

12 WINDS @ 50 knots. Tents bowed over, almost snapping

Sta 15 (103-0061) 548513 7618812
Looking ^{NW} from top of Tier II to
3 cells to the west of the Main cell
- standing on crest at NE corner of Tier II

Sta 16 (103-0062, 0063) 548521 7618810
Panoramic of Station LF
Looking N from the NE crest of the
Tier II LF

TOO WINDY TO CONTINUE
BACKPACK PARTIALLY FLEW WITH ROCK AND
STILL ROLLING IN WIND

HAD TO CHASE FIELD BACK 100m when the wind ripped
it from my hand
- Heading back to camp to make sure tents
are still standing

I will start making some notes for Tier II
in preparation for inspection
- Visual inspection yesterday confirmed that conditions
are essentially unchanged from last year and cracks
have not worsened.

CAMP 2

-2°C

Aug 20/200813

Extreme winds and cold prevented us from
completing more inspections last night
- call to Peter Armstrong informed us that
bad weather was moving in and that we
had to prepare for a rough(er) ride
- extreme winds and snow overnight
- light dusting of snow in the morning is
rapidly disappearing with the wind

Wind has eased to about 25 to 30 knots
and temp rising to around -1°C
We are still on track a 2pm pick-up,
weather permitting

T2-1 (104-0001)⁰⁰⁰² 548557 7618829
Panoramic of North side of LF looking
W from about 30 NE of NE corner
Pen frozen - switching to pencil

T2-2 (104-0003) 548542 7618819
Looking WNW along toe of slope from
NE toe

T2-3 (104-0004) 548523 7618810
Looking WNW along crest
Thermiste VT. visible

T2-4 (104-0005) 548448 7618863
Looking S along west slope at LF from
about 30m NW of NW corner

T2-5 (104-0006) 548455 7618847
Looking ESE along toe from NW
corner at LF towards area where
minor cracking was previously observed last
year
- cracking in foreground, largely in filled
- detailed photos will follow general photos

T2-6 (104-0007) 548451 7618844
Looking S along toe of west slope
from NW corner

T2-7 (104-0008) 548462 7618830
Looking S along crest from NW corner
- no features of note and minor cracks
from last year are ^{hardly} visible and
no worse

T2-8 (104-0009) 548446 7618767
Looking E to SW corner from about
30m SW of SW corner

T2-9 (104-0010) 548433 7618765
Looking E along toe of South side
from SE corner
- 20m long tension crack (old) runs
parallel to slope. Will photograph
separately

T2-10 (104-0011) 548442 7618778
Looking E along crest from SW corner

T2-11 (104-0012, 0013) 548522 7618720
Looking NW to SW corner of LF
- MW-2 visible in foreground

T2-12 (104-0014) 548518 7618744
Looking N along east slope toe from
SE corner

T2-13 (104-0015) 548505 7618759

Looking N along east crest from SE corner
crest corner

T2-14 (104-0016, 0017) 548503 7618762

Looking NW from near SE corner
- 2 shots scanning L to R showing
about 93 top surface

T2-15 (104-0018, 0019) 548461 7618825

looking ESE from NW corner
- 2 shots scanning L to R starting
along N crest

Detailed inspection of fine cracks that

were first observed last year

- no new cracks & old cracks appear stable

Close-up
T2-16 (104-0020) 548533 7618796

Start of fine crack that runs from

20m S of NE corner to about 20m

W of NE corner

- 1 to 4mm wide, parallel to toe, 5m
upslope from toe, portions infilled

T2-17 (104-0021) 548527 7618790

Looking N to NE corner

- Fine crack starts between glove and
pen and piggyback around corner to
just downslope of backpack and continues
at roughly same elevation for another
35m, splays up to 1m offset

T2-18 (104-0022) 548535 7618806

Close-up of same crack, about as
wide as it gets, representative of
most of the crack

T2-19 (104-0023) 548534 7618813

Close-up of crack. Backpack in same
location as photo T2-17

T2-20 (104-0024) 548524 7618824

Close-up of crack north slope near NE toe
~10 west of corner

T2-21 (104-0025) 548515 7618826

Standing on crack looking west to end of this crack

548505 7618827

- backpack on end of crack

- crack is between gloves, largely infilled, no sign of recent movement

T2-22 (104-0026) 548505 7618827

Close-up of previous crack between gloves from T2-21

T2-23 (104-0027) 548501 7618830

Looking west along N slope to old crack

1m to 7m wide, largely eroded/infilled
- backpack at end (starts 5m east, ends 12m W)

T2-24 (104-0028) 548435 7618841

Looking west to NW corner along toe and old, eroded tension crack

- heavy rain and wind has essentially infilled the other cracks that were observed

last year starts end

This crack starts 548482 548460
ends 7618842 7618848

T2-25 (104-0029) 548470 7618845

Close-up of old crack noted above

T2-26 (104-0030) 548451 7618839

Looking south from near NW corner
along old crack. Gloves @ 548449 7618835

Portions of the cracks from last year are

still visible, largely infilled

- no sign of recent movement

Just time for a few representative photos

T2-27 (104-0031) 548445 7618821

Close-up of representative crack

- this crack continues, splaying into two parallel cracks, 1m to 2m apart, and back again along entire toe of slope
- same as last year w/ no sign of recent movement

T2-28 (104-0032) 548436 7618851

- looking S along toe of west slope along old partially filled crack
- crack passes between gloves and ends at backpack

T2-29 (104-0033) 548435 7618796

Close-up of crack between gloves

T2-30 (104-0034) 548431 7618765

- Looking E along toe from SW corner
- old cracks runs between gloves and ends at backpack 548446 7618758
- all other cracks completely filled or not observed

Completed visual inspection of Non Haz LF before heading in for lunch and to warm-up

- conditions essentially unchanged from last year
- previously observed fine cracks on the North and West side could not be observed $\rightarrow$ likely repaired in previous

- crack observed on the South and East Slope, runs to last year

- crack also observed along crest / East slope extending all the way to NE corner

Flagged around corner and then finally visible along North crest for about 20m, mostly in filled

Non Haz 1 (104-0035, 0036) 548750 7618495

looking SW towards NE corner landfill

NH 2 (104-0037) 548741 7618483

looking west along the toe of the north side from NE corner

NH 3 (104-0038) 548738 7618473

looking W along crest from NE corner

NH 4 (104-0039) 548672 7618474

looking S along west side of LF from 10m NW of NW corner

Aug 18

C2-83 N 7619634

E 547945

C2-8A Surface

C2-8B Depth

Soil - organic peat w/ clay in some sand & gravel below

Photo 4 - Test pit

C2-91 N 7619567

E 548041

C2-9A Surface

C2-9B Depth

Soil - organic peat with sand & gravel and clay underneath

Photo 5 - Test pit

Aug 19

~~Tier II~~
~~AAW-I~~

Weather: windy, cold, sunny w/ clouds
Supplies: KB, SK

MW-1 water collected

C2-MW-1 4x 1L Ag

2x VOC Vial

1x 250mL Plastic

Photo 6 - MW-1

Soil sample

C2-MW-1A Surface

C2-MW-1B Depth

Photo 7 - Test pit

MW-2 water collected

C2-MW-2 4x 1L Ag

2x VOC Vial

1x 250mL Plastic

Photo 8 - MW-2

Soil collected

C2-MW-2A Surface

C2-MW-2B Depth

Photo 9 - Test pit

C2-MW-2A Surface Dip

MW-3 water collected
 C2-MW-3 2x 1L AG
 2x VOC
 1x 250ml Plastic
 Photo 10 - MW-3
 Soil collected
 C2-MW-3A Surface
 C2-MW-3B Depth
 Photo 11 - test pit
 MW-4 water collected
 C2-MW-4 4x 1L AG
 2x VOC
 1x 250ml P
 Photo 12 - MW-4
 Soil collected
 C2-MW-4A Surface
 C2-MW-4B Depth
 Photo 13 - Test pit

Non-Haz
 MW-5 water
 C2-MW-5 4x 1L AG
 2x VOC
 1x 250-P
 Photo 14 - MW-5
 Soil
 C2-MW-5A } surface
 C2-MW-5B } ← Depth
 C2-MW-5B Depth
 Photo 15 - Test pit
 MW-6 water
 C2-MW-6 12x 1L AG
 C2-MW-6 4x VOC
 C2-MW-6 4x 250 P
 Photo 16 - MW-6
 Soil
 C2-MW-6A Surface
 C2-MW-6B Depth
 Photo 17 - Test pit

Aug 28

VT-1 data derived, manual read.
taken
Photo 31

VT-2 data d/L, man, read taken
Photo 32

VT-3 data d/L, man, read taken
Photo 33

VT-4 data d/L, man, read taken
Photo 34.

2008 Monitoring Well Sampling Log (MW # 1)

Site name:	CAM-2					
Date of sampling event:	Aug 19					
Names of samplers:	KBJ SK					
Monitoring well ID:	MW-1					
Facility:	Tier II					
Known Data						
Depth of installation* (m):	3.50					
Length of screened section (m):	1.87					
Depth to top of screen* (m):	0.60					
Measured Data						
Condition of well:	Good			Procedure/Equipment:	Interface Meter	
Procedure/Equipment:	Measuring Tape			Depth to water surface (m):	1.40	
Well height above ground (m):	0.47			Depth to bottom (m):	2.10	
Diameter of well (m):	0.05			Free product thickness (mm):	—	
Calculations						
Depth of water (m):	0.70			Evidence of sludge:	—	
Well volume of water (L):	1.42			Evidence of freezing/siltation:	—	
Static water level* (m):	0.93					
Length of screen collecting water (m):	1.50 1.03			0.70		
Development/Purging Information						
Equipment:	Peristaltic Pump, Horiba U-22 w Flow Through cell, LDPE tubing					
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
9:20	1.5	2.7	6.91	2900	12.7	Clear Colorless
Water Sampling				Soil Sampling		
Date & Time Collected:	9:30			Date and Time Collected:	9:40	
Sample Number - Water:	CZ-MW-1			Sample Number - Soil:	CZ-MW-1A	
					CZ-MW-1B	
Sample Containers:	4x 1L AG 2x VOC vial 1x 250 mL plastic			Sample Containers:	4x 250 mL glass	
Procedure/Equipment:	Per. Pump. LDPE tubing			Procedure/Equipment:	SS trowel	
Water Description:	clear colorless			Soil Description:	sand & Gravel	
Sampling Equipment Decontamination (Y/N):	Y			Sampling Equipment Decontamination (Y/N):	Y	
Number Washes:	1			Number Washes:	1	
Number Rinses:	1			Number Rinses:	1	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.



Gartner Lee

2008 Monitoring Well Sampling Log (MW # 2)

Site name:		CAM-2				
Date of sampling event:		Aug 19				
Names of samplers:		KB SK				
Monitoring well ID:		MW-2				
Facility:		Tier II				
Known Data						
Depth of installation* (m):		3.50				
Length of screened section (m):		1.85				
Depth to top of screen* (m):		0.65				
Measured Data						
Condition of well:		Good		Procedure/Equipment:		Interface Meter.
Procedure/Equipment:		Measuring Tape		Depth to water surface (m):		1.03
Well height above ground (m):		0.30		Depth to bottom (m):		1.67
Diameter of well (m):		0.05		Free product thickness (mm):		—
Calculations						
Depth of water (m):		0.64		Evidence of sludge:		—
Well volume of water (L):		1.3		Evidence of freezing/siltation:		—
Static water level* (m):		0.73				
Length of screen collecting water (m):		1.85 0.72 0.64				
Development/Purging Information						
Equipment:		Per. Pump, Horiba U-22 w flow through, LDPE Tubing				
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
10:05	1.5	2.81	6.88	5640	1.0	clear colorless
Water Sampling				Soil Sampling		
Date & Time Collected:		10:15		Date and Time Collected:		10:20
Sample Number - Water:		C2-MW-2		Sample Number - Soil:		C2-MW-2A
						C2-MW-2B
						C2-MW-2A Dep
Sample Containers:		4x 1L AG 2x 100mL Vial 1 x 250 Plastic		Sample Containers:		10x 250 Glass
Procedure/Equipment:		Per. Pump LDPE Tubing		Procedure/Equipment:		SS Trowel
Water Description:		Clear colorless		Soil Description:		sand & gravel
Sampling Equipment Decontamination (Y/N):		Y		Sampling Equipment Decontamination (Y/N):		Y
Number Washes:		1		Number Washes:		1
Number Rinses:		1		Number Rinses:		1

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW # 3)

Site name:	CAM-2					
Date of sampling event:	Aug 19					
Names of samplers:	KB SK					
Monitoring well ID:	MW-3					
Facility:	Tier II					
Known Data						
Depth of installation* (m):	3.60					
Length of screened section (m):	2.00					
Depth to top of screen* (m):	0.50					
Measured Data						
Condition of well:	Good			Procedure/Equipment:	Int. Meter	
Procedure/Equipment:	Measuring Tape			Depth to water surface (m):	1.00	
Well height above ground (m):	0.47			Depth to bottom (m):	1.85	
Diameter of well (m):	0.65			Free product thickness (mm):	-	
Calculations						
Depth of water (m):	0.85			Evidence of sludge:	-	
Well volume of water (L):	1.72			Evidence of freezing/siltation:	-	
Static water level* (m):	0.53					
Length of screen collecting water (m):	1.85 0.85					
Development/Purging Information						
Equipment:	Per. Pump, Horiba w flow through, LDPE Tubing					
Well went dry at end of purge						
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
11:00	1.75	3.1	11.96	2900	35	clear colorless
Water Sampling				Soil Sampling		
Date & Time Collected:	11:05			Date and Time Collected:	11:15	
Sample Number - Water:	C2-MW-3			Sample Number - Soil:	C2-MW-3A C2-MW-3B	
well ran dry several times during sampling	Sample Containers:	2x 1L AG			Sample Containers:	4x 250ml glass
		2x VOC vial				
		1x 250ml Plastic				
Procedure/Equipment:	Per. Pump LDPE tubing			Procedure/Equipment:	SS Trowel	
Water Description:	cloudy white/grey			Soil Description:	sand & gravel	
Sampling Equipment Decontamination (Y/N):	Y			Sampling Equipment Decontamination (Y/N):	Y	
Number Washes:	1			Number Washes:	1	
Number Rinses:	1			Number Rinses:	1	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.



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2008 Monitoring Well Sampling Log (MW #4)

Site name:		CAM-2					
Date of sampling event:		Aug 19					
Names of samplers:		KB SK					
Monitoring well ID:		MW-4					
Facility:		Tier II					
Known Data							
Depth of installation* (m):		3.30					
Length of screened section (m):		1.00					
Depth to top of screen* (m):		0.40					
Measured Data							
Condition of well:		Good		Procedure/Equipment:		Int. Meter	
Procedure/Equipment:		Measuring Tape		Depth to water surface (m):		14.7	
Well height above ground (m):		0.75		Depth to bottom (m):		2.18	
Diameter of well (m):		0.05		Free product thickness (mm):		-	
Calculations							
Depth of water (m):		0.71		Evidence of sludge:		-	
Well volume of water (L):		1.44		Evidence of freezing/siltation:		-	
Static water level* (m):		0.72					
Length of screen collecting water (m):		1.00 0.71					
Development/Purging Information							
Equipment:		Per Pump, Horiba Flow Through, LDPE Tubing					
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water	
11:45	1.5	2.61	6.94	6040	15	Clear colourless	
Water Sampling				Soil Sampling			
Date & Time Collected:		11:55		Date and Time Collected:		12:05	
Sample Number - Water:		C2-MW-4		Sample Number - Soil:		C2-MW-4A	
						C2-MW-4B	
Sample Containers:		4 x 1L AG 2 x VOC Vials 1 x 250mL Plastic		Sample Containers:		4 x 250mL Glass	
Procedure/Equipment:		Per. Pump LDPE Tubing		Procedure/Equipment:		SS Trowel	
Water Description:		Clear colourless		Soil Description:		S & G	
Sampling Equipment Decontamination (Y/N):		Y		Sampling Equipment Decontamination (Y/N):		Y	
Number Washes:		1		Number Washes:		1	
Number Rinses:		1		Number Rinses:		1	

n/a=not applicable

*From ground surface. Unless this is stated, all measurements are assumed to be from the top of the casing.



Gartner Lee

Thermal Monitoring Ground Temperature Annual Maintenance Report

Contractor Name: Gartner Lee Limited	Inspection Date: Aug 20
Prepared By: Ken Boldt	

Thermistor Information

Site Name: CAM-2	Thermistor Location: Tier II Disposal Facility
Thermistor Number: VT4	Inclination: Vertical
Install Date: 30-Aug-05	First Date Event: 08/26/07 Last Date Event: 08/26/08
Coordinates and Elevation: N 7618772	E 548479.02 Elev: 31.89
Length of Cable (m): 11.9	Cable Lead Above Ground (m): 4.4 Nodal Points: 16
Datalogger Serial #: 2020130	Cable Serial Number: 1693

Code CAM-2VT4

Thermistor Inspection

	Good	Needs Maintenance
Casing	✓	
Cover	✓	
Data Logger	✓	
Cable	✓	
Beads	✓	
Battery Installation Date		
Battery Levels	Main <u>11.34</u>	Aux <u>13.50</u>

Manual Ground Temperature Readings

Bead	ohms	Temp. (°C)
1	11.90	
2	11.13	
3	13.18	
4	12.71	
5	13.11	
6	14.10	
7	17.62	
8	18.87	

Bead	ohms	Temp. (°C)
9	20.12	
10	21.15	
11	22.11	
12	23.07	
13	23.95	
14	24.82	
15	25.73	
16	26.33	

Observations and Proposed Maintenance

Thermal Monitoring Ground Temperature Annual Maintenance Report

Contractor Name: Gartner Lee Limited	Inspection Date: <u>Aug 20</u>
Prepared By: Ken Boldt	

Thermistor Information

Site Name: CAM-2	Thermistor Location: Tier II Disposal Facility
Thermistor Number: VT12	Inclination: Vertical
Install Date: 30-Aug-05	First Date Event: <u>8/26/07</u> Last Date Event: <u>8/20/08</u>
Coordinates and Elevation: N 7618792 E 548495.38	Elev: 32.06
Length of Cable (m): 9.9	Cable Lead Above Ground (m): 4.4 Nodal Points: 12
Datalogger Serial #: 5070039	Cable Serial Number: 1692

Code CAM-2VT3

Thermistor Inspection

	<u>Good</u>	<u>Needs Maintenance</u>
Casing	☒	☐
Cover	☒	☐
Data Logger	☒	☐
Cable	☒	☐
Beads	☐	☒ <u>12 not reading on comp</u>
Battery Installation Date		
Battery Levels	Main <u>11.34</u>	Aux <u>13.02</u>

Manual Ground Temperature Readings

Bead	ohms	Temp. (°C)
1	13.20	
2	12.67	
3	12.61	
4	13.77	
5	16.49	
6	17.93	
7	19.20	
8	20.71	

Bead	ohms	Temp. (°C)
9	22.13	
10	23.25	
11	24.17	
12	—	

Observations and Proposed Maintenance

Thermal Monitoring Ground Temperature Annual Maintenance Report

Contractor Name: Gartner Lee Limited	Inspection Date: Aug 20
Prepared By: Ken Boldt	

Thermistor Information

Site Name: CAM-2	Thermistor Location: Tier II Disposal Facility
Thermistor Number: VT# 3	Inclination: Vertical
Install Date: 30-Aug-05	First Date Event: 8/26/07 Last Date Event: 8/20/08
Coordinates and Elevation: N 7618799	E 548474.24 Elev: 32.072
Length of Cable (m): 9.9	Cable Lead Above Ground (m): 4.4 Nodal Points: 12
Datalogger Serial #: 207107	Cable Serial Number: 1691

Code CAM-2VT2

Thermistor Inspection

	<u>Good</u>	<u>Needs Maintenance</u>
Casing	☒	☐
Cover	☒	☐
Data Logger	☒	☐
Cable	☒	☐
Beads	☐	☒ 10 & 12 not read comp
Battery Installation Date		
Battery Levels	Main 11.34	Aux 13.07

Manual Ground Temperature Readings

Bead	ohms	Temp. (°C)
1	11.87	
2	12.73	
3	12.66	
4	13.55	
5	15.94	
6	17.45	
7	18.81	
8	20.83	

Bead	ohms	Temp. (°C)
9	—	
10	23.35	
11	24.24	
12	—	

Observations and Proposed Maintenance

Thermal Monitoring Ground Temperature Annual Maintenance Report

Contractor Name: Gartner Lee Limited	Inspection Date: <u>Aug 20</u>
Prepared By: Ken Boldt	

Thermistor Information

Site Name: CAM-2	Thermistor Location: Tier II Disposal Facility
Thermistor Number: VT4	Inclination: Vertical
Install Date: 30-Aug-05	First Date Event: <u>8/26/07</u> Last Date Event: <u>8/20/08</u>
Coordinates and Elevation: N 7618811	E 548508.81 Elev 32.48
Length of Cable (m): 11.9	Cable Lead Above Ground (m): 4.4 Nodal Points: 16
Datalogger Serial #: 207019	Cable Serial Number: 1690

Code CAM-2VT1

Thermistor Inspection

	Good	Needs Maintenance
Casing	☒	☐
Cover	☒	☐
Data Logger	☒	☐
Cable	☒	☐
Beads	☐	☒ <u>16 not read. comp</u>
Battery Installation Date		
Battery Levels	Main <u>11.34</u>	Aux <u>13.26</u>

Manual Ground Temperature Readings

Bead	ohms	Temp. (°C)
1	10.75	
2	11.49	
3	13.15	
4	12.92	
5	13.68	
6	16.83	
7	17.74	
8	18.82	

Bead	ohms	Temp. (°C)
9	19.88	
10	20.82	
11	21.77	
12	22.65	
13	23.45	
14	24.24	
15	24.95	
16	25.61	

Observations and Proposed Maintenance