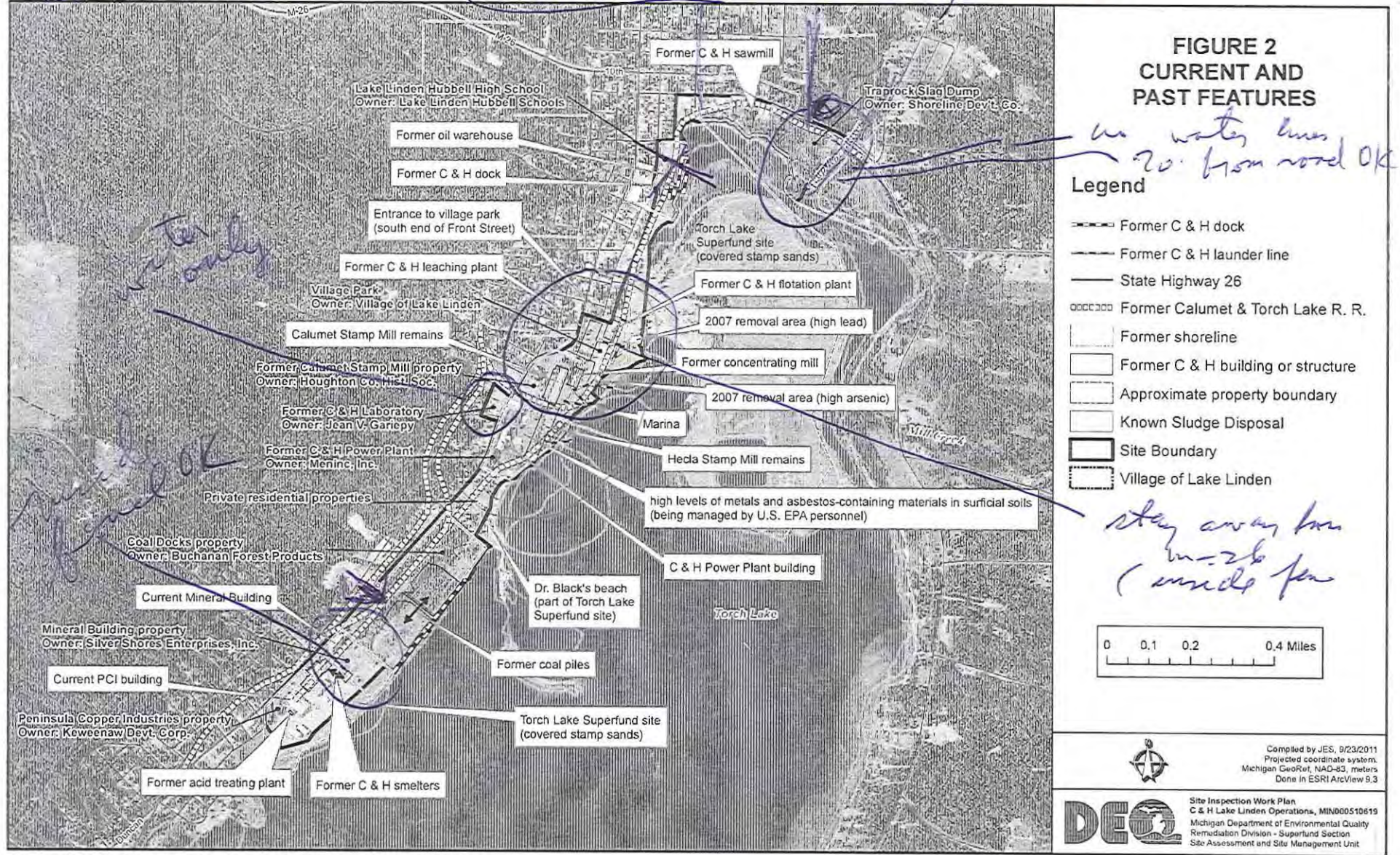
2-1 l. HDPE bottles for Total Metals analysis

2-1 l. HDPE bottles for Cyanide analysis.

(Lar - water - stay out of
 area betw. houses & bay.
 Harold -
 Dan - UPPCO

L. mins - AT&T - phone
 Ralph - TL Skeweg
 Rom - LL vlg. - water

10/10/11

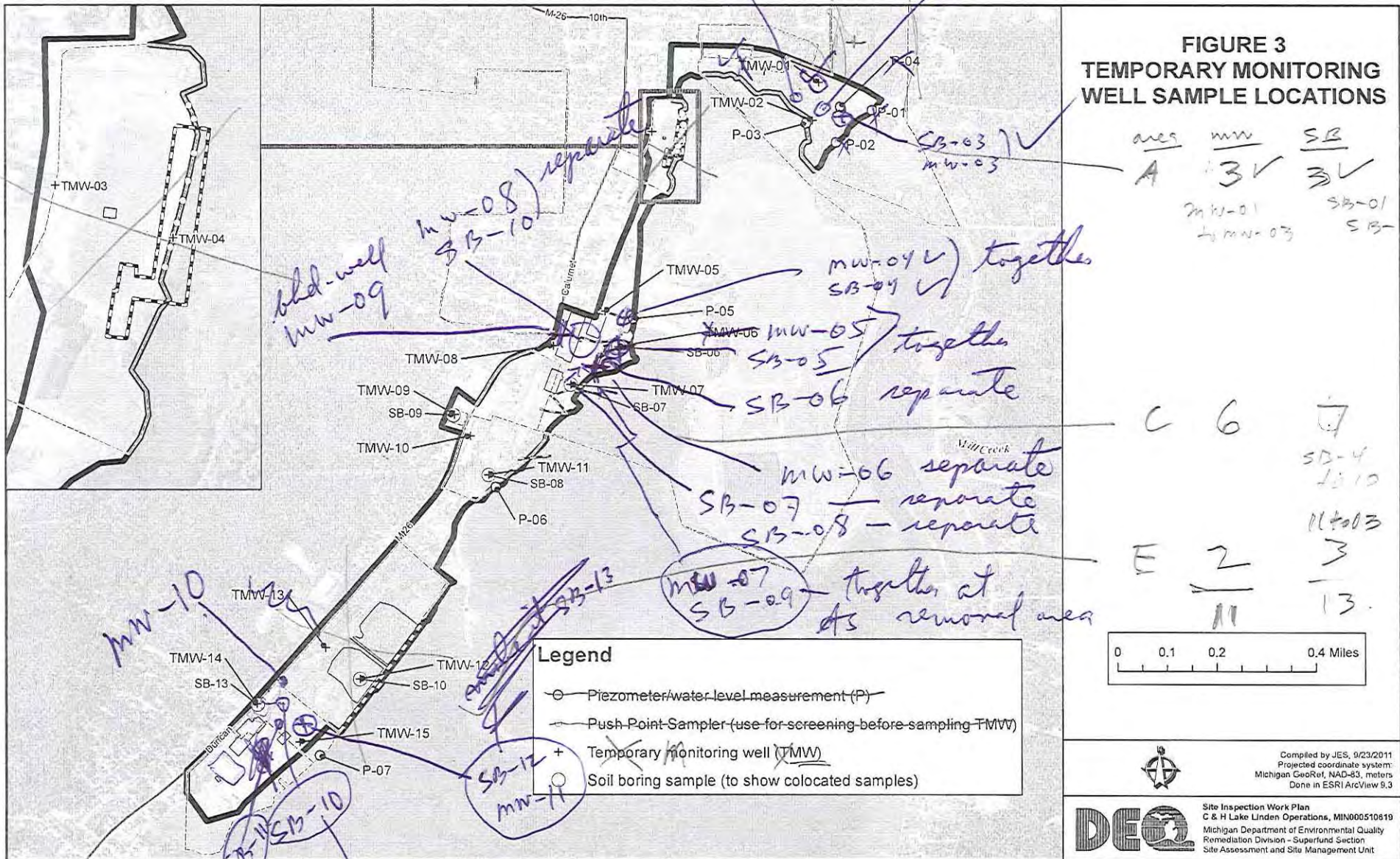


Sources: Center for Geographic Information website (2010 aerial photograph), MDEQ files

Tom - SEMCO

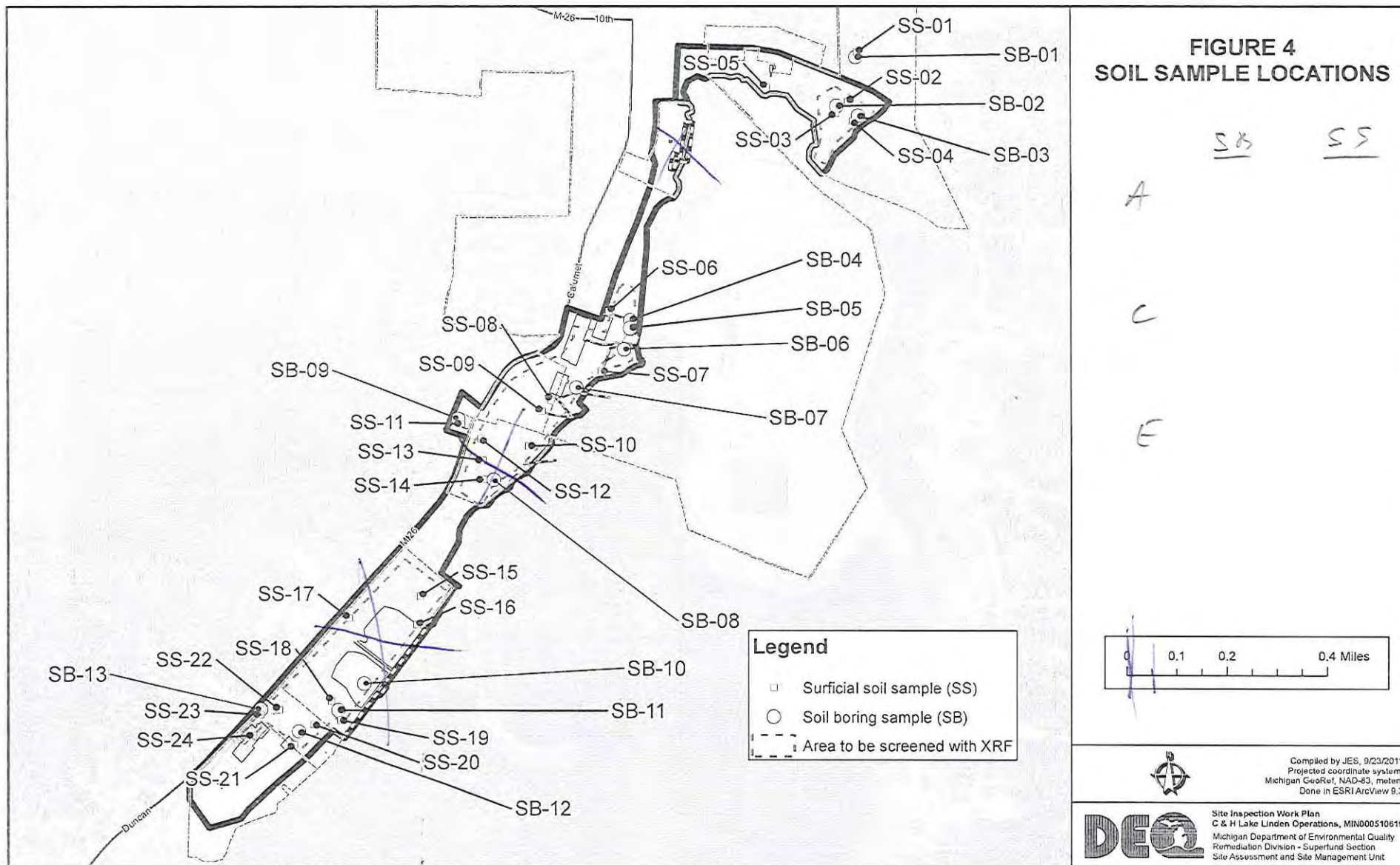
Chris - Charter - cable

6



Sources: Center for Geographic Information website (2010 aerial photograph), MDEC files

A z
C p
D z
E



Sources: Center for Geographic Information website (2010 aerial photograph), MDEQ files

C H LAKE LINDEN OPERATIONS SITE
 SITE INSPECTION
 PROPERTIES NEEDING SITE ACCESS

PROPERTY INFORMATION			
PROPERTY NAME	PARCEL NUMBER	PROPERTY ADDRESS NUMBER	PROPERTY ADDRESS STREET
Mineral Building	31-014-307-001-25 31-014-307-001-75		Duncan Ave/M-26
Coal Docks property	31-014-307-001-25		Duncan Ave/M-26
Former Power Station	31-014-306-004-00		Duncan Ave/M-26
Former C & H laboratory	31-014-720-023-00	53051	Highway M-26
Calumet Stamp Mill	31-014-306-003-00		Duncan Ave/M-26
Village Park	31-014-306-003-50 31-014-306-002-00		South end Front Street
Lake Linden-Hubbell High School	31-043-164-001-00	601	Calumet St/M-26
Traprock Slag Dump and North Area	31-012-055-038-00		Bootjack Road
Traprock Slag Dump and North Area	31-012-055-038-00		Bootjack Road

C H LAKE LINDEN OPERATIONS SITE
SITE INSPECTION
PROPERTIES NEEDING SITE ACCESS

OWNER INFORMATION													
PROPERTY NAME	OWNER FIRST NAME	OWNER LAST NAME	OWNER TITLE	OWNER COMPANY	PO BOX	OWNER STREET NUMBER	OWNER STREET NAME	OWNER CITY	OWNER STATE OR PROVINCE	OWNER ZIP CODE	OWNER TELEPHONE	DATE OF INITIAL CONTACT	OWNER COMMENTS
Mineral Building	Mr. and Mrs. William	Siler		Silver Shores Enterprises	PO Box 460			South Branch	MI	49963	906-482-8517; 906-482-8518 <i>Bill Siler Contractor</i>	9/6/11 (Pat Siler)	ERNIE has P.O. Box 413, Houghton, 49931; use PO Box 460 (Mrs. Siler told me to use this)
Coal Docks property	Ken	Buchanan		Buchanan Forest Products		1174	Dawson Road	Thunder Bay	Ontario, Canada	P7G1H6			
Former Power Station	<i>Louis J.</i>	Meneguzzo	President	Meninc, Inc.		52930	Highway M-26	Lake Linden	MI	49945	906-337-2106	9/12/2011 <i>Louis</i>	home address
Former C & H laboratory	Jean V.	Gariepy				27434	E. Bridge Street	Lake Linden	MI	49945	906-296-0191 h; 906-296-9191 w		number listed in county phone book for Terry and Jean Gariepy, same address
Calumet Stamp Mill	John	Berry	President of the Board	Houghton County Historical Society	PO Box 127	53150	State Highway M-26	Lake Linden	MI	49945	906-296-4121	9/12/11 (Dave Pulse, treasurer)	talked to Dave Pulse, Treasurer
Village Park	Ed	Fisher	Village President	Village of Lake Linden		401	Calumet Street	Lake Linden	MI	49945	906-296-9911	<i>Bill 9/29</i>	
Lake Linden-Hubbell High School	Craig	Sundblad	Superintendent	Lake Linden-Hubbell High School		601	Calumet Street	Lake Linden	MI	49945	906-296-6221	9/20/11 (Lauri superintendent's office)	She says there is no room between the ball field and the lake.
Traprock Slag Dump and North Area	Russell & Barbara	Wilder	Property Owner	Shoreline Development, Inc.	PO Box 116			Lake Linden	MI	49945	906-296-0825	<i>Barb w 9/29</i>	owner names are from ERNIE (no tel. #); tel. # from county Phone book for Russ Wilder
Traprock Slag Dump and North Area	John & Mary	Kappler	Property Owner	Shoreline Development, Inc.	PO Box 116			Lake Linden	MI	49945	906-296-9263		owner names are from ERNIE (no tel. #); tel. # from county Phone book for Mary Kappler (John and Tricia # is 482-3723)

✓ verbally 9/29

✓ mail

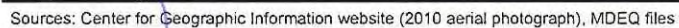
✓ verbally 9/30

✓ fax

✓ = access received

C H LAKE LINDEN OPERATIONS SITE
SITE INSPECTION
PROPERTIES NEEDING SITE ACCESS

ACCESS INFORMATION					
PROPERTY NAME	DATE ACCESS REQUESTED	MAILING COMMENT	CERTIFIED MAIL RECEIPT RECD	DATE ACCESS RECEIVED	ACCESS NOTES
Mineral Building	9/20/2011	mailed 9/21/11 certified mail	9/29 from Det Siler ✓	OK	
Coal Docks property	9/20/2011	mailed 9/21/11 certified mail		10/17	verbal
Former Power Station	9/20/2011	mailed 9/21/11 certified mail	9/28/2011 from Sandra Meneguzzo	10/4	
Former C & H laboratory	9/20/2011	mailed 9/21/11 certified mail	9/28/2011 from Jean Ganepy	9/28/2011 from Jean Ganepy	
Calumet Stamp Mill	9/20/2011	mailed 9/21/11 certified mail		mes.?	
Village Park	9/20/2011	mailed 9/21/11 certified mail	9/28/2011 from Jill DuMonthier	9/30	
Lake Linden-Hubbell High School	9/20/2011	mailed 9/21/11 certified mail	9/28/2011 from Mary Chamberlain	9/29/2011 from Craig Sundblad	verbally from superintendent Craig Sunblad, faxed access also recd
Traprock Slag Dump and North Area	9/20/2011	mailed 9/21/11 certified mail	9/28/2011 from B Wilder	9/30	
Traprock Slag Dump and North Area	9/20/2011	mailed 9/21/11 certified mail	9/28/2011 from B Wilder	9/30	



Coal dock
South end

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.10.11

Page 1 of 18

Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
1	Cal				
2	Blank				
3	NIST High				
4	Traprock Slag	Slag gravel		Yes	
5	↓	Soil mixed w/ slag		↓	
6		dark soil			No slag @ surface
7		soil & slag			
8		sand, gravel & slag			
9		sand, slag			
10		Blue Slag			
11		Sand, Slag			
12		Slag, gravel			
13		Slag (fan)			

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.10.11

Page 2 of 18

Operator: ve Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
14	Traprock Slag	Slag gravel		Yes	
15		Slag gravel			
16		Sand + slag gravel			
17		gray blue slag			
18		Sand + slag gravel			
19		Sand			
20		gray slag			tan chunks w/in slag
21		Stamp sand			
22		slag gravel			
23		Slag gravel pile			
24		slag gravel			
25		Slag face			10 photos in panoramic view
26		Sand			

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.10.11

Page 3 of 18

Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
27	Taprock Slag	Sand		YES	
28		Sand			
29		Sand			some debris - broken glass
30		sand, some gravel			
31		Sand			debris w/ periodic slag
32		Sand			debris
33		Sand			took 1 photo on walk by fallen tree
34		dark grey Silty sand			soil in roots of fallen tree
35	Sub Area C marina	dark brown, moist			
36		Stamp sands			
37		Slag ? sand			pile on Sub Area C
38		Slag ? sand			pile " " " "
39		dK brown sand			

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.10.11

Page 4 of 18

Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
40	Sub Area C Marina	redish brn sand, ^{Some} gravel		YES	
41		slag, rock, sand			
42		Stamp sands			
43		Stamp sand, sand			
44		Silty sand	X		Took photo South, east & west after SS08
45		Stamp Sand & gravel			
46		brn. fine sand, some silt			
47		Stamp sand			
48		brn fine sand, some silt			
49		Stamp sand & sand			
50		Fine to med. sand			
51		metallic mineral looking rock			
52		fine to med. sand			

XRF LOCATION INFORMATION for SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.10.11

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Operator: Joe Walczak

Data Recorder: Autumn

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
53	SubArea C Marina	fine to med Sand, tr gravel		YES	
54		dry reddish gray silt			on side wall of washout near lake shore
55		black coal & orangish silty			edge of black coal mat. + dry orangish silty material
56		brn silty fine sand			
57		silty fine sand			
58		Piece of melted metal	x		after SS07 Sample? Photos taken N then S along shore, then N & S in road area.
59		Stamp sand: Sand			
60		Stamp sand: Sand			
61		Stamp sand: fn. sand			
62		moist brn fine silty sand			
63		moist brn fine silty sand			
64		" " " "			
65		fine Stamp sand			

same loc as SS-07

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.10.11

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Operator: Joe Walczak

Data Recorder: Autumn

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
66	Sub Area C Marina	Stamp sand		YES	on side wall of washout on lake shore
67	↓	brn silty fine sand		↓	
68	Cal				begin 10.11.11 ↓
69	Blank				
70	NIST High				
71	Sub Area C Marina	Redish Stamp Sand		YES	
72		fine red stamp sand		↓	on shoreline
73		" " " "			"
74		" " " "			"
75		red silty fine sand			
76		" " " "			
77		"			Park area
78		Sand + trace slag gravel		↓	

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10-11-11

Page 7 of 18

Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
79	SubArea C Marina	scale + sand		YES	took SS06
80		fine red silty sand			after SS06 2
81		"			Photos facing S, W, N, S, N, E
82		"			
83		red sand, gravel			
84		sand, gravel			
85		brown sand, gravel			
86		brown sand silty			
87		red sand, fine gravel			
88		fine sand			
89		brown silty sand, gravel			
90		gray sludge			from SB 13
91		red silty sand		✓	

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.11.11

Page 8 of 18

Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
92	SubArea C Marina	dark brn silty ^{moist} sand		YES	
93		red silty sand			
94		dk brn moist silty sand			
95		ashes	West		barn fire Pit, nails, Painted lumber
96		Sand, fine gravel			
97		Sand, gravel			
98		Sand			
99		Sand + gravel	3 North		3 Photos showing kids on Nature Walk
100		Sand, fn gravel			
101		Stamp sands			
102		Stamp sand, sand, organics			
103		grayish tan sand drif, Stamp sand, sand			
104		Stamp sands			

past softball field.

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10-11-11

Page 9 of 18

Operator: Joe Walczak

Data Recorder: Autumn

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
105	Mineral bldg	Sand, gravel, Slag		YES	
106		gray slag			
107		gray slag & sand			
108		gray slag		NO	NOT GPSed due to poor satellite location. 15' W + 100' S of NW corner of Mineral bldg.
109		gray stamp sand			
110		gray stamp sand			
111		stamp sand Sand (brown)			
112		brown sand mix - sand, slag, cinder, scale			SS20
113		cinder's mix - silty w/ sand dry scale			SS20
114		moist brown sand, rubble			
115		moist brn sand			
116		sand stamp sand, slag			
117		gray sludge material	w/ SS19		material is spillout of tipped smoke stack appears to be full of this material

= SS19
which

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10-11-11

Page 10 of 18

Operator: Joe Walczak

Data Recorder: Autumn

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
118	Mineral Blag.	Gray Sludge	after SS19	YES	
119		moist dk brown sand			
120		moist greenish gray sludge	YES		within smokestack.
121		sand, gray sludge + slag			
122		moist dk gray gravel some sludge, debris			
123		sand, gravel, debris Pile			
124		azure blue w/white flakes hardened material on fire brick			
125		gray stamp sand	YES		drums waste took Panoramic view 360° from top of waste pile
126		moist brn sand, lots of debris	YES		Close up of waste Pile - possibly asbestos gasket line.
127		Stamp sand, sand			
128		sand, gravel moist brn sand, metal shavings, aluminum debris, iron debris			
129		dry grayish brown sand, slag, debris			SS18
130		dry grayish brn sand, debris, slags.			

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.11.11

Page 11 of 18

Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
131	Mineral bldg.	grayish brn silty sand + paper		YES	Pile
132		brn sand, slag			
133		moist grayish brn silty sand, gravel + slag + fibrous material			
134		grayish brn silty sand, gravel			
135		Light brn silty fine sand gravel + slag			
136		brn silty sand, slag, brick, debris			
137		gray slag over brn sand			
138		Lt brn silty sand, gravel			
139		moist brn sand & slag, some debris			Pile
140		moist blk sand, ash, charred wood, some debris			Pile
141		grayish brn, gray slag.			
142		Lt brn silty sand, slag, gravel		⚡	
143	⚡	ash material in bag with top level of mineral bldg.		NO	NOT GPS'd - inside bldg.

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10-11-11

Page 12 of 18

Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
144	coal dock	any greenish gray silt, some stamp sand, coal, slag		YES	
145		blackish gray silty f. sand, slag metal, debris, wire			
146		Lt brn silty f to m sand lots slag + coal, brick wood			
147		blackish gray silty f. sand wire, wood, debris	YES		after SS 116 Took Panaramic photo beginning E, N, W, S.
148		brownish orange material	YES		IN tipped over barrel & 2 barrels. 3 photos
149		Lt brn silty f to m sand any debris slag			Pile
150		dk brn silty sand wire, debris			
151		orangish brn f sand w/ rusted metal (yellow orange) slag			near buried barrels, under a log + on side wall of pile
152		White film on brn silty sand	YES		Partially → 11 buried barrels + drums - unknown contents
153		Black coal + stamp sand			
154		Waste Pile w/ bank, brn silty sand			
155		dry grayish brn silty f to m sand some coal + yellowish material			
156		brn sand, orange slag stamp sand			

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.11.11

Page 13 of 18

Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
157	Coal dock	Yellow Orangy slag, sand, coal		YES	
158		Yellow Orangy slag piece			
159		brn silty sand, coal			
160		heavy scrap metal piece			
161		black silty sand under metal debris	yes		cut ammunition pit
162		moist blk sand + slag			
163		orange brn m. sand			soil w/in chimney laying on ground
164		blackish brn f to m sand slag, coal			
165		moist orange brn fibrous material over dk brn sand w/ coal.			
166		brn silty sand w/ coal			
167	✓	dk brn moist silty sand coal			SS14 SS15
168	CAL				
169	Blank				

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10-12-11

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Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
170	NIST High				
171	LAB	gray silty sand		Yes	
172		Brn sand. some stamps.	Yes		Panaramic W, S, SE, E, N, NE
173		Brn sand, scattered stamps.			
174		dk brn sand + gravel			
175		brn sand + gravel			
176		brn sand + gravel			
177		brn silty fine sand			
178		tan gray " " "			
179		brn silty sand			
180		moist dk brn silty sand + sand			
181		moist dk brn sand			SS10
182	coal dock	Stamp sand, sand		▼	

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10-12-11

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Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
183	coal dock	dk brn sandy topsoil		YES	under 3" of leaf litter
184		Stamp sand			
185		moist dk brn f. sand w/ lots of organic matter			Pile
186		<u>Lg Pile of white rock</u> fine silty sand	Yes		<u>Crushed limestone Pile</u> 2 photos -
187					1 Photo of tipped drum.
188		gray silty f. sand coal, slag, debris			
189		moist dk. brn silty f. sand some organic matter			
190		sand + slag Pile (berm)			
191		moist dk brn silty f. sand organic matter.			
192		moist brn " " " "			berm
193		coal, stamp sand	yes		waste pile - 2 Photos of multiple
194		brn fine sand	yes		1 Photo facing SE of waste piles
195		brn sand, gravel	yes		2 Photo's South.

waste
piles
facing
N, NE

XRF LOCATION INFORMATION for SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.12.11

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Operator: Joe Walzcar

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
196	coal dock	moist bluish gray silty sand, stamps		Yes	Pile.
197		moist bluish silty sand			
198		Stamps. + coal			
199		moist brn silty sand some organic mat.			berm
200		moist brn silty sand some organic material			berm
201		moist brn silty sand coal	2		Photos S & SE of RR timber Piles
202		moist brn silty sand some organic material	2		South + N. Showing erosion in stream
203		dk brn stamps, slag + coal	Yes.		SS13
204		moist reddish brn stamp sand slag + coal			
205		moist dk brn sand, some slag, coal			
206		gray stamp sand, coal, slag			
207		brn silty sand, stamp sand slag, coal			
208		brn " " " "	2		East, showing gully in Stamp sands leading to ditch which eventually empties into Lake

XRF LOCATION INFORMATION
for
SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10-12-11

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Operator: Joe Walczak

Data Recorder: Autumn Lawson

XRF Run #	Location Designation	Material Description	Photo #	GPSed?	Comments (SS sample # if collected, high metals, etc.)
209	Historical Museum	brn silty f. sand		YES	
210		dry, gray silty f to m sand trace slag			
211		dry gray silty f to m sand trace slag			
212		gray stamp sand, slag	4		W, S, E, N
213		brn sand, organic matter			
214		stamp sand			
215		brn sand			
216		brn sand w/org. matter			
217		tanish gray sand			
218		moist black silty sand	1		South
219		dk brn in sand, ^{some} slag wood debris	2		SS11
220		stamp sands			
221		stamp sands			

XRF LOCATION INFORMATION for SURFICAIL SOIL SCREENING

Site: C & H Lake Linden Operations

Date: 10.12.11

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Operator: Joe Walczak

Data Recorder: Autumn Lawson

[illegible]

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.10.11

Sample Location: SS 01 Weather: Sunny 70°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1415 Depth/Interval: VOA - 3" Remainder - 0-9"

Soil Cover: Swamp grass (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: 1 Collected / # of Vials 1 VOA 1 Collected / # of Jars 1 SVOA/~~PAH~~/PCB 1 Collected / # of Jars 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____

Landmark #2: _____ Direction: _____ Distance: _____

Sketch:

Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: Y/N Time of photo: 1420 #/Location: 2 Direction of photo: N Photographer: AL

REMARKS: moist, dk brown, silty brown sand.
some organic root material.

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.10.11

Sample Location: SS 02 Weather: Partly Sunny 70°

Field Personnel: Joe & Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1232 Depth/Interval: VOA - 1" Remainder 0-3"

Soil Cover: Slag gravel (sand, grass) # of Samples Per Location: 2

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: 2 VOA 2 Collected / # of Vials 2 SVOA/~~Pest~~/PCB 2 Collected / # of Jars 2 Metals/Cyanide 2

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:

Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

0-3" moist brown slag gravel (AL) 3/12/12

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y)N Time of photo: 1245 #/Location: 2 Direction of photo: S Photographer: AL

REMARKS: Duplicate sample taken

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.10.11

Sample Location: SS 03 Weather: Mostly Sunny 70°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1352 Depth/Interval: VOA - 2" Remainder - 0-4"

Soil Cover: Silty sand (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: 1 VOA 1 Collected / # of Vials 1 SVOA/~~Pest~~/PCB 1 Collected / # of Jars 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:

Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

0-4" moist gray silty sand, metal, glass
some slag (AL) 3/12/12

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: YN Time of photo: _____ #/Location: _____ Direction of photo: W Photographer: AL

REMARKS: metal, glass, some slag in soil.

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.11.11

Sample Location: SS 04 Weather: Cloudy 63°

Field Personnel: Joe & Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1155 Depth/Interval: VOA - 2" Remainder - 0-5"

Soil Cover: Stamp sand, sand (sand, grass) # of Samples Per Location: 1

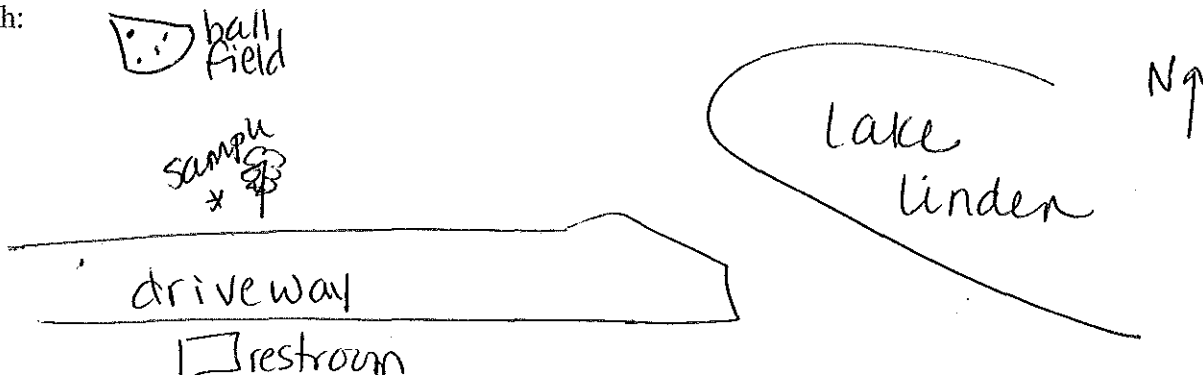
Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 SVOA/X PCB 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Soil Unit Thickness (in. or ft.) Unit Description (continue on back if necessary--->) PID Reading

0-2" moist, dk brown silty sand. Some gravel, slag
2-5" moist brown med sand

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y/N) Time of photo: 1200 #/Location: 2 Direction of photo: S Photographer: AL

REMARKS: _____

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.11.11

Sample Location: SS 05 Weather: Cloudy 63'

Field Personnel: Joe & Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1140 Depth/Interval: VOA - 6" Remainder - 2"-10"

Soil Cover: grass, weeds (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____

(Check all Surface Sample: ✓ Deep Sample: _____

that apply) Trowel: ✓ Hand Auger:

Other (explain): _____

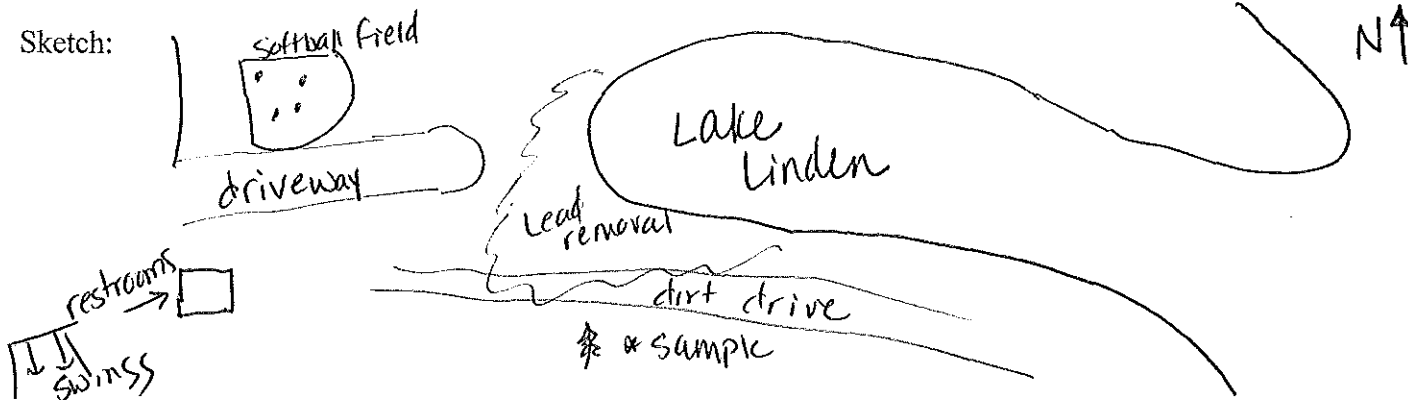
Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 SVOA/Rest/PCB 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____

Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Soil Unit Thickness	Unit Description (continue on back if necessary--->)	PID Reading
(in. or ft.)	(moisture, color, grain size, etc.)	

0-2" moist dk. brown silty. lots of organic material
2"-14" v. moist redish brown stamp sand

Gravel -	coarse	3/4 to 3 in.
	fine	3/16 to 3/4 in.
Sand -	coarse	2 to 4.75 mm.
	medium	0.425 to 2 mm.
	fine	0.074 to 0.425 mm.
Silt/Clay	<0.074 mm. (use plasticity)	

Photos: (Y/N) Time of photo: 1150 #/Location: 2 Direction of photo: N Photographer: AL

REMARKS:

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.11.11

Sample Location: SS 06 Weather: Mostly Cloudy 56°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 9:40 Depth/Interval: VOA - 1" Remainder - 0-1"

Soil Cover: Scale + sand (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 1 SVOA/~~Pest~~/PCB 1 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:

Soil Unit Thickness Unit Description (continue on back if necessary--->) PID Reading
(in. or ft.) (moisture, color, grain size, etc.)

0-1"

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y/N) Time of photo: 950 #/Location: 2 Direction of photo: NNW Photographer: AL

REMARKS: moist dk brown silty fine to med sand w/ trace gravel + scale material (flat angular)

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.10.11

Sample Location: SS 07 Weather: Partly Sunny 70°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1740 Depth/Interval: VOA - 10" below surface, 3" into sidewall Remainder - from sidewall 9-12" down, 0-3" into wall

Soil Cover: Sand (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: 1 VOA 1 Collected / # of Vials 1 SVOA/Pest/PCB 1 Collected / # of Jars 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:

Joe, 11/29/11 - should be same location
as XRF 58.

Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: YN Time of photo: 1750 #/Location: 2 Direction of photo: NW & N Photographer: AL

REMARKS: Sample taken from side wall of washout near lakeshore.

Slightly moist, reddish gray, med to coarse sand w/ some silt + gravel
noticeable green copper flakes

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.10.11

Sample Location: SS 08 Weather: Sunny 70°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1622 Depth/Interval: VOA - 3" Remainder - 0-6"

Soil Cover: leaf litter (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: 1 VOA 1 Collected / # of Vials 1 SVOA/~~Pest~~/PCB 1 Collected / # of Jars 1 Metals/Cyanide 1 Collected / # of Jars

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:

Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y)N Time of photo: 1630 #/Location: 2 Direction of photo: SSW Photographer: AL

REMARKS: moist, dk brown, sand ? Slag w/a little
crushed brick, some org. root material

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.10.11

Sample Location: SS 09 Weather: Partly Sunny 70°

Field Personnel: Joe & Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1727 Depth/Interval: VOA - 1" Remainder - 0-2"

Soil Cover: grass (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: 1 VOA 1 1 SVOA/~~Pest~~/PCB 1 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:

Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: YN Time of photo: 1735 #/Location: 2 Direction of photo: W Photographer: AL

REMARKS: moist, brown silty fine sand w/ some
root material.

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.12.11

Sample Location: SS 10 Weather: Foggy 56°

Field Personnel: Joe & Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 9:33 Depth/Interval: VOA - 4" Remainder - 0-8"

Soil Cover: grass (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: ✓ Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 1 SVOA/Post/PCB 1 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Soil Unit Thickness (in. or ft.) Unit Description (continue on back if necessary--->) PID Reading

0-8" moist dk brn silty f to m sand
lots of gravel, slag, some metal debris
& brick

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y)N Time of photo: 945 #/Location: 2 Direction of photo: S Photographer: AL

REMARKS: _____

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10-12-11

Sample Location: SS 11 Weather: Sunny 71°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1545 Depth/Interval: VOA - 4" Remainder - 0-8

Soil Cover: coal, slag (sand, grass) # of Samples Per Location: 1

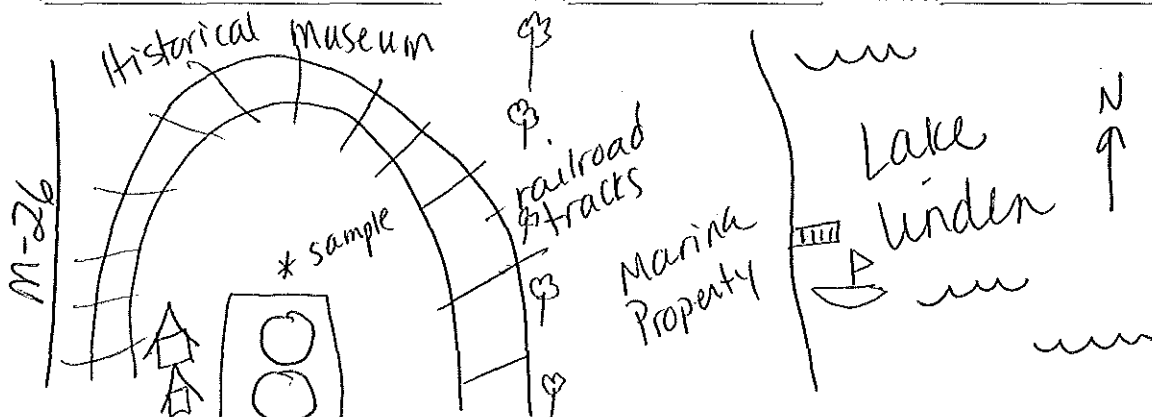
Sampling Method: Grab: X Composite: _____
 (Check all Surface Sample: X Deep Sample: _____
 that apply) Trowel: X Hand Auger: _____
 Other (explain): _____

Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 1 SVOA/PAH/PCB 1 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
 Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
0-8"	moist dk brown silty med sand some slag Some wood debris	

Gravel - coarse 3/4 to 3 in.
 fine 3/16 to 3/4 in.
 Sand - coarse 2 to 4.75 mm.
 medium 0.425 to 2 mm.
 fine 0.074 to 0.425 mm.
 Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y/N) Time of photo: 1550 #/Location: 2 Direction of photo: S Photographer: Az

REMARKS: _____

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.12.11

Sample Location: SS 12 Weather: Sunny 71°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1615 Depth/Interval: VOA - 4" Remainder - 0-8"

Soil Cover: slag, gravel, sand (sand, grass) # of Samples Per Location: 2

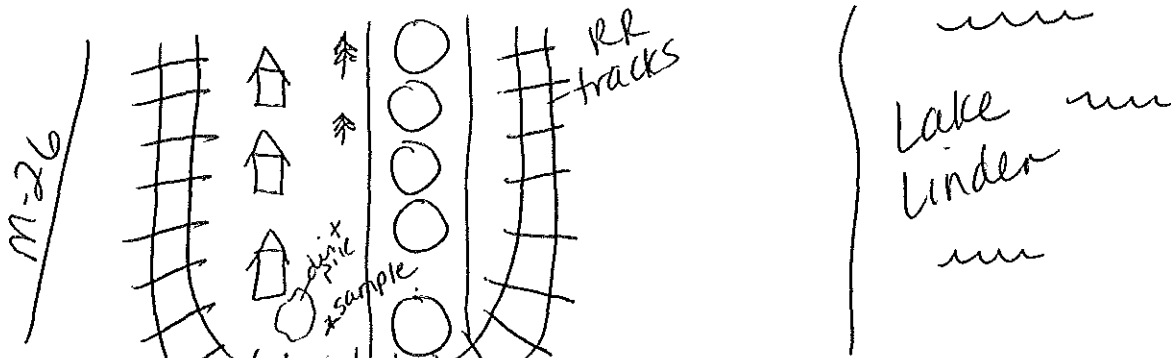
Sampling Method: Grab: ✓ Composite: _____
 (Check all Surface Sample: ✓ Deep Sample: _____
 that apply) Trowel: ✓ Hand Auger: _____
 Other (explain): _____

Sample Type/Bottles: 2 VOA 2 2 SVOA/Post/PCB 2 2 Metals/Cyanide 2

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
 Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Soil Unit Thickness (in. or ft.) Unit Description (continue on back if necessary--->) PID Reading

0-8" moist dk brn silty f to m sand
 some gravel, slag, metal debris

Gravel - coarse 3/4 to 3 in.
 fine 3/16 to 3/4 in.
 Sand - coarse 2 to 4.75 mm.
 medium 0.425 to 2 mm.
 fine 0.074 to 0.425 mm.
 Silt/Clay <0.074 mm. (use plasticity)

Photos: Y/N Time of photo: 1625 #/Location: 2 Direction of photo: NE Photographer: AL

REMARKS: _____

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.12.11

Sample Location: SS 13 Weather: Sunny 68°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1215 Depth/Interval: VOA - 6" Remainder - 0-10"

Soil Cover: Stamp sand, coal (sand, grass) # of Samples Per Location: 1 (3 w/ms/msd)

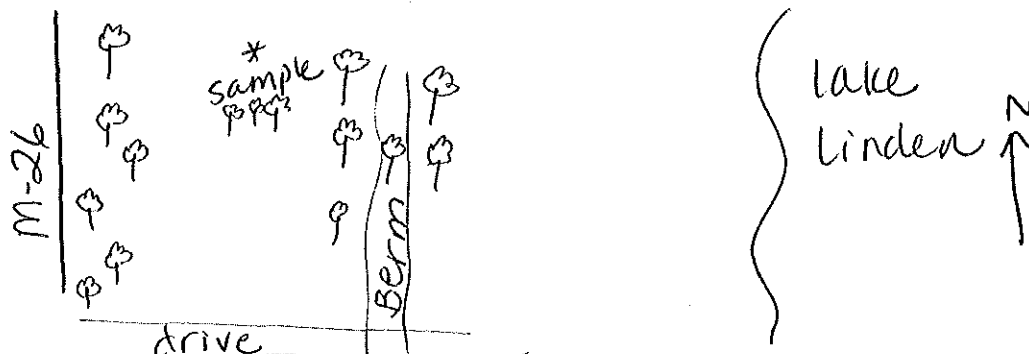
Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: 3 VOA 3 Collected / # of Vials 3 Collected / # of Jars 1 SVOA/~~Post~~/PCB 2 Collected / # of Jars 1 Metals/Cyanide 2

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Soil Unit Thickness (in. or ft.) Unit Description (continue on back if necessary---->) PID Reading

0-10" moist black stamp sand, some slag + coal.

~~M-26~~

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y/N) Time of photo: 1225 #/Location: 2 Direction of photo: N Photographer: AZ

REMARKS: _____

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.12.11

Sample Location: SS 14 Weather: Sunny 70°

Field Personnel: Joe & Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1300 Depth/Interval: VOA - 5" Remainder - 0-10"

Soil Cover: Stumpsand, slag, coal (sand, grass) # of Samples Per Location: 1

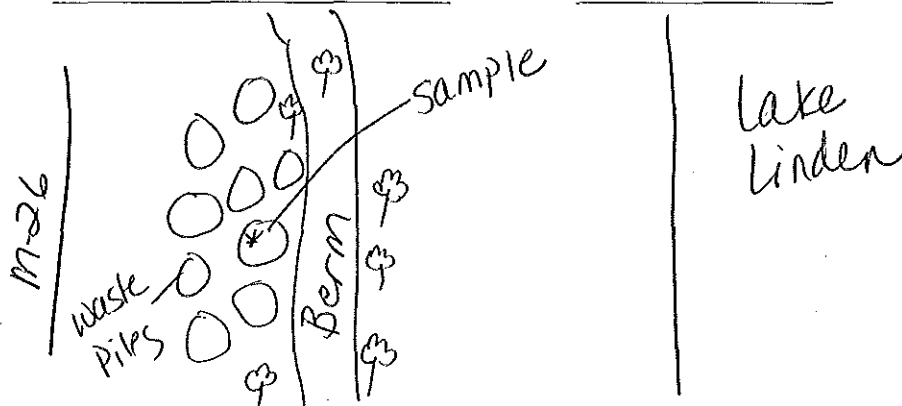
Sampling Method: Grab: ☒ Composite: _____
(Check all Surface Sample: ☒ Deep Sample: _____
that apply) Trowel: ☒ Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 SVOA/Post/PCB 2 1 Metals/Cyanide 2

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Soil Unit Thickness Unit Description (continue on back if necessary-->) PID Reading
(in. or ft.) (moisture, color, grain size, etc.)

0-10" moist black silty f to m sand w/ some
slag, coal, wood, metal, brick

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos YN Time of photo: 1310 #/Location: _____ Direction of photo: _____ Photographer: _____

REMARKS: additional photo taken facing east showing
piles w/ lake in background.

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.11.11

Sample Location: SS 15 Weather: Cloudy, sprinkling 70°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1852 Depth/Interval: VOA - 2" Remainder - 0-6"

Soil Cover: Sand, slag, coal (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

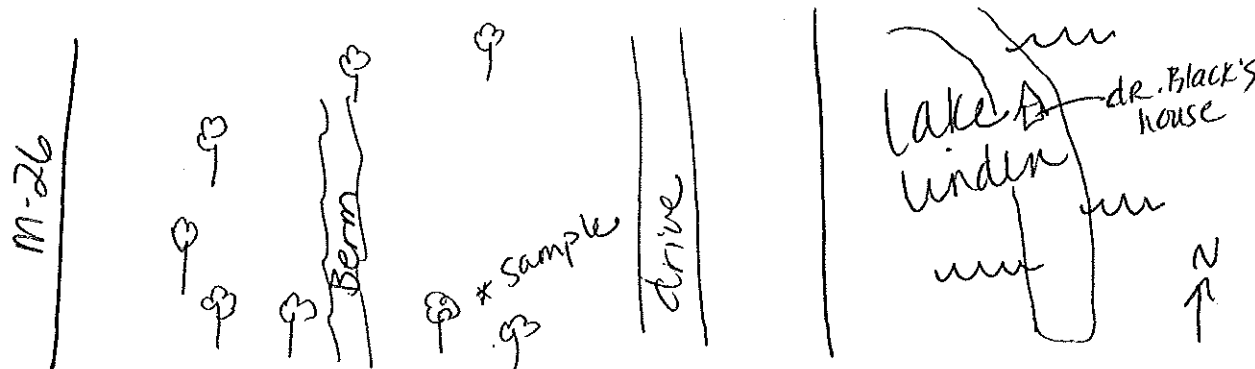
Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 SVOA/X PCB 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____

Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

0-2" moist blkish brn f to m sand

2"- 6" moist orange brn f to coarse sand, ~~be~~
a little slag + coal

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y/N) Time of photo: 1900 #/Location: 2 Direction of photo: NE Photographer: AZ

REMARKS: _____

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.11.11

Sample Location: SS 16 Weather: Mostly Cloudy

Field Personnel: Joe & Autumn Data Sheet Logger: Autumn

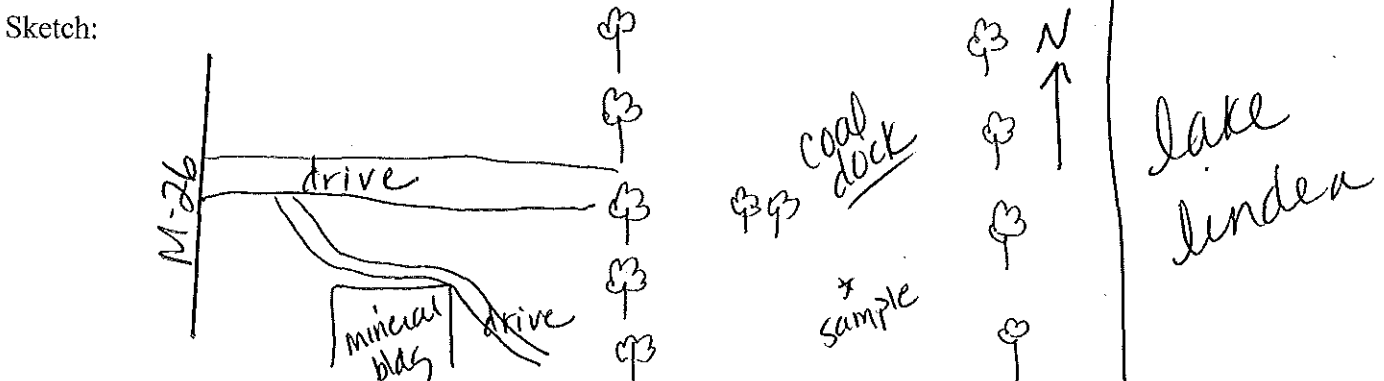
Sampling Time (MT): 1708 Depth/Interval: VOA - 1" Remainder - 0-2"

Soil Cover: gray silt, stamp sand, coal, slag (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
 (Check all Surface Sample: X Deep Sample: _____
 that apply) Trowel: X Hand Auger: _____
 Other (explain): _____

Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 1 SVOA/Pe/PCB 1 1 Metals/Cyanide 1

Location Reference Features:
 Landmark #1: _____ Direction: _____ Distance: _____
 Landmark #2: _____ Direction: _____ Distance: _____



Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary---->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	--	-------------

0-1 greenish gray silt, some stamp sand, coal, slag

1-2" black stamp sand

wood debris, slag, wire mixed in soil

Gravel - coarse 3/4 to 3 in.
 fine 3/16 to 3/4 in.
 Sand - coarse 2 to 4.75 mm.
 medium 0.425 to 2 mm.
 fine 0.074 to 0.425 mm.
 Silt/Clay <0.074 mm. (use plasticity)

Photos: YN Time of photo: 1715 #/Location: 2 Direction of photo: SSW Photographer: AL

REMARKS: _____

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10-11-11

Sample Location: SS 17 Weather: Partly Sunny 71°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1652 Depth/Interval: VOA - 6" Remainder - 0-8"

Soil Cover: Slag Sand (gray) (sand, grass) # of Samples Per Location:

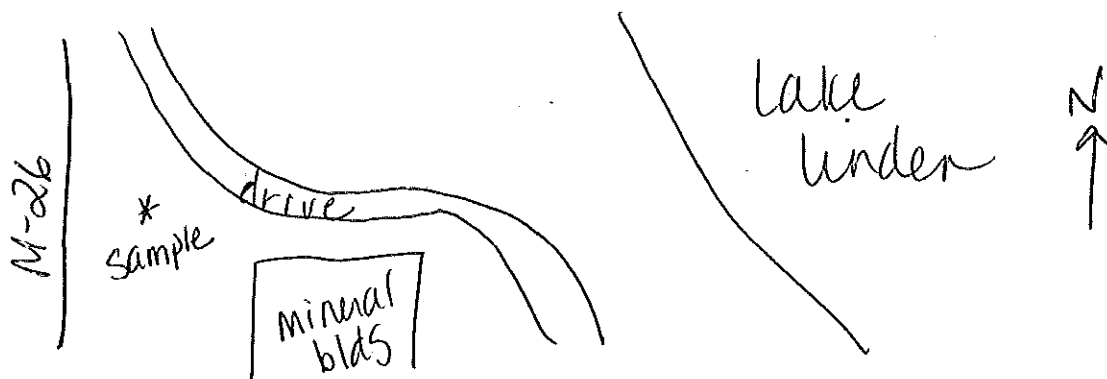
Sampling Method: Grab: X Composite:
(Check all Surface Sample: X Deep Sample:
that apply) Trowel: X Hand Auger:
Other (explain):

Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 1 SVOA/X PCB 1 1 Metals/Cyanide 1

Location Reference Features:

Landmark #1: Direction: Distance:
Landmark #2: Direction: Distance:

Sketch:



Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

0-8" fine slag material, gray

Gravel - coarse 3/4 to 3 in.
 fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
 medium 0.425 to 2 mm.
 fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y)N Time of photo: 1700 #/Location: 2 Direction of photo: S Photographer: AL

REMARKS:

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.11.11

Sample Location: SS 18 Weather: Sunny 71°

Field Personnel: Joe & Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1520 Depth/Interval: VOA - 3" Remainder - 0-6"

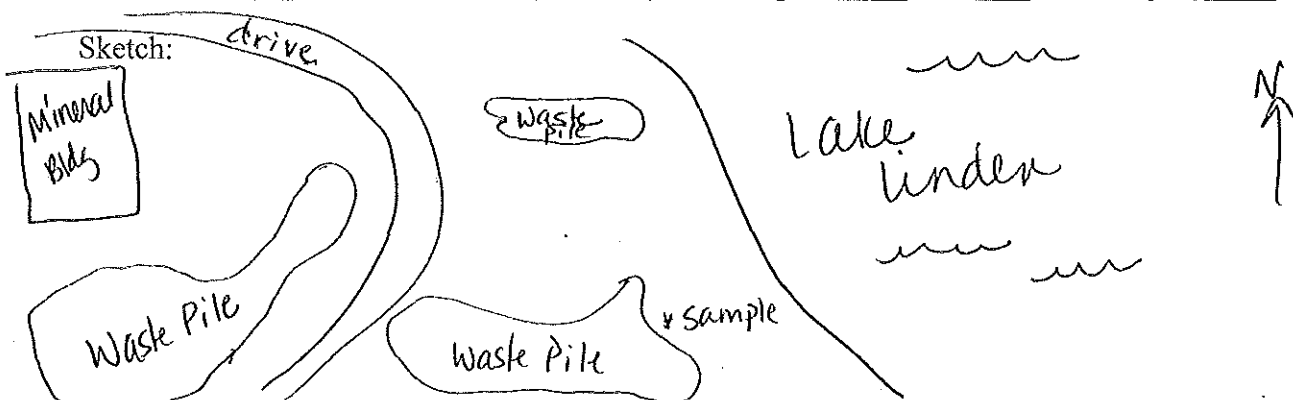
Soil Cover: Sand, gravel, slag, debris (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: X Composite: _____
(Check all Surface Sample: X Deep Sample: _____
that apply) Trowel: X Hand Auger: _____
Other (explain): _____

Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
1 VOA 1 SVOA/Pest/PCB 1 Metals/Cyanide

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____



Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

0-6" dry to slightly moist, grayish brown, silty sand
some slag, gravel + debris

Gravel - coarse 3/4 to 3 in.
fine 3/16 to 3/4 in.
Sand - coarse 2 to 4.75 mm.
medium 0.425 to 2 mm.
fine 0.074 to 0.425 mm.
Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y)N Time of photo: 1530 #/Location: 2 + 7 panoramic Direction of photo: SSW Photographer: AL

REMARKS: TOOK 7 photos (panoramic view) before SS18 photos

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.11.11

Sample Location: SS 19 Weather: Sunny 71°

Field Personnel: Joe + Autumn Data Sheet Logger: Autumn

Sampling Time (MT): 1410 Depth/Interval: VOA - 2" Remainder - 0-4"

Soil Cover: gray sludge, moist (sand, grass) # of Samples Per Location: 1

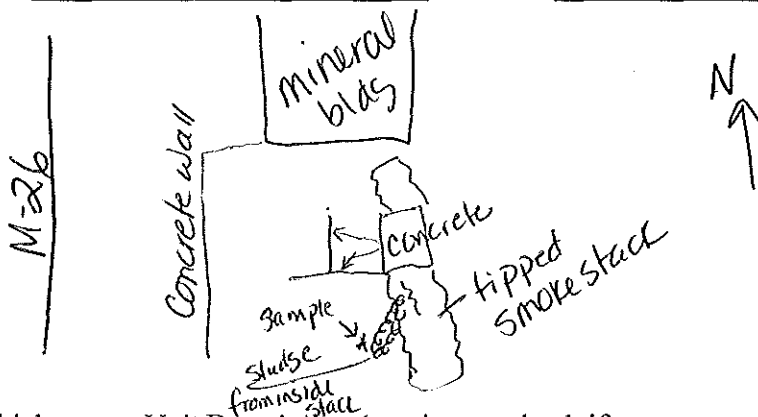
Sampling Method: Grab: x Composite: _____
 (Check all Surface Sample: x Deep Sample: _____
 that apply) Trowel: x Hand Auger: _____
 Other (explain): _____

Sample Type/Bottles: Collected / # of Vials Collected / # of Jars Collected / # of Jars
VOA SVOA/Pest/PCB Metals/Cyanide

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
 Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Soil Unit Thickness (in. or ft.) Unit Description (continue on back if necessary--->) PID Reading

0-4" moist gray sludge

Gravel - coarse 3/4 to 3 in.
 fine 3/16 to 3/4 in.
 Sand - coarse 2 to 4.75 mm.
 medium 0.425 to 2 mm.
 fine 0.074 to 0.425 mm.
 Silt/Clay <0.074 mm. (use plasticity)

Photos: (Y)N Time of photo: 1415 #/Location: 14 Direction of photo: NE + various Photographer: AL

REMARKS: Volume estimate w/in tipped stack 12-15 yds

SOIL SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS MID#: MIN000510619 Date: 10.11.11

Sample Location: SS 20 Weather: Sunny 70°

Field Personnel: Joe & Autumn Data Sheet Logger: Autumn

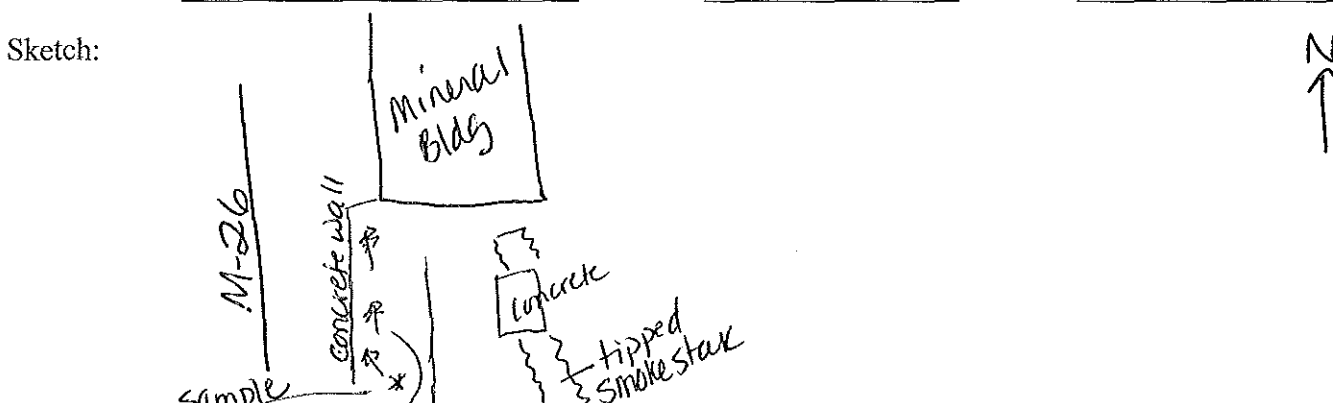
Sampling Time (MT): 1337 Depth/Interval: VOA - 3/4" Remainder - 0 - 3/4"

Soil Cover: Sand slag, cinder scale (sand, grass) # of Samples Per Location: 1

Sampling Method: Grab: 1 Composite: _____
 (Check all Surface Sample: 1 Deep Sample: _____
 that apply) Trowel: 1 Hand Auger: _____
 Other (explain): _____

Sample Type/Bottles: 1 VOA 1 1 SVOA/Pest/PCB 1 1 Metals/Cyanide 1

Location Reference Features:
 Landmark #1: _____ Direction: _____ Distance: _____
 Landmark #2: _____ Direction: _____ Distance: _____



Soil Unit Thickness (in. or ft.)	Unit Description (continue on back if necessary--->) (moisture, color, grain size, etc.)	PID Reading
-------------------------------------	---	-------------

0-3/4" dry gray silt w/ some fine sand
 sand, slag, cinder + scale
 on top of concrete pad.

Gravel - coarse 3/4 to 3 in.
 fine 3/16 to 3/4 in.
 Sand - coarse 2 to 4.75 mm.
 medium 0.425 to 2 mm.
 fine 0.074 to 0.425 mm.
 Silt/Clay <0.074 mm. (use plasticity)

Photos: YN Time of photo: 1345 #/Location: 2 Direction of photo: SSE Photographer: AR

REMARKS: _____

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONS

Date: 10/10/11

EPA ID#: MIN000510619

Sample Location: SB 01

Operators: M. Henry, B. Vefort

Corresponding Well: TMW MW2

Samplers: B. Vefort

Data Sheet Logger: B. Vefort

Soil Cover slag, fill (sand, grass, staining, etc.)

Weather Partly Sunny ~68°F

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch:



Sampling Method:
(Check all
that apply)

Grab: _____
Hand Auger: _____
GP Small Discrete: _____
Other (explain): _____

Composite: _____
Geoprobe Macrocore: _____
GP Large Discrete: _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: Y/N Photographer BVT #/Location 3 Time 1715 Direction LK east

Remarks: _____

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)

Type of Well Casing: PVC

Depth of Well: _____ (below ground level)

Screen Type/Length: PVC 10 slot
5'

Static Water Level: _____ (bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS

Boring/Well ID: SB 1 /TMW 2

Sampling Time (MT): 1701 VOA Sample Interval: 4-8 (in.) in. 42" (ft.) core

of Samples/Boring: 1 Remaining Sample Interval: 4-8 (in.) in. 31-42 (ft.) core

Collected / # of Vials

Collected / # of Jars

Collected / # of Jars

Sample Type/Bottles: ☒ VOA

☒ SVOA/Pest/PCB

☒ Metals/Cyanide

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	37 1/4	0-5	Moist, orange clayey f sand	φ	
		5-8	moist gr-orange clay f silty sand		
		8-20	wet dk f-coarse sand		
		20-27	grades into moist Bllk peat, with fines, roots		
			VERY ORGY DK. brn, moist, woody fibers roots - f-silty sand		
4-8	42"	0-5	DK Brn f- Md silty sand + coarse sand, moist	φ	
		5-19	moist, brn f. silty sand		
		19-33	moist DK brn f silty sand w/ roots, fibers		
		33-42	moist gr f sand		

* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12)

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

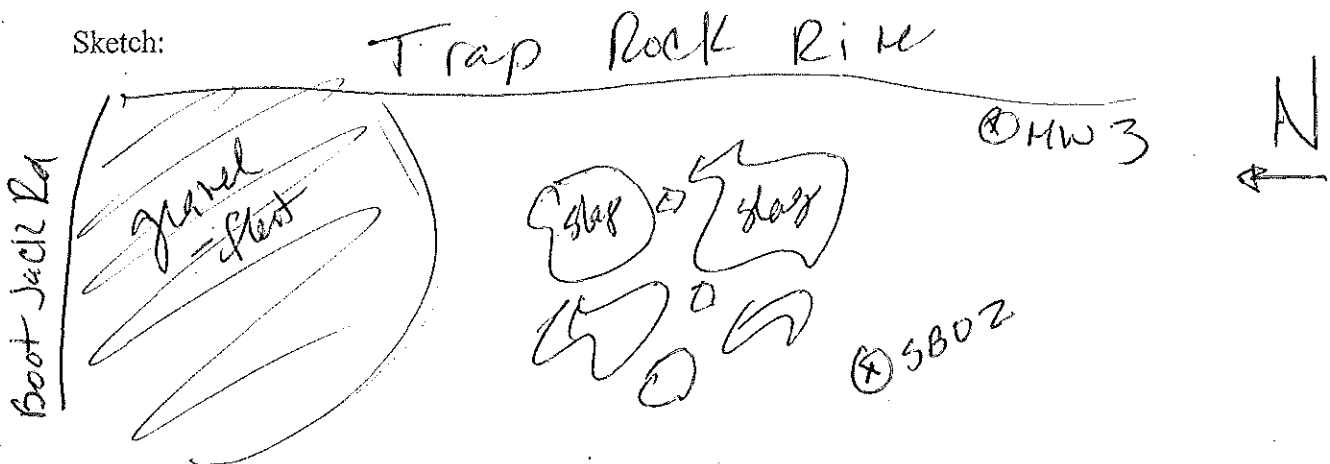
Site: C & H LAKE LINDEN OPERATIONSDate: 10/10/11EPA ID#: MIN000510619Sample Location: SB - 02Operators: M. Henry, B. VetroCorresponding Well: TMWSamplers: B. VetroData Sheet Logger: B. VetroSoil Cover fill, slag (sand, grass, staining, etc.)Weather Partly Cloudy ~68°F

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch:



* NOT TO SCALE

Sampling Method:

(Check all that apply)

Grab: X

Hand Auger: _____

GP Small Discrete: _____

Other (explain): _____

Composite: _____

Geoprobe Macrocore: X

GP Large Discrete: _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: Y/N Photographer BVT #/Location 2 Time 1610 Direction kg southRemarks: SB only - slag on top of native material

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)

Type of Well Casing: _____

Depth of Well: _____ (below ground level)

Screen Type/Length: _____

Static Water Level: _____ (bgl)

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS

Boring/Well ID: SB 02 /TMW

Sampling Time (MT): 16/10 VOA Sample Interval: 39 (in.) in 4-8 (ft.) core

of Samples/Boring: 1 Remaining Sample Interval: 29-48 (in.) in 4-8 (ft.) core

Sample Type/Bottles: ☒ VOA ☒ SVOA/Pest/PCB ☒ Metals/Cyanide ☐
 Collected / # of Vials _____ Collected / # of Jars _____ Collected / # of Jars _____

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	33"	0-16	Fill, gravel, slag pieces, ben	Ø	
		16-21	moist coarse sand, gray		
		21-29	BRN moist silty sand-F		
4-8	48"	29-33	Native f. ben sand, moist	Ø	
		0-4	wet coarse sand gray		
		4-39	wet brn f-Md sand		
		39-42	wet dk brn f-Md sand		
		42-48	wet brn f-Md sand		

* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONSDate: 10-10-11EPA ID#: MIN000510619Sample Location: SB-03Operators: TADCorresponding Well: MW-03Samplers: Chuck GraffData Sheet Logger: TADSoil Cover Slag (sand, grass, staining, etc.)Weather Sunny ~ 75°

Location Reference Features:

Landmark #1

Direction

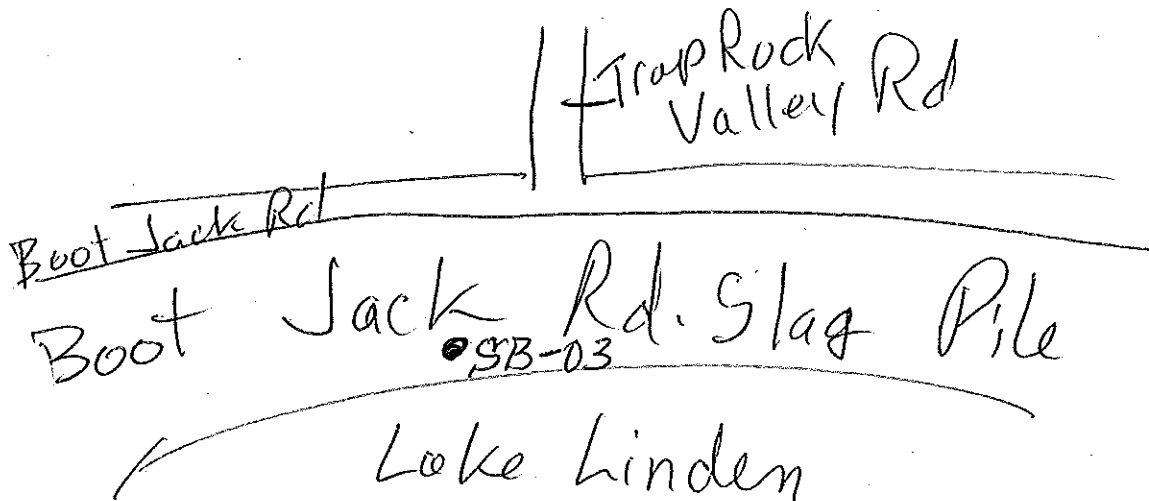
Distance

Landmark #2

Direction

Distance

Sketch:



Sampling Method:

Grab: X

Composite:

(Check all

Hand Auger:

Geoprobe Macrocore: X

that apply)

GP Small Discrete:

GP Large Discrete:

Other (explain):

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: YN Photographer TAD #/Location 2 Time 14:30 Direction N

Remarks:

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)

Type of Well Casing:

1" PVC

Depth of Well:

8'

(below ground level)

Screen Type/Length:

5 ft - 10 3/4 ft

Static Water Level:

3'

(bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS

Boring/Well ID: SB-03 / MW-03

Sampling Time (MT): 16:00 VOA Sample Interval: 30-31 (in.) in. 4-0 (ft.) core

of Samples/Boring: 1 Remaining Sample Interval: 16-20 (in.) in. 4-0 (ft.) core

Sample Type/Bottles: ☒ VOA 1 ☒ SVOA/Pest/PCB 1 ☒ Metals/Cyanide 1

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	36"	0-13'	0-1 (Dry) 1st one inch then moist 1-13' Dry, dark rusty brn, chunks of slag up to 1 1/4 inch (1 1/4 inch) diameter, small fine roots, (moist) small gravel size slag up to 3mm, mostly sand & gravel mix. composed of slag - sand size to gravel size		
4-8		13'-26'	Wet, dark brn, sand with chunks of slag, (slag is up to 1/2 inch diameter)		
		26'-27'	Seam of black coal or burnt wood		
8-10		27'-36'	Wet, brn, sand		
		0-6'	Slough		
	48"	6-31"	Wet, dark brn, fine sand w/some med. sand		
		31'-32.5'	Wet dark brn, silt		
		32.5'-48"	SAME AS (6-31")		

See Back of Page

Note: Pre-drove to 12' to set well as bore-hole collapsed after taking soil cores

- * - Lithological description must include:
- Moisture content - (dry, moist, very moist, or wet)
 - Color - (black, gray, brown, tan, etc., others as necessary)
 - Grain size - (clay, silt, sand, gravel, etc., see table to right)
 - Other materials - (debris (type), organics, etc.)
 - Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay		< 0.074 mm. (use plasticity)

(JW 12/9/09)

8-10"

Rec.
48"

Interval

0-24"

Slough

24"-42" - Wet, ~~dark~~ ^{brn} to
dark brn, fine to

@ 42"-43' med. Sand
1" ~~lense of clay~~
Wet, dark brn-maroon, silty clay
to

piece of wood
32"-34"

43-48" Wet, brn, sticky,
silty sand,

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONSDate: 10/10/11EPA ID#: MIN000510619

Sample Location: SB

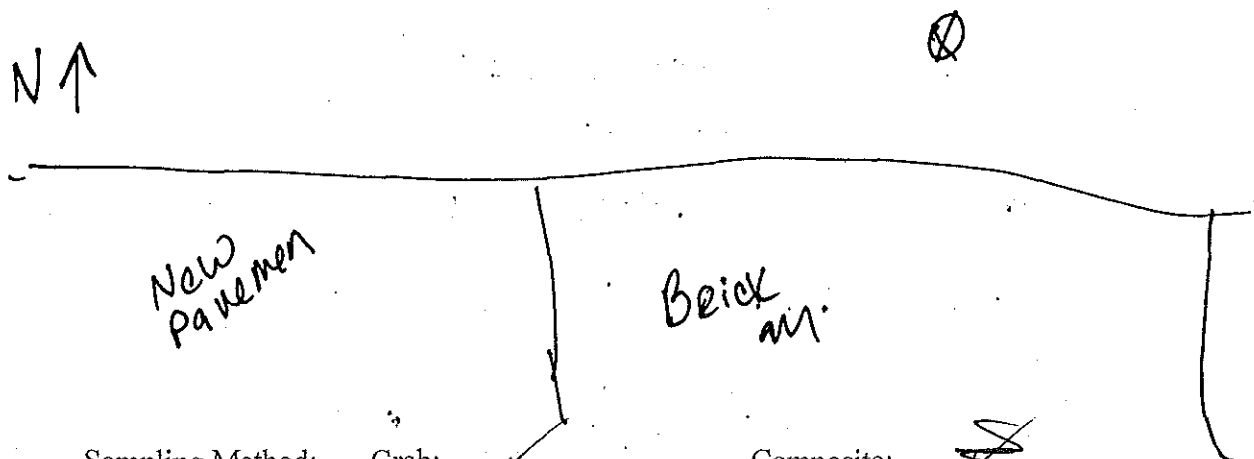
04 + SB04-DUPOperators: M. Henry C. GraffCorresponding Well: 1 MW 04Samplers: B. VetortData Sheet Logger: B. VetortSoil Cover dirt, glass (sand, grass, staining, etc.)Weather Mostly Sunny ~68°F

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch:

Sampling Method:
(Check all
that apply)Grab: ☒Hand Auger: ☐GP Small Discrete: ☐

Other (explain): _____

Composite: ☒Geoprobe Macrocore: ☒GP Large Discrete: ☐

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: (Y/N) Photographer Barb V. #/Location 2 Time 18:25 Direction E

Remarks: _____

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)Type of Well Casing: 1" PVCDepth of Well: 8.9' (below ground level)Screen Type/Length: 5-ft/10-S6TStatic Water Level: 4.28' (bgl)

SOIL BORING SAMPLE DATA SHEET

SB04-DUP

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS

Boring/Well ID: SB 4 EMW 4

Sampling Time (MT): 1812 VOA Sample Interval: 27-28 (in.) in. 8-12 (ft.) core

of Samples/Boring: 1+DUP Remaining Sample Interval: 48 (in.) in. 8-12 (ft.) core

Collected / # of Vials

Collected / # of Jars

Collected / # of Jars

Sample Type/Bottles: ☒ VOA 2 ☒ SVOA/Pest/PCB 2 ☒ Metals/Cyanide 2

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	36"	0-3	DK BRN, moist sandy-f w/ silt, tr grass roots	Ø	
		3-18	BRN, moist silty sand w/ tr nd sand		
		18-24	Moist dk BRN f silty sand		
		24-28	Dry DK BRN f. silty sand tr gravel		
		28-35	BRN sandy silt, moist		
4-8	24"	0-8	(slough) DK BRN silty sand	Ø	
		8-24	Wet sandy silt, BRN		
8-12	48"	0-28	Wet BRN f sand w/ tr coarse sand	Ø	
		28-48	Wet BRN silt		

* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONS Date: 10/10/11EPA ID#: MIN000510619 Sample Location: SB 5Operators: M. Henry, T. Ducsay Corresponding Well: TMW 5Samplers: B. Vetoet Data Sheet Logger: B. VetoetSoil Cover dirt, grass (sand, grass, staining, etc.) Weather _____

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch:

Sampling Method: Grab: ☒ Composite: ☒
(Check all **Hand Auger: _____ Geoprobe Macrocore: ☒
that apply) GP Small Discrete: _____ GP Large Discrete: _____
Other (explain): _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: ☒ N Photographer BVT #/Location _____ Time 1850 Direction KK east

Remarks: _____

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)Type of Well Casing: PVC Depth of Well: 8.11 (below ground level)Screen Type/Length: PVC 10 slot 5' Static Water Level: 4.22 bgs (bgl)

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONSBoring/Well ID: SB 5 /TMW 5Sampling Time (MT): 1840 VOA Sample Interval: 33 (in.) in. 0-4 (ft.) core# of Samples/Boring: 1 Remaining Sample Interval: _____ (in.) in. _____ (ft.) core

Collected / # of Vials

Collected / # of Jars

Collected / # of Jars

Sample Type/Bottles: ☒ VOA ☐ SVOA/Pest/PCB ☐ Metals/Cyanide ☐

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	36'	0-3'	Moist, ^{12"-15"} brown, silty sd., 3" _{15"} - 14" _{26"} Fill (concrete, dry, CS sd., pebbles = fn. gravel.) 14" _{26"} - 48" dk. brn. fn sd. w/ some silt, moist CWG 48" brn. fn-m d sd., sat., L _{48"} = 0" 20" - 48" 66" _{18"} - 96" _{48"} sandy silt, brn, saturated.	0.3	
4-8	48"	0-4'		Ø	

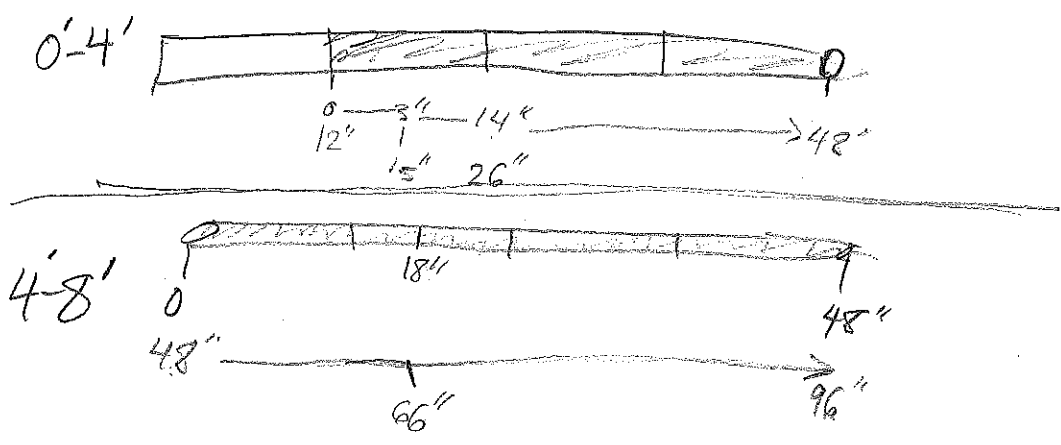
* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay		< 0.074 mm. (use plasticity)

(JW 12/9/09)



SB-05

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONS Date: 10-11-11

EPA ID#: MIN000510619 Sample Location: SB-06

Operators: M. H. Corresponding Well: ~~TAD~~

Samplers: Chuck Graft / B. Vetter Data Sheet Logger: TAD

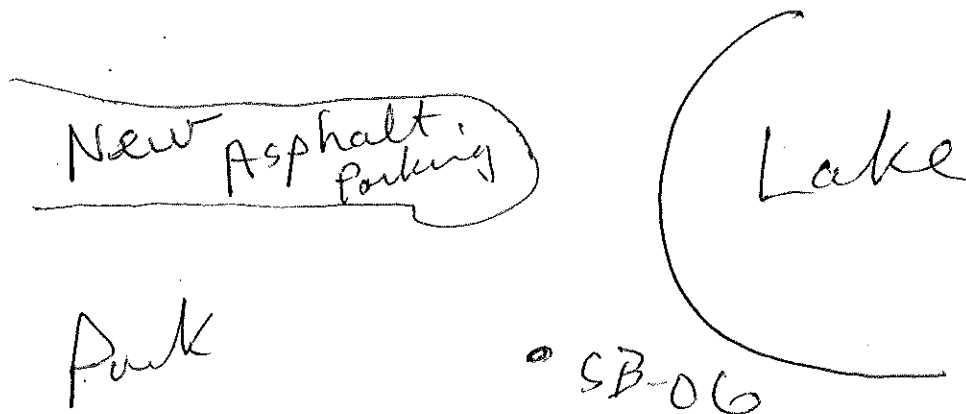
Soil Cover Grass & Weeds (sand, grass, staining, etc.) Weather _____

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch:



Sampling Method: Grab: X Composite: _____
 (Check all Hand Auger: _____ Geoprobe Macrocore: X
 that apply) GP Small Discrete: _____ GP Large Discrete: _____
 Other (explain): _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: YN Photographer TAD #/Location 2 Time 09:40 Direction E

Remarks: _____

Well Installation Information:

Type of Well Casing: N/A Depth of Well: _____ (below ground level)

Screen Type/Length: _____ Static Water Level: _____ (bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS

Boring/Well ID: SB-06 /TMW

Sampling Time (MT): 09:30 VOA Sample Interval: 18-19 (in.) in. 0-4 (ft.) core

of Samples/Boring: 1 Remaining Sample Interval: 18-33 (in.) in. 0-4 (ft.) core

Sample Type/Bottles: X VOA 1 X SVOA/Pest/PCB 1 X Metals/Cyanide 1

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	33"	0-6"	Top Soil - w/Roots moist, brn, organic rich silty sand w/lots of Roots	Ø	
		6-11"	moist, brn to dark brn, fine sand w/silt Some med. sand.		
		11-18"	Same as above, but w/gravel mostly fine gravel w/few up to 3/4"		
		18-28"	moist, brn, fine grain sand, some fine gravel		
		28-33"	Moist grey-brn fr-sandy silt, few stones.		
4-8"	48"	0-5"	Slough	Ø	
		5-34"	Wet, reddish-brn, silty fine sand w/silt, dilatant		
		34-40"	Wet, brn, very fine sand w/silt, some		
		40-48"	Wet, Red-brown to coarse sand w/some silt		

* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain Size Chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONS

Date: 10/11/11

EPA ID#: MIN000510619

Sample Location: SB 07

Operators: M. Henry

Corresponding Well: TW

Samplers: B. Vetoet / Chuck Graft

Data Sheet Logger: B. Vetoet / TAD

Soil Cover grass (sand, grass, staining, etc.)

Weather Partly Cloudy ~ 68°F

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch:

Lennis

(X) MW

(X)

Torch 4

Sampling Method:
(Check all
that apply)

Grab: X
Hand Auger: _____
GP Small Discrete: _____
Other (explain): _____

Composite: _____
Geoprobe Macrocore: X
GP Large Discrete: _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: YN Photographer TAD #/Location 2 Time 10:20 Direction E

Remarks: _____

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)

Type of Well Casing: N/A

Depth of Well: _____ (below ground level)

Screen Type/Length: N/A

Static Water Level: _____ (bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS Boring/Well ID: SB 07 /FMW

Sampling Time (MT): 10:15 VOA Sample Interval: 30" (in.) in. 0-4 (ft.) core

of Samples/Boring: 1 Remaining Sample Interval: 30-42 (in.) in. 0-4 (ft.) core

Collected / # of Vials Collected / # of Jars Collected / # of Jars

Sample Type/Bottles: ☒ VOA 1 ☒ SVOA/Pest/PCB 1 ☒ Metals/Cyanide 1

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	42	0-8	Orange moist silty sand w/ gess	φ	VOA @ 30"
		8-33	BRN F sand w/ tr f. gravel moist		
		33-42	BRN, moist f. Md sand (all sands stamp sands)		
4-8	38	0-6	BRN moist f- md sand, wet	φ	VOA collected
		6-38	BRN f- Md sand, wet		

* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay	< 0.074 mm. (use plasticity)	

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONS

Date: 10/11/11

EPA ID#: MIN000510619

Sample Location: SB 08

Operators: M. Heney

Corresponding Well: TMW

Samplers: B. Vetoet, C. Groat

Data Sheet Logger: B. Vetoet

Soil Cover soil (sand, ~~grass~~ staining, etc.)

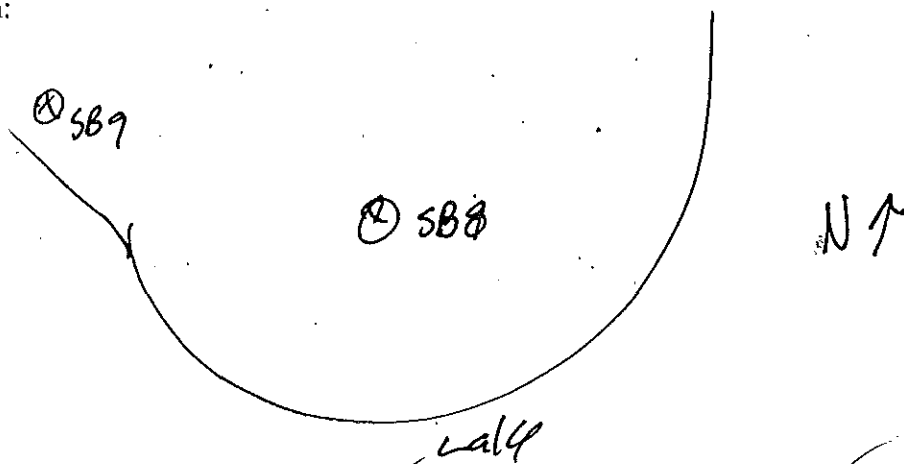
Weather Partly Cloudy ~ 67°F

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch:



Sampling Method:
(Check all
that apply)

Grab: ☒ ✓
Hand Auger: _____
GP Small Discrete: _____
Other (explain): _____

Composite: ☒ ✓
Geoprobe Macrocore: ☒ ✓
GP Large Discrete: _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: ☒ Y/N Photographer BUT (4) #/Location SB09 Time 1455 Direction 4kg NE

Remarks: _____

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)

Type of Well Casing: _____

Depth of Well: _____ (below ground level)

Screen Type/Length: _____

Static Water Level: _____ (bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS

Boring/Well ID: SB -08 /TMW

Sampling Time (MT): 1455 VOA Sample Interval: 11-12 (in.) in. 4-8 (ft.) core

of Samples/Boring: _____ Remaining Sample Interval: 22-36 (in.) in. 0-4' (ft.) core

Sample Type/Bottles: ☒ VOA ☒ SVOA/Pest/PCB ☒ Metals/Cyanide

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	44	0-9	Roots, grass fine sand, w/ some silt, moist orange, tr coarse gravel	Φ	
		9-19	Moist, brown fine-to med sand w/ silt some coarse gravel, & some fine		
		19-44	moist, brown f- Md sand w/ fines		
4-8	40	0-6	slough-brown moist fine sand	Φ	VOA collected
		6-12	Brown, moist silty sand		
		12-40	Brownish wet Md sand w/ some fine sand & silt		

* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONS Date: 10/11/11

EPA ID#: MIN000510619 Sample Location: SB 09

Operators: M. Henry Corresponding Well: TMW 07

Samplers: B. Vetort, C. Gireff Data Sheet Logger: B. Vetort

Soil Cover grass/soil bare (sand, grass, staining, etc.) Weather Partly Sunny
~ 68°F

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____
Landmark #2 _____ Direction _____ Distance _____

Sketch:

Sampling Method: Grab: ☒ Composite: ☒
(Check all Hand Auger: _____ Geoprobe Macrocore: ☒
that apply) GP Small Discrete: _____ GP Large Discrete: _____
Other (explain): _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: YN Photographer BVT #/Location 4 Time 1415 Direction E

Remarks: _____

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)

Type of Well Casing: PVC Depth of Well: _____ (below ground level)

Screen Type/Length: _____ Static Water Level: _____ (bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS

Boring/Well ID: SB

09 / TMW 07

Sampling Time (MT): 1408

VOA Sample Interval: 33-34 (in.) in. 0-4 (ft.) core

of Samples/Boring: _____

Remaining Sample Interval: 33 (in.) in. 0-4 (ft.) core

Collected / # of Vials

Collected / # of Jars

Collected / # of Jars

Sample Type/Bottles: VOA

SVOA/Pest/PCB

Metals/Cyanide

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	44'	0-10	Roots, grass, soil, Moist BRN f sand w/ silt	Ø	
		10-13	DK brn f. Md, w/ coarse sand moist		
		13-44	BRN - f. Md sand w/ tr coarse sand, v. moist from 36-44"		
4-8	48"	0-5	moist, BRN f-Md sand - (slough)	Ø	
		5-11	wet, f-Md sand		
		11-48	wet f. sandy silt w/ tr clay		

* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay		< 0.074 mm. (use plasticity)

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

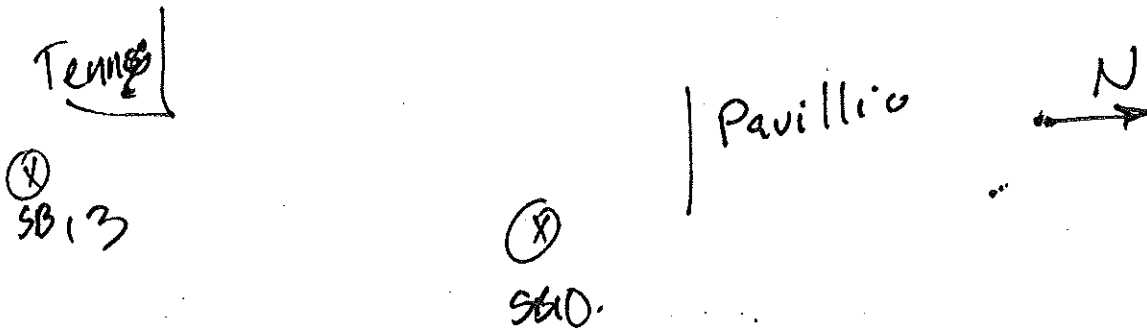
Site: C & H LAKE LINDEN OPERATIONS Date: 10/11/11EPA ID#: MIN000510619 Sample Location: SB 10Operators: M. Henry Corresponding Well: TMWSamplers: C. Graff Data Sheet Logger: B. VetroSoil Cover grass / dirt gravel (sand, grass, staining, etc.) Weather Cloudy ~67°F

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch:



Sampling Method: Grab: ☒ Composite: ☒
(Check all Hand Auger: ☐ Geoprobe Macrocore: ☒
that apply) GP Small Discrete: ☐ GP Large Discrete: ☐
Other (explain): _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: YN Photographer: BVT #/Location: 4 Time: 1200 Direction: Ug east

Remarks: _____

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)Type of Well Casing: N/A Depth of Well: _____ (below ground level)

Screen Type/Length: _____ Static Water Level: _____ (bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS Boring/Well ID: SB 10 /TMW
 Sampling Time (MT): 1148 VOA Sample Interval: 21" (in.) in. 4-8 (ft.) core
 # of Samples/Boring: _____ Remaining Sample Interval: 10-24" (in.) in. 4-8 (ft.) core
 Collected / # of Vials Collected / # of Jars Collected / # of Jars
 Sample Type/Bottles: VOA SVOA/Pest/PCB Metals/Cyanide

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	21"	0-7	Moist, DK BRN f-Md sand	Φ	
		7-12	Moist DK BRN f-Md sand		
		12-21	Moist, BRN f/sand		
4-8	32	0-5	Moist BRN f-Md sand w/ coarse sand ^{gy} , w/f-Md gy	Φ	
		5-7	Moist DK BRN f sand w/ fins		
		7-11	Moist, BRN grey fine material w/ some coarse sand size particles		
		11-13	Moist BK stnd f gravel		
		13-16	Moist DK Red gravel		
		16-23	Moist BLK stnd f sand w/ fins		
		23-32	Moist DK BRN sandy silt w/ tr coarse sand & gravel		

- * - Lithological description must include:
- Moisture content - (dry, moist, very moist, or wet)
 - Color - (black, gray, brown, tan, etc., others as necessary)
 - Grain size - (clay, silt, sand, gravel, etc., see table to right)
 - Other materials - (debris (type), organics, etc.)
 - Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS Boring/Well ID: SB 10 /TMW
Sampling Time (MT): 1148 VOA Sample Interval: 21 (in.) in. 4-8 (ft.) core
of Samples/Boring: _____ Remaining Sample Interval: 10-24 (in.) in. 4-8 (ft.) core
Collected / # of Vials _____ Collected / # of Jars _____ Collected / # of Jars _____
Sample Type/Bottles: ☒ VOA ☒ SVOA/Pest/PCB ☒ Metals/Cyanide

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
8-12	48"	0-5	Wet, DK Brn w/ tan coloring f-sand w/ silt	Ø	
		5-20	Wet DK Brn sandy silt		
		20-48	Wet Brn f-med sand		

- * - Lithological description must include:
- Moisture content - (dry, moist, very moist, or wet)
 - Color - (black, gray, brown, tan, etc., others as necessary)
 - Grain size - (clay, silt, sand, gravel, etc., see table to right)
 - Other materials - (debris (type), organics, etc.)
 - Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONS

Date: 10/11/11

EPA ID#: MIN000510619

Sample Location: SB 11

Operators: M. Henry

Corresponding Well: TMW

Samplers: BVT & CG

Data Sheet Logger: BVT

Soil Cover Soil, f. grain/ (sand, grass, staining, etc.)

Weather 67°F Cloudy

Location Reference Features:

Landmark #1

Direction

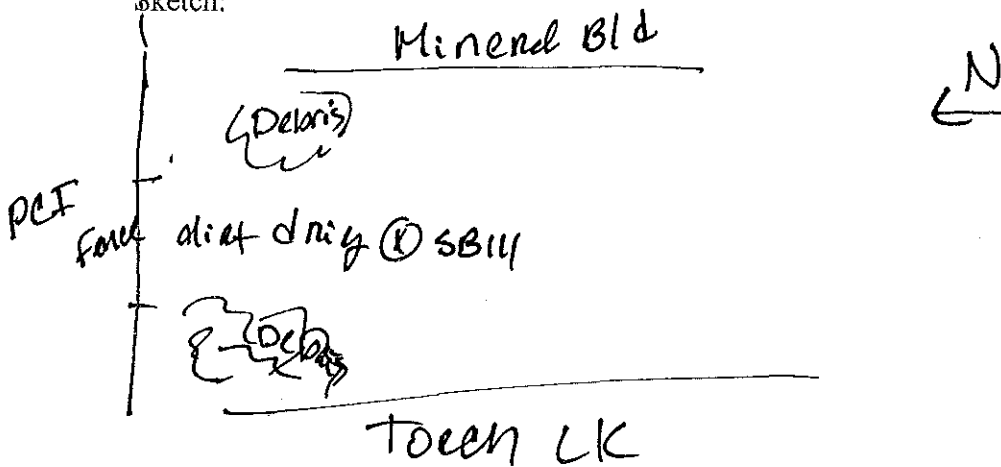
Distance

Landmark #2

Direction

Distance

Sketch:



Sampling Method:

Grab: ☒

Composite: ☒

(Check all

Hand Auger: ☐

Geoprobe Macrocore: ☒

that apply)

GP Small Discrete: ☐

GP Large Discrete: ☐

Other (explain): ☐

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: YN Photographer BVT #/Location 3-4 Time 1645 Direction Looking NE

Remarks:

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)

Type of Well Casing: ☐

Depth of Well: ☐ (below ground level)

Screen Type/Length: ☐

Static Water Level: ☐ (bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONSBoring/Well ID: SB 11 /TMWSampling Time (MT): 1630 VOA Sample Interval: 17" (in.) in. 0-4 (ft.) core# of Samples/Boring: _____ Remaining Sample Interval: 0-16 (in.) in. 0-4 (ft.) core

Collected / # of Vials

Collected / # of Jars

Collected / # of Jars

Sample Type/Bottles: VOASVOA/Pest/PCBMetals/Cyanide

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	39"	0-3	DK grey f sand w/ silt, dry	Ø	
		3-15	BRN, moist f sand w/ silt some BLK string ~ 9" tr coarse sand		
		15-19	rocks, broken dk red sandstone, moist		
		19-30	moist brn f. Md sand w/ tr coarse sand & some Fines		
		30-39	moist, bright brn f. Md sand w/ tr coarse sand		
4-8	48"	0-4	moist, brn f. Md sand w/ coarse sand		
		4-7	moist dk grey f sand w/ silt string blk		
		7-48	wet, brn f sand w/ silt		

* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

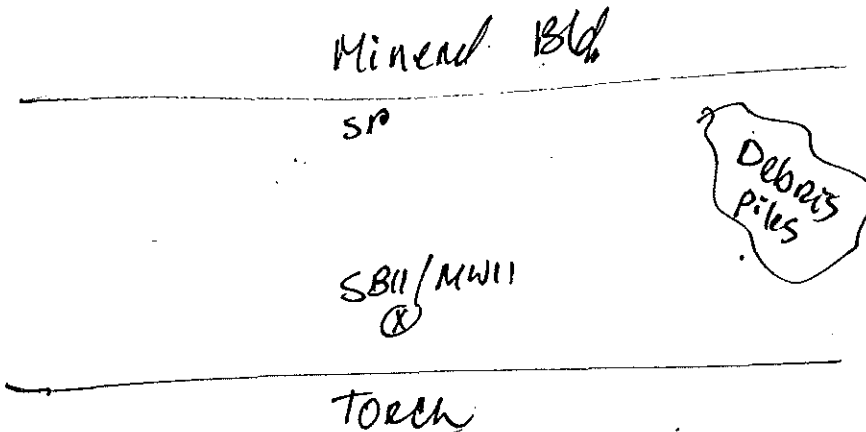
Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONS Date: 10/11/11
 EPA ID#: MIN000510619 Sample Location: SB X 12
 Operators: M. Henry Corresponding Well: X MW 11
 Samplers: B.V. & C. Graft Data Sheet Logger: B. Vetoct
 Soil Cover: gravel, dk soil (sand, grass, staining, etc.) Weather: Cloudy 67° F

Location Reference Features:

Landmark #1 _____ Direction _____ Distance _____
 Landmark #2 _____ Direction _____ Distance _____

Sketch:



Sampling Method: Grab: ☒ Composite: ☒
 (Check all Hand Auger: _____ Geoprobe Macrocore: ☒
 that apply) GP Small Discrete: _____ GP Large Discrete: _____
 Other (explain): _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION: ON PAGE 2

Photos: ☒ N Photographer _____ #/Location _____ Time _____ Direction _____

Remarks: _____

Well Installation Information:

Aquifer Type: Drift or Bedrock _____ (circle one)

Type of Well Casing: PVC Depth of Well: _____ (below ground level)

Screen Type/Length: 5' Static Water Level: 6.9' bTOC (bgl)

Well installed 1 1/2" pipe - 18" su
 material is f brown sand w/ silt
 looks nat

6.5' bgs
 9' into w

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS Boring/Well ID: SB 12 /TMW 11

Sampling Time (MT): 1704 VOA Sample Interval: 20-21 (in.) in. 4-8 (ft.) core

of Samples/Boring: Remaining Sample Interval: 6- (in.) in. 0-4 (ft.) core

Collected / # of Vials Collected / # of Jars Collected / # of Jars
Sample Type/Bottles: VOA SVOA/Pest/PCB Metals/Cyanide

Spoon Interval (ft.)	Recovery (in.)	Lithological Description		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	42	0-3	dk grey, dry f sand w/ wood debris		
		3-13	DK BLK f sand, w/ br gravel moist		
		13-17	moist brn, f sand some coarse sil		
		17-20	moist brn/orange mottled f sand, some dk brn string, w/ tr rocks		
		20-25	moist tan f-Md sand w/ some dk brn string		
		25-42	moist tan sand-f-Md w/ tr coarse		
4-8	48	0-9	blown - brn/tan f-Md sand, blk stained sand		
		9-20	moist tan f-Md sand, some broken rock frag		
		20-29	DK grey silt, moist		
		29-48	brn wet silty sand-f-Md w/ tr coarse sand		

- * - Lithological description must include:
- Moisture content - (dry, moist, very moist, or wet)
 - Color - (black, gray, brown, tan, etc., others as necessary)
 - Grain size - (clay, silt, sand, gravel, etc., see table to right)
 - Other materials - (debris (type), organics, etc.)
 - Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONSDate: 10/11/11EPA ID#: MIN000510619Sample Location: SB 13Operators: M. HenryCorresponding Well: TMW MW-12Samplers: B. Vetoet C. GraffData Sheet Logger: B. VetoetSoil Cover gravel, (sand, grass, staining, etc.) Weather Cloudy ~65°F

Location Reference Features:

Landmark #1 Tennis Court Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch:

Tennis Co(X) SB13Not to ScaleLK

Sampling Method: Grab: _____ Composite: _____
(Check all Hand Auger: _____ Geoprobe Macrocore: _____
that apply) GP Small Discrete: _____ GP Large Discrete: _____
Other (explain): _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: (Y) Photographer BVT #/Location 4 Time 1057 Direction LK eastRemarks: Found sludge - xRF

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)Type of Well Casing: PVC

Depth of Well: _____ (below ground level)

Screen Type/Length: _____

Static Water Level: _____ (bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONSBoring/Well ID: SB 13 /TMWSampling Time (MT): 10 5 3 VOA Sample Interval: 0-21 (in.) in. 0-4 (ft.) core# of Samples/Boring: _____ Remaining Sample Interval: 21-30 (in.) in. 04 (ft.) coreSample Type/Bottles: ☒ VOA ☒ SVOA/Pest/PCB ☒ Metals/Cyanide

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	30"	0-10	DK Brn, moist f sand w/ silt	Ø	13000 Pb (XRF)
		11-15	DK Gray moist f-sand	2.0	
		15-19	wood frame		
		19-20	grey sludge clayey		
4-8	30"	21-30	DK Brn, w/ BLK staining moist f-sand w/ fines some grey mater.	Ø	sample
		0-10	DK Brn f-Md sand w/ f-Md gravel some dk grey stain moist		
		10-13	Brn sandy silt, moist Brick fragments c 13"		
		14-30	DK Brn f-Md sand w/ tr f-gravel		
8-12	42"	0-10	DK brn f-Md sand, moist-	Ø	
		10-19	DK brn, wet sandy silt		
		19-42	DK brn wet f-Md sand		

* - Lithological description must include:

- Moisture content - (dry, moist, very moist, or wet)
- Color - (black, gray, brown, tan, etc., others as necessary)
- Grain size - (clay, silt, sand, gravel, etc., see table to right)
- Other materials - (debris (type), organics, etc.)
- Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12/9/09)

SOIL BORING SAMPLE DATA SHEET

Page 1 of 2

Site: C & H LAKE LINDEN OPERATIONS Date: 10/11/11

EPA ID#: MIN000510619 Sample Location: SB 14

Operators: M. Henry Corresponding Well: TMW

Samplers: B.V. & C. Greff Data Sheet Logger: B. V. Fort

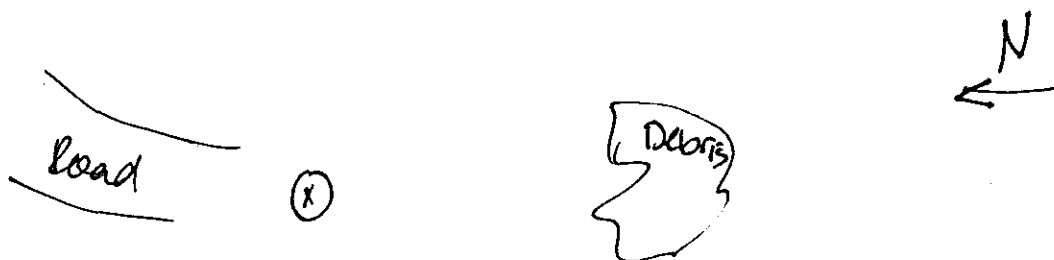
Soil Cover gravel, coal (sand, grass, staining, etc.) Weather Cloudy ~ 67°F

Location Reference Features:

Landmark #1 Mineral Bldg Direction _____ Distance _____

Landmark #2 _____ Direction _____ Distance _____

Sketch: Toeck



Mineral Bldg

Sampling Method: Grab: ☒ Composite: ☒
 (Check all that apply) Hand Auger: _____ Geoprobe Macrocore: ☒
 GP Small Discrete: _____ GP Large Discrete: _____
 Other (explain): _____

SOIL BORING LOG WITH SAMPLE DESCRIPTION ON PAGE 2

Photos: (Y/N) Photographer BVT #/Location 4 Time 1830 Direction Lkg E

Remarks: _____

Well Installation Information:

Aquifer Type: Drift or Bedrock (circle one)

Type of Well Casing: _____ Depth of Well: _____ (below ground level)

Screen Type/Length: _____ Static Water Level: _____ (bgl)

SOIL BORING SAMPLE DATA SHEET

Page 2 of 2

Site: C & H LAKE LINDEN OPERATIONS

Boring/Well ID: SB 14 /TMW

Sampling Time (MT): 1803 VOA Sample Interval: 35-36 (in.) in. 0-4 (ft.) core

of Samples/Boring: _____ Remaining Sample Interval: 0-1 (in.) in. 0-4 (ft.) core

Sample Type/Bottles: ☒ VOA ☒ SVOA/Pest/PCB ☒ Metals/Cyanide

Spoon Interval (ft.)	Recovery (in.)	Lithological Description*		PID/FID Reading	Comments
		Unit Thickness (in.)	Unit Description		
0-4	42"	0-6	Dry, drk Grey fine sand w/ silt & clay	φ	
		6-33	Moist BRN f sand w/ some fins	..	
		33-42	Moist BRN sandy silt		
4-8	48"	0-32	Wet fine BRN sand tr med sand	φ	
		32-38	Wet Md BRN sand w/ some fine sand tr coarse sand		
		38-48	Wet Md BRN sand w/ some fines		

- * - Lithological description must include:
- Moisture content - (dry, moist, very moist, or wet)
 - Color - (black, gray, brown, tan, etc., others as necessary)
 - Grain size - (clay, silt, sand, gravel, etc., see table to right)
 - Other materials - (debris (type), organics, etc.)
 - Special characteristics - (staining, streaking, etc.)

Grain size chart

Gravel	coarse	3/4 in. to 3 in.
	fine	3/16 in. to 3/4 in.
Sand	coarse	2 mm. to 4.75 mm.
	med.	0.425 mm. to 2 mm.
	fine	0.074 mm. to 0.425 mm.
Silt/Clay < 0.074 mm. (use plasticity)		

(JW 12/9/09)

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations Date: 10-12-11MIN#: 000510619 Well Number: XMW-01Field Personnel: MH, CWG Corresponding Boring Log: NAData Sheet Logger: CWG Well Log Available? NAquifer Type: unconf. Weather: Foggy, 50s°F, calmMonitoring WellSamplingType of Well 1" PVC Evacuation Method peristalticDepth of Well 13.816 TDC / (12.42 bgl) Evacuation Start Time 9:46Initial Water Level (-) 5.63 / 4.23 Sampling Method peristalticLength of Water Column (=) Grab ✓ Composite Volume/Ft. (based on dia) (x) Sampling Start Time 10:15One Volume (=) In Line Filter (y/n) (n)Ground Elevation (ft) Sampling pump rate (e.g., 470 ml/min.): Top of Casing Elevation(ft)

(time)	9:54	10:01	10:06	10:12	
Number of Volumes Removed (total gal. removed)	Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5
. Temperature, °C	13.7	13.6	13.6	13.7	
. pH	6.37	6.42	6.41	6.42	
. Conductivity, µS	401	399	399	399	
. TDS, ppm	267	266	265	265	
. ORP, mV	-44	-72	-72	-69	
. Water Quality	light reddish/tan	-a little clearer	same, eh?		

(if the units on the Myron meter are different than shown above, write in the correct ones)

done = 10:30

PHOTOS: Photographer <u>MH</u>	Well Diameter (in)	Volume/Ft. (gal/ft)
Y/N #/Location <u>MW-01</u> Time <u>10:32</u>	Dia. vol/ft.	Dia. vol/ft.
Direction <u>to N</u>	1.0 0.041	7.0 1.999
REMARKS: <u> </u>	1.5 0.092	7.5 2.295
	2.0 0.163	8.0 2.611

- 9:46 - 10:22 = 4.5 gals Flow rate = 473 liters/minute

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations Date: 10-12-11
 MIN#: 000510619 Well Number: TMW-02
 Field Personnel: MH/CWG Corresponding Boring Log: SB-01
 Data Sheet Logger: CWG Well Log Available? Y
 Aquifer Type: unconf. Weather: Foggy, mid 50s °F
Monitoring Well Sampling
 Type of Well 1" PVC Evacuation Method peristaltic
 Depth of Well 7.46 to c / 6.3 bgl Evacuation Start Time 10:44
 Initial Water Level (-) 2.37 / 1.3 bgl Sampling Method peristaltic
 Length of Water Column (=) Grab ☒ Composite
 Volume/Ft. (based on dia) (x) Sampling Start Time 11:12
 One Volume (=) In-Line Filter (y/n) (n)
 Ground Elevation (ft) Sampling pump rate (e.g., 470 ml/min.):
 Top of Casing Elevation(ft)

(time)	10:52	10:58	11:03	11:08	
Number of Volumes Removed (total gal. removed)	Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5
. Temperature, °C	11.10	11.10	11.10	10.9	
. pH	6.38	6.38	6.34	6.37	
. Conductivity, µS	347	346	346	345	
. TDS, ppm	230	229	229	229	
. ORP, mV	-113	-80	-75	-60	
. Water Quality	+lt. gray, +sulfur/dark odor, clearer, slightly cloudy, slightly cloudy, cloudy gray (if the units on the Myron meter are different than shown above, write in the correct ones)				

PHOTOS: Photographer <u>MH</u>	Well Diameter (in)	Volume/Ft. (gal/ft)
Y/N #/Location <u>TMW-02</u> Time <u>11:28</u>	Dia.	vol/ft.
Direction <u>to N</u>	1.0	0.041
REMARKS: <u>Sun came out ~ 11:20</u>	1.5	0.092
	2.0	0.163
	7.0	1.999
	7.5	2.295
	8.0	2.611

- the water cleared up after ~6 minutes, but still has a light gray color due to the grit + small particles in the water.

Water at sample time slightly cloudy gray. Done sampling: 11:26

- First H₂O was black + thick like mud

~10:44 to 11:12 = 3.5 gals. = Flow rate

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations Date: 10-12-11
 MIN#: 000510619 Well Number: TMW-03
 Field Personnel: CHT/CWG Corresponding Boring Log: SP-03
 Data Sheet Logger: CWG Well Log Available? Y
 Aquifer Type: unconf. Weather: mostly sunny / high 60° / low 70° F, light wind from ESE
Monitoring Well Sampling
 Type of Well 1" PVC Evacuation Method peristaltic
 Depth of Well 8.82 bTwy / 7.06 bgl Evacuation Start Time 15:36
stick up = 1.76'
 Initial Water Level (-) 4.64 Sampling Method peristaltic
 Length of Water Column (=) Grab ✓ Composite
 Volume/Ft. (based on dia) (x) Sampling Start Time 16:10
 One Volume (=) In Line Filter (y/n)
 Ground Elevation (ft) Sampling pump rate (e.g., 450 ml/min.):
 Top of Casing Elevation (ft) ~ 375 ml/min

(time)
 Number of Volumes Removed
 (total gal. removed)

. Temperature, °C
 . pH
 . Conductivity, µS
 . TDS, ppm
 . . ORP, mV
 . Water Quality

1.5 gal Vol. 1	2.5 gal Vol. 2	3.5 gal Vol. 3	Vol. 4	Vol. 5
15:50	15:55	16:00	16:06	
13.6	13.6	13.5	13.6	
6.77	6.75	6.73	6.74	
306	300.3	297.1	295.2	
196	195.7	193.3	192.1	
-78	-88	-88	-84	
Light brown	Light brown sulfur odor	same	same	
sulfur smell				

CWG

PHOTOS: Photographer 16:36

Y/N #/Location AW-03 Time

Direction to N

REMARKS:

Well Diameter (in)		Volume/Ft. (gal/ft)	
Dia.	vol/ft.	Dia.	vol/ft.
1.0	0.041	7.0	1.999
1.5	0.092	7.5	2.295
2.0	0.163	8.0	2.611

- First H₂O was dk brown/black, a lot of particulate, has a sulfur smell. Start purging ~ 500 ml/min. GW was almost clear, but still smelled bad = sulfur, during sampling. Total purged ~ 4.25 gallons. Stop sampling 16:36.

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations Date: 10/11/11
 MIN#: 000510619 Well Number: AMW-04
 Field Personnel: TND Corresponding Boring Log: SB-04
 Data Sheet Logger: CAROL TRACY Well Log Available? YES
 Aquifer Type: Drift Weather: OVERT

Monitoring Well Sampling

Type of Well 1" PVC Evacuation Method PERISTALTIC Pump
 Depth of Well 10.84 TOC Evacuation Start Time 11:20
 Initial Water Level (-) 5.89 Sampling Method PERISTALTIC Pump + DISPOSABLE TUBING
 Length of Water Column (=) _____ Grab X Composite _____
 Volume/Ft. (based on dia) (x) _____ Sampling Start Time 12:00
 One Volume (=) _____ In Line Filter (y/n) (n)
 Ground Elevation (ft) _____ Sampling pump rate (e.g., 470 ml/min.): _____
 Top of Casing Elevation (ft) 1.35 ~ 300 ml/min

(time)	11:20	11:32	11:39	11:49	11:59
Number of Volumes Removed (total gal. removed)		Vol. 1 2 gal.	Vol. 2 3 gal.	Vol. 3 4 gal.	Vol. 4 Vol. 5
Temperature, °C		15.0	15.0	15.0	15.0
pH		6.51	6.95	6.99	7.0
Conductivity, µS		683	685	687	687
TDS, ppm		480	481	482	482
ORP, mV		-69	-80	-82	-83
Water Quality		Cloudy	clear	clear	

(if the units on the Myron meter are different than shown above, write in the correct ones)

PHOTOS: Photographer <u>CT</u>	Well Diameter (in)	Volume/Ft. (gal/ft)
Y/N #/Location <u>2</u> Time <u>12:45</u>	Dia. vol/ft.	Dia. vol/ft.
Direction <u>East</u>	1.0 0.041	7.0 1.999
REMARKS: _____	1.5 0.092	7.5 2.295
	2.0 0.163	8.0 2.611

Initial water purged reddish brown
Some droplets of sheen on water purged
clear when sampled

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations Date: 10-11-11
 MIN#: 000510619 Well Number: MW-05 + MW-05-DUP

Field Personnel: TAD/Carol Tracy Corresponding Boring Log: SB-05

Data Sheet Logger: TAD Well Log Available? YES

Aquifer Type: Drift Weather: Cloudy ~ 60°F

Monitoring Well

Type of Well 1" PVC

Depth of Well TOC 9.3'

Initial Water Level TOC (-) 5.56'

Length of Water Column (=) 7.4'

Volume/Ft. (based on dia) (x) _____

One Volume (=) _____

Ground Elevation (ft) _____

Top of Casing Elevation (ft) _____

Sampling

Evacuation Method Peristaltic Pump & Disposable

Evacuation Start Time 12:30 Hose

Sampling Method SAME

Grab X Composite _____

Sampling Start Time 13:15

In Line Filter (f/n) _____

Sampling pump rate (e.g., 470 ml/min.): 250 ml/min

Low Flow < 500 ml/min.

(time)

Number of Volumes Removed
(total gal. removed)

. Temperature, °C

. pH

. Conductivity, µS

. TDS, ppm

. ORP, mV

. Water Quality

	12:45	12:50	12:55	13:00	13:05	13:10	13:15
Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5			
~1 gal.	~1.5 gal.	~2 gal.	~2.5 gal.	~3 gal.	~3.5 gal.	~4 gal.	
15.7	15.8	15.8	15.8	15.8	15.8	15.8	15.9
7.07	7.00	7.01	7.01	7.02	7.02	7.02	7.02
603	599	598	599	599	599	599	599
408	405	405	406	405	406	406	406
50	29	18	12	3	2	-2	
Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear

(if the units on the Myron meter are different than shown above, write in the correct ones)

PHOTOS: Photographer TAD

YN #/Location 2 Time 14:20

Direction EAST

REMARKS: _____

Well Diameter (in)		Volume/Ft. (gal/ft)	
Dia.	vol/ft.	Dia.	vol/ft.
1.0	0.041	7.0	1.999
1.5	0.092	7.5	2.295
2.0	0.163	8.0	2.611

In park, near lake, ~ 150 ft. from shoreline
Also, Per Barb Vort → collected plastic, 100 ml, preserve w/ HCl for GA analysis at MDEQ lab - Did Not have H₂SO₄

Stickkey = 104 Bt.
 Note! 5 ft screen w/ 5 ft Riser so must be ~ 0.7' of sediment in screen

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations

Date: 10/11/11

MIN#: 000510619

Well Number: MW-06 + MW-06 MS/MSD

Field Personnel: TAD

Corresponding Boring Log: N/A - Cored

Data Sheet Logger: CH

Well Log Available? N/A but NOT

Aquifer Type: Drift

Weather: PARTLY CLOUDY WINDY recorded.

Monitoring Well

Sampling

Type of Well

1" PVC

Evacuation Method

Peristaltic Pump + Disposable

Depth of Well

9.145

Evacuation Start Time

15:37

Initial Water Level TOC (-)

6.13

Sampling Method

SAME

Length of Water Column (=)

Grab

X

Composite

Volume/Ft. (based on dia) (x)

Sampling Start Time

16:25

One Volume (=)

In Line Filter

(y/n)

Ground Elevation (ft)

Sampling pump rate (e.g., 470 ml/min.): 250 ml/min

Top of Casing Elevation (ft)

(time)

15:37

Number of Volumes Removed
(total gal. removed)

. Temperature, °C

. pH

. Conductivity, µS

. TDS, ppm

. ORP, mV

. Water Quality

	15:50	16:00	16:15	16:25	16:35	16:45
Vol. 1	2.5 gal	3.9 gal	4.9 gal	4.5 gal	5.4 gal	5.5 gal
Vol. 2	14.6	14.6	14.6	14.6	14.7	14.6
Vol. 3	7.24	7.25	7.27	7.24	7.26	7.25
Vol. 4	564	570	570	572	587	588
Vol. 5	384	385	385	386	398	399
Vol. 6	79	67	66	53	58	50
Vol. 7	slightly cloudy	clear	clear	clear	clear	clear

(if the units on the Myron meter are different than shown above, write in the correct ones)

PHOTOS: Photographer

TAD

YN #/Location

2-3

Direction

NW

REMARKS:

Well Diameter (in)

Volume/Ft. (gal/ft)

Dia.

vol/ft.

Dia.

vol/ft.

1.0

0.041

7.0

1.999

1.5

0.092

7.5

2.295

2.0

0.163

8.0

2.611

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations Date: 10/11/11
 MIN#: 000510619 Well Number: PMW-07
 Field Personnel: TAD Corresponding Boring Log: SB-09
 Data Sheet Logger: CHT Well Log Available? YES
 Aquifer Type: Drift Weather: Cloudy @ 60°F

Monitoring Well

Sampling

Type of Well 1" PVC Evacuation Method PERISTALTIC & DISPOSABLE TUBING
 Depth of Well 8.50 Evacuation Start Time 1755
 Initial Water Level (-) 5.10 (TIC) Sampling Method SAME
 Length of Water Column (=) Grab X Composite
 Volume/Ft. (based on dia) (x) Sampling Start Time 1845
 One Volume (=) In Line Filter (Y/N)
 Ground Elevation (ft) Sampling pump rate (e.g., 470 ml/min.):
 Top of Casing Elevation (ft)

5 ft slot
10-20 ft
20-25 ft

1.22' *
Stickup

(time)	1755	18:10	18:25	18:35	18:43	
Number of Volumes Removed (total gal. removed)		Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5
		15.0	15.1	14.9	15.0	
. Temperature, °C		6.98	6.99	6.98	7.01	
. pH		839	838	840	838	
. Conductivity, µS		574	573	576	574	
. TDS, ppm		14	6	8	8	
. ORP, mV		Cloudy	Cloudy	clear	Cloudy	
. Water Quality						

(if the units on the Myron meter are different than shown above, write in the correct ones)

PHOTOS: Photographer TAD

Y/N #/Location 2 Time 19:20

Direction EAST

REMARKS:

Well Diameter (in)		Volume/Ft. (gal/ft)	
Dia.	vol/ft.	Dia.	vol/ft.
1.0	0.041	7.0	1.999
1.5	0.092	7.5	2.295
2.0	0.163	8.0	2.611

Screen on purge water
NEXT TO LAKE

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations Date: 10-12-11MIN#: 000510619 Well Number: 2MW-08Field Personnel: Cecil Tracy Corresponding Boring Log: N/AData Sheet Logger: TAD Well Log Available? No BoringAquifer Type: Drift Weather: Foggy ~ 55-60°F

Monitoring Well

Sampling

Type of Well 1" PVCEvacuation Method Peristaltic Pump & DisposableDepth of Well 700 13.16Evacuation Start Time 09:33 10:25Initial Water Level 700 (-) 8.07Sampling Method SAME

Length of Water Column (=) _____

Grab X Composite _____

Volume/Ft. (based on dia) (x) _____

Sampling Start Time 10:25

One Volume (=) _____

In Line Filter (y/n) (y)

Ground Elevation (ft) _____

Sampling pump rate (e.g., 470 ml/min.): _____

Top of Casing Elevation(ft) _____

stickup = 0082'

(time)

Number of Volumes Removed
(total gal. removed)

. Temperature, °C

. pH

. Conductivity, µS

. TDS, ppm

. ORP, mV

. Water Quality

	9:50	10:05	10:15	10:25	
Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5	
Regal	3 gal	4 gal	5 gal		
14.2	14.2	14.3	14.3		
6.52	6.85	6.84	6.84		
725	725	725	724		
513	513	513	512		
26	0	-16	-22		
Cloudy	sl cloudy	sl cloudy	Clear		

(if the units on the Myron meter are different than shown above, write in the correct ones)

PHOTOS: Photographer TADYN #/Location 2 Time 10:55Direction N

REMARKS: _____

Well Diameter (in)		Volume/Ft. (gal/ft)	
Dia.	vol/ft.	Dia.	vol/ft.
1.0	0.041	7.0	1.999
1.5	0.092	7.5	2.295
2.0	0.163	8.0	2.611

Collected "CA" sample at this location

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations

Date: 10-12-11

MIN#: 000510619

Well Number: PMW-09

Field Personnel: CT / TAD

Corresponding Boring Log: N/A

Data Sheet Logger: TAD

Well Log Available? N/A

Aquifer Type: DRI-1

Weather: Foggy - ~ 60°F

Monitoring Well

Sampling

Type of Well

1" PVC

Evacuation Method

Peristaltic Pump & Disposable

Depth of Well

TOC 18.94

Evacuation Start Time

11:15

Initial Water Level

TOC (-) 13.55

Sampling Method

Length of Water Column (=)

Grab

X

Composite

Volume/Ft. (based on dia) (x)

Sampling Start Time

11:50

One Volume

(=)

In Line Filter (y(n))

Ground Elevation (ft)

Sampling pump rate (e.g., 470 ml/min.):

Top of Casing Elevation (ft)

Stick-up = 1.71

(time)

Number of Volumes Removed
(total gal. removed)

. Temperature, °C

. pH

. Conductivity, µS

. TDS, ppm

. ORP, mV

. Water Quality

11:30	11:35	11:40	11:45	11:50
Vol. 1 2.1 gal.	Vol. 2 2.1 gal.	Vol. 3 2.3 gal.	Vol. 4 2.5 gal.	Vol. 5 2.3 gal.
11.5	11.6	11.6	11.6	11.7
6.60	6.59	6.57	6.55	6.56
1144	1149	1158	1166	1169
831	837	842	848	852
41	37	36	35	37
Cloudy	→	Sl. Cloudy	→	→

(if the units on the Myron meter are different than shown above, write in the correct ones)

PHOTOS: Photographer BVT

Y/N #/Location

Time 1314

Direction

REMARKS:

Well Diameter (in)

Volume/Ft. (gal/ft.)

Dia.

vol/ft.

Dia.

vol/ft.

1.0

0.041

7.0

1.999

1.5

0.092

7.5

2.295

2.0

0.163

8.0

2.611

2 photos EAST (toward Lake)

2 photos WEST (toward street)

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations Date: 10-12-11
 MIN#: 000510619 Well Number: BMW- 10
 Field Personnel: CHT Corresponding Boring Log: N/A
 Data Sheet Logger: CHT Well Log Available? N/A
 Aquifer Type: _____ Weather: _____

Monitoring Well

Sampling

Type of Well 1" PVC Evacuation Method PERISTALTIC PUMP
 Depth of Well 21.06 Tac Evacuation Start Time 17:36 + DISPOSABLE TUBING
 Initial Water Level (-) 14.57 Sampling Method SAME
 Length of Water Column (=) _____ Grab _____ Composite _____
 Volume/Ft. (based on dia) (x) _____ Sampling Start Time ~~17:36~~ 18:10
 One Volume (=) _____ In Line Filter (y/n) N CHT
 Ground Elevation (ft) _____ Sampling pump rate (e.g., 470 ml/min.):
 Top of Casing Elevation(ft) _____ 400 ml/min

(time)	17:36	17:54	17:59	18:04	18:09
Number of Volumes Removed (total gal. removed)	Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5
	2.46	2.5	2.0	3.5	
. Temperature, °C	11.9	11.9	11.9	11.9	
. pH	6.05	6.03	6.07	6.00	
. Conductivity, µS	191.2	191.2	191.5	191.9	
. TDS, ppm	128.5	128.5	128.6	129.0	
. ORP, mV	-41	-59	-50	-51	
. Water Quality	cloudy tan	cloudy tan	SL cloudy		

(if the units on the Myron meter are different than shown above, write in the correct ones)

PHOTOS: Photographer CHT

Y/N #/Location 5 Time 18:40

Direction WEST

REMARKS: LOOKING WEST AT MINERALS BLDG

Well Diameter (in)		Volume/Ft. (gal/ft)	
Dia.	vol/ft.	Dia.	vol/ft.
1.0	0.041	7.0	1.999
1.5	0.092	7.5	2.295
2.0	0.163	8.0	2.611

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations Date: 10-12-11

MIN#: 000510619 Well Number: TMW- 11

Field Personnel: CWG Corresponding Boring Log: SB-12

Data Sheet Logger: CWG Well Log Available? Y

Aquifer Type: unconf. Weather: mostly sunny, light wind from ESE, ~high 60s - low 70s °F

Monitoring Well Sampling

Type of Well 1" PVC Evacuation Method peristaltic

Depth of Well 13.80' bTVC / 12.57 bgl Evacuation Start Time 17:51

Stick up = 1.23'

Initial Water Level 6.53 (-) 5.40' bgl Sampling Method peristaltic

Length of Water Column (=) Grab ☒ Composite ☐

Volume/Ft. (based on dia) (x) Sampling Start Time 18:25

One Volume (=) In Line Filter (y/n) ☒

Ground Elevation (ft) Sampling pump rate (e.g., 470 ml/min.):

Top of Casing Elevation(ft) ~350 ml/min

(time)
Number of Volumes Removed
(total gal. removed)

- . Temperature, °C
- . pH
- . Conductivity, µS
- . TDS, ppm
- . ORP, mV
- . Water Quality

18:09	18:14	18:19		
Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5
2.9 gals	2.7	3.2 gals		
14.6	14.6	14.7		
6.68	6.63	6.67		
661.8	660.7	659.8		
446.2	446.3	445.4		
27	23	25		
light brown	cloudy	cloudy		
	lt. brown	lt. brown		

(if the units on the Myron meter are different than shown above, write in the correct ones)
cleaner

PHOTOS: Photographer CWG

Y/N #/Location NW-11 Time 18:58

Direction from E

REMARKS:

Well Diameter (in)		Volume/Ft. (gal/ft)	
Dia.	vol/ft.	Dia.	vol/ft.
1.0	0.041	7.0	1.999
1.5	0.092	7.5	2.295
2.0	0.163	8.0	2.611

-1st purge H₂O dk. brown w/ a lot of particulates; purge rate 500+ ml/min.

Final H₂O very light cloudy brown. Trouble w/ chord on back of peristaltic pump = it needs to be fixed. It worked after I taped it sideways to keep pressure on it.

-done 18:54

GROUNDWATER SAMPLING DATA SHEET

Site: C & H Lake Linden Operations

Date: 10/13/11

MIN#: 000510619

Well Number: XMW- 12

Field Personnel: BVT & CT

Corresponding Boring Log: SB13

Data Sheet Logger: B. Vetro + (BVT)

Well Log Available? yes

Aquifer Type: Stamp sand Fill

Weather: ~ 62°F, Mostly Cloudy

Monitoring Well

Sampling

Type of Well

PVC

Evacuation Method

Peristaltic

Depth of Well

- bTOC = 14.41

Evacuation Start Time

0927

Initial Water Level

bTOC - 10.7

Sampling Method

low flow

Length of Water Column (=)

Grab

✓

Composite

Volume/Ft. (based on dia) (x)

Sampling Start Time

10:05 / end 10:17

One Volume

(=)

In Line Filter (y/n)

Ground Elevation (ft)

Sampling pump rate (e.g., 470 ml/min.):

Top of Casing Elevation (ft)

~ 350 ml/min

SU = 1.68' a.g.l.

(time)

Number of Volumes Removed
(total gal. removed)

. Temperature, °C

. pH

. Conductivity, µS

. TDS, ppm

. ORP, mV

. Water Quality

9:42	9:47	9:52	9:57	10:02
Vol. 1	Vol. 2	Vol. 3	Vol. 4	Vol. 5
2g	2.5g	3g	3.5g	3.7g
13.8	13.8	13.9	13.9	13.8
6.75	6.98	7.01	7.06	7.06
781.2	778.3	778.2	783.7	779.4
529.0	526.9	526.8	530.8	527.7
79	69	58	57	46
cloudy Brown	slightly cloudy	slightly cloudy	slightly cloudy	slightly cloudy

(if the units on the Myronometer are different than shown above, write in the correct ones)

PHOTOS: Photographer

Y/N #/Location Time

Direction

REMARKS:

Well Diameter (in)		Volume/Ft. (gal/ft)	
Dia.	vol/ft.	Dia.	vol/ft.
1.0	0.041	7.0	1.999
1.5	0.092	7.5	2.295
2.0	0.163	8.0	2.611

* pumped ~ 2 gallons from well before began f/d param, water cleared up before 2nd f/d parameter reading.

this is the well where Mark found sludge waste in SB - sampled only for metals + going to DOE lab - JST

SURFACE WATER/SEDIMENT SAMPLING DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS SITE

Date: 10-12-11

EPA ID#: MIN000510619

Sample Location: SW⁰¹/SD-01

Field Personnel: M.H. / TAD / CO

Data Sheet Logger: TAD

Weather: Sunny

75°F (DNR) Dennis Best

Location Reference Features:

Landmark #1: _____

Direction: _____

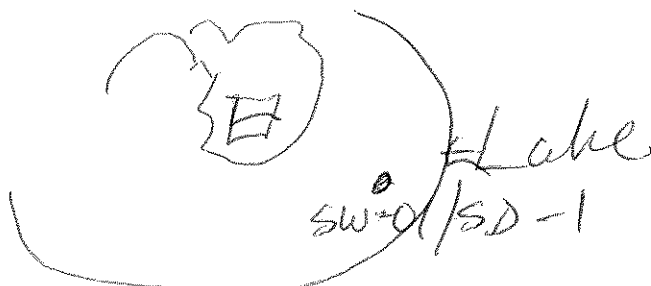
Distance: _____

Landmark #2: _____

Direction: _____

Distance: _____

Sketch:



Surface Water:

Sampling Time: 13:30

Flow Rate: _____

Water Quality: Clear

Depth of Water at Sample Location (ft.): 4.5 ft

Sample Type: Grab

Composite _____

Sampling Instrument: Alpha

Kemmerer _____

Other X

Submerge Bottles

Temperature (°C): 18.0

Conductivity (µs/sec.): 177

pH: 6.22

Sediment:

Sampling Time 13:30

Sample Type: Grab

Composite _____

Sampling Instrument: Corer

Dredge _____

Other min-PONAR

Sediment Depth Interval Sampled (in. or ft.) 0-3'

Depth of Water at Sampling Location (ft.) 4.5 ft.

Sediment

Unit Thickness

Unit Description

(in. or ft.)

(color, grain size, other characteristics)

Gravel coarse 3/4 to 3 in.

fine 3/16 to 3/4 in.

Sand coarse 2 to 4.75 mm.

medium 0.425 to 2 mm.

fine 0.074 to 0.425 mm.

Silt/Clay <0.074 mm. (use plasticity)

0-3" Wet, dark tan, med. sand.

PHOTOS: Y/N

Photographer: TAD

#/Location: 2

Time: 13:45

Direction: N

REMARKS:

Collected VOA, Semi-VOA, PCBs, Metals / Cyanide
DNR provided boat.

(JW 3/13/02)

SURFACE WATER/SEDIMENT SAMPLING DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS SITE Date: 10-12-11

EPA ID#: MIN000510619 Sample Location: SW /SD -02

Field Personnel: MM & TAD Data Sheet Logger: TAD

Weather: Sunny ~ 70°F

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____
Landmark #2: _____ Direction: _____ Distance: _____

Sketch:

Note: Myron Meter

Surface Water: Sampling Time: 18:00 Flow Rate: _____ Water Quality: Clear
Depth of Water at Sample Location (ft.): 8'
Sample Type: Grab X Composite _____
Sampling Instrument: Alpha _____ Kemmerer _____ Other Submerge Bottles
Temperature (°C): 18.6 Conductivity (µs/sec.): 536 pH: 6.2

Sediment: Sampling Time 18:00 Sample Type: Grab X Composite _____
Sampling Instrument: Corer _____ Dredge _____ Other Macro-core
Sediment Depth Interval Sampled (in. or ft.) 0-4" 4 ft. liner
Depth of Water at Sampling Location (ft.) 8"

Sediment

Unit Thickness Unit Description

(in. or ft.)	(color, grain size, other characteristics)	Gravel coarse 3/4 to 3 in.	fine 3/16 to 3/4 in.	Sand coarse 2 to 4.75 mm.	medium 0.425 to 2 mm.	fine 0.074 to 0.425 mm.	Silt/clay <0.074 mm. (use plasticity)
0-2"	Wet, black, organic muck, some glass						
2-4"	Wet, Dark brown/black med. Sand w/ Black Streaks.						

PHOTOS (Y/N) Photographer: TAD #/Location: 2 Time: 18:15 Direction: S

REMARKS: Additional # Location 2 to the N

SURFACE WATER/SEDIMENT SAMPLING DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS SITE Date: 10-12-11

EPA ID#: MIN000510619 Sample Location: SW ⁻⁰³ /SD ⁻⁰³ + DUP

Field Personnel: M.H. & TAD & Data Sheet Logger: TAD

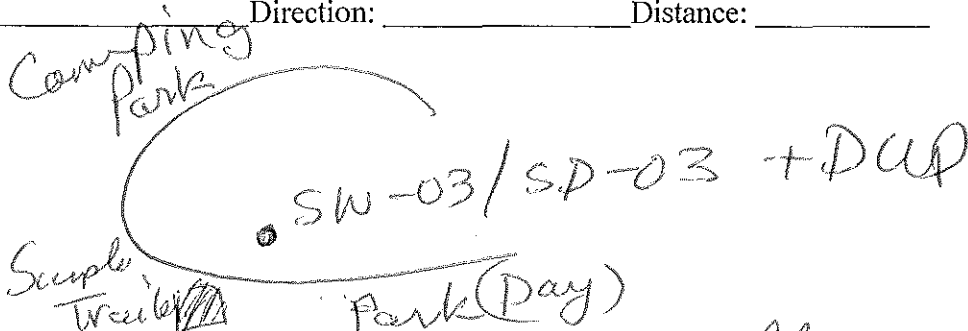
Weather: Sunny 275°F DNR - CO - Dennis Gast

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____

Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Surface Water: Sampling Time: 14:15 Flow Rate: _____ Water Quality: Clear

Depth of Water at Sample Location (ft.): 7 ft.

Sample Type: Grab X Composite _____

Sampling Instrument: Alpha _____ Kemmerer _____ Other Submerge bottle

Temperature (°C): 19.3 Conductivity (µs/sec.): 181 pH: 6.88

Sediment: Sampling Time 14:15 Sample Type: Grab X Composite _____

Sampling Instrument: Corer _____ Dredge _____ Other mini-ponar

Sediment Depth Interval Sampled (in. or ft.) 0-3 in

Depth of Water at Sampling Location (ft.) 7.5 ft

Sediment

Unit Thickness Unit Description

(in. or ft.)	(color, grain size, other characteristics)	Gravel	coarse	3/4 to 3 in.
			fine	3/16 to 3/4 in.
		Sand	coarse	2 to 4.75 mm.
			medium	0.425 to 2 mm.
			fine	0.074 to 0.425 mm.
		Silt/Clay	<0.074 mm. (use plasticity)	

PHOTOS: Y/N Photographer: TAD #/Location: 2 Time: 14:45 Direction: NW

REMARKS: DNR provided boat

SURFACE WATER/SEDIMENT SAMPLING DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS SITE Date: 10-12-11

EPA ID#: MIN000510619

Sample Location: SW /SD-04 MS/MSD

Field Personnel: MH/TAD/Dennis Data Sheet Logger: TAD

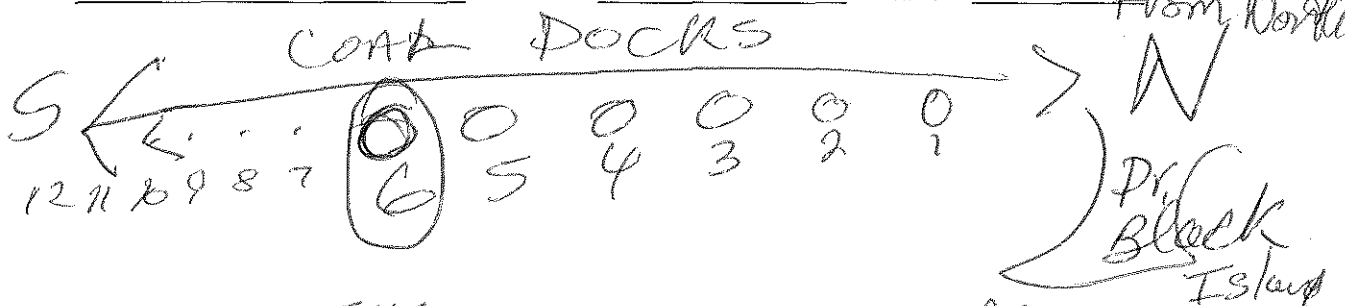
Weather: Sunny 75°F East (DNR-CO)

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____

Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Surface Water: Sampling Time: 15:15 Flow Rate: _____ Water Quality: Clear

Depth of Water at Sample Location (ft.): Deep ~ 20+ ft.

Sample Type: Grab _____ Composite _____

Sampling Instrument: Alpha _____ Kemmerer _____ Other Submerge Bottle

Temperature (°C): 18.1 Conductivity (µs/sec.): 177 pH: 6.51

Sediment: Sampling Time 15:15 Sample Type: Grab X Composite _____

Sampling Instrument: Corer _____ Dredge _____ Other Mini-Ponar

Sediment Depth Interval Sampled (in. or ft.) 0-3 in.

Depth of Water at Sampling Location (ft.) Deep ~ 20 ft. (+)

Sediment

Unit Thickness Unit Description

(in. or ft.)	(color, grain size, other characteristics)	Gravel coarse	3/4 to 3 in.
		fine	3/16 to 3/4 in.
		Sand coarse	2 to 4.75 mm.
		medium	0.425 to 2 mm.
		fine	0.074 to 0.425 mm.
		Silt/Clay	<0.074 mm. (use plasticity)

0-3 in. Wet, black to dark brown, ~~fine sand~~ much Some wood pieces, some coal pieces, few dead leaves. (more coal than soil during initial West collection of sediment)

PHOTOS: (Y/N) Photographer: TAD #/Location: 2 Time: 15:40 Direction: West

REMARKS: DNR provided boat

Also, pudding like consistency (JW 3/13/02)

SURFACE WATER/SEDIMENT SAMPLING DATA SHEET

Site: C & H LAKE LINDEN OPERATIONS SITE Date: 10-12-11

EPA ID#: MIN000510619 Sample Location: SW /SD -05

Field Personnel: MH/TAD/Demonis Data Sheet Logger: TAD

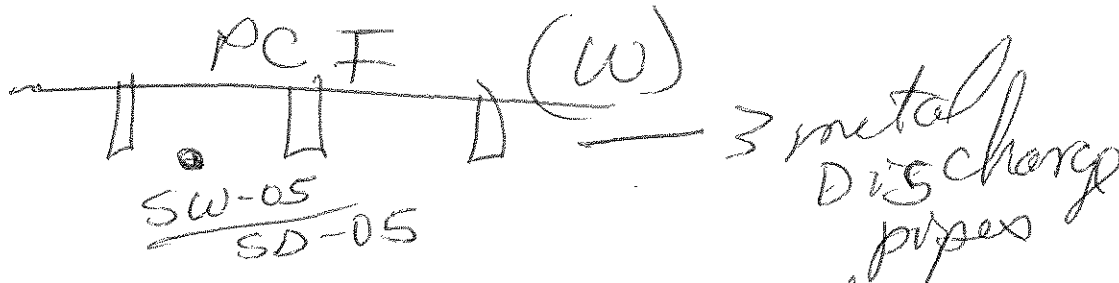
Weather: Sunny to 75°F East (CO-DNR)

Location Reference Features:

Landmark #1: _____ Direction: _____ Distance: _____

Landmark #2: _____ Direction: _____ Distance: _____

Sketch:



Surface Water: Sampling Time: 16:15 Flow Rate: _____ Water Quality: clear

ORP = 151 Depth of Water at Sample Location (ft.): 28 ft

TDS = 112 Sample Type: Grab X Composite _____

Sampling Instrument: Alpha _____ Kemmerer _____ Other submerge

Temperature (°C): 17.9 Conductivity (µs/sec.): 177 pH: 6.83

Sediment: Sampling Time 16:15 Sample Type: Grab X Composite _____

Sampling Instrument: Corer _____ Dredge _____ Other mini-Ponar

Sediment Depth Interval Sampled (in. or ft.) 0-3 in.

Depth of Water at Sampling Location (ft.) 28 ft

Sediment

Unit Thickness	Unit Description
(in. or ft.)	(color, grain size, other characteristics)
0-3	Wet, medium brown, muck.
	(pudding-like consistency)

Gravel coarse	3/4 to 3 in.
fine	3/16 to 3/4 in.
Sand coarse	2 to 4.75 mm.
medium	0.425 to 2 mm.
fine	0.074 to 0.425 mm.
Silt/Clay	<0.074 mm. (use plasticity)

PHOTOS: YN Photographer: TAD #/Location: 2 Time: 16:30 Direction: W

REMARKS: DNR provided boat.

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.10.11

Sample Location: SS01

Time: 1415

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.10.11

Sample Location: SS02

Time: 12:32

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.10.11

Sample Location: SS03

Time: 1352

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.11.11

Sample Location: SS04

Time: 1155

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.11.11

Sample Location: SS05

Time: 1140

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.11.11

Sample Location: SS06

Time: 9:40

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.10.11

Sample Location: SS 07

Time: 1740

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.10.11

Sample Location: SS08

Time: 1622

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.10.11

Sample Location: SS09

Time: 1727

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.12.11

Sample Location: SS 10

Time: 0933

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: SS11

Time: 1545

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: SS12

Time: 1615

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: SS13

Time: 1215

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.12.11

Sample Location: SS14

Time: 1300

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.11.11

Sample Location: SS15

Time: 1852

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.11.11

Sample Location: SS16

Time: 1708

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.11.11

Sample Location: SS17

Time: 1652

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.11.11

Sample Location: SS18

Time: 1520

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.11.11

Sample Location: SS19

Time: 1410

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10.11.11

Sample Location: SS20

Time: 1337

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10/10/11

Sample Location: SB01 ~~1102~~

Time: 1701

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10/10/11

Sample Location: SB02

Time: 1610

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-10-11

Sample Location: SB-03

Time: 16:00

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-10-11

Sample Location: SB-04 + SB04
-Dip

Time: 18:12

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-10-11

Sample Location: SB-05

Time: 18:40

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-11-11

Sample Location: SB-06

Time: 09:30

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-11-11

Sample Location: SB-07

Time: 10:15

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10/11/11

Sample Location: SB 08

Time: 1455

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10/11/11

Sample Location: SB09

Time: 1408

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10/11/11

Sample Location: SB 10

Time: 1148

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10 / 11 / 11

Sample Location: SB 11

Time: 1630

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10/11/11

Sample Location: ¹²SBI/MW11

Time: 1704

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10/11/11

Sample Location: SB13

Time: 1053

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10/11/11

Sample Location: SB14

Time: 1803

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: MW-01

Time: 10:15

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: MW-02

Time: 11:12

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: MW-03

Time: 16:10

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-11-11

Sample Location: MW-04

Time: 12:00

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-11-11

Sample Location: MW-05

* MW-05-

Time: 13:15

13:15

Dup

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10/11/11

Sample Location: MW06 & MW06 MS/
MSD

Time: 16:50

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-11-11

Sample Location: MW-07

Time: 18:45

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: MW-08

Time: 10:25

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: MW-09

Time: 11:50

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: MW-10

Time: 18:10

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: MW-11

Time: 18:25

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10 | 13 | 11

Sample Location: MW12

Time: 1005

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: SD-01

Time: 13:30 SW-01

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: SW-02

Time: 18:00 SD-02

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: SW-03/

Time: 14:15 SD-03
+ DUP

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: SW-04

Time: 15:15 SD-04

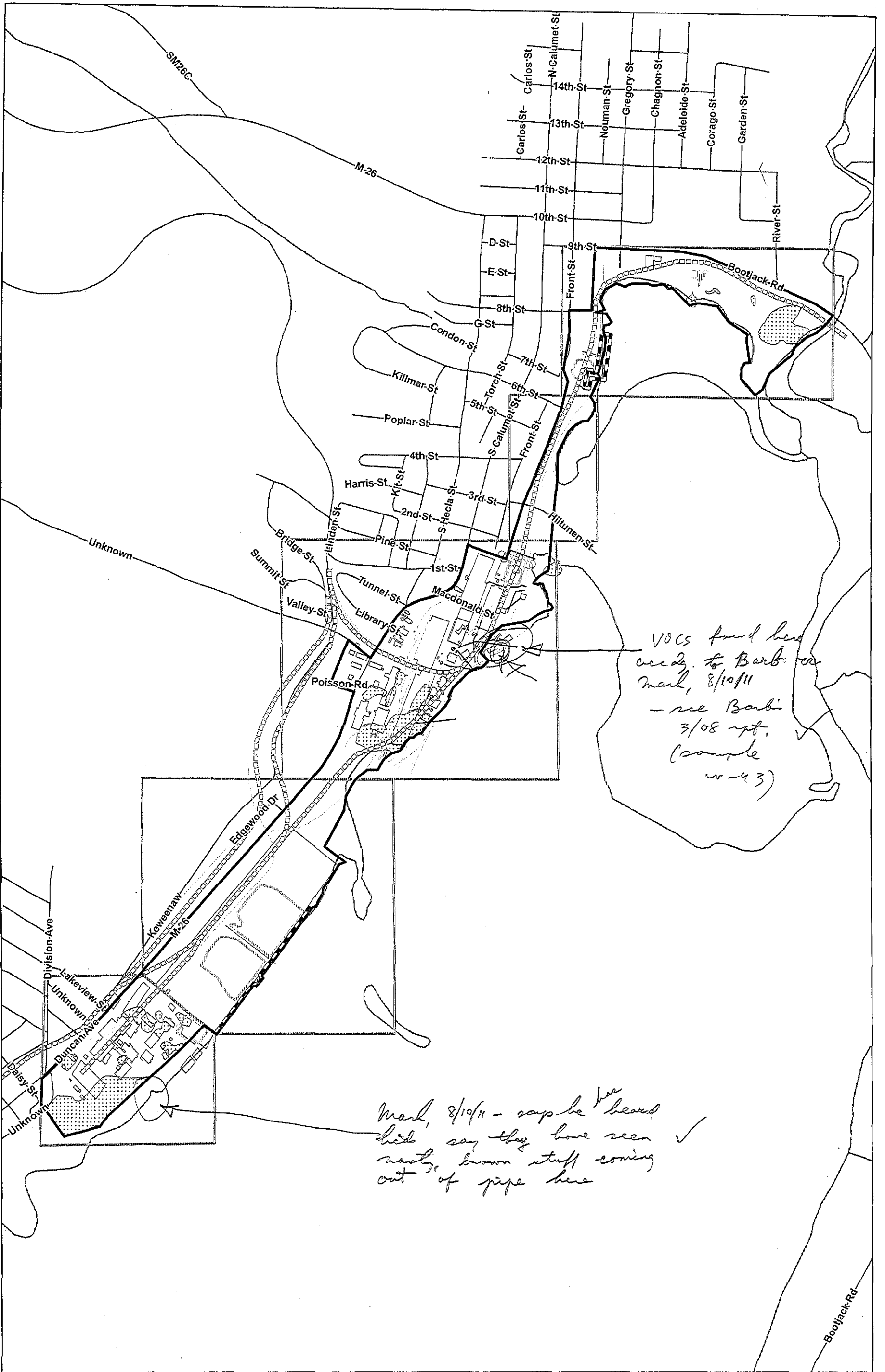
(MS/MSD)

Site Name: C&H LAKE LINDEN
OPERATIONS

Date: 10-12-11

Sample Location: SW-05

Time: 16:15 SD-05



VOCs found here
 occdy. to Barb or
 Mark, 8/10/11
 - see Barb's
 3/08 rpt.
 (sample
 W-43)

Mark, 8/10/11 - says he heard
 kids say they have seen
 sandy, brown stuff coming
 out of pipe here

8/10/11

XRF LOCATIONS NEAR ARSENIC REMOVAL AREA C & H LAKE LINDEN OPERATIONS SITE



Appendix F

Chemical Analysis Data
of
Site Inspection Samples

October 27, 2011

MDNRE

Attn: Mr. John Spielberg
525 W. Allegan St., 4th Floor South
Lansing, MI 48913

Project: C&H Lake Linden Ops

Dear Mr. John Spielberg,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1110319	10/17/2011	Laboratory Services

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACCLASS DoD-ELAP (#ADE-1542); Arkansas DEP (#10-046-0); Florida DEP (#E87622-05); Georgia EPD (#E87622-05); Illinois DEP (#002656); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#03068); Michigan DPH (#0034); Minnesota DPH (#026-999-161); New York ELAP (#44950); North Carolina DNRE (#659); Rhode Island DPH (#E87622); Texas CEQ (#T104704495-11-1); Virginia DCLS (#919); Wisconsin DNR (#999472650).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications section of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



Lisa M. Harvey
Project Chemist

ANALYTICAL REPORT

Client: **MDNRE**
 Project: C&H Lake Linden Ops
 Client Sample ID: **SS-01**
 Lab Sample ID: **1110319-01**
 Matrix: Soil
 Unit: ug/kg dry
 Dilution Factor: 1
 QC Batch: 1111418
 Percent Solids: 60

Work Order: **1110319**
 Description: Laboratory Services
 Sampled: 10/10/11 14:15
 Sampled By: J. Spielberg
 Received: 10/17/11 17:00
 Prepared: 10/18/11 By: JDM
 Analyzed: 10/18/11 By: JDM
 Analytical Batch: 1J19045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
*67-64-1	Acetone	460J	1700	150
107-13-1	Acrylonitrile	170U	170	33
71-43-2	Benzene	83U	83	9.9
108-86-1	Bromobenzene	170U	170	9.3
74-97-5	Bromochloromethane	170U	170	9.9
75-27-4	Bromodichloromethane	170U	170	8.4
75-25-2	Bromoform	170U	170	13
74-83-9	Bromomethane	74J	330	19
104-51-8	n-Butylbenzene	83U	83	8.6
135-98-8	sec-Butylbenzene	83U	83	8.6
98-06-6	tert-Butylbenzene	83U	83	9.3
75-15-0	Carbon Disulfide	410U	410	8.4
56-23-5	Carbon Tetrachloride	83U	83	8.3
108-90-7	Chlorobenzene	83U	83	19
*75-00-3	Chloroethane	410U	410	18
67-66-3	Chloroform	83U	83	9.4
74-87-3	Chloromethane	90J	410	11
110-82-7	Cyclohexane	410U	410	11
96-12-8	1,2-Dibromo-3-chloropropane	83U	83	20
124-48-1	Dibromochloromethane	170U	170	25
106-93-4	1,2-Dibromoethane	83U	83	12
74-95-3	Dibromomethane	410U	410	9.6
110-57-6	trans-1,4-Dichloro-2-butene	83U	83	7.3
95-50-1	1,2-Dichlorobenzene	170U	170	8.4
541-73-1	1,3-Dichlorobenzene	170U	170	9.1
106-46-7	1,4-Dichlorobenzene	170U	170	11
*75-71-8	Dichlorodifluoromethane	410U	410	13
75-34-3	1,1-Dichloroethane	83U	83	8.3
107-06-2	1,2-Dichloroethane	83U	83	8.8
75-35-4	1,1-Dichloroethene	83U	83	12
156-59-2	cis-1,2-Dichloroethene	83U	83	10

Continued on next page

*See Statement of Data Qualifications

ANALYTICAL REPORT

Client: **MDNRE**
 Project: C&H Lake Linden Ops
 Client Sample ID: **SS-01**
 Lab Sample ID: **1110319-01**
 Matrix: Soil
 Unit: ug/kg dry
 Dilution Factor: 1
 QC Batch: 1111418
 Percent Solids: 60

Work Order: **1110319**
 Description: Laboratory Services
 Sampled: 10/10/11 14:15
 Sampled By: J. Spielberg
 Received: 10/17/11 17:00
 Prepared: 10/18/11 By: JDM
 Analyzed: 10/18/11 By: JDM
 Analytical Batch: 1J19045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
156-60-5	trans-1,2-Dichloroethene	83U	83	8.9
78-87-5	1,2-Dichloropropane	83U	83	11
10061-01-5	cis-1,3-Dichloropropene	83U	83	14
10061-02-6	trans-1,3-Dichloropropene	83U	83	9.3
100-41-4	Ethylbenzene	83U	83	11
60-29-7	Ethyl Ether	330U	330	16
591-78-6	2-Hexanone	4100U	4100	27
*74-88-4	Iodomethane	210	170	13
98-82-8	Isopropylbenzene	410U	410	12
*108-20-3	Isopropyl Ether	410U	410	3.2
99-87-6	4-Isopropyltoluene	170U	170	11
1634-04-4	Methyl tert-Butyl Ether	410U	410	11
75-09-2	Methylene Chloride	170U	170	9.6
78-93-3	2-Butanone (MEK)	1200U	1200	42
*91-57-6	2-Methylnaphthalene	550U	550	13
108-10-1	4-Methyl-2-pentanone (MIBK)	4100U	4100	9.8
*91-20-3	Naphthalene	230J	550	11
*994-05-8	tert-Amyl Methyl Ether	410U	410	4.0
*637-92-3	Ethyl tert-Butyl Ether	410U	410	5.7
103-65-1	n-Propylbenzene	170U	170	9.4
100-42-5	Styrene	83U	83	8.6
*75-65-0	t-Butanol	4100U	4100	210
630-20-6	1,1,1,2-Tetrachloroethane	170U	170	25
79-34-5	1,1,2,2-Tetrachloroethane	83U	83	19
127-18-4	Tetrachloroethene	83U	83	8.4
109-99-9	Tetrahydrofuran	1700U	1700	55
108-88-3	Toluene	170U	170	12
*87-61-6	1,2,3-Trichlorobenzene	550U	550	9.9
120-82-1	1,2,4-Trichlorobenzene	550U	550	11
71-55-6	1,1,1-Trichloroethane	83U	83	9.6
79-00-5	1,1,2-Trichloroethane	83U	83	11

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