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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: D-3
Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl): 467.92

PURGE INFORMATION:

Method of Well Purge: Waterra
Dedicated Equipment: Yes X No
Date/Time Initiated: 4/11/2013 1350
Casing Diameter (inches): 2
Initial Water Level (feet): 40.20
One Casing Volume (gal): 11.03 gal
Initial Water Level Previous Event (feet): 38.48
One Casing Volume Previous Event (gal): 11.30
Ground Water Elevation (ft, msl): 427.72
Total Volume Purged (gal): 16.75 gallons
Ground Water Elevation Previous Event (ft, msl): 429.44
Purged Dry?: Yes No ✓
Well Total Depth (feet): 107.06
Water Level after Purge (feet): 40.24
Well Total Depth Previous Event (feet): 107.86
Date/Time Completed: 4/11/2013 1424

PURGE DATA: Average purge rate = 0.49 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1402	0.48	5.75	16.7	6.87	3790	5.09	NA	Clear, no odor
1412	0.55	11.25	16.7	6.89	3790	2.68	NA	Clear, no odor
1424	0.46	16.75	16.7	6.91	3780	2.32	NA	Clear, no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-3

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 40.24

Well Collection Sequence #: 57 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/11/2013 1424	VOC: ~100 mL/m Other: 0.49 gpm	16.7	6.91	3780	2.32	N/A	Clear, no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/11/2013 0755

End of day: (Date/time) 4/11/2013 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #200812239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: #09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
9.90	N/A	NTU std = 10.0	N/A	9.98	NTU std = 10.0
999.6	N/A	NTU std = 1,000	N/A	985.0	NTU std = 1,000
1445	N/A	µS std = 1,413	N/A	1475	µS std = 1,413
Cell Const: 0.493	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.493	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4 °C	N/A	7.04	pH std = 7.06 @10.9 °C
4.00	N/A	pH std = 4.00 @13.7 °C	N/A	4.01	pH std = 4.00 @10.3 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, Breezy, 45°F

Sample Characteristics: Clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ * Vials effervesced - 11 Bottles

Sample Device Left in Well YES ✓ or NO ___ (includes 3 VOAs for MS/MSD)

Collect FB @ D-3 @ 1350 - 4 bottles (3 VOAs; 1 tot/diss metal)

USEPA collected split sample

Date: 4/11/2013 By: [signature] Title: 4/11/2013

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: D-6

Sampler(s): [signature]

Top of Casing (ft, msl): 447.09

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: 4/9/13 1504

Initial Water Level (feet): 19.92

Initial Water Level Previous Event (feet): 18.25

Ground Water Elevation (ft, msl): 427.17

Ground Water Elevation Previous Event (ft, msl): 428.84

Well Total Depth (feet): 107.86

Well Total Depth Previous Event (feet): 107.86

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): 14.33

One Casing Volume Previous Event (gal): 14.67

Total Volume Purged (gal): 23

Purged Dry?: Yes No X

Water Level after Purge (feet): 19.85

Date/Time Completed: 4/9/13 1542

PURGE DATA: every 15

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1520	0.47	7.5	16.9	7.82	1978	18.52	—	clear, wooden
1536	0.47	15	17.0	7.83	2020	9.42	—	" "
1542	1.25	22.5	17.0	7.81	2000	12.03	—	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-6

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): ~~[illegible]~~ 1986

Well Collection Sequence #: 49 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/9/13 1545	VOC: 200 Other: 4	17.0	7.81	2000	12.03	—	✓

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/13 0535

End of day: (Date/time) 4/9/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 502083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200755

Purging Event			Sampling Event		
Start of day	End of day		Start of day	End of day	
0.09	N/A	NTU std = 0.02	N/A	0.13	NTU std = 0.02
10.06	N/A	NTU std = 10.0	N/A	10.24	NTU std = 10.0
980.5	N/A	NTU std = 1,000	N/A	967.5	NTU std = 1,000
1426	N/A	µS std = 1,413	N/A	1370	µS std = 1,413
Cell Const: 0.480	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.480	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 20.0 °C	N/A	7.94	pH std = 7.00 @ 26.9 °C
4.00	N/A	pH std = 4.00 @ 21.7 °C	N/A	5.20	pH std = 4.01 @ 26.9 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: partly sunny, 30's, windy 10-20 mph gusts

Sample Characteristics: clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___ 8of8

Sample Device Left in Well YES X or NO ___

Date: 4/9/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: D-12

Sampler(s):

Top of Casing (ft, msl): 479.67

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/4/13 1315

Casing Diameter (inches): 2

Initial Water Level (feet): 52.29

One Casing Volume (gal): 15.68

Initial Water Level Previous Event (feet): 50.53

One Casing Volume Previous Event (gal): 16.00

Ground Water Elevation (ft, msl): 427.38

Total Volume Purged (gal): 24

Ground Water Elevation Previous Event (ft, msl): 429.14

Purged Dry?: Yes No Y

Well Total Depth (feet): 148.50

Water Level after Purge (feet): 52.46

Well Total Depth Previous Event (feet): 148.50

Date/Time Completed: 4/4/13 1345

PURGE DATA: every 8 min 0.2 10%

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1325	~~8~~ 0.89	8	17.4	6.682	3220	12.03	—	sepia-color, clear
1334	~~16~~ 0.89	16	17.5	6.682	3240	5.80	—	" "
1345	~~24~~ 0.89	24	17.5	6.681	3230	9.09	—	" "

HTT

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-12

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 52.45

Well Collection Sequence #: 13 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/4/13 1350	VOC: 2100 Other: 41	17.5	6.81	3230	9.09	—	✓

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/13 0800

End of day: (Date/time) 4/4/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.06	N/A	NTU std = 0.02	N/A	0.71	NTU std = 0.02
9.97	N/A	NTU std = 10.0	N/A	9.72	NTU std = 10.0
1049	N/A	NTU std = 1,000	N/A	972.8	NTU std = 1,000
1421	N/A	µS std = 1,413	N/A	1426	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.00 @ 20.3 °C	N/A	7.21	pH std = 7.00 @ 24.0 °C
4.00	N/A	pH std = 4.00 @ 20.0 °C	N/A	4.19	pH std = 4.01 @ 23.7 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 55°F, wind 5-mph from NW

Sample Characteristics: clear, slight septic odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES N or NO ___ Full Suite Collected YES N or NO ___ BOPS

Sample Device Left in Well YES N or NO ___

Date: 4/4/13 By: [signature] Title: Sr Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: D-13

Sampler(s): [signature]

Top of Casing (ft, msl): 470.53

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/4/13 1119

Casing Diameter (inches): 2

Initial Water Level (feet): 43.20

One Casing Volume (gal): 15.12

Initial Water Level Previous Event (feet): 41.00

One Casing Volume Previous Event (gal): 15.50

Ground Water Elevation (ft, msl): 427.33

Total Volume Purged (gal): 23

Ground Water Elevation Previous Event (ft, msl): 429.53

Purged Dry?: Yes ____ No X

Well Total Depth (feet): 136.02

Water Level after Purge (feet): 43.43

Well Total Depth Previous Event (feet): 136.02

Date/Time Completed: 4/4/13 1152

PURGE DATA: every 7.5 gal

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1130	0.68	7.5	15.8	6.94	1133	54.94	—	grey/no odor
1140	0.75	15	15.6	6.93	1133	111.3	—	very fine sand
1150	0.75	22.5	15.6	6.93	1134	57.40	—	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-13

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 43.43

Well Collection Sequence #: 10 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/4/13 1155	VOC: 400 Other: 41	13.16	6.73	1134	37.40	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/13 0800

End of day: (Date/time) 4/4/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 302083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200055

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.06	N/A	NTU std = 0.02	N/A	0.71	NTU std = 0.02
9.97	N/A	NTU std = 10.0	N/A	9.72	NTU std = 10.0
1049	N/A	NTU std = 1,000	N/A	872.8	NTU std = 1,000
1421	N/A	µS std = 1,413	N/A	1428	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.00 @ 20.3 °C	N/A	7.21	pH std = 7.00 @ 24.0 °C
4.00	N/A	pH std = 4.00 @ 20.0 °C	N/A	4.19	pH std = 4.01 @ 25.7 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: sunny 55°F, wind 2-5mph from N

Sample Characteristics: Pine boards in water

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___

Sample Device Left in Well YES X or NO ___

Date: 4/4/13 By: [signature] Title: Sr. Geo Chem

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: D-14

Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl) 470.53

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes ____ No X

Date/Time Initiated: N/A

Casing Diameter (inches): 2

Initial Water Level (feet): N/A

One Casing Volume (gal): N/A

Initial Water Level Previous Event (feet): 30.82

One Casing Volume Previous Event (gal): 0.41

Ground Water Elevation (ft, msl): N/A

Total Volume Purged (gal): N/A

Ground Water Elevation Previous Event (ft, msl): 452.30

Purged Dry?: Yes N/A No N/A

Well Total Depth (feet): N/A

Water Level after Purge (feet): N/A

Well Total Depth Previous Event (feet): 33.30

Date/Time Completed: N/A

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
	Due to limited volume available - location Sampled without purging.							

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-14

Sampling Method: Waterra – manual activation

Dedicated: Yes ____ No X

Water Level @ Sampling (ft): N/A

Well Collection Sequence #: 71 of 77

Parameters: Annual: ____ Semi-Annual: ____ Quarterly: ____ Monthly: ____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/12/2013 1105	VOC: N/A Other: N/A	16.6	6.86	3040	224.8	N/A	light gray; LF gas odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/12/2013 0800

End of day: (Date/time) 4/12/2013 1400

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 200812239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.04	NTU std = 0.02
10.03	N/A	NTU std = 10.0	N/A	9.87	NTU std = 10.0
1005	N/A	NTU std = 1,000	N/A	995.0	NTU std = 1,000
1472	N/A	µS std = 1,413	N/A	1450	µS std = 1,413
Cell Const: 0.491	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.491	Cell Const Range: 0.45 - 0.50
7.09	N/A	pH std = 7.09 @4.7 °C	N/A	7.05	pH std = 7.03 @16.3 °C
4.01	N/A	pH std = 4.01 @4.7 °C	N/A	4.03	pH std = 4.00 @13.6 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast Breezy, 40°F

Sample Characteristics: Light gray; low methane gas odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ____ Full Suite Collected YES ✓ or NO ____

Sample Device Left in Well YES ✓ or NO ____ Total rods collected 4/3/2013 - 4/12/2013

other lab-analyzed parameters collected @ 1105 on 4/12/2013

Date: 4/12/2013 By: [signature] Title: Senior Chemical Engineer

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: D-81

Sampler(s): [illegible]

Top of Casing (ft, msl): 450.87

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/3/13 1306

Casing Diameter (inches): 2

Initial Water Level (feet): 22.77

One Casing Volume (gal): 6.51

Initial Water Level Previous Event (feet): 21.05

One Casing Volume Previous Event (gal): 6.79

Ground Water Elevation (ft, msl): 428.10

Total Volume Purged (gal): 10.5

Ground Water Elevation Previous Event (ft, msl): 429.82

Purged Dry?: Yes No N

Well Total Depth (feet): 62.29

Water Level after Purge (feet): 22.89

Well Total Depth Previous Event (feet): 62.69

Date/Time Completed: 4/3/13 1340

PURGE DATA: avg 3.5 1 0.2 6.95 10%

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1319	0.269	3.5	14.1	[illegible]	1443	4.50	–	clear/no odor
1331	0.292	7.0	14.1	6.92	1431	3.22	–	" "
1340	0.389	10.5	14.1	6.92	1440	3.21	–	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-81

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 22.89

Well Collection Sequence #: 3 of 37

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/3/13 1340	VOC: 400 Other: 21	14.11	6.92	1440	3.21	—	none

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/3/13 0800

End of day: (Date/time) 4/3/13 1615

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 50X083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200255

Purging Event			Sampling Event		
Start of day	End of day		Start of day	End of day	
0.01	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.02	N/A	NTU std = 10.0	N/A	10.00	NTU std = 10.0
996.6	N/A	NTU std = 1,000	N/A	1098	NTU std = 1,000
1461	N/A	µS std = 1,413	N/A	1426	µS std = 1,413
Cell Const:	Cell Const:	Cell Const	Cell Const:	Cell Const:	Cell Const
0.499	N/A	Range: 0.45 - 0.50	N/A	0.499	Range: 0.45 - 0.50
7.02	N/A	pH std = 7.07 @ 31.6 °C	N/A	7.45	pH std = 6.98 @ 33.3 °C
4.01	N/A	pH std = 4.01 @ 31.2 °C	N/A	4.50	pH std = 4.02 @ 36.7 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: sunny, 50°F, 5-10 mph wind from E

Sample Characteristics: clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES Y or NO ___ Full Suite Collected YES Y or NO ___ SPS

Sample Device Left in Well YES N or NO ___

Date: 4/3/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: D-85

Sampler(s): [illegible]

Top of Casing (ft, msl): 457.06

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/11/13 1410

Casing Diameter (inches): 2

Initial Water Level (feet): 29.42

One Casing Volume (gal): 8.42

Initial Water Level Previous Event (feet): 27.46

One Casing Volume Previous Event (gal): 8.74

Ground Water Elevation (ft, msl): 427.64

Total Volume Purged (gal): 14

Ground Water Elevation Previous Event (ft, msl): 429.60

Purged Dry?: Yes ____ No X

Well Total Depth (feet): 81.07

Water Level after Purge (feet): 29.43

Well Total Depth Previous Event (feet): 81.07

Date/Time Completed: 4/11/13 1443

PURGE DATA: Low flow pump

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1423	0.35	4.5	15.5	6.95	2510	622.0	—	gray, wooden - down
1433	0.45	9	15.4	6.92	2430	617.0	—	" " "
1443	0.45	13.5	15.3	6.93	~~2480~~ 2480	631.0	—	" " "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-85

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 29.43

Well Collection Sequence #: 58 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/11/13 1445	VOC: 450 Other: 41	15.3	6.93	2480	631.0	–	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/11/13 0755

End of day: (Date/time) 4/11/13 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507053

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day	Standard	Sampling Event Start of day	Sampling Event End of day	Standard
0.02	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
9.95	N/A	NTU std = 10.0	N/A	8.82	NTU std = 10.0
1002	N/A	NTU std = 1,000	N/A	999.3	NTU std = 1,000
1443	N/A	µS std = 1,413	N/A	1429	µS std = 1,413
Cell Const: 0.490	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.490	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @ 12.4 °C	N/A	7.24	pH std = 7.06 @ 10.9 oC
4.00	N/A	pH std = 4.00 @ 13.7 °C	N/A	4.24	pH std = 4.00 @ 10.3 oC

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 40°F, winds 5-15 mph from S

Sample Characteristics: sand in water, grey, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___ 6of8

Sample Device Left in Well YES ✓ or NO ___

Date: 4/11/13 By: [signature] Title: Sr Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: D-87

Sampler(s): [signature]

Top of Casing (ft, msl): 464.41

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: 4/9/13 1022

Initial Water Level (feet): 36.80 ~~1022~~ [illegible]

Initial Water Level Previous Event (feet): 34.80

Ground Water Elevation (ft, msl): 427.61

Ground Water Elevation Previous Event (ft, msl): 429.61

Well Total Depth (feet): 112.75 —

Well Total Depth Previous Event (feet): 112.75

Dedicated Equipment: Yes X No ____

Casing Diameter (inches): 2

One Casing Volume (gal): 12.37

One Casing Volume Previous Event (gal): 12.71

Total Volume Purged (gal): 19.5

Purged Dry?: Yes ____ No X

Water Level after Purge (feet): 36.79

Date/Time Completed: 4/9/13 1101

PURGE DATA: ~~grey~~ GS

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1035	0.5	6.5	16.2	6.75	2580	27.84	—	slightly sediment, clear
1048	0.5	13	16.1	6.82	2570	14.90	—	" "
1101	0.5	19.5	16.2	6.81	2580	16.00	—	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-87

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 36.79

Well Collection Sequence #: 42 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/9/13 1105	VOC: 400 Other: 21	16.2	6.81	2580	16.00	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/13 0735

End of day: (Date/time) 4/9/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.13	NTU std = 0.02
10.08	N/A	NTU std = 10.0	N/A	10.24	NTU std = 10.0
980.5	N/A	NTU std = 1,000	N/A	967.5	NTU std = 1,000
1426	N/A	µS std = 1,413	N/A	1390	µS std = 1,413
Cell Const: 0.480	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.480	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 20.0 °C	N/A	7.94	pH std = 7.00 @ 26.9 °C
4.00	N/A	pH std = 4.00 @ 19.7 °C	N/A	5.90	pH std = 4.01 @ 26.9 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 69°F, windy 10-20mph from S

Sample Characteristics: clear, slight septic odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES Y or NO ___ Full Suite Collected YES Y or NO ___ Exp 8

Sample Device Left in Well YES Y or NO ___

Date: 4/9/13 By: [signature] Title: Sr. Geochem

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: D-83

Sampler(s): Ward Herst
Jon W. Wilkinson

Top of Casing (ft, msl) 448.55

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: ~~2t.04~~ 4/9/2013 1518

Initial Water Level (feet): 21.01

Initial Water Level Previous Event (feet): 19.08

Ground Water Elevation (ft, msl): 427.54

Ground Water Elevation Previous Event (ft, msl): 429.47

Well Total Depth (feet): 98.41

Well Total Depth Previous Event (feet): 98.41

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): 12.62gal

One Casing Volume Previous Event (gal): 12.90

Total Volume Purged (gal): 19 gallons

Purged Dry?: Yes No ✓

Water Level after Purge (feet): 20.95

Date/Time Completed: 4/9/2013 1604

PURGE DATA: Average purge rate = 0.41 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1534	0.41	6.5	16.5	6.99	1528	5.47	N/A	Clear, no odor
1548	0.45	12.75	16.5	6.99	1535	3.99	N/A	Clear, no odor
1604	0.39	19	16.5	6.98	1541	3.37	N/A	Clear, slight odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-83

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 20.95

Well Collection Sequence #: 50 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/9/2013 1616	VOC: ~100 mL/min Other: 0.41 gpm	16.5	6.98	1541	3.37	N/A	Clear; septic odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/2013 0735 - sp. cond + turb; 1420 - pH for QA

End of day: (Date/time) 4/9/2013 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 2008122389

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.13	NTU std = 0.02
10.07	N/A	NTU std = 10.0	N/A	10.17	NTU std = 10.0
998.0	N/A	NTU std = 1,000	N/A	1015	NTU std = 1,000
1428	N/A	µS std = 1,413	N/A	1382	µS std = 1,413
Cell Const: 0.476	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.476	Cell Const Range: 0.45 - 0.50
7.01	N/A	pH std = 7.01 @23.0 °C	N/A	7.07	pH std = 7.00 @26.9 °C
4.01	N/A	pH std = 4.01 @23.7 °C	N/A	4.08	pH std = 4.01 @26.9 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: P. Cloudy, 75°F

Sample Characteristics: Clear, Septic odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO Full Suite Collected YES ✓ or NO 8 bottles

Sample Device Left in Well YES ✓ or NO USEPA collected split sample

Date: 4/9/2013 By: Title: Senior Project Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: D-93

Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl): (JW) ~~450.76~~ 449.84

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: 4/9/2013 1205

Initial Water Level (feet): 22.16

Initial Water Level Previous Event (feet): 21.57

Ground Water Elevation (ft, msl): 427.68

Ground Water Elevation Previous Event (ft, msl): ~~420.49~~ 428.27

Well Total Depth (feet): 114.60

Well Total Depth Previous Event (feet): ~~57.09~~ 114.60

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): 15.07gal

One Casing Volume Previous Event (gal): 5.79

Total Volume Purged (gal): 68 gallons

Purged Dry?: Yes No ✓

Water Level after Purge (feet): 22.13

Date/Time Completed: 4/9/2013 1438

PURGE DATA: * Use JR's meters - JW's pH is ~~wrong~~ malfunctioning
Average purge rate = 0.44 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1229	0.32	7.75	19.2	10.55	2830	53.92	N/A	Clear, no odor
1253	0.32	15.5	19.3	10.31	2790	13.09	N/A	Clear, no odor
1315	0.35	23.25	19.3	9.77	2790	9.40	N/A	Clear, no odor
1334*	0.42	31.25	19.3	~~9.15~~ 7.02	2780	8.68	N/A	Clear, no odor
1352	0.36	~~38.75~~ 37.75	19.1	7.27	2840	21.73	N/A	Clear, no odor
1404	0.63	45.25	19.1	7.62	2840	23.65	N/A	Clear, no odor
1414	0.75	52.75	19.1	7.82	2840	21.67	N/A	Clear, no odor
1426	0.65	60.5	19.2	7.84	2840	22.28	N/A	Clear, no odor
1438	0.63	68.0	19.1	7.86	2840	17.56	N/A	Clear, no odor
		~~75.5~~						

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: D-93

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 22.13

Well Collection Sequence #: 47 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/9/2013 1438	VOC: ~100 mL/min Other: 0.44 gpm	19.1	7.86	2840	17.56	N/A	Clear, no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/2013 0735

End of day: (Date/time) 4/9/2013 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #507083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: #08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.13	NTU std = 0.02
10.06	N/A	NTU std = 10.0	N/A	10.24	NTU std = 10.0
980.5	N/A	NTU std = 1,000	N/A	963.5	NTU std = 1,000
1426	N/A	µS std = 1,413	N/A	1395	µS std = 1,413
Cell Const: 0.480	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.480	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @20.0°C	N/A	7.94	pH std = 7.00 @26.9°C
4.00	N/A	pH std = 4.00 @19.7°C	N/A	5.20	pH std = 4.01 @26.9°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, Windy, 75°F

Sample Characteristics: Clear; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 8 bottles

Sample Device Left in Well YES ✓ or NO ___ USEPA collects QA sample

Date: 4/9/2013 By: [signature] Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: I-4

Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl) 466.18

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: 4/12/2013 1248

Initial Water Level (feet): ~~38.17~~ 38.52

Initial Water Level Previous Event (feet): 36.61

Ground Water Elevation (ft, msl): 427.66

Ground Water Elevation Previous Event (ft, msl): 429.57

Well Total Depth (feet): 78.66

Well Total Depth Previous Event (feet): 78.66

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): 6.54 gal

One Casing Volume Previous Event (gal): 6.85

Total Volume Purged (gal): 10 gallons

Purged Dry?: Yes No ✓

Water Level after Purge (feet): 36.57

Date/Time Completed: 4/12/2013 1320

PURGE DATA: Average Purge Rate = 0.31 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1302	0.25	3.5	16.5	6.65	2710	8.23	N/A	Clear, LF gas odor
1309	0.43	~~6.95~~ 6.5	16.7	6.51	2710	8.14	N/A	Clear, LF gas odor, foamy
1320	0.32	10	16.6	6.52	2720	8.61	N/A	Clear, LF gas odor, foamy

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: I-4

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 36.57

Well Collection Sequence #: 74 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/12/2013 1320	VOC: ~100 ml/min Other: 0.31gpm	16.6	6.52	2720	8.61	N/A	Clear, LF gas odor, foamy

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/12/2013 0800

End of day: (Date/time) 4/12/2013 1400

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 200812239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.04	NTU std = 0.02
10.03	N/A	NTU std = 10.0	N/A	9.87	NTU std = 10.0
1005	N/A	NTU std = 1,000	N/A	995.0	NTU std = 1,000
1472	N/A	µS std = 1,413	N/A	1450	µS std = 1,413
Cell Const: 0.491	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.491	Cell Const Range: 0.45 - 0.50
7.09	N/A	pH std = 7.09 @4.7 °C	N/A	7.05	pH std = 7.03 @16.3 °C
4.01	N/A	pH std = 4.01 @4.4 °C	N/A	4.03	pH std = 4.00 @13.6 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, Breezy, 40°F

Sample Characteristics: Clear, landfill gas odor, foamy

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ -8 bottles

Sample Device Left in Well YES ✓ or NO ___ * VOAs effervescent - Sent unpreserved

Date: 4/12/2013 By: [signature] Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: I-9

Sampler(s): [signature]

Top of Casing (ft, msl): PDR ~~449.84~~ 450.76

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: 4/9/13 1307

Initial Water Level (feet): ~~23~~.09

Initial Water Level Previous Event (feet): 20.60

Ground Water Elevation (ft, msl): 427.67

Ground Water Elevation Previous Event (ft, msl): 429.24

Well Total Depth (feet): 57.09

Well Total Depth Previous Event (feet): ~~114.60~~ 57.04

Dedicated Equipment: Yes X No ____

Casing Diameter (inches): 2

One Casing Volume (gal): 5.70

One Casing Volume Previous Event (gal): 15.32

Total Volume Purged (gal): 9

Purged Dry?: Yes ____ No X

Water Level after Purge (feet): 23.09

Date/Time Completed: 4/9/13 1333

PURGE DATA: every 3

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1317	0.300	3	19.6	6.98	2520	24.49	—	clear, no odor
1325	0.375	6	19.7	6.99	2509	13.96	—	" "
1333	0.375	9	19.7	7.01	2500	10.66	—	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: I-9

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 23.09

Well Collection Sequence #: 46 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/9/13 1335	VOC: 400 Other: 4	19.7	7.01	2800	10.06	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/13 0735

End of day: (Date/time) 4/9/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08230035

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.13	NTU std = 0.02
10.06	N/A	NTU std = 10.0	N/A	10.24	NTU std = 10.0
980.5	N/A	NTU std = 1,000	N/A	967.5	NTU std = 1,000
1426	N/A	µS std = 1,413	N/A	1390	µS std = 1,413
Cell Const: 0.480	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.480	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 20.0 °C	N/A	7.94	pH std = 7.00 @ 26.9 °C
4.00	N/A	pH std = 4.00 @ 19.7 °C	N/A	5.20	pH std = 4.01 @ 26.9 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 30s, winds 10-20mph from S

Sample Characteristics: clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES Y or NO ___ Full Suite Collected YES Y or NO ___ BPB

Sample Device Left in Well YES X or NO ___

Date: 4/9/13 By: [signature] Title: Sr. Geo Tech

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: I-11
Sampler(s): [signature]

Top of Casing (ft, msl): 480.01

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/4/13 1420
Initial Water Level (feet): 52.61
Initial Water Level Previous Event (feet): 50.85
Ground Water Elevation (ft, msl): 427.40
Ground Water Elevation Previous Event (ft, msl): 429.16
Well Total Depth (feet): 94.40
Well Total Depth Previous Event (feet): 94.40

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 6.61
One Casing Volume Previous Event (gal): 7.10
Total Volume Purged (gal): 11
Purged Dry?: Yes No X
Water Level after Purge (feet): 52.63
Date/Time Completed: 4/4/13 1438

PURGE DATA: drew 3.5

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1425	0.70	3.5	17.3	6.77	2560	14.74	—	sulfur odor, clear
1433	0.58	7.0	17.3	6.76	2550	10.04	—	11
1438	0.70	10.5	17.3	6.76	2550	8.37	—	11

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: MW 1-11

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 52.63

Well Collection Sequence #: 16 ~~15~~ of 37

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
~~4/4/13~~ 1440	VOC: 400 Other: 41	17.3	6.76	2552	5.37	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/13 0800

End of day: (Date/time) ~~4/4/13 0800~~ 4/4/13 1500

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.06	N/A	NTU std = 0.02	N/A	0.71	NTU std = 0.02
9.97	N/A	NTU std = 10.0	N/A	9.72	NTU std = 10.0
1049	N/A	NTU std = 1,000	N/A	972.8	NTU std = 1,000
1421	N/A	µS std = 1,413	N/A	1426	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.00 @ 20.3 °C	N/A	7.21	pH std = 7.00 @ 24.0 °C
4.00	N/A	pH std = 4.00 @ 20.0 °C	N/A	4.19	pH std = 4.01 @ 23.7 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: sunny, 60°F, wind 2-7 mph from NW

Sample Characteristics: slight sulfide odor, clear

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___ Soft

Sample Device Left in Well YES X or NO ___

Date: 4/4/13 By: John D. Rogers Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: I-62

Sampler(s): Ward Herst
Jon W. Nicinson

Top of Casing (ft, msl): 446.37

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/4/2013 1013

Casing Diameter (inches): 2

Initial Water Level (feet): 18.84

One Casing Volume (gal): 4.26gal

Initial Water Level Previous Event (feet): 16.78

One Casing Volume Previous Event (gal): 4.60

Ground Water Elevation (ft, msl): 427.53

Total Volume Purged (gal): 6.75 gallons

Ground Water Elevation Previous Event (ft, msl): 429.59

Purged Dry?: Yes No ✓

Well Total Depth (feet): 44.95

Water Level after Purge (feet): 18.88

Well Total Depth Previous Event (feet): 44.95

Date/Time Completed: 4/4/2013 1042

PURGE DATA: Average Purge Rate = 0.23 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1022	0.25	2.25	15.1	7.19	817	97.91	N/A	Clear; no odor
1032	0.22	4.5	15.5	7.08	803	85.72	N/A	Cloudy; no odor
1042	0.22	6.75	15.7	7.12	800	55.38	N/A	Cloudy, no odor
		9						

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: I-62

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 18.88

Well Collection Sequence #: 8 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/4/2013 1042	VOC: ~100 mL/min Other: 0.23 gpm	15.7	7.12	800	55.38	N/A	Clear, no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/2013 0800

End of day: (Date/time) 4/4/2013 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 20081239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.28	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	9.73	NTU std = 10.0
1035	N/A	NTU std = 1,000	N/A	913.6	NTU std = 1,000
1420	N/A	µS std = 1,413	N/A	1417	µS std = 1,413
Cell Const: 0.483	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.483	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 19.6°C	N/A	7.38	pH std = 7.01 @ 23.7 oC
4.00	N/A	pH std = 4.00 @ 19.0°C	N/A	4.43	pH std = 4.01 @ 25.7 oC

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 45°F

Sample Characteristics: Clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 8 bottles

Sample Device Left in Well YES ✓ or NO ___

Collect DUP-01 - 8 bottles

Date: 4/4/2013 By: [signature] Title: Senior Cleanup Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: I-65
Sampler(s): Matt Stewart
Jon Wilkinson

Top of Casing (ft, msl): 441.53

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/16/2013 1014
Initial Water Level (feet): 14.02
Initial Water Level Previous Event (feet): 12.31
Ground Water Elevation (ft, msl): 427.51
Ground Water Elevation Previous Event (ft, msl): 429.22
Well Total Depth (feet): 38.90
Well Total Depth Previous Event (feet): 38:90

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 4.06 gal
One Casing Volume Previous Event (gal): 4.33
Total Volume Purged (gal): 6.25 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 14.20
Date/Time Completed: 4/16/2013 1047

PURGE DATA: Average Purge Rate = 0.19 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1027	0.15	~~2.52~~	12.4	7.13	978	27.38	N/A	Clear; no odor
1037	0.20	4	13.1	7.12	966	19.94	N/A	Clear; no odor
1047	0.22	6.25	13.2	7.13	957	24.37	N/A	Clear; no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: I-65

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 14.20

Well Collection Sequence #: 77 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/16/2013 1047	VOC: ~100 ml/m Other: 0.19 gpm	13.2	7.13	957	24.37	N/A	Clear; no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/16/2013 0815

End of day: (Date/time) 4/16/2013 1215

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #507083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.29	NTU std = 0.02
10.11	N/A	NTU std = 10.0	N/A	10.67	NTU std = 10.0
987.5	N/A	NTU std = 1,000	N/A	1100	NTU std = 1,000
1446	N/A	µS std = 1,413	N/A	1434	µS std = 1,413
Cell Const: 0.485	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.485	Cell Const Range: 0.45 - 0.50
7.06	N/A	pH std = 7.06 @ 10.1 °C	N/A	6.96	pH std = 7.07 @ 8.3 °C
4.00	N/A	pH std = 4.00 @ 10.0 °C	N/A	4.05	pH std = 4.00 @ 8.5 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, 55°F, light rain

Sample Characteristics: Clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 11 bottles - includes MS/MSD

Sample Device Left in Well YES ✓ or NO ___ Collect DUP08 - 8 bottles

Date: 4/16/2013 By: [signature] Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: I-66
Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl): 441.87

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/5/2013 1444
Initial Water Level (feet): 14.51
Initial Water Level Previous Event (feet): 12.29
Ground Water Elevation (ft, msl): 427.36
Ground Water Elevation Previous Event (ft, msl): 429.58
Well Total Depth (feet): 41.29
Well Total Depth Previous Event (feet): 41.29

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 4.37 gal
One Casing Volume Previous Event (gal): 4.73
Total Volume Purged (gal): 6.75 gal
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 14.50
Date/Time Completed: 4/5/2013 1459

PURGE DATA: Average Purge Rate = 0.45 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1449	0.45	2.25	14.3	7.06	1018	53.62	N/A	Cloudy, no odor
1454	0.45	4.5	14.4	7.12	1013	51.12	N/A	Cloudy, no odor
1459	0.45	6.75	14.4	7.10	1011	32.28	N/A	Cloudy, no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: I-66

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 14.50

Well Collection Sequence #: 30 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/2013 1459	VOC: ~100 mL/min Other: 0.45 gpm	14.4	7.10	1011	32.28	N/A	Cloudy; no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/2013 0730

End of day: (Date/time) 4/5/2013 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 2008122339

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.04	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	10.07	NTU std = 10.0
1003	N/A	NTU std = 1,000	N/A	1029	NTU std = 1,000
1441	N/A	µS std = 1,413	N/A	1381	µS std = 1,413
Cell Const: 0.477	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.477	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @ 12.4 °C	N/A	7.73	pH std = 6.99 @ 28.2 °C
4.00	N/A	pH std = 4.00 @ 13.9 °C	N/A	4.75	pH std = 4.01 @ 28.8 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 65°F

Sample Characteristics: Cloudy; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 8 bottles

Sample Device Left in Well YES ✓ or NO ___

Date: 4/5/2013 By: [signature] Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: I-67
Sampler(s): Vard Herst
Jon Wilkinson

Top of Casing (ft, msl): 441.78

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/5/2013 1344
Initial Water Level (feet): 14.43
Initial Water Level Previous Event (feet): 12.25
Ground Water Elevation (ft, msl): 427.35
Ground Water Elevation Previous Event (ft, msl): 429.53
Well Total Depth (feet): 40.59
Well Total Depth Previous Event (feet): 40.59

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 4.26 gal
One Casing Volume Previous Event (gal): 4.62
Total Volume Purged (gal): 6.75 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 14.43
Date/Time Completed: 4/5/2013 1409

PURGE DATA: Average Purge rate = 0.27 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1353	0.25	2.25	14.8	6.88	1503	181.3	N/A	Lt. brown
1401	0.28	4.5	14.8	6.95	1486	57.81	N/A	Cloudy
1409	0.28	6.75	15.2	6.93	1474	36.25	N/A	Cloudy

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: I-67

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 14.43

Well Collection Sequence #: 27 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/2013 1409	VOC: ~100 ml/min Other: 0.27 gpm	15.2	6.93	1474	36.25	N/A	Cloudy

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/2013 0730

End of day: (Date/time) 4/5/2013 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 20081223S

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.04	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	10.07	NTU std = 10.0
1003	N/A	NTU std = 1,000	N/A	1029	NTU std = 1,000
1441	N/A	µS std = 1,413	N/A	1381	µS std = 1,413
Cell Const: 0.477	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.477	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4 °C	N/A	7.73	pH std = 6.99 @20.2 °C
4.00	N/A	pH std = 4.00 @13.9 °C	N/A	4.75	pH std = 4.01 @20.8 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 65°F

Sample Characteristics: Cloudy

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 8 bottles

Sample Device Left in Well YES ✓ or NO ___ collect DUP 03 - 8 bottles

Date: 4/5/2013 By: [signature] Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: I-68

Sampler(s): Ward Herst
Joe Wilkinson

Top of Casing (ft, msl): 450.39

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/9/2013 1024

Casing Diameter (inches): 2

Initial Water Level (feet): 22.73

One Casing Volume (gal): 2.94 gal

Initial Water Level Previous Event (feet): 20.88

One Casing Volume Previous Event (gal): 3.24

Ground Water Elevation (ft, msl): 427.66

Total Volume Purged (gal): 4.5 gallons

Ground Water Elevation Previous Event (ft, msl): 429.51

Purged Dry?: Yes No ✓

Well Total Depth (feet): 40.80

Water Level after Purge (feet): 22.69

Well Total Depth Previous Event (feet): 40.77

Date/Time Completed: 4/9/2013 1044

PURGE DATA: Average purge rate = 0.22 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1030	0.25	1.5	16.2	6.59	5110	574.9	N/A	Lt. tan; no odor
1037	0.21	3	16.3	6.58	3100	597.4	N/A	Lt. tan; no odor
1044	0.21	4.5	16.3	6.58	3100	579.7	N/A	Lt. tan; no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: I-68

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 22.69

Well Collection Sequence #: 41 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/9/2013 1044	VOC: ~100 mL/min Other: 0.22 gpm	16.3	6.58	3100	579.7	N/A	Lt. tan; no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/2013 0735

End of day: (Date/time) 4/9/2013 1415-pH 1800- cond, turb

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #200812239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: #09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.13	NTU std = 0.02
10.07	N/A	NTU std = 10.0	N/A	10.17	NTU std = 10.0
999.0	N/A	NTU std = 1,000	N/A	1015	NTU std = 1,000
1428	N/A	µS std = 1,413	N/A	1382	µS std = 1,413
Cell Const: 0.476	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.476	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 20.0 °C	N/A	9.12*	pH std = 7.01 @ 23.0 °C
4.00	N/A	pH std = 4.00 @ 19.7 °C	N/A	9.10	pH std = 4.01 @ 23.4 °C

Other Calibration: Not Applicable * pH tip replaced @ 1420 on 4/9/2013

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, Breezy, 70°F

Sample Characteristics: Light tan; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 6 bottles

Sample Device Left in Well YES ✓ or NO ___

Date: 4/9/2013 By: [signature] Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: I-73
Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl): 461.40

PURGE INFORMATION:

Method of Well Purge: Waterra
Dedicated Equipment: Yes X No
Date/Time Initiated: 4/11/2013 1203
Casing Diameter (inches): 2
Initial Water Level (feet): 33.09
One Casing Volume (gal): 2.82 gal
Initial Water Level Previous Event (feet): 28.28
One Casing Volume Previous Event (gal): 3.60
Ground Water Elevation (ft, msl): 428.31
Total Volume Purged (gal): 3 gallons
Ground Water Elevation Previous Event (ft, msl): 433.12
Purged Dry?: Yes ✓ No
Well Total Depth (feet): 50.38
Water Level after Purge (feet): Dry @ Bottom of well
Well Total Depth Previous Event (feet): 50.38
Date/Time Completed: 4/11/2013 1223

PURGE DATA: Average Purge Rate = 0.15 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1216	0.12	1.5	15.8	6.80	2900	250.4	NLA	Lt. tan, no odor
1223	0.24	3	15.9	6.72	2980	165.2	NLA	Lt. tan, no odor
		~~4.5~~						
	Well purged dry @ 3 gallons - allow to recharge.							

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: I-73

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 33.14

Well Collection Sequence #: 67 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/12/2013 @ 1005	VOC: ~400 mL/m Other: 0.15 gpm	12.7	6.80	4030	173.6	N/A	Light tan, no odor

INSTRUMENT CALIBRATION DATA:

	Purging Event			Sampling Event		
	Start of day	End of day		Start of day	End of day	
Start of day: (Date/Time)	4/11/2013 0755	4/12/2013 0800				
End of day: (Date/time)	4/11/2013 1730	4/12/2013 1400				
	0.03	0.01 ~~N/A~~	NTU std = 0.02	0.02 ~~N/A~~	0.04	NTU std = 0.02
	9.90	9.98 ~~N/A~~	NTU std = 10.0	10.03 ~~N/A~~	9.87	NTU std = 10.0
	999.6	986.0 ~~N/A~~	NTU std = 1,000	1005 ~~N/A~~	995.0	NTU std = 1,000
	1445	1475 ~~N/A~~	µS std = 1,413	1472 ~~N/A~~	1450	µS std = 1,413
	Cell Const: 0.493	Cell Const: 0.493 ~~N/A~~	Cell Const Range: 0.45 - 0.50	Cell Const: 0.491 ~~N/A~~	Cell Const: 0.491	Cell Const Range: 0.45 - 0.50
	7.05	7.04 ~~N/A~~	pH std = Am 7.05 @ 12.4°C Pm 7.06 @ 10.9 °C	7.09 ~~N/A~~	7.05	pH std = Am 7.09 @ 4.7°C Pm 7.03 @ 16.3 oC
	4.00	4.01 ~~N/A~~	pH std = Am 4.00 @ 13.7°C Pm 4.00 @ 10.3°C	4.01 ~~N/A~~	4.03	pH std = Am 4.01 @ 4.7°C Pm 4.00 @ 13.6 oC

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 200812239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, Breezy 45°F

Sample Characteristics: Light tan; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 8 bottles

Sample Device Left in Well YES ✓ or NO ___

Date: 4/12/2013 By: [signature] Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: LR-100
Sampler(s): Ward Herst
Jon Wilkinson
Top of Casing (ft, msl): 468.14

PURGE INFORMATION:

Method of Well Purge: Waterra
Dedicated Equipment: Yes X No
Date/Time Initiated: 4/3/2013 1313
Casing Diameter (inches): 2
Initial Water Level (feet): 15.26
One Casing Volume (gal): 1.94gal x 3 = 5.82gal
Initial Water Level Previous Event (feet): 17.79
One Casing Volume Previous Event (gal): 1.53
Ground Water Elevation (ft, msl): 452.88
Total Volume Purged (gal): 3 gallons
Ground Water Elevation Previous Event (ft, msl): 450.35
Purged Dry?: Yes No ✓
Well Total Depth (feet): 27.19
Water Level after Purge (feet): 15.40
Well Total Depth Previous Event (feet): 27.19
Date/Time Completed: 4/3/2013 1327

PURGE DATA: Average Purge Rate = 0.21 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1318	0.2	1	16.2	6.62	2920	9.30	N/A	Clear, no odor
1322	0.25	2	16.2	6.58	2870	5.61	N/A	" "
1327	0.2	3	16.3	6.57	2850	4.65	N/A	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: LR-100

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 15.40

Well Collection Sequence #: 2 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/3/2013 1327	VOC: ~400 mL/min Other: 0.2 lpm	16.3	6.57	2850	4.65	N/A	Clear, no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/3/2013 0800

End of day: (Date/time) 4/3/2013 1615

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #200812239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: #09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.01	N/A	NTU std = 10.0	N/A	9.37	NTU std = 10.0
1001	N/A	NTU std = 1,000	N/A	1013	NTU std = 1,000
1462	N/A	µS std = 1,413	N/A	1404	µS std = 1,413
Cell Const: 0.490	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.490	Cell Const Range: 0.45 - 0.50
7.07	N/A	pH std = 7.02 @ 7.6 °C	N/A	7.10	pH std = 6.98 @ 33.5 °C
4.01	N/A	pH std = 4.01 @ 7.2 °C	N/A	4.10	pH std = 4.02 @ 36.9 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, Breezy, 50°F, Ambient landfill gas odor, new gas extraction well being drilled upwind of well

Sample Characteristics: Clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO

Full Suite Collected YES ✓ or NO 3 bottles

Sample Device Left in Well YES ✓ or NO

* VOAs effervesced; sent unpreserved

Date: 4/3/2013 By: Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: LR-103
Sampler(s): Ward Herst
Jan W Means

Top of Casing (ft, msl): 470.54

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/3/2013 1523
Initial Water Level (feet): 42.78
Initial Water Level Previous Event (feet): 40.83
Ground Water Elevation (ft, msl): 427.76
Ground Water Elevation Previous Event (ft, msl): 429.71
Well Total Depth (feet): 49.90
Well Total Depth Previous Event (feet): 49.90

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 1.1 gal
One Casing Volume Previous Event (gal): 1.48
Total Volume Purged (gal): 1.8 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 42.80
Date/Time Completed: 4/3/2013 1530

PURGE DATA: Average purge rate = 0.26 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1526	0.2	0.6	16.3	6.79	2000	38.88	N/A	Clear
1528	0.3	1.2	16.4	6.76	1993	17.66	N/A	Clear
1530	0.3	1.8	16.3	6.75	1982	12.55	N/A	Clear

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: LR-103

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 42.80

Well Collection Sequence #: 6 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/3/2013 1530	VOC: ~100 mL/min Other: 0.20 gpm	16.3	6.75	1988	12.55	N/A	Clear

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/3/2013 0800

End of day: (Date/time) 4/3/2013 1615

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 20812239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.01	N/A	NTU std = 10.0	N/A	9.37	NTU std = 10.0
1001	N/A	NTU std = 1,000	N/A	1013	NTU std = 1,000
1462	N/A	µS std = 1,413	N/A	1404	µS std = 1,413
Cell Const: 0.490	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.490	Cell Const Range: 0.45 - 0.50
7.07	N/A	pH std = 7.07 @ 7.6 °C	N/A	7.10	pH std = 6.98 @ 33.5 °C
4.01	N/A	pH std = 4.01 @ 22 °C	N/A	4.10	pH std = 4.02 @ 36.9 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, Breezy, 55°F

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO

Full Suite Collected YES ✓ or NO 8 bottles

Sample Device Left in Well YES ✓ or NO

Date: 4/3/2013 By: Title: Senior Chemical Engineer

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: LR-104
Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl) 459.38

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/4/2013 1529
Initial Water Level (feet): 31.31
Initial Water Level Previous Event (feet): 29.32
Ground Water Elevation (ft, msl): 428.07
Ground Water Elevation Previous Event (ft, msl): 430.06
Well Total Depth (feet): 65.00
Well Total Depth Previous Event (feet): 65.00

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 5.49 gal
One Casing Volume Previous Event (gal): 5.82
Total Volume Purged (gal): 8.25 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 31.37
Date/Time Completed: 4/4/2013 1552

PURGE DATA: Average Purge Rate = 0.36 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1538	0.31	2.75	15.6	6.97	1474	36.65	NM	Clear, no odor
1544	0.46	5.5	15.6	6.99	1466	12.77	NM	Clear, no odor
1552	0.34	8.25	15.6	7.02	1459	7.66	NM	Clear, no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: LR-104

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 31.37

Well Collection Sequence #: 19 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/4/2013 1552	VOC: ~100 mL/min Other: 0.36 gpm	15.6	7.02	1459	2.66	N/A	Clear, no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/2013 0800

End of day: (Date/time) 4/4/2013 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #2008122139

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.28	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	9.73	NTU std = 10.0
1035	N/A	NTU std = 1,000	N/A	913.6	NTU std = 1,000
1420	N/A	µS std = 1,413	N/A	1417	µS std = 1,413
Cell Const: 0.483	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.483	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @19.6 °C	N/A	7.38	pH std = 7.01 @23.7 °C
4.00	N/A	pH std = 4.00 @19.0 °C	N/A	4.43	pH std = 4.01 @23.7 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 55°F

Sample Characteristics: Clear; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ - 3 bottles

Sample Device Left in Well YES ✓ or NO ___

Date: 4/4/2013 By: [signature] Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: LR-105

Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl): 485.36

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/3/2013 1412

Casing Diameter (inches): 2

Initial Water Level (feet): 31.45

One Casing Volume (gal): 1.06gal

Initial Water Level Previous Event (feet): 31.30

One Casing Volume Previous Event (gal): 1.09

Ground Water Elevation (ft, msl): 453.91

Total Volume Purged (gal): 1.65 gallons

Ground Water Elevation Previous Event (ft, msl): 454.06

Purged Dry?: Yes ____ No ✓

Well Total Depth (feet): 37.96

Water Level after Purge (feet): 33.45

Well Total Depth Previous Event (feet): 37.96

Date/Time Completed: 4/3/2013 1424

PURGE DATA: Average purge rate = 0.14 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1416	0.14	0.55	17.2	6.83	5870	501.3	N/A	Clear to cloudy, no odor
1420	0.14	1.1	17.2	6.82	5930	100.5	N/A	Cloudy, no odor
1424	0.14	1.65	17.2	6.83	5950	37.39	N/A	Cloudy, no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: LR-105

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 33.45

Well Collection Sequence #: 4 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/3/2013 1424	VOC: ~100 ml/min Other: 0.14 gpm	17.2	6.83	5950	37.39	N/A	Cloudy, no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/3/2013 0800

End of day: (Date/time) 4/3/2013 1615

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #2008122339

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: #09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.01	N/A	NTU std = 10.0	N/A	9.37	NTU std = 10.0
1001	N/A	NTU std = 1,000	N/A	1013	NTU std = 1,000
1462	N/A	µS std = 1,413	N/A	1404	µS std = 1,413
Cell Const: 0.490	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.490	Cell Const Range: 0.45 - 0.50
7.07	N/A	pH std = 7.07 @ 26 °C	N/A	7.10	pH std = 6.98 @ 33.5 °C
4.01	N/A	pH std = 4.01 @ 7.2 °C	N/A	4.10	pH std = 4.02 @ 30.9 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 50°F, Breezy.

Sample Characteristics: Cloudy, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 3 bottles)

Sample Device Left in Well YES ✓ or NO ___ VOAs effervesced strongly; bent unpreser

Date: 4/3/2013 By: [signature] Title: Senior Chemical Engineer

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: MW-102

Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl) 447.90

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/5/2013 1043

Casing Diameter (inches): 2

Initial Water Level (feet): 20.17

One Casing Volume (gal): ~~0.43 gal~~ (3) 0.06 gal

Initial Water Level Previous Event (feet): 18.79

One Casing Volume Previous Event (gal): 0.65

Ground Water Elevation (ft, msl): 427.73

Total Volume Purged (gal): Ø

Ground Water Elevation Previous Event (ft, msl): 429.11

Purged Dry?: Yes N/A No N/A

Well Total Depth (feet): 20.55

Water Level after Purge (feet): N/A

Well Total Depth Previous Event (feet): 22.80

Date/Time Completed: N/A

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
		0.25						
	Well Not Able to Be sampled –							
			No Sample Collected.					

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: MW-102

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 20.17

Well Collection Sequence #: 23 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/2013 N/A	VOC: / Other:	Functionally Dry - No Sample Collected					

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) N/A

End of day: (Date/time) N/A

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: N/A

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: N/A

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
N/A	N/A	NTU std = 0.02	N/A	N/A	NTU std = 0.02
	N/A	NTU std = 10.0	N/A		NTU std = 10.0
	N/A	NTU std = 1,000	N/A		NTU std = 1,000
	N/A	µS std = 1,413	N/A		µS std = 1,413
Cell Const:	Cell Const:	Cell Const	Cell Const:	Cell Const:	Cell Const
	N/A	Range: 0.45 - 0.50	N/A		Range: 0.45 - 0.50
	N/A	pH std = @ °C	N/A		pH std = @ °C
	N/A	pH std = @ °C	N/A		pH std = @ °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 45°F

Sample Characteristics: N/A

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ___ or NO ✓ Ø Bottles

Sample Device Left in Well YES ___ or NO ✓

Well functionally dry - No Sample Able to be Collected.

Date: 4/5/2013 By: [signature] Title: Senior Chemical Engineer

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: MW-103

Sampler(s): Ward Hurst
Jon Wilkinson

Top of Casing (ft, msl): 437.47

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: N/A

Casing Diameter (inches): 2

Initial Water Level (feet): N/A

One Casing Volume (gal): N/A

Initial Water Level Previous Event (feet): 9.62

One Casing Volume Previous Event (gal): 0.74

Ground Water Elevation (ft, msl): N/A

Total Volume Purged (gal): N/A

Ground Water Elevation Previous Event (ft, msl): 427.85

Purged Dry?: Yes N/A No N/A

Well Total Depth (feet): N/A

Water Level after Purge (feet): N/A

Well Total Depth Previous Event (feet): 14.17

Date/Time Completed: N/A

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
		Well went dry during redevelopment -						
		Sample collected in airshoots over multiple days						

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: MW-103

Sampling Method: ~~Waterra~~ Polyethylene Bailer

Dedicated: Yes X No

Water Level @ Sampling (ft): N/A

Well Collection Sequence #: 20 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/2013 0950	VOC: N/A Other: N/A	14.5	6.75	1031	108.8	N/A	Lt. tan, no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/2013 0730

End of day: (Date/time) 4/5/2013 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 20812239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.04	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.03	N/A	NTU std = 10.0	N/A	10.07	NTU std = 10.0
1003	N/A	NTU std = 1,000	N/A	1029	NTU std = 1,000
1441	N/A	µS std = 1,413	N/A	1381	µS std = 1,413
Cell Const: 0.477	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.477	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4°C	N/A	7.73	pH std = 6.99 @28.2°C
4.00	N/A	pH std = 4.00 @13.9°C	N/A	4.75	pH std = 4.01 @28.8°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 45°F

Sample Characteristics: Light tan, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 6 bottles

Sample Device Left in Well YES ___ or NO ✓ total rods collected over multiple days. in aliquots

Date: 4/5/2013 By: [signature] Title: Env. Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: MW-104
Sampler(s): Ward Herst
Jan Wilkinson

Top of Casing (ft, msl): 440.91

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/5/2013 1246
Initial Water Level (feet): 12.74
Initial Water Level Previous Event (feet): 11.04
Ground Water Elevation (ft, msl): 428.17
Ground Water Elevation Previous Event (ft, msl): 429.87
Well Total Depth (feet): 19.39
Well Total Depth Previous Event (feet): 18.98

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 1.08 gal @ 1 ÷ 2 = 0.54
One Casing Volume Previous Event (gal): 1.29
Total Volume Purged (gal): 1.8 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 15.75
Date/Time Completed: 4/5/2013 1256

PURGE DATA: Average Purge Rate = 0.18 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1250	0.15	~~0.75~~ 0.6	13.2	6.86	1306	291.5	N/A	Lt. tan; no odor
1253	0.2	~~1.5~~ 1.2	13.1	6.86	1323	246.1	N/A	Lt. tan; no odor
1256	0.2	1.8	13.3	6.85	1341	197.5	N/A	Lt. tan; no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: MW-104

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 15.75

Well Collection Sequence #: 25 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/2013 1256	VOC: ~100 ml/min Other: 0.1 Bgpm	13.3	6.85	1341	197.5	N/A	Lt. tan; no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/2013 0730

End of day: (Date/time) 4/5/2013 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #2008112356

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: #09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.04	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	10.07	NTU std = 10.0
1003	N/A	NTU std = 1,000	N/A	1029	NTU std = 1,000
1441	N/A	µS std = 1,413	N/A	1381	µS std = 1,413
Cell Const: 0.477	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.477	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4°C	N/A	7.73	pH std = 6.99 @28.2°C
4.00	N/A	pH std = 4.00 @13.9°C	N/A	4.75	pH std = 4.01 @28.8°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 60°F

Sample Characteristics: Lt. tan, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO

Full Suite Collected YES ✓ or NO 8 bottles

Sample Device Left in Well YES ✓ or NO

Date: 4/5/2013 By: Title: Senior Chemical Engineer

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: MW-1204

Sampler(s): M a H Stewart

Top of Casing (ft, msl): 440.91

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Date/Time Initiated: 4/12/13 0912

Initial Water Level (feet): ~~28.05~~ 29.05

Initial Water Level Previous Event (feet): 33.13

Ground Water Elevation (ft, msl): 411.86

Ground Water Elevation Previous Event (ft, msl): ~~452.40~~ 407.78

Well Total Depth (feet): top of pump 171.22

Well Total Depth Previous Event (feet): top of pump: 171.22

Dedicated Equipment: Yes X No ____

Casing Diameter (inches): 2

One Casing Volume (gal): N/A

One Casing Volume Previous Event (gal): 22.59

Total Volume Purged (ml): 3500

Purged Dry?: Yes ____ No X

Water Level after Purge (feet): 29.93

Date/Time Completed: 4/12/13 0924

PURGE DATA:

Time	Purge Rate (ml/min)	Cumulative Volume (ml)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
0915	500	1500	17.1	6.82	830	1.43	29.51	Clear, Slight Septic Odor
0918	183	2050	16.7	6.87	843	1.95	29.63	" "
0921	250	2800	16.8	6.85	852	1.55	29.78	" "
0924	233	3500	16.8	6.88	850	1.44	29.93	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: MW-1204

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 29.93

Well Collection Sequence #: 65 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
0926 4/12/17	VOC: <100mL/min Other: 233mL/min	16.8	6.88	850	1.44	N/A	Clear, Slight Septic Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/12/13 0800

End of day: (Date/time) 4/12/13 1400

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.08	NTU std = 0.02
9.82	N/A	NTU std = 10.0	N/A	9.80	NTU std = 10.0
998.8	N/A	NTU std = 1,000	N/A	990.4	NTU std = 1,000
1471	N/A	µS std = 1,413	N/A	1435	µS std = 1,413
Cell Const: 0.482	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.482	Cell Const Range: 0.45 - 0.50
7.09	N/A	pH std = 7.09 @ 4.7 °C	N/A	7.04	pH std = 7.03 @ 16.3 °C
4.01	N/A	pH std = 4.01 @ 4.7 °C	N/A	3.98	pH std = 4.00 @ 13.6 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast & Windy, 40°F

Sample Characteristics: Clear, Slight Septic Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO ___ Full Suite Collected (YES) or NO ___

Sample Device Left in Well (YES) or NO ___ 8 of 8 Bottles Collected

Duplicate 07 collected here @ 0926 8 of 8

Date: 4/12/17 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-100-KS
Sampler(s): John Regan, Matt Stewart, Jon Wilkinson

Top of Casing (ft, msl): 485.61

PURGE INFORMATION:

Method of Well Purge: Disposable Bailer
Dedicated Equipment: Yes ____ No X

Date/Time Initiated: 4/15/2013 1107
Casing Diameter (inches): 2

Initial Water Level (feet): 25.97
One Casing Volume (gal): 59.04 gal

Initial Water Level Previous Event (feet): 30.58
One Casing Volume Previous Event (gal): 58.35

Ground Water Elevation (ft, msl): 459.64
Total Volume Purged (gal): 60 gallons

Ground Water Elevation Previous Event (ft, msl): 455.03
Purged Dry?: Yes ✓ No ____

Well Total Depth (feet): 388.15
Water Level after Purge (feet): Dry @ Bottom of Well

Well Total Depth Previous Event (feet): 388.15
Date/Time Completed: 4/15/2013 1419

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1235	N/A	29.5	15.2	7.44	1158	17.37	N/A	Clear, no odor
1419	N/A	60 SF	15.1	7.85	1153	25.84	N/A	Clear, no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-100-KS

Sampling Method: Disposable Bailer

Dedicated: Yes ____ No X

Water Level @ Sampling (ft): 37.70

Well Collection Sequence #: 76 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/16/2013 0850	VOC: N/A Other: N/A	14.3	7.59	1392	13.04	N/A	Clear; no odor

INSTRUMENT CALIBRATION DATA:

	Purging Event			Sampling Event		
	Start of day	End of day		Start of day	End of day	
Start of day: (Date/Time)	4/15/2013 0840	4/16/2013 0815				
End of day: (Date/time)	4/15/2013 1715	4/16/2013 1215				
	0.02	0.68 N/A	NTU std = 0.02	0.02 N/A	0.29	NTU std = 0.02
	9.26	9.05 N/A	NTU std = 10.0	10.11 N/A	10.87	NTU std = 10.0
	1019	960.1 N/A	NTU std = 1,000	987.5 N/A	1100	NTU std = 1,000
Turbidity Meter: HF MicroTPW	1421 ~~1479~~	~~1421~~ 1396 N/A	µS std = 1,413	1446 N/A	1434	µS std = 1,413
Turbidity Meter S/N: #5070B3	Cell Const: 0.479	Cell Const: 0.479 N/A	Cell Const Range: 0.45 - 0.50	Cell Const: 0.485 N/A	Cell Const: 0.485	Cell Const Range: 0.45 - 0.50
pH / Sp. Cond. Meter: WTW pH/Cond 3400i	7.03	7.02 N/A	pH std = Am 7.03 @ 18.4°C Pm 7.02 @ 19.4°C	7.06 N/A	6.96	pH std = Am 7.06 @ 10.1°C Pm 7.07 @ 8.3°C @ °C
pH / Sp. Cond. Meter S/N: # 08200255	4.00	4.06 N/A	pH std = Am 4.00 @ 18.1°C Pm 4.00 @ 19.9°C	4.00 N/A	4.05	pH std = Am 4.00 @ 10.0°C Pm 4.00 @ 8.5°C @ °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: H. Rain, 50°F

Sample Characteristics: Clear; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 8 bottle

Sample Device Left in Well YES ___ or NO ✓

collect FB @ PZ-100-KS @ 0840 - 8 bottles

Date: 4/16/2013 By: _____ Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-100-SD
Sampler(s): Matt Stewart

Top of Casing (ft, msl): 485.72

PURGE INFORMATION:

Method of Well Purge: Bladder Pump
Date/Time Initiated: 4/5/13 1350
Initial Water Level (feet): 35.63
Initial Water Level Previous Event (feet): 53.08
Ground Water Elevation (ft, msl): 450.09
Ground Water Elevation Previous Event (ft, msl): 432.64
Well Total Depth (feet): Top of Pump= 96.48
Well Total Depth Previous Event (feet): Top of Pump = 96.48

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): N/A
One Casing Volume Previous Event (gal): N/A
Total Volume Purged (mL): 3100
Purged Dry?: Yes No X
Water Level after Purge (feet): 42.36
Date/Time Completed: 4/5/13 1401

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1352	500	1000	17.1	7.16	613	2.14	38.93	Clear, No Odor
1355	233	1700	17.2	7.12	616	~~5.26~~ 2.36	39.97	Clear, No Odor
1358	233	2400	17.3	7.10	621	~~8.75~~ 1.15	41.15	Clear, No Odor
1401	233	3100	17.3	7.08	620	1.15	42.36	Clear, No Odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-100-SD

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 42.76

Well Collection Sequence #: 26 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1403 4/5/13	VOC: <100 mL/min Other: 233 mL/min	17.3	7.08	620	1.15	N/A	Clear, No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/13 0730

End of day: (Date/time) 4/5/13 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.13	NTU std = 0.02
10.04	N/A	NTU std = 10.0	N/A	10.05	NTU std = 10.0
1001	N/A	NTU std = 1,000	N/A	1014	NTU std = 1,000
1433	N/A	µS std = 1,413	N/A	1397	µS std = 1,413
Cell Const: 0.481	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.481	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @ 12.4 °C	N/A	6.93	pH std = 6.99 @ 28.2 °C
4.00	N/A	pH std = 4.00 @ 13.9 °C	N/A	3.94	pH std = 4.01 @ 28.8 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 69°F

Sample Characteristics: Clear, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO

Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO

QU-1: 8 of 8 Bottles Collected
Detection: 7 of 7 Bottles Collected

Date: 4/5/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-100-SS

Sampler(s): M. H Stewart

Top of Casing (ft, msl): 485.75

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Date/Time Initiated: 4/5/13 1444

Initial Water Level (feet): 34.91

Initial Water Level Previous Event (feet): 47.60

Ground Water Elevation (ft, msl): 450.84

Ground Water Elevation Previous Event (ft, msl): 438.15

Well Total Depth (feet): Top of Pump= 89.25

Well Total Depth Previous Event (feet): Top of Pump = 89.25

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): N/A

One Casing Volume Previous Event (gal): N/A

Total Volume Purged (mL): 3350

Purged Dry?: Yes No X

Water Level after Purge (feet): 42.07

Date/Time Completed: 4/5/13 1456

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1447	333	1000	17.4	6.95	818	5.05	38.43	Clear, No Odor
1450	300	1900	17.2	6.95	821	3.40	39.62	" "
1453	233	2600	17.3	6.95	823	1.42	40.81	" "
1456	250	3350	17.2	6.95	826	1.41	42.07	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-100-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 42.07

Well Collection Sequence #: 29 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1458 4/5/13	VOC: <100 mL/min Other: 250 mL/min	17.2	6.95	826	1.41	N/A	Clear, No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/13 0730

End of day: (Date/time) 4/5/13 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.13	NTU std = 0.02
10.04	N/A	NTU std = 10.0	N/A	10.05	NTU std = 10.0
1001	N/A	NTU std = 1,000	N/A	1014	NTU std = 1,000
1433	N/A	µS std = 1,413	N/A	1397	µS std = 1,413
Cell Const: 0.481	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.481	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @ 12.4°C	N/A	6.93	pH std = 6.99 @ 28.2°C
4.00	N/A	pH std = 4.00 @ 13.9°C	N/A	3.94	pH std = 4.01 @ 28.8°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 65°F

Sample Characteristics: Clear, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO

Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO

OU-1: 8 of 8 Bottles Collected
Detection: 7 of 7 Bottles Collected

Date: 4/5/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-101-SS

Sampler(s): [signature]

Top of Casing (ft, msl) 491.26

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: 4/11/13 0957

Initial Water Level (feet): 51.76

Initial Water Level Previous Event (feet): 70.50

Ground Water Elevation (ft, msl): 439.50

Ground Water Elevation Previous Event (ft, msl): 450.76

Well Total Depth (feet): 155.61 —

Well Total Depth Previous Event (feet): 155.61

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): 16.93

One Casing Volume Previous Event (gal): 13.87

Total Volume Purged (gal): 18

Purged Dry?: Yes X No

Water Level after Purge (feet): Dry @ bottom of well

Date/Time Completed: 4/11/13 1039

PURGE DATA: avg 8.5

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1019	0.39	8.5	29.1	6.41	1858	15.42	—	septic odor/black particles
1038	0.45	17	28.9	6.57	1880	19.21	—	"
1039	Dry @	18 gallons						

[initials]

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-101-SS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 56.15

Well Collection Sequence #: 64 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/12/13 0910	VOC: 200 Other: 21	17.9	6.52	1820	32.53	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/11/13 0755

End of day: (Date/time) 4/12/13 1400

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 502083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08209255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.15	NTU std = 0.02
9.95	N/A	NTU std = 10.0	N/A	9.78	NTU std = 10.0
1002	N/A	NTU std = 1,000	N/A	1053	NTU std = 1,000
1443	N/A	µS std = 1,413	N/A	1433	µS std = 1,413
Cell Const: 0.490	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @ 12.4 °C	N/A	7.05	pH std = 7.03 @ 16.3 °C
4.00	N/A	pH std = 4.00 @ 13.7 °C	N/A	4.03	pH std = 4.00 @ 13.6 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: partly cloudy, 40F, windy occasionally NW

Sample Characteristics: clear, septic odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES Y or NO

Full Suite Collected YES N or NO SOIS

Sample Device Left in Well YES N or NO

Date: 4/12/13 By: [signature] Title: Sr Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-~~102R~~ 107-SS

Sampler(s):

Top of Casing (ft, msl): ~~485.62~~ 483.90

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/4/13 0940

Casing Diameter (inches): 2

Initial Water Level (feet): 27.54

One Casing Volume (gal): 10.72

Initial Water Level Previous Event (feet): ~~38.19~~ 43.01

One Casing Volume Previous Event (gal): ~~8.61~~ 7.57

Ground Water Elevation (ft, msl): 455.36

Total Volume Purged (gal): 10.5

Ground Water Elevation Previous Event (ft, msl): ~~447.43~~ 435.59

Purged Dry?: Yes Y No

Well Total Depth (feet): 91.49

Water Level after Purge (feet): dry @ bottom of well

Well Total Depth Previous Event (feet): ~~91.04~~ 91.49

Date/Time Completed: 4/4/13 1000

PURGE DATA: grey 5 gal 1° 0.2 10%

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
0951	0.46	5	16.3	6.85	909	435.4	—	septic odor/gray
0958	0.71	10	16.3	6.87	981	651.3	—	" "
0959		Dry @ 10.5 gallons.						

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: 102 PZ-~~102R~~-SS

Sampling Method: Waterra

Dedicated: Yes X No ____

Water Level @ Sampling (ft): 40.49

Well Collection Sequence #: 52 of 57

Parameters: Annual: ___ Semi-Annual: ___ Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/11/13 0940	VOC: 400 Other: 21	12.9	7.02	916	33.05	—	✓

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/13 0800

End of day: (Date/time) 4/11/13 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 502083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.06	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
9.97	N/A	NTU std = 10.0	N/A	8.87	NTU std = 10.0
1049	N/A	NTU std = 1,000	N/A	998.3	NTU std = 1,000
1421	N/A	µS std = 1,413	N/A	1409	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.490	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 20.3 °C	N/A	7.24	pH std = 7.06 @ 19.7 °C
4.00	N/A	pH std = 4.00 @ 20.0 °C	N/A	4.24	pH std = 4.00 @ 20.3 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 45°F, wind 5 mph from S

Sample Characteristics: turbid

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES Y or NO ___ Full Suite Collected YES N or NO ___ Sat

Sample Device Left in Well YES N or NO ___

Date: 4/11/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: 108R PZ-~~102~~-SS

Sampler(s):

Top of Casing (ft, msl): ~~483.90~~ 483.62

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: 4/4/13 1024

Initial Water Level (feet): 28.59

Initial Water Level Previous Event (feet): ~~45.01~~ 38.19

Ground Water Elevation (ft, msl): 457.03

Ground Water Elevation Previous Event (ft, msl): ~~438.89~~ 447.43

Well Total Depth (feet): 91.04

Well Total Depth Previous Event (feet): ~~91.48~~ 91.04

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): 10.17

One Casing Volume Previous Event (gal): ~~7.57~~ 8.61

Total Volume Purged (gal): 10.5

Purged Dry?: Yes X No

Water Level after Purge (feet): dry @ bottom of well

Date/Time Completed: 4/4/13 1045

PURGE DATA: low flow 5 gpd

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
10:34	0.50	5	19.1	6.84	939	270.8		septic odor light grey color
10:43	0.56	10	19.0	6.85	530	115.6		" "
10:45	Dry @	10.5	gal					

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-~~102~~-SS (102R)

Sampling Method: Waterra

Dedicated: Yes X No ____

Water Level @ Sampling (ft): 61.12

Well Collection Sequence #: 53 of 77

Parameters: Annual: ___ Semi-Annual: ___ Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/11/13 1130	VOC: 100 Other: 4	13.9	6.97	53	11.62	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/13 0800

End of day: (Date/time) 4/11/13 1130

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 500083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200755

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.06	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
9.97	N/A	NTU std = 10.0	N/A	8.87	NTU std = 10.0
1049	N/A	NTU std = 1,000	N/A	999.3	NTU std = 1,000
1421	N/A	µS std = 1,413	N/A	1429	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.490	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 20.3 °C	N/A	7.24	pH std = 7.02 @ 10.9 °C
4.00	N/A	pH std = 4.00 @ 20.0 °C	N/A	4.24	pH std = 4.00 @ 10.3 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 45°F, wind 5-15 mph from S

Sample Characteristics: septic odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___ Soft

Sample Device Left in Well YES X or NO ___

Date: 4/11/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-103-SS

Sampler(s): [signature]

Top of Casing (ft, msl): 483.56

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/5/13 1225

Casing Diameter (inches): 2

Initial Water Level (feet): 9.45

One Casing Volume (gal): 22.87

Initial Water Level Previous Event (feet): 45.11

One Casing Volume Previous Event (gal): 17.06

Ground Water Elevation (ft, msl): 474.11

Total Volume Purged (gal): 24.5

Ground Water Elevation Previous Event (ft, msl): 438.45

Purged Dry?: Yes X No

Well Total Depth (feet): 149.79

Water Level after Purge (feet): Drawdown Pump

Well Total Depth Previous Event (feet): 149.79

Date/Time Completed: 4/5/13 @ 1332

PURGE DATA: every 11.5

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1300	0.33	11.5	19.3	6.00	1147	945.2	—	sepia odor, gray
1330	0.38	23	19.4	6.08	1234	>1000	—	" "
1332	Dry @	24.5						

HAT 1

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION: Sample Point ID: PZ-103-SS

Sampling Method: Waterra — Dedicated: Yes X No ___

Water Level @ Sampling (ft): 43.54 — Well Collection Sequence #: 33 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/8/13 1115	VOC: 400 Other: 27	15.5	6.30	1242	106.9	–	–

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/13 0730

End of day: (Date/time) 4/8/13 1600

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day	Standard	Sampling Event Start of day	Sampling Event End of day	Standard
0.9	N/A	NTU std = 0.02	N/A	0.20	NTU std = 0.02
10.10	N/A	NTU std = 10.0	N/A	9.73	NTU std = 10.0
1001	N/A	NTU std = 1,000	N/A	964.6	NTU std = 1,000
1438	N/A	µS std = 1,413	N/A	1381	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @ 12.4 °C	N/A	7.29	pH std = 6.99 @ 29.2 oC
4.00	N/A	pH std = 4.00 @ 13.9 °C	N/A	4.20	pH std = 4.01 @ 30.7 oC

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 72°, wind calm

Sample Characteristics: septic odor, light gray

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ — Full Suite Collected YES X or NO ___ 8of8

Sample Device Left in Well YES X or NO ___

Date: 4/8/13 By: [signature] Title: SrGeoEng

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-104-KS

Sampler(s): Matt Stewart; Ward Herst
Jon Wilkinson

Top of Casing (ft, msl) 483.95

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes ____ No X

Date/Time Initiated: 4/11/13 1100

Casing Diameter (inches): 2

Initial Water Level (feet): 18.72

One Casing Volume (gal): 63.66 gal

Initial Water Level Previous Event (feet): 22.26

One Casing Volume Previous Event (gal): 63.08

Ground Water Elevation (ft, msl): 465.23

Total Volume Purged (gal): 96 gallons

Ground Water Elevation Previous Event (ft, msl): 461.69

Purged Dry?: Yes ____ No X

Well Total Depth (feet): 409.26

Water Level after Purge (feet): 60.45

Well Total Depth Previous Event (feet): 409.26

Date/Time Completed: 4/11/2013 1708

PURGE DATA: 409.26 − 18.72 = 390.54 × 0.163 = 63.66 Average purge rate = 0.26 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1340	0.20	32	11.2	7.47	698	2.24	N/A	Clear, No Odor
1525	0.30	64	12.6	7.20	720	5.59	N/A	Clear, No Odor
1708	0.31	96	13.0	7.19	718	14.81	N/A	Clear, no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-104-KS

Sampling Method: Waterra

Dedicated: Yes ____ No X

Water Level @ Sampling (ft): 60.45

Well Collection Sequence #: 62 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/11/2013 1708	VOC: ~100 mL/min Other: 0.2 GPM	13.0	7.19	718	14.81	N/A	Clear; no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/11/2013 0755

End of day: (Date/time) 4/11/2013 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 20120508-4

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: # 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.08	NTU std = 0.02
9.99	N/A	NTU std = 10.0	N/A	10.00	NTU std = 10.0
1002	N/A	NTU std = 1,000	N/A	993.2	NTU std = 1,000
1446	N/A	µS std = 1,413	N/A	1450	µS std = 1,413
Cell Const: 0.486	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.486	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4°C	N/A	7.05	pH std = 7.06 @10.9°C
4.00	N/A	pH std = 4.00 @13.7°C	N/A	4.20	pH std = 4.00 @10.3°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, Breezy, 45°F, Ambient LF gas odor

Sample Characteristics: Clear; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ___ or NO ✓ B bottles

Sample Device Left in Well YES ___ or NO ✓

Date: 4/11/2013 By: [signature] Title: Senior Chemical Engineer

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-104-SD

Sampler(s): Matt Stewart

Top of Casing (ft, msl): 483.51

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/11/13 1117

Casing Diameter (inches): 2

Initial Water Level (feet): 22.05

One Casing Volume (gal): N/A

Initial Water Level Previous Event (feet): 24.50

One Casing Volume Previous Event (gal): N/A

Ground Water Elevation (ft, msl): 461.46

Total Volume Purged (mL): 4300 ~~3700~~ (MS)

Ground Water Elevation Previous Event (ft, msl): 459.01

Purged Dry?: Yes ____ No X

Well Total Depth (feet): Top of Pump= 120.50

Water Level after Purge (feet): 24.90

Well Total Depth Previous Event (feet): Top of Pump = 120.50

Date/Time Completed: 4/11/13 1136

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1121	375	1500	17.7	6.52	1772	4.93	24.28	Blk tint/septic odor
1124	150	1950	17.8	6.47	1772	4.08	24.52	" "
1127	200	2550	17.8	6.47	1425	3.15	24.74	" "
1130	247	3200	17.7	6.46	1344	1.93	24.81	" "
1133	167	3700	17.7	6.46	1336	1.58	24.80	" "
1136	200	~~3700~~ 4300 (MSD)	17.8	6.46	1329	1.06	24.90	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-104-SD

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 24.90

Well Collection Sequence #: 54 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1139 4/11/13	VOC: <100 mL/min Other: 200 mL/min	17.8	6.46	1329	1.06	N/A	Black tint, Septic odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/11/13 0755

End of day: (Date/time) 4/11/13 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event			Sampling Event		
Start of day	End of day		Start of day	End of day	
0.01	N/A	NTU std = 0.02	N/A	0.08	NTU std = 0.02
9.99	N/A	NTU std = 10.0	N/A	10.00	NTU std = 10.0
1002	N/A	NTU std = 1,000	N/A	997.2	NTU std = 1,000
1446	N/A	µS std = 1,413	N/A	1450	µS std = 1,413
Cell Const: 0.486	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.486	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4°C	N/A	7.05	pH std = 7.06 @10.9°C
4.00	N/A	pH std = 4.00 @13.7°C	N/A	4.20	pH std = 4.00 @10.3°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast & Windy 45°F

Sample Characteristics: Black tint, septic odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) ___ or NO ___ Full Suite Collected (YES) ___ or NO ___

Sample Device Left in Well YES ___ or NO ___ QA-1 : 8 of 8 Bottles Collected

Detection 7 of 7

Split sample with USEPA

Drill rig drilling through waste in vicinity of well

Date: 4/11/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-104-SS

Sampler(s): Matt Stewart

Top of Casing (ft, msl): 483.45

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Date/Time Initiated: 4/11/13 1242

Initial Water Level (feet): 20.93

Initial Water Level Previous Event (feet): 24.01

Ground Water Elevation (ft, msl): 462.52

Ground Water Elevation Previous Event (ft, msl): 459.44

Well Total Depth (feet): Top of Pump= 140.22

Well Total Depth Previous Event (feet): Top of Pump = 140.22

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): N/A

One Casing Volume Previous Event (gal): N/A

Total Volume Purged (mL): 3800

Purged Dry?: Yes No X

Water Level after Purge (feet): 28.78

Date/Time Completed: 4/11/13 1257

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1248	250	1500	19.0	6.26	875	2.27	24.36	Clear, Septic Odor
1251	267	2300	18.8	6.68	893	0.67	25.96	" "
1254	250	3050	18.8	6.64	886	0.41	27.27	" "
1257	250	3800	18.9	6.61	873	0.84	28.78	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-104-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 28.78

Well Collection Sequence #: 55 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1259 4/11/13	VOC: 100 ml/min Other: 250 ml/min	18.9	6.61	873	0.84	N/A	Clear, Septic Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/11/13 0755

End of day: (Date/time) 4/11/13 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 20120508H

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.08	NTU std = 0.02
9.99	N/A	NTU std = 10.0	N/A	10.00	NTU std = 10.0
1002	N/A	NTU std = 1,000	N/A	993.2	NTU std = 1,000
1446	N/A	µS std = 1,413	N/A	1450	µS std = 1,413
Cell Const: 0.486	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.486	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4 °C	N/A	7.05	pH std = 7.06 @10.9 °C
4.00	N/A	pH std = 4.00 @13.7 °C	N/A	4.20	pH std = 4.00 @10.3 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast & Windy, 45°F

Sample Characteristics: Clear, Septic Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO

Drill rig drilling through waste in vicinity of well.

OW-1 : 8 of 8

Detection: 7 of 7

Detection: Duplicate collected @ 1259 7 of 7

OW-1 : Duplicate # 06 collected @ 1259 8 of 8

Date: 4/11/13 By: Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-105-SS
Sampler(s): Matt Stewart

Top of Casing (ft, msl): 483.51

PURGE INFORMATION:

Method of Well Purge: Bladder Pump
Date/Time Initiated: 4/4/13 1450
Initial Water Level (feet): 24.13
Initial Water Level Previous Event (feet): 29.38
Ground Water Elevation (ft, msl): 459.38
Ground Water Elevation Previous Event (ft, msl): 454.13
Well Total Depth (feet): Top of Pump= 144.81
Well Total Depth Previous Event (feet): Top of Pump = 144.81

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): N/A
One Casing Volume Previous Event (gal): N/A
Total Volume Purged (mL): 3100
Purged Dry?: Yes No X
Water Level after Purge (feet): 30.57
Date/Time Completed: 4/4/13 1504

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1455	~~445~~ 300	1500	16.3	7.09	1091	7.78	27.74	Clear, No Odor
1458	200	2100	16.4	7.16	1066	5.41	28.68	Clear, No Odor
1501	200	2600	16.3	7.20	1053	6.24	29.68	Clear, No Odor
1504	167	3100	16.3	7.20	1048	5.45	30.57	Clear, No Odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-105-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 30.57

Well Collection Sequence #: 17 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1506 4/4/13	VOC: <100 mL/min Other: 800 mL/min	16.3	7.20	1048	5.45	Clear	No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/13 0800

End of day: (Date/time) 4/4/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 20120508 4

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
9.78	N/A	NTU std = 10.0	N/A	10.55	NTU std = 10.0
974.4	N/A	NTU std = 1,000	N/A	1098	NTU std = 1,000
1425	N/A	µS std = 1,413	N/A	1413	µS std = 1,413
Cell Const: 0.483	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.483	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @18.8°C	N/A	7.00	pH std = 7.01 @23.2°C
4.00	N/A	pH std = 4.00 @19.0°C	N/A	4.00	pH std = 4.01 @25.4°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: ~~Hot~~ Sunny, 50°F

Sample Characteristics: Clear, No odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO

Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO

OU-1: 8 of 8 Bottles Collected
Detection: 7 of 7 Bottles Collected

Date: 4/4/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-106-KS
Sampler(s): Matt Stewart

Top of Casing (ft, msl): 464.20

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/15/13 1025
Initial Water Level (feet): 4.28
Initial Water Level Previous Event (feet): 6.96
Ground Water Elevation (ft, msl): 459.92
Ground Water Elevation Previous Event (ft, msl): 457.24
Well Total Depth (feet): 374.97
Well Total Depth Previous Event (feet): 374.97

Dedicated Equipment: Yes ____ No X
Casing Diameter (inches): 2
One Casing Volume (gal): 60.42
One Casing Volume Previous Event (gal): 59.93
Total Volume Purged (gal): 93
Purged Dry?: Yes ____ No X
Water Level after Purge (feet): 39.50
Date/Time Completed: 4/15/13 1557

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1225	0.26	31	18.6	7.29	752	1.69	N/A	Clear, No Odor
1412	0.29	62	18.5	7.26	746	65.71	N/A	Cloudy, No Odor
1557	0.30	93	18.2	7.35	747	6.16	N/A	Clear, No Odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-106-KS

Sampling Method: Waterra

Dedicated: Yes ____ No X

Water Level @ Sampling (ft): 39.50

Well Collection Sequence #: 75 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1559 4/15/13	VOC: <100mL/min Other: <1L/min	18.2	7.35	747	6.16	N/A	Clear, No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/15/13 0810

End of day: (Date/time) 4/15/13 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 20120508 4

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.08	NTU std = 0.02
10.05	N/A	NTU std = 10.0	N/A	10.00	NTU std = 10.0
998.5	N/A	NTU std = 1,000	N/A	1000	NTU std = 1,000
1425	N/A	µS std = 1,413	N/A	1395	µS std = 1,413
Cell Const: 0.477	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.477	Cell Const Range: 0.45 - 0.50
7.03	N/A	pH std = 7.03 @18.4°C	N/A	7.00	pH std = 7.02 @19.4°C
4.00	N/A	pH std = 4.00 @18.1°C	N/A	4.02	pH std = 4.00 @19.7°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Windy & Overcast, 65°F

Sample Characteristics: Clear, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO ___ Full Suite Collected (YES) or NO ___

Sample Device Left in Well YES ___ or (NO) ___ 8 of 8 Bottles Collected

Date: 4/15/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: Herst & Associates, Inc.

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Personal Attention

FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-106-SD

Sampler(s): Matt Stewart

Top of Casing (ft, msl): 463.36

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/9/13 1143

Casing Diameter (inches): 2

Initial Water Level (feet): 14.74

One Casing Volume (gal): N/A

Initial Water Level Previous Event (feet): 18.28

One Casing Volume Previous Event (gal): N/A

Ground Water Elevation (ft, msl): 448.62

Total Volume Purged (mL): 3700

Ground Water Elevation Previous Event (ft, msl): 445.08

Purged Dry?: Yes ____ No X

Well Total Depth (feet): Top of Pump= 196.15

Water Level after Purge (feet): 18.88

Well Total Depth Previous Event (feet): Top of Pump = 196.15

Date/Time Completed: 4/9/13 1158

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1149	250	1500	20.3	7.00	827	55.88	17.26	Clear, No Odor
1152	200	2100	20.2	6.96	849	36.10	17.81	Clear, No Odor.
1155	267	2900	20.2	6.95	855	21.94	18.42	Clear, No Odor
1158	267	3700	20.2	6.95	854	18.47	18.88	Clear, No Odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-106-SD

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 18.88

Well Collection Sequence #: 43 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1200 4/9/13	VOC: <100 mL/min Other: 267 mL/min	20.2	6.95	854	18.47	~~Clear~~ N/A (MS)	Clear, No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/13 0735

End of day: (Date/time) 4/9/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.03	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	9.98	NTU std = 10.0
1000	N/A	NTU std = 1,000	N/A	1003	NTU std = 1,000
1426	N/A	µS std = 1,413	N/A	1409	µS std = 1,413
Cell Const: 0.482	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.482	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @20.0°C	N/A	6.98	pH std = 7.00 @26.9°C
4.00	N/A	pH std = 4.00 @19.7°C	N/A	4.00	pH std = 4.01 @26.9°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, 70°F

Sample Characteristics: Clear, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO

Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO

OW-1: 8 of 8 Bottles Collected
Detection: 7 of 7

Date: 4/9/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-106-SS

Sampler(s): Matt Stewart

Top of Casing (ft, msl): 462.71

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/9/13 1241

Casing Diameter (inches): 2

Initial Water Level (feet): 13.55

One Casing Volume (gal): N/A

Initial Water Level Previous Event (feet): 16.94

One Casing Volume Previous Event (gal): N/A

Ground Water Elevation (ft, msl): 449.16

Total Volume Purged (mL): 3700

Ground Water Elevation Previous Event (ft, msl): 445.77

Purged Dry?: Yes No X

Well Total Depth (feet): Top of Pump= 161.20

Water Level after Purge (feet): 20.65

Well Total Depth Previous Event (feet): Top of Pump = 161.20

Date/Time Completed: 4/9/13 1254

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1245	375	1500	19.8	6.95	852	4.74	16.93	Clear, Slight Septic Odor
1248	217	2050	19.8	6.94	860	2.07	17.79	Clear, Slight septic odor
1251	250	2800	19.8	6.93	863	1.17	19.38	Clear, Slight septic Odor
1254	300	3700	19.8	6.93	858	1.70	20.65	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-106-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 20.65

Well Collection Sequence #: 45 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1256 4/9/13	VOC: <100mL/min Other: 300mL/min	19.8	6.93	858	1.70	N/A	Clear, Slight Septic Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/13 0735

End of day: (Date/time) 4/9/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.03	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	9.98	NTU std = 10.0
1000	N/A	NTU std = 1,000	N/A	1003	NTU std = 1,000
1426	N/A	µS std = 1,413	N/A	1409	µS std = 1,413
Cell Const: 0.482	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.482	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @20.0°C	N/A	6.98	pH std = 7.00 @26.9°C
4.00	N/A	pH std = 4.00 @19.7°C	N/A	4.00	pH std = 4.01 @26.9°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, 70°F

Sample Characteristics: Clear, slight Septic Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO ___ Full Suite Collected (YES) or NO ___

Sample Device Left in Well (YES) or NO ___ OW-1: 8 of 8 Bottles Collected

Detection: 7 of 7

Date: 4/9/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-107-SS
Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl) 464.56

PURGE INFORMATION:

Method of Well Purge: Waterra
Dedicated Equipment: Yes X No
Date/Time Initiated: 4/11/2013 1247
Casing Diameter (inches): 2
Initial Water Level (feet): 36.00
One Casing Volume (gal): 11.08 gal
Initial Water Level Previous Event (feet): 34.56
One Casing Volume Previous Event (gal): 11.32
Ground Water Elevation (ft, msl): 428.56
Total Volume Purged (gal): 10 gallons
Ground Water Elevation Previous Event (ft, msl): 430.00
Purged Dry?: Yes ✓ No
Well Total Depth (feet): 103.99
Water Level after Purge (feet): Dry @ Bottom of Well
Well Total Depth Previous Event (feet): 103.99
Date/Time Completed: 4/11/2013 1318

PURGE DATA: Average Purge Rate = 0.32 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1305	0.32	5.75	16.8	6.53	2210	40.79	N/A	Clear, sulfur odor
1318	0.33 10 ~~11.25~~		16.8	6.53	2200	300.2	N/A	Lt. gray, septic odor
	Well purged dry @ 10 gallons - allow to recharge							

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-107-SS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 36.27

Well Collection Sequence #: 69 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/12/2013 1040	VOC: ~100 mL/min Other: 0.32 gpm	15.1	6.73	2450	117.7	N/A	Lt. tan, no odor

INSTRUMENT CALIBRATION DATA:

	Purging Event		Sampling Event	
Start of day: (Date/Time)	4/11/2013 0955	4/12/2013 0830		
End of day: (Date/time)	4/11/2013 1730	4/12/2013 1400		
Turbidity Meter:	HF MicroTPW			
Turbidity Meter S/N:	# 20812239			
pH / Sp. Cond. Meter:	WTW pH/Cond 3400i			
pH / Sp. Cond. Meter S/N:	# 09490969			

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	0.01 ~~N/A~~	NTU std = 0.02	0.02 ~~N/A~~	0.04	NTU std = 0.02
9.90	9.90 ~~N/A~~	NTU std = 10.0	10.03 ~~N/A~~	9.87	NTU std = 10.0
999.6	985.0 ~~N/A~~	NTU std = 1,000	1005 ~~N/A~~	995.0	NTU std = 1,000
1445	1475 ~~N/A~~	µS std = 1,413	1472 ~~N/A~~	1450	µS std = 1,413
Cell Const: 0.493	Cell Const: 0.493 ~~N/A~~	Cell Const Range: 0.45 - 0.50	Cell Const: 0.491 ~~N/A~~	Cell Const: 0.491	Cell Const Range: 0.45 - 0.50
7.05	7.04 ~~N/A~~	pH std = Am 7.05 @12.4°C / pm 7.06 @10.9 °C	7.09 ~~N/A~~	7.05	pH std = Am 7.09 @4.7°C / pm 7.03 @16.3 oC
4.00	4.01 ~~N/A~~	pH std = Am 4.00 @13.7°C / pm 4.00 @10.3 °C	4.01 ~~N/A~~	4.03	pH std = Am 4.01 @4.7°C / pm 4.00 @13.6 oC

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, Breezy, 45°F

Sample Characteristics: Light tan; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 6 bottles

Sample Device Left in Well YES ✓ or NO ___

Date: 4/12/2013 By: _____ Title: Envir. Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-109-SS

Sampler(s): Matt Stewart

Top of Casing (ft, msl): 458.55

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/11/13 1554

Casing Diameter (inches): 2

Initial Water Level (feet): 29.23

One Casing Volume (gal): N/A

Initial Water Level Previous Event (feet): 60.97

One Casing Volume Previous Event (gal): N/A

Ground Water Elevation (ft, msl): 429.32

Total Volume Purged (mL): 3900

Ground Water Elevation Previous Event (ft, msl): 397.58

Purged Dry?: Yes ____ No X

Well Total Depth (feet): Top of Pump= 131.18

Water Level after Purge (feet): 37.91

Well Total Depth Previous Event (feet): Top of Pump = 131.18

Date/Time Completed: 4/11/13 1606

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1557	500	1500	19.2	6.99	835	3.14	33.10	Clear, No Odor
1600	233	2200	19.0	6.97	835	4.47	34.50	" "
1603	283	3050	19.1	6.97	836	1.77	36.15	" "
1606	283	3900	19.0	6.97	834	1.00	37.91	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-109-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 37.91

Well Collection Sequence #: 61 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1608 4/11/13	VOC: <100 ml/min Other: 283 ml/min	19.0	6.99	834	1.00	N/A	Clear, No odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) MW 4/11/13 0755

End of day: (Date/time) 4/11/13 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 20120508 4

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.08	NTU std = 0.02
9.99	N/A	NTU std = 10.0	N/A	10.00	NTU std = 10.0
1802	N/A	NTU std = 1,000	N/A	993.2	NTU std = 1,000
1446	N/A	µS std = 1,413	N/A	1450	µS std = 1,413
Cell Const: 0.486	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.486	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4°C	N/A	7.05	pH std = 7.06 @10.9°C
4.00	N/A	pH std = 4.00 @13.7°C	N/A	4.20	pH std = 4.00 @10.3°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, 50°F

Sample Characteristics: Clear, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) ___ or NO ___ Full Suite Collected (YES) ___ or NO ___

Sample Device Left in Well (YES) ___ or NO ___ QA-1: 8 of 8 Bottles Collected

~~Drill Rig~~ PZ09 Detection: 7 of 7

Date: 4/11/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-110-SS

Sampler(s): Matt Stewart

Top of Casing (ft, msl): 461.15

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/4/13 1011

Casing Diameter (inches): 2

Initial Water Level (feet): 33.08

One Casing Volume (gal): N/A

Initial Water Level Previous Event (feet): 33.13

One Casing Volume Previous Event (gal): N/A

Ground Water Elevation (ft, msl): 428.07

Total Volume Purged (mL): 3300

Ground Water Elevation Previous Event (ft, msl): 428.02

Purged Dry?: Yes ____ No X

Well Total Depth (feet): Top of Pump= 107.11

Water Level after Purge (feet): 36.58

Well Total Depth Previous Event (feet): Top of Pump = 107.11

Date/Time Completed: 4/4/13 1025

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1016	300	~~1500~~ 2000 (mL)	15.3	6.54	2000	3.78	35.84	Clear, No Odor
1019	233	2200	15.1	6.57	1992	3.30	36.18	Clear, No Odor
1022	133	2600	15.0	6.57	1988	2.94	36.23	Clear, No Odor
1025	233	3300	15.1	6.56	1987	1.82	36.58	Clear, No Odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-110-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 36.58

Well Collection Sequence #: 7 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1027 4/4/13	VOC: <100 ml/min Other: 273 ml/min	15.1	6.56	1987	1.82	Clear	No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/13 0800

End of day: (Date/time) 4/4/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 20120508H

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event			Sampling Event		
Start of day	End of day		Start of day	End of day	
0.03	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
9.78	N/A	NTU std = 10.0	N/A	10.55	NTU std = 10.0
974.4	N/A	NTU std = 1,000	N/A	1098	NTU std = 1,000
1425	N/A	µS std = 1,413	N/A	1413	µS std = 1,413
Cell Const: 0.483	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.483	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @18.8 °C	N/A	7.00	pH std = 7.01 @23.2 °C
4.00	N/A	pH std = 4.00 @19.0 °C	N/A	4.00	pH std = 4.01 @25.4 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 50°F

Sample Characteristics: Clear, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO OU-1: 8 of 8 Bottles Collected

OU-1: Detection: 7 of 7 Bottles Collected

FB@ PZ-110-SS Collected @ 0930 4 of 4 Bottles Collected

Date: 4/4/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-111-KS

Sampler(s): Matt Stewart

Top of Casing (ft, msl) 465.56

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: 4/9/13 0936

Initial Water Level (feet): 8.74

Initial Water Level Previous Event (feet): 10.75

Ground Water Elevation (ft, msl): 456.82

Ground Water Elevation Previous Event (ft, msl): 454.81

Well Total Depth (feet): 374.59

Well Total Depth Previous Event (feet): 374.59

Dedicated Equipment: Yes ____ No X

Casing Diameter (inches): 2

One Casing Volume (gal): 59.63

One Casing Volume Previous Event (gal): 59.30

Total Volume Purged (gal): 90

Purged Dry?: Yes ____ No X

Water Level after Purge (feet): 33.40

Date/Time Completed: 4/9/13 1533

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1113	0.31	30	18.9	7.81	1729	1.67	N/A	Clear, No Odor
1342	0.20	60	18.8	7.95	1728	12.13	N/A	Clear, No Odor
1533	0.27	90	18.6	7.93	1754	5.85	N/A	Clear, No Odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-111-KS

Sampling Method: Waterra

Dedicated: Yes ____ No X

Water Level @ Sampling (ft): 33.40

Well Collection Sequence #: ____ of ____

Parameters: Annual: ____ Semi-Annual: ____ Quarterly: ____ Monthly: ____ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1535 4/9/13	VOC: ~~~ Other: ~~~	18.6	7.93	1754	5.85	N/A	Clear, No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/13 0735

End of day: (Date/time) 4/9/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.03	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	9.98	NTU std = 10.0
1000	N/A	NTU std = 1,000	N/A	1003	NTU std = 1,000
1426	N/A	µS std = 1,413	N/A	1409	µS std = 1,413
Cell Const: 0.482	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.482	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @20.0°C	N/A	6.98	pH std = 7.00 @26.9°C
4.00	N/A	pH std = 4.00 @19.7°C	N/A	4.00	pH std = 4.01 @26.9°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Partly Sunny & Windy, 70°F

Sample Characteristics: Clear, No odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO ____ Full Suite Collected (YES) or NO ____

Sample Device Left in Well YES ____ or (NO) 8 of 8 Bottles Collected

Drill Rig being decontaminated upwind of well during sampling

Date: 4/9/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-111-SD

Sampler(s): Matt Stewart

Top of Casing (ft, msl): 466.46

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Date/Time Initiated: 1327 4/4/13

Initial Water Level (feet): 38.93

Initial Water Level Previous Event (feet): 36.15

Ground Water Elevation (ft, msl): 427.53

Ground Water Elevation Previous Event (ft, msl): 430.31

Well Total Depth (feet): Top of Pump= 196.81

Well Total Depth Previous Event (feet): Top of Pump = 196.81

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): N/A

One Casing Volume Previous Event (gal): N/A

Total Volume Purged (mL): 3500

Purged Dry?: Yes No X

Water Level after Purge (feet): 46.44

Date/Time Completed: 4/4/13

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1341	143	2000	17.3	6.99	818	5.09	43.71	Clear, No Odor
1344	167	2500	17.2	7.04	806	2.27	44.54	Clear, No Odor
1347	133	2900	17.1	7.00	821	1.96	45.39	Clear, No Odor
1350	200	3500	17.2	6.98	810	1.64	46.44	Clear, No Odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-111-SD

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 46.44

Well Collection Sequence #: 14 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1352 4/4/13	VOC: <100 ml/min Other: 200 ml/min	17.2	6.98	810	1.64	Clear	No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/13 0800

End of day: (Date/time) 4/4/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 20120508 4

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
9.78	N/A	NTU std = 10.0	N/A	10.55	NTU std = 10.0
974.4	N/A	NTU std = 1,000	N/A	1098	NTU std = 1,000
1425	N/A	µS std = 1,413	N/A	1413	µS std = 1,413
Cell Const: 0.483	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.483	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 18.8 °C	N/A	7.00	pH std = 7.01 @ 23.2 °C
4.00	N/A	pH std = 4.00 @ 19.0 °C	N/A	4.00	pH std = 4.01 @ 25.4 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 55°F

Sample Characteristics: Clear, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO

Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO

OW-1: 8 of 8 Bottles Collected

Detection: 7 of 7 Collected

OW-1: MS/MSD collected @ 1352 3 of 3

Date: 4/4/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-112-AS

Sampler(s): [signature]

Top of Casing (ft, msl) 462.50

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/12/13 1106

Casing Diameter (inches): 2

Initial Water Level (feet): 34.83

One Casing Volume (gal): 0.65

Initial Water Level Previous Event (feet): 32.05

One Casing Volume Previous Event (gal): 1.11

Ground Water Elevation (ft, msl): 427.61

Total Volume Purged (gal): 1.2

Ground Water Elevation Previous Event (ft, msl): 430.45

Purged Dry?: Yes No X

Well Total Depth (feet): 38.83 —

Water Level after Purge (feet): 34.83

Well Total Depth Previous Event (feet): 38.83

Date/Time Completed: 4/12/13 1115

PURGE DATA: 2 cu 0.35

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1109	0.12	0.35	14.9	6.61	2420	57.03	—	clear, slight septic odor
1112	0.12	0.7	14.6	6.64	2440	17.19	—	" "
1115	0.12	1.05	14.6	6.64	2450	16.15	—	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-112-AS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 34.83

Well Collection Sequence #: 72 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/12/13 1118	VOC: 200 Other: 4	14.6	6.64	2450	16.15	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/12/13 0805

End of day: (Date/time) 4/12/13 1400

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 505083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200755

Purging Event			Sampling Event		
Start of day	End of day		Start of day	End of day	
0.02	N/A	NTU std = 0.02	N/A	0.15	NTU std = 0.02
9.10	N/A	NTU std = 10.0	N/A	9.78	NTU std = 10.0
964.7	N/A	NTU std = 1,000	N/A	1053	NTU std = 1,000
1460	N/A	µS std = 1,413	N/A	1433	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.09	N/A	pH std = 7.09 @ 4.7 °C	N/A	7.05	pH std = 7.03 @ 6.3 °C
4.01	N/A	pH std = 4.01 @ 4.7 °C	N/A	4.03	pH std = 4.00 @ 13.6 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 45°F, windy 10-15 from NW

Sample Characteristics: clear, slight sulfur odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___ 8 of 8

Sample Device Left in Well YES X or NO ___

Date: 4/12/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-113-AD

Sampler(s): [signature]

Top of Casing (ft, msl): 461.54

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/11/13 1256

Casing Diameter (inches): 2

Initial Water Level (feet): 33.79

One Casing Volume (gal): 12.42

Initial Water Level Previous Event (feet): 31.80

One Casing Volume Previous Event (gal): 12.76

Ground Water Elevation (ft, msl): 427.75

Total Volume Purged (gal): 20

Ground Water Elevation Previous Event (ft, msl): 429.74

Purged Dry?: Yes ____ No N

Well Total Depth (feet): 110.12

Water Level after Purge (feet): 33.80

Well Total Depth Previous Event (feet): 110.12

Date/Time Completed: 4/11/13 1333

PURGE DATA: over 6.5

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1309	0.50	6.5	16.3	7.00	3590	5.49	—	clear, no odor
1322	0.50	13	16.3	7.04	3590	4.71	—	" "
1333	0.59	19.5	16.2	7.05	3580	2.90	—	"

HST 1

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-113-AD

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 33.80

Well Collection Sequence #: 36 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/11/13 1335	VOC: 400 Other: 47	16.2	7.05	3580	2.90	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/11/13 0755

End of day: (Date/time) 4/11/13 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507053

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200265

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.08	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
9.95	N/A	NTU std = 10.0	N/A	8.87	NTU std = 10.0
1008	N/A	NTU std = 1,000	N/A	999.3	NTU std = 1,000
1443	N/A	µS std = 1,413	N/A	1429	µS std = 1,413
Cell Const: 0.490	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.470	Cell Const Range: 0.45 - 0.50
7.03	N/A	pH std = 7.05 @ 12.4 °C	N/A	7.24	pH std = 7.06 @ 10.9 °C
4.00	N/A	pH std = 4.00 @ 13.7 °C	N/A	4.24	pH std = 4.00 @ 10.3 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 40°F, winds 5-10 mph from S

Sample Characteristics: clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___ 8/8

Sample Device Left in Well YES X or NO ___

Date: 4/11/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-113-AS

Sampler(s): [illegible]

Top of Casing (ft, msl): 461.40

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/2/13 1016

Casing Diameter (inches): 2

Initial Water Level (feet): 33.70

One Casing Volume (gal): 0.89

Initial Water Level Previous Event (feet): 31.19

One Casing Volume Previous Event (gal): 1.31

Ground Water Elevation (ft, msl): 427.70

Total Volume Purged (gal): 2

Ground Water Elevation Previous Event (ft, msl): 430.21

Purged Dry?: Yes ____ No X

Well Total Depth (feet): 39.22

Water Level after Purge (feet): 33.70

Well Total Depth Previous Event (feet): 39.22

Date/Time Completed: 4/2/13 1028

PURGE DATA: peristaltic pump 0.5gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1020	0.12	0.5	15.9	6.64	1440	130.5	—	peristaltic pump
1024	0.12	1.0	15.8	6.64	1433	214.0	—	" "
1028	0.12	1.5	15.9	6.64	1437	158.5	—	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-113-AS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 33.71

Well Collection Sequence #: 68 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/12/13 1035	VOC: 400 Other: 21	19.9	6.64	1437	138.5	—	✓

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/12/13 0830

End of day: (Date/time) 4/12/13 1400

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 502083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200255

Purging Event			Sampling Event		
Start of day	End of day		Start of day	End of day	
0.02	N/A	NTU std = 0.02	N/A	0.05	NTU std = 0.02
9.10	N/A	NTU std = 10.0	N/A	9.78	NTU std = 10.0
964.7	N/A	NTU std = 1,000	N/A	1083	NTU std = 1,000
1460	N/A	µS std = 1,413	N/A	1433	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.09	N/A	pH std = 7.00 @ 4.7 °C	N/A	7.05	pH std = 7.03 @ 16.3 °C
4.01	N/A	pH std = 4.01 @ 4.7 °C	N/A	4.03	pH std = 4.00 @ 13.6 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 45°F, windy 10-15mph from NW

Sample Characteristics: Septa odor, tan

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES N or NO ___ Full Suite Collected YES Y or NO ___ 8/8

Sample Device Left in Well YES N or NO ___

Date: 4/12/13 By: [signature] Title: Sr. Geo Env

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-113-SS
Sampler(s): Ward Herst
Jon Wilkinson
Top of Casing (ft, msl): 461.77

PURGE INFORMATION:

Method of Well Purge: Waterra
Dedicated Equipment: Yes X No
Date/Time Initiated: 4/11/2013 1031
Casing Diameter (inches): 2
Initial Water Level (feet): 33.91
One Casing Volume (gal): 20.63gal
Initial Water Level Previous Event (feet): 27.38
One Casing Volume Previous Event (gal): 21.69
Ground Water Elevation (ft, msl): 427.86
Total Volume Purged (gal): 21 gallons
Ground Water Elevation Previous Event (ft, msl): 434.39
Purged Dry?: Yes ✓ No
Well Total Depth (feet): 160.47
Water Level after Purge (feet): Dry @ Bottom of well
Well Total Depth Previous Event (feet): 160.47
Date/Time Completed: 4/11/2013 1124

PURGE DATA: Average purge rate = 0.4 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1050	0.55	10.5	16.1	7.27	549	620.6	N/A	Lt. gray
1122	0.32	20.75	15.8	7.24	543	476.4	N/A	Lt. gray
	Well purged dry @ 21 gallons - allow to recharge.							

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-113-SS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 33.91

Well Collection Sequence #: 66 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/12/2013 0840	VOC: ~100 mL/min Other: 0.40gpm	14.6	7.59	576	2729	N/A	Lt. gray

INSTRUMENT CALIBRATION DATA:

	Purging Event			Sampling Event		
	Start of day	End of day		Start of day	End of day	
Start of day: (Date/Time)	4/11/2013 0755	4/12/2013 0800				
End of day: (Date/time)	4/11/2013 1730	4/12/2013 1400				
	0.03	0.01 N/A	NTU std = 0.02	0.02 N/A	0.04	NTU std = 0.02
	9.90	9.98 N/A	NTU std = 10.0	10.03 N/A	9.87	NTU std = 10.0
	998.6	985.0 N/A	NTU std = 1,000	1005 N/A	995.0	NTU std = 1,000
	1445	1475 N/A	µS std = 1,413	1472 N/A	1450	µS std = 1,413
	Cell Const: 0.493	Cell Const: 0.493 N/A	Cell Const Range: 0.45 - 0.50	Cell Const: 0.491 N/A	Cell Const: 0.491	Cell Const Range: 0.45 - 0.50
	7.05	7.04 N/A	pH std = Am 7.05 @ 12.4°C / Pm 7.06 @ 10.9°C	7.09 N/A	7.05	pH std = Am 7.09 @ 4.7°C / Pm 7.03 @ 16.3 oC
	4.00	4.01 N/A	pH std = Am 4.00 @ 13.7°C / Pm 4.00 @ 10.3°C	4.01 N/A	4.03	pH std = Am 4.01 @ 4.7°C / Pm 4.00 @ 15.6 oC

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 20081223S

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

~~Purge Rate (gpm)~~

pH / Sp. Cond. Meter S/N: # 04494969

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, Breezy, 45°F

Sample Characteristics: Light gray

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO Full Suite Collected YES ✓ or NO 8 bottles

Sample Device Left in Well YES ✓ or NO

Date: 4/12/2013 By: Title: Senior Chemical Engineer

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-114-AS

Sampler(s): Matt Stewart

Top of Casing (ft, msl): 451.26

PURGE INFORMATION:

Method of Well Purge: Disposable Polyethylene Bailer ~~Bladder Pump~~

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/8/13 1126

Casing Diameter (inches): 2

Initial Water Level (feet): 23.33

One Casing Volume (gal): 1.27 ~~N/A~~ NOD

Initial Water Level Previous Event (feet): 21.33

One Casing Volume Previous Event (gal): N/A

Ground Water Elevation (ft, msl): 427.93

Total Volume Purged (~~mL~~ gal): 5.00 MOD

Ground Water Elevation Previous Event (ft, msl): 429.93

Purged Dry?: Yes No X

Well Total Depth (feet): NOD ~~Top of Pump=~~ 31.11

Water Level after Purge (feet): 23.33

Well Total Depth Previous Event (feet): Top of Pump = 26.35

Date/Time Completed: 4/8/13 1139

PURGE DATA:

Time	Purge Rate ~~(mL/min)~~ gal/min MOD	Cumulative Volume ~~(mL)~~ gal	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1126	—	—	17.3	6.19	1439	15.21	N/A	Clear, Slight Septic Odor
1130	0.38	1.50	16.5	6.53	2190	41.15	N/A	Black tint, Slight Septic Odor
1133	0.50	3.00	16.5	6.65	2240	68.95	N/A	" "
1136	0.33	4.00	16.6	6.70	2250	94.59	N/A	Brown, Slight Septic Odor
1139	0.33	5.00	16.6	6.68	2260	111.4	N/A	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-114-AS

Sampling Method: ~~Bladder Pump~~ Disposable Polyethylene Bailer (MS)

Dedicated: Yes X No

Water Level @ Sampling (ft): 23.33

Well Collection Sequence #: 34 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1145 4/8/13	VOC: ——— Other: ———	16.6	6.68	2260	111.4	N/A	Brown, Slight Septic Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/8/13 1010

End of day: (Date/time) 4/8/13 1600

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event				Sampling Event		
Start of day	End of day		Start of day	End of day	
0.03	N/A	NTU std = 0.02	N/A	0.07	NTU std = 0.02
9.92	N/A	NTU std = 10.0	N/A	10.09	NTU std = 10.0
980.0	N/A	NTU std = 1,000	N/A	1013	NTU std = 1,000
1427	N/A	µS std = 1,413	N/A	1405	µS std = 1,413
Cell Const: 0.485	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.485	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @21.0°C	N/A	7.00	pH std = 6.99 @29.2°C
4.00	N/A	pH std = 4.00 @21.1 °C	N/A	4.01	pH std = 4.01 @30.7°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 70°F

Sample Characteristics: Brown, Slight Septic Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO OH-1: 8 of 8 Bottles Collected

Pump not discharging, Bladder crimped. Detection: 7 of 7

Will take back to office to repair before next sampling event.

O-ring needs replacement also.

Date: 4/8/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-115-SS

Sampler(s): Matt Stewart

Top of Casing (ft, msl): 452.27

PURGE INFORMATION:

Method of Well Purge: Bladder Pump

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/5/13 1203

Casing Diameter (inches): 2

Initial Water Level (feet): 16.50

One Casing Volume (gal): N/A

Initial Water Level Previous Event (feet): 37.20

One Casing Volume Previous Event (gal): N/A

Ground Water Elevation (ft, msl): 435.77

Total Volume Purged (mL): 4800

Ground Water Elevation Previous Event (ft, msl): 415.07

Purged Dry?: Yes No X

Well Total Depth (feet): Top of Pump= 80.92

Water Level after Purge (feet): 20.08

Well Total Depth Previous Event (feet): Top of Pump = 80.92

Date/Time Completed: 4/5/13 1221

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1206	333	1000	15.6	6.72	1620	6.60	18.50	Clear, Slight Septic
1209	300	1900	15.6	6.70	1637	35.12	19.17	" "
1212	300	2800	15.6	6.70	1593	2.05	19.56	Clear, Slight Septic odor
1215	200	3400	15.7	6.73	1521	2.67	19.50	" "
1218	217	4050	15.6	6.72	1486	2.56	19.83	" "
1221	250	4800	15.6	6.72	1471	3.77	20.08	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-115-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 20.08

Well Collection Sequence #: 24 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1223 4/5/13	VOC: <100 mL/min Other: 250 mL/min	15.6	6.72	1471	3.77	Clear	Slight Septic odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/13 0730

End of day: (Date/time) 4/5/13 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.03	NTU std = 0.02
10.04	N/A	NTU std = 10.0	N/A (1)	~~10.85~~ 10.05	NTU std = 10.0
1001	N/A	NTU std = 1,000	N/A	~~1097~~ 1014	NTU std = 1,000
1433	N/A	µS std = 1,413	N/A	1397	µS std = 1,413
Cell Const: 0.481	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.481	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @ 12.4 °C	N/A	6.93	pH std = 6.99 @ 25.2 °C
4.00	N/A	pH std = 4.00 @ 13.9 °C	N/A	3.94	pH std = 4.01 @ 25.8 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny 55°F

Sample Characteristics: Clear, Slight Septic Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES or NO Full Suite Collected YES or NO

Sample Device Left in Well YES or NO DUP-1: 8 of 8 Bottles Collected

Detection: 7 of 7 Collected

Date: 4/5/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-116-SS
Sampler(s): Matt Stewart

Top of Casing (ft, msl): 484.85

PURGE INFORMATION:

Method of Well Purge: Bladder Pump
Date/Time Initiated: 4/12/13 1030
Initial Water Level (feet): 26.58
Initial Water Level Previous Event (feet): 31.80
Ground Water Elevation (ft, msl): 458.27
Ground Water Elevation Previous Event (ft, msl): 453.05
Well Total Depth (feet): Top of Pump= 149.98
Well Total Depth Previous Event (feet): Top of Pump = 149.98

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): N/A
One Casing Volume Previous Event (gal): N/A
Total Volume Purged (mL):
Purged Dry?: Yes No X
Water Level after Purge (feet):
Date/Time Completed: 4/12/13 1044

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1035	300	1500	17.7	7.50	622	4.84	30.47	Clear, Septic Odor
1038	300	2400	17.4	7.50	625	2.85	32.08	" "
1041	217	3050	17.3	7.50	626	1.34	33.11	" "
1044	200	3650	17.3	7.50	624	1.39	34.28	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-116-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 34.28

Well Collection Sequence #: 70 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1046 4/12/13	VOC: <100mL/min Other: 200mL/min	17.3	7.50	624	1.39	N/A	Clear, Septic Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 0800 4/12/13

End of day: (Date/time) 1400 4/12/13

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 20120508 4

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 1046 1290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.08	NTU std = 0.02
9.82	N/A	NTU std = 10.0	N/A	9.80	NTU std = 10.0
998.8	N/A	NTU std = 1,000	N/A	990.4	NTU std = 1,000
1471	N/A	µS std = 1,413	N/A	1435	µS std = 1,413
Cell Const: 0.482	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.482	Cell Const Range: 0.45 - 0.50
7.09	N/A	pH std = 7.09 @4.7 °C	N/A	7.04	pH std = 7.03 @16.3 °C
4.01	N/A	pH std = 4.01 @4.7°C	N/A	3.98	pH std = 4.00 @13.6°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast & Windy, 45°F

Sample Characteristics: Clear, Septic Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO 8 of 8 Bottles Collected

Date: 4/12/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-200-SS

Sampler(s): [signature]

Top of Casing (ft, msl): 485.57

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No ____

Date/Time Initiated: 4/5/13 1006

Casing Diameter (inches): 2

Initial Water Level (feet): 30.02

One Casing Volume (gal): 11.32

Initial Water Level Previous Event (feet): 45.72

One Casing Volume Previous Event (gal): 8.77

Ground Water Elevation (ft, msl): 455.55

Total Volume Purged (gal): 18

Ground Water Elevation Previous Event (ft, msl): 439.85

Purged Dry?: Yes ____ No X

Well Total Depth (feet): 99.57

Water Level after Purge (feet): 61.21

Well Total Depth Previous Event (feet): 99.51

Date/Time Completed: 4/5/13 1106

PURGE DATA: every 6gal

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1026	0.30	6	15.7	6.23	1762	66.85	—	septic odor/gray & black particles
1046	0.30	12	15.7	6.33	1718	77.19	—	septic odor/gray
1106	0.30	18	15.6	6.34	1741	53.16	—	" " "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-200-SS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 6.21

Well Collection Sequence #: 21 of 27

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/13 1110	VOC: 400 Other: 21	13.6	6.34	1741	53.16	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/13 0730

End of day: (Date/time) 4/5/13 1315

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 502083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
10.10	N/A	NTU std = 10.0	N/A	10.85	NTU std = 10.0
1001	N/A	NTU std = 1,000	N/A	1093	NTU std = 1,000
1438	N/A	µS std = 1,413	N/A	1400	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @ 12.4 °C	N/A	6.91	pH std = 6.99 @ 28.2 °C
4.00	N/A	pH std = 4.00 @ 13.9 °C	N/A	4.12	pH std = 4.01 @ 28.8 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: sunny, 50F, winds 2-5mph from NW

Sample Characteristics: Septic odor, cloudy

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO

Full Suite Collected YES X or NO

Sample Device Left in Well YES X or NO

Date: 4/5/13 By: [signature] Title: Sr Geo Eng

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-201A-SS
Sampler(s): Matt Stewart

Top of Casing (ft, msl): 480.20

PURGE INFORMATION:

Method of Well Purge: Bladder Pump
Date/Time Initiated: 4/8/13 1307
Initial Water Level (feet): 12.23
Initial Water Level Previous Event (feet): 36.93
Ground Water Elevation (ft, msl): 467.97
Ground Water Elevation Previous Event (ft, msl): 443.27
Well Total Depth (feet): Top of Pump= 86.11
Well Total Depth Previous Event (feet): Top of Pump = 86.11

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): N/A
One Casing Volume Previous Event (gal): N/A
Total Volume Purged (mL): 3100
Purged Dry?: Yes ____ No X
Water Level after Purge (feet): 19.02
Date/Time Completed: 4/8/13 1320

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1311	250	1000	~~7~~ 16.4	7.02	829	33.54	15.03	Clear, No Odor
1314	250	1750	16.5	7.00	833	5.54	16.40	" "
1317	250	2500	16.6	6.98	828	4.01	17.90	" "
1320	200	3100	16.5	6.98	818	3.93	19.02	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-201A-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 19.02

Well Collection Sequence #: 35 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1322 4/8/13	VOC: 100 mL/min Other: 200 mL/min	16.5	6.98	818	3.93	N/A	Clear, No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/8/13 1010

End of day: (Date/time) 4/8/13 1600

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 201205084

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.07	NTU std = 0.02
9.92	N/A	NTU std = 10.0	N/A	10.09	NTU std = 10.0
980.0	N/A	NTU std = 1,000	N/A	1013	NTU std = 1,000
1427	N/A	µS std = 1,413	N/A	1405	µS std = 1,413
Cell Const: 0.485	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.485	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @21.0°C	N/A	7.00	pH std = 6.99 @29.2°C
4.00	N/A	pH std = 4.00 @21.1°C	N/A	4.01	pH std = 4.01 @30.7°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Partly Sunny, 75°F

Sample Characteristics: Clear, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ___ or NO ___ Full Suite Collected YES ___ or NO ___

Sample Device Left in Well YES ___ or NO ___

FB @ PZ-201A-SS Collected @ 1245

OW-1 : 4 of 4 Bottles Collected

Detection: 7 of 7 Bottles Collected

OW-1 : 8 of 8 Collected

Detection: 7 of 7 Collected

Date: 4/8/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-202-SS
Sampler(s): Matt Stewart

Top of Casing (ft, msl): 481.02

PURGE INFORMATION:

Method of Well Purge: Bladder Pump
Date/Time Initiated: 4/12/13 1216
Initial Water Level (feet): 14.36
Initial Water Level Previous Event (feet): 17.81
Ground Water Elevation (ft, msl): 466.36
Ground Water Elevation Previous Event (ft, msl): 463.21
Well Total Depth (feet): Top of Pump= 85.29
Well Total Depth Previous Event (feet): Top of Pump = 85.29

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): N/A
One Casing Volume Previous Event (gal): N/A
Total Volume Purged (mL): 4150
Purged Dry?: Yes No X
Water Level after Purge (feet): 14.41
Date/Time Completed: 4/12/13 1230

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1221	200	1000	13.3	7.02	914	343.1	14.37	~~Clear~~ Cloudy gray, NO Odor
1224	250	1750	13.9	7.01	928	231.3	14.39	" "
1227	383	2900	14.0	6.99	925	332.6	14.43	" "
1230	417	4150	14.0	6.98	930	263.4	14.41	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-202-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No ____

Water Level @ Sampling (ft): 14.41

Well Collection Sequence #: 73 of 77

Parameters: Annual: ___ Semi-Annual: ___ Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
12:32 4/12/13	VOC: 100 ml/min Other: 417 mL/min	14.0	6.98	930	263.4	N/A	Cloudy gray, No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/12/13 0800

End of day: (Date/time) 4/12/13 1400

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 20120508H

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.07	N/A	NTU std = 0.02	N/A	0.08	NTU std = 0.02
9.82	N/A	NTU std = 10.0	N/A	9.80	NTU std = 10.0
998.8	N/A	NTU std = 1,000	N/A	990.4	NTU std = 1,000
1471	N/A	µS std = 1,413	N/A	1435	µS std = 1,413
Cell Const: 0.482	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.482	Cell Const Range: 0.45 - 0.50
7.09	N/A	pH std = 7.09 @ 4.7 °C	N/A	7.04	pH std = 7.03 @ 16.3 °C
4.01	N/A	pH std = 4.01 @ 4.7 °C	N/A	3.98	pH std = 4.00 @ 13.6 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast & Windy, 45°F

Sample Characteristics: Cloudy Gray, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ___ or NO ___ Full Suite Collected YES ___ or NO ___

Sample Device Left in Well YES ___ or NO ___ 8 of 8 Bottles Collected

Date: 4/12/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-203-SS

Sampler(s): [signature]

Top of Casing (ft, msl): 486.44

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/5/13@1401

Casing Diameter (inches): 2

Initial Water Level (feet): 24.80

One Casing Volume (gal): 14.11

Initial Water Level Previous Event (feet): 27.80

One Casing Volume Previous Event (gal): 13.62

Ground Water Elevation (ft, msl): 461.64

Total Volume Purged (gal): 21.5

Ground Water Elevation Previous Event (ft, msl): 458.64

Purged Dry?: Yes No

Well Total Depth (feet): 111.38

Water Level after Purge (feet): 29.30

Well Total Depth Previous Event (feet): 111.38

Date/Time Completed: 4/5/13 1455

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1419	0.39	7	14.5	6.86	714	3849	–	clear, no odor
1436	0.41	14	14.6	6.93	725	15.26	–	" "
1455	0.39	21.5	14.6	6.94	728	7.83	–	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-203-SS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 29.30

Well Collection Sequence #: 28 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/13 1458	VOC: 400 Other: 4	14.6	6.94	728	7.83	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/13 0730

End of day: (Date/time) 4/5/13 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 502083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08230055

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
10.10	N/A	NTU std = 10.0	N/A	10.85	NTU std = 10.0
1001	N/A	NTU std = 1,000	N/A	1097	NTU std = 1,000
1438	N/A	µS std = 1,413	N/A	1400	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.00 @ 12.4 °C	N/A	6.91	pH std 6.97 @ 28.2 oC
4.00	N/A	pH std = 4.00 @ 13.9 °C	N/A	4.12	pH std 4.01 @ 28.8 oC

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: sunny, 58°F, wind 2 mph from NW

Sample Characteristics: clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES Y or NO ___ Full Suite Collected YES Y or NO ___ 8 of 8

Sample Device Left in Well YES X or NO ___

Date: 4/5/13 By: [signature] Title: Sr Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-204A-SS

Sampler(s): ~~[illegible]~~ [illegible]
Jon Wilkinson

Top of Casing (ft, msl) 462.60

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/8/2013 1213

Casing Diameter (inches): 2

Initial Water Level (feet): 5.88

One Casing Volume (gal): 12.63 gal

Initial Water Level Previous Event (feet): 7.39

One Casing Volume Previous Event (gal): ~~13.62~~ 12.38

Ground Water Elevation (ft, msl): 456.72

Total Volume Purged (gal): 19.5 gallons

Ground Water Elevation Previous Event (ft, msl): 455.21

Purged Dry?: Yes ___ No ✓

Well Total Depth (feet): 83.34

Water Level after Purge (feet): 9.85

Well Total Depth Previous Event (feet): 83.34

Date/Time Completed: 4/8/2013 1326

PURGE DATA: Average purge rate - 0.27 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1239	0.25	6.5	15.4	6.78	2480	39.53	N/A	Clear, no odor
1301	0.30	13	15.4	6.84	2460	80.96	N/A	Clear, no odor
1326	0.26	19.5	15.6	6.89	2460	91.27	N/A	Clear, no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-204A-SS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 9.85

Well Collection Sequence #: 36 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/8/2013 1326	VOC: ~100 mL/min Other: 0.27 gpm	19.5/15.6 (DJ)	6.89	24160	91.27	N/A	Clear; no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/8/2013 1010

End of day: (Date/time) 4/8/2013 1600

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 2008122 39

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

~~Purge Rate (gpm):~~

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event			Sampling Event		
Start of day	End of day		Start of day	End of day	
0.02	N/A	NTU std = 0.02	N/A	0.04	NTU std = 0.02
10.04	N/A	NTU std = 10.0	N/A	10.03	NTU std = 10.0
1005	N/A	NTU std = 1,000	N/A	1017	NTU std = 1,000
1435	N/A	µS std = 1,413	N/A	1422	µS std = 1,413
Cell Const:	Cell Const:	Cell Const	Cell Const:	Cell Const:	Cell Const
0.495	N/A	Range: 0.45 - 0.50	N/A	0.495	Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 21.0°C	N/A	7.26	pH std = 6.99 @ 29.2°C
4.00	N/A	pH std = 4.00 @ 21.1°C	N/A	4.27	pH std = 4.01 @ 30.7°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: P. Cloudy, Breezy, 65°F

Sample Characteristics: Clear; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO

Full Suite Collected YES ✓ or NO - 11 bottles - Includes MS/MSD

Sample Device Left in Well YES ✓ or NO

Date: 4/8/2013 By: Title: Senior Chemical Engineer

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-204-SS

Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl) 464.79

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/8/2013 1416

Casing Diameter (inches): 2

Initial Water Level (feet): 7.22

One Casing Volume (gal): 13.17 gal

Initial Water Level Previous Event (feet): 13.78

One Casing Volume Previous Event (gal): 12.10

Ground Water Elevation (ft, msl): 457.57

Total Volume Purged (gal): 12 gallons

Ground Water Elevation Previous Event (ft, msl): 451.01

Purged Dry?: Yes ✓ No

Well Total Depth (feet): 88.01

Water Level after Purge (feet): Dry @ Bottom of Well

Well Total Depth Previous Event (feet): 88.01

Date/Time Completed: 4/8/2013 1500

PURGE DATA: Average purge rate = 0.23 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1439	0.29	6.75	16.7	7.72	769	9.15	N\A	Clear, no odor
		13.5						
		~~20.25~~						
		Well purged dry @ 12 gallons - allowed to recharge.						

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-204-SS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 60.70

Well Collection Sequence #: 40 of 72

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/9/2013 0930	VOC=100 mL/min Other: 0.23gpm	17.5	7.25	795	27.74	N/A	Clear

INSTRUMENT CALIBRATION DATA:

	Purging Event			Sampling Event		
Start of day: (Date/Time)	4/8/2013 1010	4/9/2013 0935				
End of day: (Date/time)	4/8/2013 1600	4/9/2013 1415 - pH 1800 - Cond, Turb				
Turbidity Meter:	HF MicroTPW					
Turbidity Meter S/N:	# 2008122394					
pH / Sp. Cond. Meter:	WTW pH/Cond 3400i					
~~Purge Rate (gpm)~~						
pH / Sp. Cond. Meter S/N:	# 09490969					

Start of day	End of day		Start of day	End of day	
0.02	0.04 ~~N/A~~	NTU std = 0.02	0.02 ~~N/A~~	0.13	NTU std = 0.02
10.04	10.03 ~~N/A~~	NTU std = 10.0	10.07 ~~N/A~~	10.17	NTU std = 10.0
1005	1017 ~~N/A~~	NTU std = 1,000	999.0 ~~N/A~~	1015	NTU std = 1,000
1435	1422 ~~N/A~~	µS std = 1,413	1428 ~~N/A~~	1382	µS std = 1,413
Cell Const: 0.495	Cell Const: 0.495 ~~N/A~~	Cell Const Range: 0.45 - 0.50	Cell Const: 0.476 ~~N/A~~	Cell Const: 0.476	Cell Const Range: 0.45 - 0.50
7.02	7.26 ~~N/A~~	pH std = Am 7.02 @ 21.0°C Pm 6.99 @ 25.2°C	7.02 ~~N/A~~	9.12 **	pH std = Am 7.02 @ 20.0°C Pm 7.01 @ 23.0°C
4.00	4.27 ~~N/A~~	pH std = Am 4.00 @ 21.1°C Pm 4.01 @ 30.7°C	4.00 ~~N/A~~	9.00 **	pH std = Am 4.00 @ 19.9°C Pm 4.01 @ 23.4°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Cloudy, Breezy, 65°F

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 3 bottles

Sample Device Left in Well YES ✓ or NO ___

* pH tip replaced @ 1420 on 4/9/2013

Date: 4/9/2013 By: _____ Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-205-AS

Sampler(s): [illegible]

Top of Casing (ft, msl): 459.95

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/8/13 1319

Casing Diameter (inches): 2

Initial Water Level (feet): 30.58

One Casing Volume (gal): 3.18

Initial Water Level Previous Event (feet): 29.57

One Casing Volume Previous Event (gal): 3.35

Ground Water Elevation (ft, msl): 429.37

Total Volume Purged (gal): 5

Ground Water Elevation Previous Event (ft, msl): 430.38

Purged Dry?: Yes No X

Well Total Depth (feet): 50.15

Water Level after Purge (feet): 39.08

Well Total Depth Previous Event (feet): 50.15

Date/Time Completed: 4/8/13 1334

PURGE DATA: evy 1.6

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1328	0.18	1.6	18.2	6.29	2430	73.01	–	septic/grey color
1331	0.53	3.2	18.4	6.27	2520	175.6	–	" "
1334	0.53	4.8	18.3	6.25	2420	129.9	–	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-205-AS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 39.08

Well Collection Sequence #: 37 of 37

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/8/13 1336	VOC: 200 Other: 47	18.3	6.25	2420	129.9	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/8/13 1010

End of day: (Date/time) 4/8/13 1500

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 50283

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.20	NTU std = 0.02
10.08	N/A	NTU std = 10.0	N/A	9.73	NTU std = 10.0
9990	N/A	NTU std = 1,000	N/A	9946	NTU std = 1,000
1424	N/A	µS std = 1,413	N/A	1381	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 21.0 °C	N/A	7.29	pH std = 6.99 @ 19.2 oC
4.00	N/A	pH std = 4.00 @ 21.1 °C	N/A	4.00	pH std = 4.01 @ 20.7 oC

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 75°F, calm winds

Sample Characteristics: septic odor, gray color

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO

Full Suite Collected YES X or NO SB

Sample Device Left in Well YES X or NO

Date: 4/8/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-205-SS
Sampler(s): M. H Stewart

Top of Casing (ft, msl): 461.73

PURGE INFORMATION:

Method of Well Purge: Bladder Pump
Date/Time Initiated: 4/8/13 1435
Initial Water Level (feet): 30.75
Initial Water Level Previous Event (feet): 31.67
Ground Water Elevation (ft, msl): 430.98
Ground Water Elevation Previous Event (ft, msl): 430.06
Well Total Depth (feet): Top of Pump = 92.95
Well Total Depth Previous Event (feet): Top of Pump = 92.95

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): N/A
One Casing Volume Previous Event (gal): N/A
Total Volume Purged (mL): 3550
Purged Dry?: Yes No X
Water Level after Purge (feet): 38.13
Date/Time Completed: 4/8/13 1448

PURGE DATA:

Time	Purge Rate (mL/min)	Cumulative Volume (mL)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1439	375	1500	19.6	6.88	930	2.87	34.72	Clear, No Odor
1442	183	2050	19.3	6.91	930	3.62	35.34	Clear, No Odor
1445	250	2800	19.3	6.91	926	1.82	36.75	Clear, No Odor
1448	250	3550	19.4	6.92	922	7.87	38.13	Clear, No Odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-205-SS

Sampling Method: Bladder Pump

Dedicated: Yes X No

Water Level @ Sampling (ft): 38.13

Well Collection Sequence #: 37 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
1450 4/8/13	VOC: 100mL/min Other: 250mL/min	19.4	6.92	922	7.87	N/A	Clear, No Odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/8/13 1010

End of day: (Date/time) 4/8/13 1600

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 20120584

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

pH / Sp. Cond. Meter S/N: 10461290

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.07	NTU std = 0.02
9.92	N/A	NTU std = 10.0	N/A	10.09	NTU std = 10.0
980.0	N/A	NTU std = 1,000	N/A	1013	NTU std = 1,000
1427	N/A	µS std = 1,413	N/A	1405	µS std = 1,413
Cell Const: 0.485	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.485	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @21.0°C	N/A	7.00	pH std = 6.99 @29.2°C
4.00	N/A	pH std = 4.00 @21.1 °C	N/A	4.01	pH std = 4.01 @29.7°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Windy & Partly Sunny, 75°F

Sample Characteristics: Clear, No Odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked (YES) or NO

Full Suite Collected (YES) or NO

Sample Device Left in Well (YES) or NO

OU-1: 8 of 8 Bottles Collected
Detection: 7 of 7 Bottles Collected

Date: 4/8/13 By: Matt Stewart Matt Stewart Title: Project Geologist

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-206-SS

Sampler(s): [signature]

Top of Casing (ft, msl) 460.29

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/8/13 1410

Casing Diameter (inches): 2

Initial Water Level (feet): 29.68

One Casing Volume (gal): 15.83

Initial Water Level Previous Event (feet): 35.35

One Casing Volume Previous Event (gal): 14.91

Ground Water Elevation (ft, msl): 430.61

Total Volume Purged (gal): 24

Ground Water Elevation Previous Event (ft, msl): 424.94

Purged Dry?: Yes No X

Well Total Depth (feet): 126.80

Water Level after Purge (feet):

Well Total Depth Previous Event (feet): 126.80

Date/Time Completed: 4/8/13 1459

PURGE DATA: every 8

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1422	0.67	8	15.1	7.11	960	14.15	-	septic odor/gray
1439	0.47	16	13.2	7.01	939	23.77	-	" "
1459	0.40	24	15.1	6.98	970	22.61	-	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-206-SS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft):

Well Collection Sequence #: 39 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/8/13 1500	VOC: 400 Other: 21	15.1	6.98	970	22.61	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/8/13 1010

End of day: (Date/time) 4/8/13 1600

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 307083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.20	NTU std = 0.02
10.06	N/A	NTU std = 10.0	N/A	9.73	NTU std = 10.0
999.0	N/A	NTU std = 1,000	N/A	964.6	NTU std = 1,000
1424	N/A	µS std = 1,413	N/A	1381	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 21.0 °C	N/A	7.29	pH std = 6.99 @ 29.2 oC
4.00	N/A	pH std = 4.00 @ 21.1 °C	N/A	4.20	pH std = 4.01 @ 30.2 oC

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 75F, winds 2-5mph from S

Sample Characteristics: clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES Y or NO

Full Suite Collected YES Y or NO

Sample Device Left in Well YES N or NO

Date: 4/8/13 By: [signature] Title: Sr Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-207-AS

Sampler(s): [illegible]

Top of Casing (ft, msl): 462.49

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/3/13 1455

Casing Diameter (inches): 2

Initial Water Level (feet): 35.08

One Casing Volume (gal): 0.71

Initial Water Level Previous Event (feet): 33.00

One Casing Volume Previous Event (gal): 1.05

Ground Water Elevation (ft, msl): 427.41

Total Volume Purged (gal): approx 1.5

Ground Water Elevation Previous Event (ft, msl): 429.49

Purged Dry?: Yes ____ No X

Well Total Depth (feet): 39.45

Water Level after Purge (feet): 35.11

Well Total Depth Previous Event (feet): 39.45

Date/Time Completed: 4/3/13 1503

PURGE DATA: 0.4 1 0.7 10%

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1458	0.133	0.4	13.9	6.99	4350	15.77	—	clear/no odor
1500	0.20	0.8	16.0	6.98	4280	15.44	—	" "
1503	0.133	1.2	16.0	6.98	4300	9.71	—	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-207-AS

Sampling Method: Waterra

Dedicated: Yes X No ____

Water Level @ Sampling (ft): 35.11

Well Collection Sequence #: 5 of 22

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/3/13 1505	VOC: 400 Other: 41	16.0	6.98	4300	9.71	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/3/13 0800

End of day: (Date/time) 4/3/13 1615

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507053

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200855

Purging Event			Sampling Event		
Start of day	End of day		Start of day	End of day	
0.01	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.02	N/A	NTU std = 10.0	N/A	10.00	NTU std = 10.0
996.6	N/A	NTU std = 1,000	N/A	1098	NTU std = 1,000
1461	N/A	µS std = 1,413	N/A	1426	µS std = 1,413
Cell Const: 0.499	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.499	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = @ °C	N/A	7.45	pH std = @ oC
4.01	N/A	pH std = @ °C	N/A	4.50	pH std = @ oC

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 30°F, winds 5-10 mph from E

Sample Characteristics: Clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___ 8 of 8

Sample Device Left in Well YES X or NO ___

Date: 4/3/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-208-SS
Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl): 474.19

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/11/2013 0945
Initial Water Level (feet): 22.38
Initial Water Level Previous Event (feet): 26.11
Ground Water Elevation (ft, msl): 451.81
Ground Water Elevation Previous Event (ft, msl): 448.08
Well Total Depth (feet): 100.39
Well Total Depth Previous Event (feet): 100.36

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 12.72 gal
One Casing Volume Previous Event (gal): 12.10
Total Volume Purged (gal): 12.75 gallons
Purged Dry?: Yes ✓ No
Water Level after Purge (feet): Dry @ Bottom of Well
Date/Time Completed: 4/11/2013 1011

PURGE DATA: Average purge rate = 0.49 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
0959	0.46	6.5	14.3	6.97	972	292.1	N/A	Lt. tan
1011	0.52	12.75	14.6	7.09	1079	221.9	N/A	Lt. tan
	Well purged dry @ 12.75 gallons - allow to recharge							

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-208-SS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 50.48

Well Collection Sequence #: 63 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/12/2013 0910	VOC: ~100 ml/min Other: 0.49 gpm	13.0	6.77	900	19.11	N/A	Clear

INSTRUMENT CALIBRATION DATA:

	Purging Event			Sampling Event		
	Start of day	End of day		Start of day	End of day	
Start of day: (Date/Time)	4/11/2013 0755	4/12/2013 0800				
End of day: (Date/time)	4/11/2013 1730	4/12/2013 1400				
	0.03	0.01 N/A	NTU std = 0.02	0.02 ~~N/A~~	0.04	NTU std = 0.02
	9.90	9.98 ~~N/A~~	NTU std = 10.0	10.03 ~~N/A~~	9.87	NTU std = 10.0
	999.6	985.0 ~~N/A~~	NTU std = 1,000	1005 ~~N/A~~	995.0	NTU std = 1,000
	1445	1475 ~~N/A~~	µS std = 1,413	1472 ~~N/A~~	1450	µS std = 1,413
	Cell Const: 0.493	Cell Const: 0.493 ~~N/A~~	Cell Const Range: 0.45 - 0.50	Cell Const: 0.491 ~~N/A~~	Cell Const: 0.491	Cell Const Range: 0.45 - 0.50
	7.05	7.04 N/A	pH std = Am 7.05 @ 12.4°C Pm 7.010 @ 10.9°C	7.09 ~~N/A~~	7.05	pH std = Am 7.09 @ 9.7°C Pm 7.03 @ 16.3 oC
	4.00	4.01 ~~N/A~~	pH std = Am 4.00 @ 13.7°C Pm 4.00 @ 10.3 °C	4.01 ~~N/A~~	4.03	pH std = Am 4.01 @ 9.7°C Pm 4.00 @ 13.6 oC

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #2008122389

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

~~Purge Rate (gpm)~~

pH / Sp. Cond. Meter S/N: # 09490969

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: P. Cloudy, Breezy, 45°F

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 8 bottles

Sample Device Left in Well YES ___ or NO ✓

Date: 4/12/2013 By: [signature] Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-302-AI

Sampler(s): John O Rourke
Wood E. Hurst

Top of Casing (ft, msl): 450.17

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/3/13 1050

Casing Diameter (inches): 2

Initial Water Level (feet): 23.03

One Casing Volume (gal): 3.46

Initial Water Level Previous Event (feet): 21.30

One Casing Volume Previous Event (gal): 3.74

Ground Water Elevation (ft, msl): 427.14

Total Volume Purged (gal): 4.2

Ground Water Elevation Previous Event (ft, msl): 428.87

Purged Dry?: Yes X No

Well Total Depth (feet): 44.25

Water Level after Purge (feet): dry @ bottom of well

Well Total Depth Previous Event (feet): 44.25

Date/Time Completed: 4/3/13 1109

PURGE DATA: every 2nd 1 0.2 10%

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1055	0.20	1.0	14.8	6.61	1557	22.22	—	clear/no odor
1100	0.20	2.0	14.8	6.62	1537	17.84	—	" "
1107	0.28	4.0	14.8	6.66	1533	9.59	—	" "
1109		[illegible] Dry @ 4.2 gallons						

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-302-AI

Sampling Method: Waterra

Dedicated: Yes X No ____

Water Level @ Sampling (ft): 23.02

Well Collection Sequence #: 1 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/3/13 1245	VOC: 400 ml/min Other: 210 ml/min	14.8	6.68	1560	36.82	—	clear/no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/3/13 0830

End of day: (Date/time) 4/3/13 1615

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.02	N/A	NTU std = 10.0	N/A	10.00	NTU std = 10.0
996.6	N/A	NTU std = 1,000	N/A	1098	NTU std = 1,000
1461	N/A	µS std = 1,413	N/A	1426	µS std = 1,413
Cell Const: 0.499	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.499	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.07 @ 7.6°C	N/A	7.45	pH std = 6.98 @ 33.3°C
4.01	N/A	pH std = 4.01 @ 7.2°C	N/A	4.50	pH std = 4.02 @ 36.9°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 50°F, wind 5-10mph from E

Sample Characteristics: clear, no odor.

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___ 8 of 8

Sample Device Left in Well YES X or NO ___

Date: 4/3/13 By: [signature] Title: Sr Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: PZ-302-AS

Sampler(s): Wood Hurst
Jay Wilkinson

Top of Casing (ft, msl) 451.33

PURGE INFORMATION:

Method of Well Purge: Waterra

Date/Time Initiated: 4/5/13

Initial Water Level (feet): ~~20.19~~ 23.40

Initial Water Level Previous Event (feet): 21.45

Ground Water Elevation (ft, msl): 427.93

Ground Water Elevation Previous Event (ft, msl): 429.88

Well Total Depth (feet): 24.58

Well Total Depth Previous Event (feet): 24.58

Dedicated Equipment: Yes X No

Casing Diameter (inches): 2

One Casing Volume (gal): 0.19

One Casing Volume Previous Event (gal): 0.51

Total Volume Purged (gal): 0

Purged Dry?: Yes N/A No N/A

Water Level after Purge (feet): —

Date/Time Completed: —

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
		Well	not able	to be sampled	Intentionally	Dry		
				NO	sample collected			

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-302-AS

Sampling Method: Waterra

Dedicated: Yes X No ____

Water Level @ Sampling (ft): 23.40

Well Collection Sequence #: 32 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/13 N/A	VOC: / Other:	Functionally Dry		Dry - No Sample Collected			

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) —

End of day: (Date/time) —

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: —

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: —

Purging Event			Sampling Event		
Start of day	End of day		Start of day	End of day	
	N/A	NTU std = 0.02	N/A		NTU std = 0.02
	N/A	NTU std = 10.0	N/A		NTU std = 10.0
	N/A	NTU std = 1,000	N/A		NTU std = 1,000
	N/A	µS std = 1,413	N/A		µS std = 1,413
Cell Const:	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const:	Cell Const Range: 0.45 - 0.50
	N/A	pH std = @ °C	N/A		pH std = @ oC
	N/A	pH std = @ °C	N/A		pH std = @ oC

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny 45°F

Sample Characteristics: —

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ___ or NO ✓ ∅ QB

Sample Device Left in Well YES ✓ or NO ___

Well Functionally Dry - No Sample able to be collected

Date: 4/5/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-303-AS
Sampler(s): Ward Herst
Jon Wilkerson

Top of Casing (ft, msl): 453.08

PURGE INFORMATION:

Method of Well Purge: (JJ) ~~Waterra~~ N/A
Date/Time Initiated: 4/4/2013 1300
Initial Water Level (feet): 25.13
Initial Water Level Previous Event (feet): 23.67
Ground Water Elevation (ft, msl): 427.95
Ground Water Elevation Previous Event (ft, msl): 429.41
Well Total Depth (feet): 28.32
Well Total Depth Previous Event (feet): 28.32

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): N/A
One Casing Volume Previous Event (gal): 0.76
Total Volume Purged (gal): N/A
Purged Dry?: Yes N/A No N/A
Water Level after Purge (feet): N/A
Date/Time Completed: N/A

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
	Due to thin layer of saturation, location collected							
	without purging.							

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION: Polyethylene Bailer

Sampling Method: ~~Waterra~~ (3)

Sample Point ID: PZ-303-AS

Dedicated: Yes X (2) No ✓

Water Level @ Sampling (ft): 25.13

Well Collection Sequence #: 12 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/4/2013 1300	VOC: N/A Other: N/A	20.2	6.93	2020	70.34	N/A	Black tint; petroleum odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/2013 0800

End of day: (Date/time) 4/4/2013 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 2008 12239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.28	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	9.73	NTU std = 10.0
1035	N/A	NTU std = 1,000	N/A	913.6	NTU std = 1,000
1420	N/A	µS std = 1,413	N/A	1417	µS std = 1,413
Cell Const: 0.483	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.483	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @19.6°C	N/A	7.38	pH std = 7.01 @23.7°C
4.00	N/A	pH std = 4.00 @19.0°C	N/A	4.43	pH std = 4.01 @25.2°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny Breezy

Sample Characteristics: Black tinted, petroleum odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 9 bottles

Sample Device Left in Well YES ___ or NO ✓

Date: 4/4/2013 By: [signature] Title: Senior Chemical Engineer

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-304-AI
Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl) 453.86

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/4/2013 1342
Initial Water Level (feet): 25.93
Initial Water Level Previous Event (feet): 24.22
Ground Water Elevation (ft, msl): 427.93
Ground Water Elevation Previous Event (ft, msl): 429.64
Well Total Depth (feet): 52.55
Well Total Depth Previous Event (feet): 52.55

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 4.34 gal ÷ 2 = 2.17 gal
One Casing Volume Previous Event (gal): 4.62
Total Volume Purged (gal): 6.75 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 25.95
Date/Time Completed: 4/4/2013 1408

PURGE DATA: Average Purge Rate = 0.26 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1352	0.22	2.25	17.2	6.85	2320	15.21	N/A	Clear, no odor
1400	0.28	4.5	17.2	6.88	2300	11.70	N/A	Clear, no odor
1408	0.28	6.75	17.2	6.87	2300	6.06	N/A	Clear, no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-304-AI

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 25.95

Well Collection Sequence #: 15 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/4/2013 1408	VOC: ~100 ml/min Other: 0.26 gpm	17.2	6.87	2300	6.06	N/A	Clear; no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/2013 0800

End of day: (Date/time) 4/4/2013 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #20081223G

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.28	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	9.73	NTU std = 10.0
1035	N/A	NTU std = 1,000	N/A	913.6	NTU std = 1,000
1420	N/A	µS std = 1,413	N/A	1417	µS std = 1,413
Cell Const: 0.483	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.483	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @19.6°C	N/A	7.38	pH std = 7.01 @23.7°C
4.00	N/A	pH std = 4.00 @19.0°C	N/A	4.43	pH std = 4.01 @25.7°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, Breezy, 55°F

Sample Characteristics: Clear; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO

Full Suite Collected YES ✓ or NO 8 bottles

Sample Device Left in Well YES ✓ or NO

3 VOAs effervesced - sent unpreserved

Date: 4/4/2013 By: Title: Senior Chemical Engineer

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-304-AS
Sampler(s): Ward Herst
Jon W. Weinson

Top of Casing (ft, msl): 453.61

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/4/2013 1237
Initial Water Level (feet): 25.69
Initial Water Level Previous Event (feet): 23.98
Ground Water Elevation (ft, msl): 427.92
Ground Water Elevation Previous Event (ft, msl): 429.63
Well Total Depth (feet): 29.35
Well Total Depth Previous Event (feet): 29.35

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 0.60 gal
One Casing Volume Previous Event (gal): 0.88
Total Volume Purged (gal): 0.9 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 25.65
Date/Time Completed: 4/4/2013 1256

PURGE DATA: Average Purge Rate = 0.05 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1242	0.06	0.3	16.8	6.73	3480	110.9	N/A	Clear; no odor
1249	0.04	0.6	17.1	6.71	3480	87.25	N/A	Clear; no odor
1256	0.04	0.9	16.9	6.70	3470	33.08	N/A	Clear; no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: PZ-304-AS

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 25.65

Well Collection Sequence #: 11 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/4/2013 1256	VOC: ~100 ml/m Other: 0.05 gpm	16.9	6.70	3470	33.08	N/A	Clear; no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/2013 0800

End of day: (Date/time) 4/4/2013 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 20080212394

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.28	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	9.73	NTU std = 10.0
1035	N/A	NTU std = 1,000	N/A	913.6	NTU std = 1,000
1420	N/A	µS std = 1,413	N/A	1417	µS std = 1,413
Cell Const: 0.483	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.483	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @19.6°C	N/A	7.38	pH std = 7.01 @23.7°C
4.00	N/A	pH std = 4.00 @19.0°C	N/A	4.43	pH std = 4.01 @25.7°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, Breezy, 50's

Sample Characteristics: Clear; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO

Full Suite Collected YES ✓ or NO 8 bottles

Sample Device Left in Well YES ✓ or NO

* VOAs effervesced - Sent unpreserved *

Date: 4/4/2013 By: Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: PZ-305-AI
Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl): 459.83

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/5/2013 1546
Initial Water Level (feet): 31.88
Initial Water Level Previous Event (feet): 29.85
Ground Water Elevation (ft, msl): 427.95
Ground Water Elevation Previous Event (ft, msl): 429.98
Well Total Depth (feet): 40.18
Well Total Depth Previous Event (feet): 40.18

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 1.35 gal
One Casing Volume Previous Event (gal): 1.68
Total Volume Purged (gal): 2.25 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): Dry @ Bottom of Well
Date/Time Completed: 4/5/2013 1558

PURGE DATA: Average Purge Rate = 0.19 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1552	0.13	0.75	16.2	7.00	1687	94.67	N/A	Cloudy
1555	0.25	1.5	16.3	7.08	1684	81.42	N.A	Cloudy
1558	0.25	2.25	16.5	7.02	1685	65.72	N/A	Cloudy

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION: Sample Point ID: PZ-305-AI

Sampling Method: Waterra Dedicated: Yes X No

Water Level @ Sampling (ft): Dry @ Bottom of Well Well Collection Sequence #: 31 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/2013 1558	VOC: ~100 mL/min Other: 0.19 gpm	16.5	7.02	1685	65.72	N/A	Cloudy

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/2013 0730

End of day: (Date/time) 4/5/2013 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #2008122339

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

~~Purge Rate (gpm)~~

pH / Sp. Cond. Meter S/N: #09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.04	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	10.07	NTU std = 10.0
1003	N/A	NTU std = 1,000	N/A	1029	NTU std = 1,000
1441	N/A	µS std = 1,413	N/A	1381	µS std = 1,413
Cell Const: 0.477	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.477	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4°C	N/A	7.73	pH std = 6.99 @28.2°C
4.00	N/A	pH std = 4.00 @13.9°C	N/A	4.75	pH std = 4.01 @28.8°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 45°F

Sample Characteristics: Cloudy

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO Full Suite Collected YES ✓ or NO 8 bottles

Sample Device Left in Well YES ✓ or NO Collect DUP 01 - 8 bottles

Well dewatered during end of purging ✓ VOAs effervesced - Sent unpreserved

Date: 4/5/2013 By: Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: S-5
Sampler(s): Ward Herst
Jon Wilkinson

Top of Casing (ft, msl): 466.45

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/11/2013 1519
Initial Water Level (feet): 37.27
Initial Water Level Previous Event (feet): 36.35
Ground Water Elevation (ft, msl): 429.18
Ground Water Elevation Previous Event (ft, msl): 430.10
Well Total Depth (feet): 44.34
Well Total Depth Previous Event (feet): 44.34

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 1.15 gal
One Casing Volume Previous Event (gal): 1.30
Total Volume Purged (gal): 1.75 gal
Purged Dry?: Yes No ✓
Water Level after Purge (feet): Dry @ Bottom of Well (after sampling)
Date/Time Completed: 4/11/2013 1531

PURGE DATA:

Average purge rate = 0.15 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1525	0.13	0.75	16.3	6.90	4280	53.65	N/A	Clear; no odor
1528	0.17	1.25	16.5	6.90	4290	41.14	N/A	Clear; sepht odor
1531	0.17	1.75	16.5	6.90	4290	27.93	N/A	Clear; sepht odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION: Sample Point ID: S-5

Sampling Method: Waterra Dedicated: Yes X No

Water Level @ Sampling (ft): Dry @ Bottom of Well (after Sampling) Well Collection Sequence #: 60 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/11/2013 1531	VOC: ~100 mL/min Other: 0.15 gpm	16.5	6.90	4290	27.93	N/A	Clear; sept hz odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/11/2013 0755

End of day: (Date/time) 4/11/2013 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 200812279

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

~~Purge Rate (gpm)~~

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.03	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
9.90	N/A	NTU std = 10.0	N/A	9.98	NTU std = 10.0
999.6	N/A	NTU std = 1,000	N/A	985.0	NTU std = 1,000
1445	N/A	µS std = 1,413	N/A	1475	µS std = 1,413
Cell Const: 0.493	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.493	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4 °C	N/A	7.04	pH std = 7.06 @10.9 °C
4.00	N/A	pH std = 4.00 @13.7 °C	N/A	4.01	pH std = 4.00 @10.3 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Overcast, Breezy, 50°F

Sample Characteristics: Clear; septic odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO Full Suite Collected YES ✓ or NO 6 bottles

Sample Device Left in Well YES ✓ or NO USEPA collected split Sample.

Well dewatered at end of Sampling

Date: 4/11/2013 By: Title: Senior Chemical Engineer

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: S-8
Sampler(s): Ward Herst
Jon Williamson
Top of Casing (ft, msl) 443.83

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/4/2013 1111
Initial Water Level (feet): 16.66
Initial Water Level Previous Event (feet): 14.51
Ground Water Elevation (ft, msl): 427.17
Ground Water Elevation Previous Event (ft, msl): 429.32
Well Total Depth (feet): 31.20
Well Total Depth Previous Event (feet): 31.20

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 2.37 gal ÷ 2 = 1.185 gal
One Casing Volume Previous Event (gal): 2.70
Total Volume Purged (gal): 5 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 16.66
Date/Time Completed: 4/4/2013 1132

PURGE DATA: Average Purge Rate = 0.24 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1118	0.18	~~2.5~~ 1.25	16.3	6.82	982	57.99	N/A	Cloudy; no odor
1122	0.31	~~8~~ 2.5	16.3	6.85	850	20.53	N/A	Clear, no odor
1127	0.25	~~7.5~~ 3.75	16.4	6.86	944	7.88	N/A	Clear, no odor
1132	0.25	5	16.4	6.86	841	6.55	N/A	Clear, no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: S-8

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 16.66

Well Collection Sequence #: 9 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/4/2013 1132	VOC: ~100 ml/min Other: 0.2 gpm	16.4	6.86	841	6.55	N/A	Clear, no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/2013 0900

End of day: (Date/time) 4/4/2013 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #2008122B9

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.28	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	9.73	NTU std = 10.0
1035	N/A	NTU std = 1,000	N/A	913.6	NTU std = 1,000
1420	N/A	µS std = 1,413	N/A	1417	µS std = 1,413
Cell Const: 0.483	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.483	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @19.6°C	N/A	7.38	pH std = 7.01 @23.7°C
4.00	N/A	pH std = 4.00 @19.0°C	N/A	4.43	pH std = 4.01 @25.7°C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 50's

Sample Characteristics: Clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO Full Suite Collected YES ✓ or NO -B bottles

Sample Device Left in Well YES ✓ or NO

Date: 4/4/2013 By: Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: S-10

Sampler(s): [signature]

Top of Casing (ft, msl): 480.06

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 1518 4/4/13

Casing Diameter (inches): 2

Initial Water Level (feet): 52.66

One Casing Volume (gal): 0.68

Initial Water Level Previous Event (feet): 50.80

One Casing Volume Previous Event (gal): 1.00

Ground Water Elevation (ft, msl): 427.40

Total Volume Purged (gal): 1.0

Ground Water Elevation Previous Event (ft, msl): 429.26

Purged Dry?: Yes ____ No X

Well Total Depth (feet): 56.81

Water Level after Purge (feet): 52.67

Well Total Depth Previous Event (feet): 56.81

Date/Time Completed: 4/4/13 1524

PURGE DATA: carry 0.33

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1520	0.150	0.3	17.2	6.04	12250	10.46	—	clear, no odor
1522	0.150	0.6	17.0	6.03	12240	16.01	—	" "
1524	0.150	0.9	17.0	6.05	12240	8.06	—	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: S-10

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 52.67

Well Collection Sequence #: 18 of 37

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/4/13 1525	VOC: 210 Other: 4	17.0	6.05	12240	8.06	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/4/13 0800

End of day: (Date/time) 4/4/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 50083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200255

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.06	N/A	NTU std = 0.02	N/A	0.71	NTU std = 0.02
9.97	N/A	NTU std = 10.0	N/A	9.72	NTU std = 10.0
1049	N/A	NTU std = 1,000	N/A	8228	NTU std = 1,000
1421	N/A	µS std = 1,413	N/A	1426	µS std = 1,413
Cell Const: 0.484	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.484	Cell Const Range: 0.45 - 0.50
7.08	N/A	pH std = 7.02 @ 20.3 °C	N/A	7.21	pH std = 7.00 @ 24.0 °C
4.00	N/A	pH std = 4.00 @ 20.0 °C	N/A	4.19	pH std = 4.01 @ 25.7 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 60F wind 2 mph from NW

Sample Characteristics: slight sulfur odor, clear

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO

Full Suite Collected YES X or NO Soft

Sample Device Left in Well YES X or NO

Date: 4/4/13 By: [signature] Title: Sr Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: S-53
Sampler(s): Ward Hoff
Jon Wilkinson

Top of Casing (ft, msl) 444.18

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: N/A
Initial Water Level (feet): N/A
Initial Water Level Previous Event (feet): 14.41
Ground Water Elevation (ft, msl): N/A
Ground Water Elevation Previous Event (ft, msl): 429.77
Well Total Depth (feet): N/A
Well Total Depth Previous Event (feet): 16.96

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): N/A
One Casing Volume Previous Event (gal): 0.42
Total Volume Purged (gal): N/A
Purged Dry?: Yes N/A No N/A
Water Level after Purge (feet): N/A
Date/Time Completed: N/A

PURGE DATA:

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
		Due to limited volume - location sampled without purging.						

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sampling Method: ~~Waterra~~ Polyethylene Bailer

Sample Point ID: S-53

Dedicated: Yes X No

Water Level @ Sampling (ft): N/A

Well Collection Sequence #: 51 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
* 4/12/2013 1140	VOC: N/A Other: N/A	11.4	7.36	1396	524.2	N/A	Gray muddy

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/12/2013 0800

End of day: (Date/time) 4/12/2013 1400

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: #2008 12239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

~~Purge Rate (gpm)~~

pH / Sp. Cond. Meter S/N: #09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.04	NTU std = 0.02
10.03	N/A	NTU std = 10.0	N/A	9.87	NTU std = 10.0
1005	N/A	NTU std = 1,000	N/A	995.0	NTU std = 1,000
1472	N/A	µS std = 1,413	N/A	1450	µS std = 1,413
Cell Const: 0.491	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.491	Cell Const Range: 0.45 - 0.50
7.09	N/A	pH std = 7.09 @4.7 °C	N/A	7.05	pH std = 7.03 @16.3 °C
4.01	N/A	pH std = 4.01 @4.7 °C	N/A	4.03	pH std = 4.00 @13.6 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Cloudy, Breezy, 40°F

Sample Characteristics: L. gray

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 8 bottles

Sample Device Left in Well YES ___ or NO ✓ Total rods collected 4/3/2013 - 4/16/2013

* field parameters + diss metals collected 4/12/2013

** other lab-analyzed (non-rad) constituents collected @ 0830 on 4/11/2013

other lab analyzed parameters collected 4/11/2013 except diss metals

diss metals collected 4/12/2013 + field parameters

Date: 4/16/2013 By: _____ Title: Senior Chemical Engineer

Company: Herst & Associates, Inc.

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill
Location: Bridgeton, Missouri
Sample Matrix: Groundwater

Sample Point ID: S-61
Sampler(s): Ward Herst
Jon Wilkinson
Top of Casing (ft, msl): 449.52

PURGE INFORMATION:

Method of Well Purge: Waterra
Date/Time Initiated: 4/5/2013 1109
Initial Water Level (feet): 22.20
Initial Water Level Previous Event (feet): 20.36
Ground Water Elevation (ft, msl): 427.32
Ground Water Elevation Previous Event (ft, msl): 429.16
Well Total Depth (feet): 26.48
Well Total Depth Previous Event (feet): 26.48

Dedicated Equipment: Yes X No
Casing Diameter (inches): 2
One Casing Volume (gal): 0.70gal
One Casing Volume Previous Event (gal): 1.00
Total Volume Purged (gal): 1.05 gallons
Purged Dry?: Yes No ✓
Water Level after Purge (feet): 22.60
Date/Time Completed: 4/5/2013 1118

PURGE DATA: Average Purge Rate = 0.12 gpm

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1112	0.12	0.35	15.0	6.96	868	40.76	N/A	Clear; no odor
1115	0.12	0.7	14.9	6.99	860	34.78	N/A	Clear; no odor
1118	0.12	1.05	14.9	6.93	858	32.49	N/A	Clear; no odor

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: S-61

Sampling Method: Waterra

Dedicated: Yes X No ____

Water Level @ Sampling (ft): 22.60

Well Collection Sequence #: 22 of 77

Parameters: Annual: ___ Semi-Annual: ___ Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/5/2013 1118	VOC: ~100 mL/min Other: 0.12 gpm	14.9	6.93	858	32.49	N/A	Clear; no odor

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/5/2013 0730

End of day: (Date/time) 4/5/2013 1715

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: # 200812239

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

~~Purge Rate (gpm)~~

pH / Sp. Cond. Meter S/N: # 09490969

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.04	N/A	NTU std = 0.02	N/A	0.01	NTU std = 0.02
10.00	N/A	NTU std = 10.0	N/A	10.07	NTU std = 10.0
1003	N/A	NTU std = 1,000	N/A	1029	NTU std = 1,000
1441	N/A	µS std = 1,413	N/A	1381	µS std = 1,413
Cell Const: 0.477	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.477	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.05 @12.4 °C	N/A	7.73	pH std = 6.99 @28.2 °C
4.00	N/A	pH std = 4.00 @13.9 °C	N/A	4.75	pH std = 4.01 @28.8 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: Sunny, 45°F

Sample Characteristics: Clear; no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES ✓ or NO ___ Full Suite Collected YES ✓ or NO ___ 8 bottles

Sample Device Left in Well YES ✓ or NO ___

Date: 4/5/2013 By: [signature] Title: Senior Mentrel Engineer

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: S-84

Sampler(s): [signature]

Top of Casing (ft, msl): 456.78

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/11/13 1521

Casing Diameter (inches): 2

Initial Water Level (feet): 29.20

One Casing Volume (gal): 0.67

Initial Water Level Previous Event (feet): 27.27

One Casing Volume Previous Event (gal): 0.98

Ground Water Elevation (ft, msl): 427.58

Total Volume Purged (gal): 0.75

Ground Water Elevation Previous Event (ft, msl): 429.51

Purged Dry?: Yes ____ No X

Well Total Depth (feet): 33.30

Water Level after Purge (feet): 29.23

Well Total Depth Previous Event (feet): 33.30

Date/Time Completed: 4/11/13 1537

PURGE DATA: Every 0.3

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1523	0.15	0.3	13.4	6.80	1366	71.64	—	clear, no odor
1525	0.15	0.6	13.8	6.82	1352	56.05	—	" "
1527	0.15	0.9	13.8	6.80	1346	58.83	—	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: S-84

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 29.23

Well Collection Sequence #: 59 of 77

Parameters: Annual: Semi-Annual: Quarterly: Monthly: Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/11/13 1530	VOC: 400 Other: dup	13.8	6.80	1346	58.83	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/11/13 0755

End of day: (Date/time) 4/11/13 1730

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507083

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200855

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.02	N/A	NTU std = 0.02	N/A	0.00	NTU std = 0.02
9.95	N/A	NTU std = 10.0	N/A	8.87	NTU std = 10.0
1002	N/A	NTU std = 1,000	N/A	999.3	NTU std = 1,000
1443	N/A	µS std = 1,413	N/A	1429	µS std = 1,413
Cell Const: 0.470	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.470	Cell Const Range: 0.45 - 0.50
7.05	N/A	pH std = 7.00 @ 24 °C	N/A	7.24	pH std = 7.00 @ 10.9 °C
4.00	N/A	pH std = 4.00 @ 13.7 °C	N/A	4.24	pH std = 4.00 @ 10.3 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 40s, wind 5 mph from S

Sample Characteristics: clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO

Full Suite Collected YES X or NO

Sample Device Left in Well YES X or NO

Date: 4/11/13 By: [signature] Title: Sr. Geologist

Company: **Herst & Associates, Inc.**

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FIELD INFORMATION LOG Part 1

Facility: West Lake Landfill

Location: Bridgeton, Missouri

Sample Matrix: Groundwater

Sample Point ID: S-82

Sampler(s): [signature]

Top of Casing (ft, msl) 449.94

PURGE INFORMATION:

Method of Well Purge: Waterra

Dedicated Equipment: Yes X No

Date/Time Initiated: 4/9/13 1222

Casing Diameter (inches): 2

Initial Water Level (feet): 22.24

One Casing Volume (gal): 0.50

Initial Water Level Previous Event (feet): 20.60

One Casing Volume Previous Event (gal): 0.77

Ground Water Elevation (ft, msl): 427.70

Total Volume Purged (gal): 0.75

Ground Water Elevation Previous Event (ft, msl): 429.34

Purged Dry?: Yes No X

Well Total Depth (feet): 25.32

Water Level after Purge (feet): 22.25

Well Total Depth Previous Event (feet): 25.32

Date/Time Completed: 4/9/13 1225

PURGE DATA: avg 0.25

Time	Purge Rate (gpm)	Cumulative Volume (gal)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Water Level (ft)	Notes
1223	0.25	0.25	18.3	7.02	2830	49.21	–	black floaters, septic odor
1224	0.125	0.5	18.3	6.90	2690	59.80	–	" "
1225	0.25	0.75	18.3	6.91	2690	67.71	–	" "

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FIELD INFORMATION LOG Part 2

SAMPLING INFORMATION:

Sample Point ID: S-82

Sampling Method: Waterra

Dedicated: Yes X No

Water Level @ Sampling (ft): 22.25

Well Collection Sequence #: 44 of 77

Parameters: Annual: ___ Semi-Annual: Quarterly: ___ Monthly: ___ Other: X

SAMPLE DATA:

Time & Date	Sample Rate (ml/min)	Temp (°C)	pH (std units)	Specific Conductance (uS = umhos/cm)	Turbidity (NTU)	Other	Notes
4/9/13 1207	VOC: 400 Other: 27	18.3	6.91	2690	69.71	—	—

INSTRUMENT CALIBRATION DATA:

Start of day: (Date/Time) 4/9/13 0735

End of day: (Date/time) 4/9/13 1800

Turbidity Meter: HF MicroTPW

Turbidity Meter S/N: 507053

pH / Sp. Cond. Meter: WTW pH/Cond 3400i

Purge Rate (gpm)

pH / Sp. Cond. Meter S/N: 08200535

Purging Event Start of day	Purging Event End of day		Sampling Event Start of day	Sampling Event End of day	
0.01	N/A	NTU std = 0.02	N/A	0.13	NTU std = 0.02
10.06	N/A	NTU std = 10.0	N/A	10.24	NTU std = 10.0
980.5	N/A	NTU std = 1,000	N/A	967.5	NTU std = 1,000
1426	N/A	µS std = 1,413	N/A	1390	µS std = 1,413
Cell Const: 0.480	Cell Const: N/A	Cell Const Range: 0.45 - 0.50	Cell Const: N/A	Cell Const: 0.480	Cell Const Range: 0.45 - 0.50
7.02	N/A	pH std = 7.02 @ 20.0 °C	N/A	7.94	pH std = 7.00 @ 26.9 °C
4.00	N/A	pH std = 4.00 @ 19.0 °C	N/A	5.20	pH std = 4.01 @ 26.9 °C

Other Calibration: Not Applicable

GENERAL INFORMATION:

Weather Conditions @ Sampling: overcast, 69°F, windy 10 mph gusts

Sample Characteristics: clear, no odor

COMMENTS AND OBSERVATIONS:

Well Closed and Locked YES X or NO ___ Full Suite Collected YES X or NO ___ EDD

Sample Device Left in Well YES X or NO ___

Date: 4/9/13 By: [signature] Title: 4/9/13

Company: **Herst & Associates, Inc.**