# Groundwater Sampling Report and Statistical Analysis

*Prepared for*

Wayne County Subtitle D Lined Landfill
Dudley, North Carolina

## August, 2007

**Permit Number: 96-06**
**MESCO Project Number: G07016.0**

Completed on October 3, 2007

Municipal Services Garner, NC
Engineering Company, P.A. Boone, NC

Municipal Engineering Services Company, P.A.
Garner, Boone and Morehead City, North Carolina

OPERATION/CONSTRUCTION MANAGERS

**Municipal Services**

CIVIL/SANITARY ENGINEERS

**Engineering Company, P.A.**

October 3, 2007

Ms. Jaclynne Drummond
Solid Waste Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
401 Oberlin Road, Suite 150
Raleigh, NC 27605

Re: Semi-Annual Groundwater Sampling Report and Statistical Analysis
Wayne County Subtitle D Lined Landfill
Permit No. 96-06
MESCO Project No. G7016.0

Dear Ms. Drummond:

Municipal Engineering Services Company, P.A. (MESCO) completed the sampling report and statistical analyses for the Wayne County Subtitle D Lined Landfill located in Dudley, NC. Environment 1 Inc. of Greenville, NC, sampled and analyzed the Subtitle D Landfill for the Appendix I list of metals and volatile organic constituents (VOCs) utilizing the Method Detection Limits (MDL) with reference to the Solid Waste Section detection limits (SWSL) values current as of the sampling event. The event was conducted on August 14, 2007 as part of the semi-annual detection monitoring program. The laboratory results and statistical analysis are included herein.

The detection monitoring program for the Subtitle D Landfill consists of downgradient wells (MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13), surface waters (SW-2, SW-3, SW-4, SW-5), background well (MW-1). Leachate samples were also procured from several different locations within the sumps of phases 1, 2, and the leachate lagoon. Leachate samples were extracted from the leachate lagoon (LE-1), the forcemain from the phase 2 landfill sump (LE-2), north sump of phase 1 (LS4), south sump of phase 1 (LS5), and the south sump of phase 2 (LS6). This is the premier event that leachate samples have been taken from LS4, LS5, and LS6. All monitoring locations were sampled during this event with the exception of SW-2 which was dry.

All detected constituents were compared with North Carolina Groundwater Standards for regulatory exceedance. The results are shown in the enclosed tables titled "Detection Scan". The following table (Table 1) summarizes those constituents found within all of the non leachate monitoring locations that exceeded the Standard.

**Table 1.** Exceedance Summary

| Monitoring Location | Cadmium | Lead |
|---|---|---|
| MW-2 | | x |
| MW-13 | x | x |
| SW-3 | x | |
| SW-5 | x | x |

x = concentration greater than NCGW2L Standard

PO Box 97, Garner, North Carolina 27529 (919) 772-5393
PO Box 828, Morehead City, NC 28557 (252) 726-9481 PO Box 349, Boone, North Carolina 28607 (828) 262-1767

Lead continues to be detected in concentrations above the Standard within downgradient well MW-2 for the sixth consecutive event. Cadmium was also found in concentrations above the MCL within MW-13 and surface waters SW-3 and SW-5. No VOCs, which are more indicative of leachate contamination, were found within any of the monitoring locations with the exception of the lined leachate collection sites.

MESCO also completed the statistical analysis as required by the Solid Waste Section. The statistical analysis was conducted upon all of the monitoring wells surrounding both the phase 1 and phase 2 lined landfills. The purpose of these analyses is to determine, in comparison to background levels, statistical significance of the few constituents detected during the August 2007 event.

## Statistical Analysis Methodology

### Metals

MESCO conducted an interwell statistical analysis on all of the detected metals. Monitoring well MW-1 was defined as the background well, and an upper tolerance limit (UTL) with 95% coverage was computed for each detected constituent from the background data at a 95% level of confidence. For each tested constituent, an appropriate statistical analysis method was selected based on the percentages of non-detects (%ND) in the historical background data. The following table (Table 2) summarizes the methods used for four different %ND ranges.

**Table 2.** Statistical Analysis Methods for Various %ND Ranges

| %ND | Analysis Method | ND Substitution |
|---|---|---|
| %ND<15% | Parametric tolerance limit | 1/2 ND |
| 15%<%ND<50% | Parametric tolerance limit | Cohen or 1/2 ND |
| 50%<%ND<90% | Non-parametric tolerance limit | 1/2 ND |
| 90%<%ND | Poisson tolerance limit | - |

NOTE: For parametric tolerance interval, normality of the background data was checked by the Shapiro-Wilks normality test, as the method requires that the data be normally distributed.

A total of 5 metals were tested for statistical significance. For arsenic, cadmium, and zinc the Poisson tolerance limit was used on either the log or original data with no ND substitution since the constituents had rarely been detected within the background well. For the remaining detected metals the non-parametric tolerance limit with ½ NDs was used on the original data as its %ND was not normally distributed.

### Results

Historical data compiled for monitoring well MW-1 was used as the baseline. Data distributions were reviewed using time series and box and whiskers plots (enclosed charts). No metals were found to be statistically significant by interwell comparison analysis therefore further intrawell analysis was unnecessary.

The numbers of metal detections continue to be consistent with historical results and all concentrations were found within the historically identified range with the exception of cadmium within MW-12 and SW-3 as well as lead within SW-5. The increase in total metals within the surface waters are likely a product of the drought conditions the area has been experiencing. The surface waters were inspected by MESCO and were found to be very low and practically stagnant in most locations. Surface water SW-5 which is located upgradient of the facility was found to contain the among the highest metal concentrations indicating that the metals are naturally inherent and not leachate related. The decrease in water volume has likely artificially increased the total metal concentrations therefore the metals are very likely not attributed to a leachate release.

### Conclusion

The statistical analysis results indicate no signs of contamination originating from the Wayne County Subtitle D Landfill. The metals are likely natural in origin as they also continue to be detected within the background well/surface water and are rarely detected within samples obtained from the leachate lagoon. MESCO completed the required potentiometric map with groundwater flow rates and direction for the sampling event. The flow directions and gradients are consistent with historical observations, showing no changes that would result in a different interpretation of the groundwater system. The facility is to continue detection monitoring and is scheduled to be sampled again for the Appendix 1 list of metals and VOCs in February 2008. If you have any questions or comments regarding this report, please contact me by phone at (919) 772-5393 or by email at jpfohl@mesco.com.

Sincerely,
MUNICIPAL ENGINEERING SERVICES CO., P.A.

Jonathan Pfohl
Environmental Specialist

Enclosures

cc: Mr. Tim Rogers
Wayne County

**Detection Scan All Detections above SWSL and NCGW2L Monitoring Wells and Surface Water Locations**
**Wayne County Subtitle D Lined Landfill**

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| MW-2 | Arsenic | 08/14/2007 | 13 | ug/l | 10 | 0.47 | 50 | |
| MW-2 | Chromium | 08/14/2007 | 26 | ug/l | 10 | 0.24 | 50 | |
| **MW-2** | **Lead** | **08/14/2007** | **28** | **ug/l** | **10** | **0.07** | **15** | **13** |
| MW-2 | Vanadium | 08/14/2007 | 39 | ug/l | 25 | 0.42 | | |
| MW-2 | Zinc | 08/14/2007 | 16 | ug/l | 10 | 0.2 | 1050 | |
| MW-7 | Arsenic | 08/14/2007 | 12 | ug/l | 10 | 0.47 | 50 | |
| MW-8 | Zinc | 08/14/2007 | 13 | ug/l | 10 | 0.2 | 1050 | |
| MW-12 | Zinc | 08/14/2007 | 26 | ug/l | 10 | 0.2 | 1050 | |
| **MW-13** | **Cadmium** | **08/14/2007** | **2.1** | **ug/l** | **1** | **0.06** | **1.75** | **0.35** |
| MW-13 | Chromium | 08/14/2007 | 17 | ug/l | 10 | 0.24 | 50 | |
| **MW-13** | **Lead** | **08/14/2007** | **16** | **ug/l** | **10** | **0.07** | **15** | **1** |
| MW-13 | Vanadium | 08/14/2007 | 30 | ug/l | 25 | 0.42 | | |
| SW-3 | Barium | 08/14/2007 | 101 | ug/l | 100 | 0.04 | 2000 | |
| **SW-3** | **Cadmium** | **08/14/2007** | **3** | **ug/l** | **1** | **0.06** | **1.75** | **1.25** |
| SW-3 | Zinc | 08/14/2007 | 12 | ug/l | 10 | 0.2 | 1050 | |
| SW-4 | Barium | 08/14/2007 | 150 | ug/l | 100 | 0.04 | 2000 | |
| SW-4 | Cadmium | 08/14/2007 | 1.2 | ug/l | 1 | 0.06 | 1.75 | |
| SW-4 | Toluene | 08/14/2007 | 1 | ug/l | 1 | 0.13 | 1000 | |
| SW-5 | Barium | 08/14/2007 | 689 | ug/l | 100 | 0.04 | 2000 | |
| **SW-5** | **Cadmium** | **08/14/2007** | **2** | **ug/l** | **1** | **0.06** | **1.75** | **0.25** |
| SW-5 | Chromium | 08/14/2007 | 12 | ug/l | 10 | 0.24 | 50 | |
| **SW-5** | **Lead** | **08/14/2007** | **39** | **ug/l** | **10** | **0.07** | **15** | **24** |
| SW-5 | Toluene | 08/14/2007 | 2.5 | ug/l | 1 | 0.13 | 1000 | |
| SW-5 | Zinc | 08/14/2007 | 38 | ug/l | 10 | 0.2 | 1050 | |

[1] Table only contains constituents detected above SWSL and NCGW2L Standard
[2] SWSL = Solid Waste Section Limit (Current as of sampling date)
[3] NCGW2L = North Carolina Ground Water 2L Standard
[4] MDL = Method Detection Limit
NE=Not Established

**Detection Scan All Detections Reported by Laboratory Monitoring Wells and Surface Water Locations**
**Wayne County Subtitle D Lined Landfill**

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| MW-1 | 2-Butanone | 08/14/2007 | 1.8 | ug/l | 100 | 0.85 | 4200 | |
| MW-1 | Acetone | 08/14/2007 | 2.5 | ug/l | 100 | 1.21 | 700 | |
| MW-1 | Arsenic | 08/14/2007 | 0.8 | ug/l | 10 | 0.47 | 50 | |
| MW-1 | Barium | 08/14/2007 | 9.6 | ug/l | 100 | 0.04 | 2000 | |
| MW-1 | Cadmium | 08/14/2007 | 0.1 | ug/l | 1 | 0.06 | 1.75 | |
| MW-1 | Chromium | 08/14/2007 | 3.3 | ug/l | 10 | 0.24 | 50 | |
| MW-1 | Lead | 08/14/2007 | 1 | ug/l | 10 | 0.07 | 15 | |
| MW-1 | Vanadium | 08/14/2007 | 7.2 | ug/l | 25 | 0.42 | | |
| MW-1 | Zinc | 08/14/2007 | 0.5 | ug/l | 10 | 0.2 | 1050 | |
| MW-2 | 2-Butanone | 08/14/2007 | 1.4 | ug/l | 100 | 0.85 | 4200 | |
| MW-2 | Acetone | 08/14/2007 | 2.1 | ug/l | 100 | 1.21 | 700 | |
| MW-2 | Antimony | 08/14/2007 | 0.2 | ug/l | 6 | 0.05 | | |
| MW-2 | Arsenic | 08/14/2007 | 13 | ug/l | 10 | 0.47 | 50 | |
| MW-2 | Barium | 08/14/2007 | 49.1 | ug/l | 100 | 0.04 | 2000 | |
| MW-2 | Beryllium | 08/14/2007 | 0.6 | ug/l | 1 | 0.08 | | |
| MW-2 | Cadmium | 08/14/2007 | 0.7 | ug/l | 1 | 0.06 | 1.75 | |
| MW-2 | Chromium | 08/14/2007 | 26 | ug/l | 10 | 0.24 | 50 | |
| MW-2 | Cobalt | 08/14/2007 | 0.5 | ug/l | 10 | 0.41 | | |
| MW-2 | Copper | 08/14/2007 | 3.5 | ug/l | 10 | 0.2 | 1000 | |
| **MW-2** | **Lead** | **08/14/2007** | **28** | **ug/l** | **10** | **0.07** | **15** | **13** |
| MW-2 | Nickel | 08/14/2007 | 1.2 | ug/l | 50 | 0.66 | 100 | |
| MW-2 | Selenium | 08/14/2007 | 3.5 | ug/l | 10 | 0.35 | 50 | |
| MW-2 | Thallium | 08/14/2007 | 0.2 | ug/l | 5.5 | 0.07 | | |
| MW-2 | Vanadium | 08/14/2007 | 39 | ug/l | 25 | 0.42 | | |
| MW-2 | Zinc | 08/14/2007 | 16 | ug/l | 10 | 0.2 | 1050 | |
| MW-3 | Antimony | 08/14/2007 | 0.1 | ug/l | 6 | 0.05 | | |
| MW-3 | Arsenic | 08/14/2007 | 0.6 | ug/l | 10 | 0.47 | 50 | |
| MW-3 | Barium | 08/14/2007 | 37 | ug/l | 100 | 0.04 | 2000 | |
| MW-3 | Cobalt | 08/14/2007 | 0.6 | ug/l | 10 | 0.41 | | |
| MW-3 | Lead | 08/14/2007 | 0.3 | ug/l | 10 | 0.07 | 15 | |
| MW-3 | Thallium | 08/14/2007 | 0.3 | ug/l | 5.5 | 0.07 | | |
| MW-4 | Arsenic | 08/14/2007 | 1.4 | ug/l | 10 | 0.47 | 50 | |
| MW-4 | Barium | 08/14/2007 | 32.7 | ug/l | 100 | 0.04 | 2000 | |
| MW-4 | Chromium | 08/14/2007 | 1.3 | ug/l | 10 | 0.24 | 50 | |
| MW-4 | Lead | 08/14/2007 | 0.8 | ug/l | 10 | 0.07 | 15 | |
| MW-4 | Vanadium | 08/14/2007 | 2.6 | ug/l | 25 | 0.42 | | |
| MW-5 | Arsenic | 08/14/2007 | 3 | ug/l | 10 | 0.47 | 50 | |
| MW-5 | Barium | 08/14/2007 | 44.3 | ug/l | 100 | 0.04 | 2000 | |
| MW-5 | Beryllium | 08/14/2007 | 0.2 | ug/l | 1 | 0.08 | | |
| MW-5 | Cadmium | 08/14/2007 | 0.1 | ug/l | 1 | 0.06 | 1.75 | |
| MW-5 | Chromium | 08/14/2007 | 2.8 | ug/l | 10 | 0.24 | 50 | |
| MW-5 | Cobalt | 08/14/2007 | 0.6 | ug/l | 10 | 0.41 | | |
| MW-5 | Copper | 08/14/2007 | 0.6 | ug/l | 10 | 0.2 | 1000 | |
| MW-5 | Lead | 08/14/2007 | 1.7 | ug/l | 10 | 0.07 | 15 | |
| MW-5 | Vanadium | 08/14/2007 | 5.1 | ug/l | 25 | 0.42 | | |
| MW-5 | Zinc | 08/14/2007 | 1.6 | ug/l | 10 | 0.2 | 1050 | |
| MW-6 | Acetone | 08/14/2007 | 1.5 | ug/l | 100 | 1.21 | 700 | |
| MW-6 | Arsenic | 08/14/2007 | 1.8 | ug/l | 10 | 0.47 | 50 | |
| MW-6 | Barium | 08/14/2007 | 28.9 | ug/l | 100 | 0.04 | 2000 | |
| MW-6 | Chromium | 08/14/2007 | 4.1 | ug/l | 10 | 0.24 | 50 | |
| MW-6 | Copper | 08/14/2007 | 0.9 | ug/l | 10 | 0.2 | 1000 | |

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| MW-6 | Lead | 08/14/2007 | 2.7 | ug/l | 10 | 0.07 | 15 | |
| MW-6 | Vanadium | 08/14/2007 | 4.9 | ug/l | 25 | 0.42 | | |
| MW-7 | Acetone | 08/14/2007 | 1.6 | ug/l | 100 | 1.21 | 700 | |
| MW-7 | Antimony | 08/14/2007 | 0.1 | ug/l | 6 | 0.05 | | |
| MW-7 | Arsenic | 08/14/2007 | 12 | ug/l | 10 | 0.47 | 50 | |
| MW-7 | Barium | 08/14/2007 | 40.8 | ug/l | 100 | 0.04 | 2000 | |
| MW-7 | Beryllium | 08/14/2007 | 0.3 | ug/l | 1 | 0.08 | | |
| MW-7 | Cadmium | 08/14/2007 | 0.1 | ug/l | 1 | 0.06 | 1.75 | |
| MW-7 | Chromium | 08/14/2007 | 2.1 | ug/l | 10 | 0.24 | 50 | |
| MW-7 | Cobalt | 08/14/2007 | 1.8 | ug/l | 10 | 0.41 | | |
| MW-7 | Copper | 08/14/2007 | 0.4 | ug/l | 10 | 0.2 | 1000 | |
| MW-7 | Lead | 08/14/2007 | 0.7 | ug/l | 10 | 0.07 | 15 | |
| MW-7 | Nickel | 08/14/2007 | 0.7 | ug/l | 50 | 0.66 | 100 | |
| MW-7 | Selenium | 08/14/2007 | 1.1 | ug/l | 10 | 0.35 | 50 | |
| MW-7 | Thallium | 08/14/2007 | 0.1 | ug/l | 5.5 | 0.07 | | |
| MW-7 | Vanadium | 08/14/2007 | 4.3 | ug/l | 25 | 0.42 | | |
| MW-7 | Zinc | 08/14/2007 | 3 | ug/l | 10 | 0.2 | 1050 | |
| MW-8 | Arsenic | 08/14/2007 | 0.8 | ug/l | 10 | 0.47 | 50 | |
| MW-8 | Barium | 08/14/2007 | 15.7 | ug/l | 100 | 0.04 | 2000 | |
| MW-8 | Beryllium | 08/14/2007 | 0.1 | ug/l | 1 | 0.08 | | |
| MW-8 | Cadmium | 08/14/2007 | 0.1 | ug/l | 1 | 0.06 | 1.75 | |
| MW-8 | Chromium | 08/14/2007 | 2 | ug/l | 10 | 0.24 | 50 | |
| MW-8 | Cobalt | 08/14/2007 | 0.9 | ug/l | 10 | 0.41 | | |
| MW-8 | Lead | 08/14/2007 | 0.7 | ug/l | 10 | 0.07 | 15 | |
| MW-8 | Nickel | 08/14/2007 | 1.8 | ug/l | 50 | 0.66 | 100 | |
| MW-8 | Vanadium | 08/14/2007 | 2.8 | ug/l | 25 | 0.42 | | |
| MW-8 | Zinc | 08/14/2007 | 13 | ug/l | 10 | 0.2 | 1050 | |
| MW-9 | 2-Butanone | 08/14/2007 | 1.4 | ug/l | 100 | 0.85 | 4200 | |
| MW-9 | Acetone | 08/14/2007 | 2.7 | ug/l | 100 | 1.21 | 700 | |
| MW-9 | Barium | 08/14/2007 | 52.9 | ug/l | 100 | 0.04 | 2000 | |
| MW-9 | Beryllium | 08/14/2007 | 0.1 | ug/l | 1 | 0.08 | | |
| MW-9 | Cadmium | 08/14/2007 | 0.3 | ug/l | 1 | 0.06 | 1.75 | |
| MW-9 | Chloromethane | 08/14/2007 | 0.2 | ug/l | 1 | 0.18 | | |
| MW-9 | Chromium | 08/14/2007 | 0.8 | ug/l | 10 | 0.24 | 50 | |
| MW-9 | Lead | 08/14/2007 | 1.5 | ug/l | 10 | 0.07 | 15 | |
| MW-9 | Vanadium | 08/14/2007 | 1.1 | ug/l | 25 | 0.42 | | |
| MW-10 | Antimony | 08/14/2007 | 0.1 | ug/l | 6 | 0.05 | | |
| MW-10 | Arsenic | 08/14/2007 | 1 | ug/l | 10 | 0.47 | 50 | |
| MW-10 | Barium | 08/14/2007 | 42.8 | ug/l | 100 | 0.04 | 2000 | |
| MW-10 | Beryllium | 08/14/2007 | 0.3 | ug/l | 1 | 0.08 | | |
| MW-10 | Cadmium | 08/14/2007 | 0.1 | ug/l | 1 | 0.06 | 1.75 | |
| MW-10 | Chromium | 08/14/2007 | 4.3 | ug/l | 10 | 0.24 | 50 | |
| MW-10 | Copper | 08/14/2007 | 1.1 | ug/l | 10 | 0.2 | 1000 | |
| MW-10 | Lead | 08/14/2007 | 3.7 | ug/l | 10 | 0.07 | 15 | |
| MW-10 | Nickel | 08/14/2007 | 1 | ug/l | 50 | 0.66 | 100 | |
| MW-10 | Thallium | 08/14/2007 | 0.3 | ug/l | 5.5 | 0.07 | | |
| MW-10 | Vanadium | 08/14/2007 | 5.7 | ug/l | 25 | 0.42 | | |
| MW-10 | Zinc | 08/14/2007 | 4.8 | ug/l | 10 | 0.2 | 1050 | |
| MW-11 | 2-Butanone | 08/14/2007 | 0.9 | ug/l | 100 | 0.85 | 4200 | |
| MW-11 | Barium | 08/14/2007 | 34.3 | ug/l | 100 | 0.04 | 2000 | |
| MW-11 | Beryllium | 08/14/2007 | 0.2 | ug/l | 1 | 0.08 | | |
| MW-11 | Cadmium | 08/14/2007 | 0.2 | ug/l | 1 | 0.06 | 1.75 | |
| MW-11 | Chloroform | 08/14/2007 | 0.2 | ug/l | 5 | 0.13 | 70 | |
| MW-11 | Chromium | 08/14/2007 | 1.5 | ug/l | 10 | 0.24 | 50 | |
| MW-11 | Cobalt | 08/14/2007 | 1.4 | ug/l | 10 | 0.41 | | |

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| MW-11 | Lead | 08/14/2007 | 1.5 | ug/l | 10 | 0.07 | 15 | |
| MW-11 | Thallium | 08/14/2007 | 0.2 | ug/l | 5.5 | 0.07 | | |
| MW-11 | Vanadium | 08/14/2007 | 1.3 | ug/l | 25 | 0.42 | | |
| MW-11 | Zinc | 08/14/2007 | 1.1 | ug/l | 10 | 0.2 | 1050 | |
| MW-12 | 2-Butanone | 08/14/2007 | 1.2 | ug/l | 100 | 0.85 | 4200 | |
| MW-12 | Acetone | 08/14/2007 | 1.8 | ug/l | 100 | 1.21 | 700 | |
| MW-12 | Arsenic | 08/14/2007 | 0.9 | ug/l | 10 | 0.47 | 50 | |
| MW-12 | Barium | 08/14/2007 | 31.3 | ug/l | 100 | 0.04 | 2000 | |
| MW-12 | Beryllium | 08/14/2007 | 0.2 | ug/l | 1 | 0.08 | | |
| MW-12 | Cadmium | 08/14/2007 | 0.4 | ug/l | 1 | 0.06 | 1.75 | |
| MW-12 | Chloroform | 08/14/2007 | 0.3 | ug/l | 5 | 0.13 | 70 | |
| MW-12 | Chromium | 08/14/2007 | 2.3 | ug/l | 10 | 0.24 | 50 | |
| MW-12 | Cobalt | 08/14/2007 | 1.4 | ug/l | 10 | 0.41 | | |
| MW-12 | Copper | 08/14/2007 | 0.6 | ug/l | 10 | 0.2 | 1000 | |
| MW-12 | Lead | 08/14/2007 | 1.4 | ug/l | 10 | 0.07 | 15 | |
| MW-12 | Nickel | 08/14/2007 | 2 | ug/l | 50 | 0.66 | 100 | |
| MW-12 | Thallium | 08/14/2007 | 0.1 | ug/l | 5.5 | 0.07 | | |
| MW-12 | Vanadium | 08/14/2007 | 2.9 | ug/l | 25 | 0.42 | | |
| MW-12 | Zinc | 08/14/2007 | 26 | ug/l | 10 | 0.2 | 1050 | |
| MW-13 | Arsenic | 08/14/2007 | 1.8 | ug/l | 10 | 0.47 | 50 | |
| MW-13 | Barium | 08/14/2007 | 31.2 | ug/l | 100 | 0.04 | 2000 | |
| MW-13 | Beryllium | 08/14/2007 | 0.4 | ug/l | 1 | 0.08 | | |
| **MW-13** | **Cadmium** | **08/14/2007** | **2.1** | **ug/l** | **1** | **0.06** | **1.75** | **0.35** |
| MW-13 | Chromium | 08/14/2007 | 17 | ug/l | 10 | 0.24 | 50 | |
| MW-13 | Copper | 08/14/2007 | 1.1 | ug/l | 10 | 0.2 | 1000 | |
| **MW-13** | **Lead** | **08/14/2007** | **16** | **ug/l** | **10** | **0.07** | **15** | **1** |
| MW-13 | Nickel | 08/14/2007 | 1 | ug/l | 50 | 0.66 | 100 | |
| MW-13 | Thallium | 08/14/2007 | 0.1 | ug/l | 5.5 | 0.07 | | |
| MW-13 | Vanadium | 08/14/2007 | 30 | ug/l | 25 | 0.42 | | |
| MW-13 | Zinc | 08/14/2007 | 7.1 | ug/l | 10 | 0.2 | 1050 | |
| SW-3 | 2-Butanone | 08/14/2007 | 1.7 | ug/l | 100 | 0.85 | 4200 | |
| SW-3 | Acetone | 08/14/2007 | 4.3 | ug/l | 100 | 1.21 | 700 | |
| SW-3 | Antimony | 08/14/2007 | 0.2 | ug/l | 6 | 0.05 | | |
| SW-3 | Arsenic | 08/14/2007 | 1.9 | ug/l | 10 | 0.47 | 50 | |
| SW-3 | Barium | 08/14/2007 | 101 | ug/l | 100 | 0.04 | 2000 | |
| **SW-3** | **Cadmium** | **08/14/2007** | **3** | **ug/l** | **1** | **0.06** | **1.75** | **1.25** |
| SW-3 | Chloromethane | 08/14/2007 | 0.3 | ug/l | 1 | 0.18 | | |
| SW-3 | Chromium | 08/14/2007 | 3 | ug/l | 10 | 0.24 | 50 | |
| SW-3 | Cobalt | 08/14/2007 | 0.7 | ug/l | 10 | 0.41 | | |
| SW-3 | Copper | 08/14/2007 | 1.9 | ug/l | 10 | 0.2 | 1000 | |
| SW-3 | Lead | 08/14/2007 | 0.7 | ug/l | 10 | 0.07 | 15 | |
| SW-3 | Nickel | 08/14/2007 | 1.9 | ug/l | 50 | 0.66 | 100 | |
| SW-3 | Selenium | 08/14/2007 | 0.9 | ug/l | 10 | 0.35 | 50 | |
| SW-3 | Vanadium | 08/14/2007 | 2 | ug/l | 25 | 0.42 | | |
| SW-3 | Zinc | 08/14/2007 | 12 | ug/l | 10 | 0.2 | 1050 | |
| SW-4 | 2-Butanone | 08/14/2007 | 2.1 | ug/l | 100 | 0.85 | 4200 | |
| SW-4 | Acetone | 08/14/2007 | 6.9 | ug/l | 100 | 1.21 | 700 | |
| SW-4 | Antimony | 08/14/2007 | 0.1 | ug/l | 6 | 0.05 | | |
| SW-4 | Arsenic | 08/14/2007 | 1.9 | ug/l | 10 | 0.47 | 50 | |
| SW-4 | Barium | 08/14/2007 | 150 | ug/l | 100 | 0.04 | 2000 | |
| SW-4 | Cadmium | 08/14/2007 | 1.2 | ug/l | 1 | 0.06 | 1.75 | |
| SW-4 | Chromium | 08/14/2007 | 0.9 | ug/l | 10 | 0.24 | 50 | |
| SW-4 | Cobalt | 08/14/2007 | 3.2 | ug/l | 10 | 0.41 | | |
| SW-4 | Copper | 08/14/2007 | 0.5 | ug/l | 10 | 0.2 | 1000 | |
| SW-4 | Lead | 08/14/2007 | 1 | ug/l | 10 | 0.07 | 15 | |

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| SW-4 | Nickel | 08/14/2007 | 1 | ug/l | 50 | 0.66 | 100 | |
| SW-4 | Toluene | 08/14/2007 | 1 | ug/l | 1 | 0.13 | 1000 | |
| SW-4 | Vanadium | 08/14/2007 | 1.4 | ug/l | 25 | 0.42 | | |
| SW-4 | Zinc | 08/14/2007 | 5.1 | ug/l | 10 | 0.2 | 1050 | |
| SW-5 | 2-Butanone | 08/14/2007 | 1.7 | ug/l | 100 | 0.85 | 4200 | |
| SW-5 | Acetone | 08/14/2007 | 3 | ug/l | 100 | 1.21 | 700 | |
| SW-5 | Antimony | 08/14/2007 | 0.2 | ug/l | 6 | 0.05 | | |
| SW-5 | Arsenic | 08/14/2007 | 2.3 | ug/l | 10 | 0.47 | 50 | |
| SW-5 | Barium | 08/14/2007 | 689 | ug/l | 100 | 0.04 | 2000 | |
| SW-5 | Beryllium | 08/14/2007 | 0.9 | ug/l | 1 | 0.08 | | |
| **SW-5** | **Cadmium** | **08/14/2007** | **2** | **ug/l** | **1** | **0.06** | **1.75** | **0.25** |
| SW-5 | Chromium | 08/14/2007 | 12 | ug/l | 10 | 0.24 | 50 | |
| SW-5 | Cobalt | 08/14/2007 | 5 | ug/l | 10 | 0.41 | | |
| SW-5 | Copper | 08/14/2007 | 8.3 | ug/l | 10 | 0.2 | 1000 | |
| **SW-5** | **Lead** | **08/14/2007** | **39** | **ug/l** | **10** | **0.07** | **15** | **24** |
| SW-5 | Nickel | 08/14/2007 | 7 | ug/l | 50 | 0.66 | 100 | |
| SW-5 | Selenium | 08/14/2007 | 2.1 | ug/l | 10 | 0.35 | 50 | |
| SW-5 | Thallium | 08/14/2007 | 0.2 | ug/l | 5.5 | 0.07 | | |
| SW-5 | Toluene | 08/14/2007 | 2.5 | ug/l | 1 | 0.13 | 1000 | |
| SW-5 | Vanadium | 08/14/2007 | 10.7 | ug/l | 25 | 0.42 | | |
| SW-5 | Zinc | 08/14/2007 | 38 | ug/l | 10 | 0.2 | 1050 | |
| TB | 2-Butanone | 08/14/2007 | 1.4 | ug/l | 100 | 0.85 | 4200 | |
| TB | Acetone | 08/14/2007 | 2.5 | ug/l | 100 | 1.21 | 700 | |
| TB | Methylene Chloride | 08/14/2007 | 0.4 | ug/l | 1 | 0.14 | 4.6 | |

[1] Table contains all constituents detected above MDL

[2] SWSL = Solid Waste Section Limit (Current as of sampling date)

[3] NCGW2L = North Carolina Ground Water 2L Standard

[4] MDL = Method Detection Limit

NE=Not Established

**Detection Scan All Detections above SWSL and NCGW2L Leachate Locations**
**Wayne County Subtitle D Lined Landfill**

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| **LE-1** | **1,4-Dichlorobenzene** | **08/15/2007** | **2.9** | **ug/l** | **1** | **0.21** | **1.4** | **1.5** |
| LE-1 | Barium | 08/15/2007 | 107 | ug/l | 100 | 0.04 | 2000 | |
| **LE-1** | **Benzene** | **08/15/2007** | **2.1** | **ug/l** | **1** | **0.16** | **1** | **1.1** |
| LE-1 | Copper | 08/15/2007 | 11 | ug/l | 10 | 0.2 | 1000 | |
| LE-1 | Ethylbenzene | 08/15/2007 | 13.8 | ug/l | 1 | 0.16 | 550 | |
| LE-1 | Toluene | 08/15/2007 | 11.4 | ug/l | 1 | 0.13 | 1000 | |
| **LE-1** | **Vinyl Chloride** | **08/15/2007** | **1.02** | **ug/l** | **1** | **0.34** | **0.015** | **1.005** |
| LE-1 | Xylenes | 08/15/2007 | 34.5 | ug/l | 4 | 0.48 | 530 | |
| LE-1 | Zinc | 08/15/2007 | 47 | ug/l | 10 | 0.2 | 1050 | |
| **LE-2** | **1,2-Dichloroethane** | **08/15/2007** | **0.8** | **ug/l** | **1** | **0.12** | **0.38** | **0.42** |
| **LE-2** | **1,4-Dichlorobenzene** | **08/15/2007** | **1.5** | **ug/l** | **1** | **0.21** | **1.4** | **0.1** |
| LE-2 | 2-Butanone | 08/15/2007 | 164 | ug/l | 100 | 0.85 | 4200 | |
| LE-2 | Antimony | 08/15/2007 | 7 | ug/l | 6 | 2 | | |
| LE-2 | Barium | 08/15/2007 | 241 | ug/l | 100 | 0.04 | 2000 | |
| **LE-2** | **Benzene** | **08/15/2007** | **4.1** | **ug/l** | **1** | **0.16** | **1** | **3.1** |
| LE-2 | Chromium | 08/15/2007 | 26 | ug/l | 10 | 0.24 | 50 | |
| LE-2 | Ethylbenzene | 08/15/2007 | 5 | ug/l | 1 | 0.16 | 550 | |
| LE-2 | Nickel | 08/15/2007 | 81 | ug/l | 50 | 0.66 | 100 | |
| LE-2 | Toluene | 08/15/2007 | 23.5 | ug/l | 1 | 0.13 | 1000 | |
| **LE-2** | **Vinyl Chloride** | **08/15/2007** | **1.1** | **ug/l** | **1** | **0.34** | **0.015** | **1.085** |
| LE-2 | Xylenes | 08/15/2007 | 13.2 | ug/l | 4 | 0.48 | 530 | |
| LE-2 | Zinc | 08/15/2007 | 250.9 | ug/l | 10 | 0.2 | 1050 | |
| **LS4** | **1,2-Dichloroethane** | **08/15/2007** | **0.4** | **ug/l** | **1** | **0.12** | **0.38** | **0.02** |
| **LS4** | **1,4-Dichlorobenzene** | **08/15/2007** | **5.6** | **ug/l** | **1** | **0.21** | **1.4** | **4.2** |
| LS4 | Arsenic | 08/15/2007 | 13 | ug/l | 10 | 1 | 50 | |
| LS4 | Barium | 08/15/2007 | 184 | ug/l | 100 | 0.04 | 2000 | |
| **LS4** | **Benzene** | **08/15/2007** | **4.3** | **ug/l** | **1** | **0.16** | **1** | **3.3** |
| LS4 | Chromium | 08/15/2007 | 21 | ug/l | 10 | 0.24 | 50 | |
| LS4 | Cobalt | 08/15/2007 | 11 | ug/l | 10 | 0.41 | | |
| LS4 | Copper | 08/15/2007 | 15 | ug/l | 10 | 0.2 | 1000 | |
| LS4 | Ethylbenzene | 08/15/2007 | 12.3 | ug/l | 1 | 0.16 | 550 | |
| LS4 | Nickel | 08/15/2007 | 58 | ug/l | 50 | 0.66 | 100 | |
| **LS4** | **Vinyl Chloride** | **08/15/2007** | **0.4** | **ug/l** | **1** | **0.34** | **0.015** | **0.385** |
| LS4 | Xylenes | 08/15/2007 | 29.4 | ug/l | 4 | 0.48 | 530 | |
| LS4 | Zinc | 08/15/2007 | 33 | ug/l | 10 | 0.2 | 1050 | |
| **LS5** | **1,4-Dichlorobenzene** | **08/15/2007** | **6.9** | **ug/l** | **1** | **0.21** | **1.4** | **5.5** |
| **LS5** | **Benzene** | **08/15/2007** | **2.5** | **ug/l** | **1** | **0.16** | **1** | **1.5** |
| LS5 | Chromium | 08/15/2007 | 23 | ug/l | 10 | 0.24 | 50 | |
| LS5 | Cobalt | 08/15/2007 | 15 | ug/l | 10 | 0.41 | | |
| LS5 | Copper | 08/15/2007 | 22 | ug/l | 10 | 0.2 | 1000 | |
| LS5 | Ethylbenzene | 08/15/2007 | 5.2 | ug/l | 1 | 0.16 | 550 | |
| **LS5** | **Nickel** | **08/15/2007** | **102** | **ug/l** | **50** | **0.66** | **100** | **2** |
| LS5 | Toluene | 08/15/2007 | 2.6 | ug/l | 1 | 0.13 | 1000 | |
| **LS5** | **Vinyl Chloride** | **08/15/2007** | **5.6** | **ug/l** | **1** | **0.34** | **0.015** | **5.585** |
| LS5 | Xylenes | 08/15/2007 | 17 | ug/l | 4 | 0.48 | 530 | |
| LS5 | Zinc | 08/15/2007 | 59 | ug/l | 10 | 0.2 | 1050 | |
| **LS6** | **1,2-Dichloroethane** | **08/15/2007** | **2.2** | **ug/l** | **1** | **0.12** | **0.38** | **1.82** |
| **LS6** | **1,4-Dichlorobenzene** | **08/15/2007** | **3.7** | **ug/l** | **1** | **0.21** | **1.4** | **2.3** |
| LS6 | Barium | 08/15/2007 | 256 | ug/l | 100 | 0.04 | 2000 | |
| **LS6** | **Benzene** | **08/15/2007** | **11.8** | **ug/l** | **1** | **0.16** | **1** | **10.8** |
| LS6 | Ethylbenzene | 08/15/2007 | 36.8 | ug/l | 1 | 0.16 | 550 | |

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| LS6 | Styrene | 08/15/2007 | 1 | ug/l | 1 | 0.16 | 100 | |
| LS6 | Toluene | 08/15/2007 | 8.9 | ug/l | 1 | 0.13 | 1000 | |
| **LS6** | **Vinyl Chloride** | **08/15/2007** | **2.1** | **ug/l** | **1** | **0.34** | **0.015** | **2.085** |
| LS6 | Xylenes | 08/15/2007 | 75.6 | ug/l | 4 | 0.48 | 530 | |
| LS6 | Zinc | 08/15/2007 | 13 | ug/l | 10 | 0.2 | 1050 | |

[1] Table only contains constituents detected above SWSL and NCGW2L Standard

[2] SWSL = Solid Waste Section Limit (Current as of sampling date)

[3] NCGW2L = North Carolina Ground Water 2L Standard

[4] MDL = Method Detection Limit

NE=Not Established

**Detection Scan All Detections Reported by Laboratory Monitoring Wells and Surface Water Locations**
**Wayne County Subtitle D Lined Landfill**

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| LE-1 | 1,1-Dichloroethane | 08/15/2007 | 2.3 | ug/l | 5 | 0.16 | 70 | |
| LE-1 | 1,2-Dichloroethane | 08/15/2007 | 0.2 | ug/l | 5 | 0.12 | 0.38 | |
| **LE-1** | **1,4-Dichlorobenzene** | **08/15/2007** | **2.9** | **ug/l** | **1** | **0.21** | **1.4** | **1.5** |
| LE-1 | 2-Butanone | 08/15/2007 | 1.8 | ug/l | 100 | 0.85 | 4200 | |
| LE-1 | Acetone | 08/15/2007 | 2.8 | ug/l | 100 | 1.21 | 700 | |
| LE-1 | Antimony | 08/15/2007 | 0.6 | ug/l | 6 | 2 | | |
| LE-1 | Arsenic | 08/15/2007 | 4.3 | ug/l | 10 | 1 | 50 | |
| LE-1 | Barium | 08/15/2007 | 107 | ug/l | 100 | 0.04 | 2000 | |
| **LE-1** | **Benzene** | **08/15/2007** | **2.1** | **ug/l** | **1** | **0.16** | **1** | **1.1** |
| LE-1 | Carbon Disulfide | 08/15/2007 | 1.8 | ug/l | 100 | 0.14 | | |
| LE-1 | Chlorobenzene | 08/15/2007 | 0.8 | ug/l | 3 | 0.13 | 50 | |
| LE-1 | Chloroethane | 08/15/2007 | 0.6 | ug/l | 10 | 0.29 | | |
| LE-1 | Chromium | 08/15/2007 | 4.9 | ug/l | 10 | 0.24 | 50 | |
| LE-1 | Cis-1,2-Dichloroethene | 08/15/2007 | 1.4 | ug/l | 5 | 0.14 | 70 | |
| LE-1 | Cobalt | 08/15/2007 | 4.3 | ug/l | 10 | 0.41 | | |
| LE-1 | Copper | 08/15/2007 | 11 | ug/l | 10 | 0.2 | 1000 | |
| LE-1 | Ethylbenzene | 08/15/2007 | 13.8 | ug/l | 1 | 0.16 | 550 | |
| LE-1 | Lead | 08/15/2007 | 0.6 | ug/l | 10 | 1.5 | 15 | |
| LE-1 | Methylene Chloride | 08/15/2007 | 0.7 | ug/l | 1 | 0.14 | 4.6 | |
| LE-1 | Nickel | 08/15/2007 | 21.3 | ug/l | 50 | 0.66 | 100 | |
| LE-1 | Selenium | 08/15/2007 | 5.8 | ug/l | 10 | 2 | 50 | |
| LE-1 | Sulfate | 08/15/2007 | 57.4 | mg/l | NE | 5 | 250000 | |
| LE-1 | Toluene | 08/15/2007 | 11.4 | ug/l | 1 | 0.13 | 1000 | |
| LE-1 | Total Phosphorus | 08/15/2007 | 0.24 | mg/l | NE | 0.04 | | |
| LE-1 | Trichloroethene | 08/15/2007 | 0.4 | ug/l | 1 | 0.13 | 2.8 | |
| LE-1 | Vanadium | 08/15/2007 | 4 | ug/l | 25 | 0.42 | | |
| **LE-1** | **Vinyl Chloride** | **08/15/2007** | **1.02** | **ug/l** | **1** | **0.34** | **0.015** | **1.005** |
| LE-1 | Xylenes | 08/15/2007 | 34.5 | ug/l | 4 | 0.48 | 530 | |
| LE-1 | Zinc | 08/15/2007 | 47 | ug/l | 10 | 0.2 | 1050 | |
| **LE-2** | **1,2-Dichloroethane** | **08/15/2007** | **0.8** | **ug/l** | **1** | **0.12** | **0.38** | **0.42** |
| **LE-2** | **1,4-Dichlorobenzene** | **08/15/2007** | **1.5** | **ug/l** | **1** | **0.21** | **1.4** | **0.1** |
| LE-2 | 2-Butanone | 08/15/2007 | 164 | ug/l | 100 | 0.85 | 4200 | |
| LE-2 | 2-Hexanone | 08/15/2007 | 1.9 | ug/l | 50 | 1 | | |
| LE-2 | 4-Methyl-2-Pentanone | 08/15/2007 | 8.2 | ug/l | 100 | 0.68 | | |
| LE-2 | Acetone | 08/15/2007 | 63.1 | ug/l | 100 | 1.21 | 700 | |
| LE-2 | Antimony | 08/15/2007 | 7 | ug/l | 6 | 2 | | |
| LE-2 | Arsenic | 08/15/2007 | 9 | ug/l | 10 | 1 | 50 | |
| LE-2 | Barium | 08/15/2007 | 241 | ug/l | 100 | 0.04 | 2000 | |
| **LE-2** | **Benzene** | **08/15/2007** | **4.1** | **ug/l** | **1** | **0.16** | **1** | **3.1** |
| LE-2 | Carbon Disulfide | 08/15/2007 | 2.3 | ug/l | 100 | 0.14 | | |
| LE-2 | Chlorobenzene | 08/15/2007 | 0.2 | ug/l | 3 | 0.13 | 50 | |
| LE-2 | Chloroethane | 08/15/2007 | 1.2 | ug/l | 10 | 0.29 | | |
| LE-2 | Chloromethane | 08/15/2007 | 0.3 | ug/l | 1 | 0.18 | | |
| LE-2 | Chromium | 08/15/2007 | 26 | ug/l | 10 | 0.24 | 50 | |
| LE-2 | Cis-1,2-Dichloroethene | 08/15/2007 | 0.4 | ug/l | 5 | 0.14 | 70 | |
| LE-2 | Cobalt | 08/15/2007 | 5.6 | ug/l | 10 | 0.41 | | |
| LE-2 | Copper | 08/15/2007 | 7.8 | ug/l | 10 | 0.2 | 1000 | |
| LE-2 | Ethylbenzene | 08/15/2007 | 5 | ug/l | 1 | 0.16 | 550 | |
| LE-2 | Lead | 08/15/2007 | 1 | ug/l | 10 | 1.5 | 15 | |
| LE-2 | Methylene Chloride | 08/15/2007 | 0.2 | ug/l | 1 | 0.14 | 4.6 | |
| LE-2 | Nickel | 08/15/2007 | 81 | ug/l | 50 | 0.66 | 100 | |

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| LE-2 | Selenium | 08/15/2007 | 5.3 | ug/l | 10 | 2 | 50 | |
| LE-2 | Sulfate | 08/15/2007 | 14.5 | mg/l | NE | 5 | 250000 | |
| LE-2 | Toluene | 08/15/2007 | 23.5 | ug/l | 1 | 0.13 | 1000 | |
| LE-2 | Total Phosphorus | 08/15/2007 | 0.78 | mg/l | NE | 0.04 | | |
| LE-2 | Vanadium | 08/15/2007 | 9.7 | ug/l | 25 | 0.42 | | |
| **LE-2** | **Vinyl Chloride** | **08/15/2007** | **1.1** | **ug/l** | **1** | **0.34** | **0.015** | **1.085** |
| LE-2 | Xylenes | 08/15/2007 | 13.2 | ug/l | 4 | 0.48 | 530 | |
| LE-2 | Zinc | 08/15/2007 | 250.9 | ug/l | 10 | 0.2 | 1050 | |
| LS4 | 1,1-Dichloroethane | 08/15/2007 | 0.7 | ug/l | 5 | 0.16 | 70 | |
| **LS4** | **1,2-Dichloroethane** | **08/15/2007** | **0.4** | **ug/l** | **1** | **0.12** | **0.38** | **0.02** |
| LS4 | 1,2-Dichloropropane | 08/15/2007 | 0.2 | ug/l | 1 | 0.17 | 0.51 | |
| **LS4** | **1,4-Dichlorobenzene** | **08/15/2007** | **5.6** | **ug/l** | **1** | **0.21** | **1.4** | **4.2** |
| LS4 | 2-Butanone | 08/15/2007 | 5.3 | ug/l | 100 | 0.85 | 4200 | |
| LS4 | 4-Methyl-2-Pentanone | 08/15/2007 | 0.8 | ug/l | 100 | 0.68 | | |
| LS4 | Acetone | 08/15/2007 | 14.4 | ug/l | 100 | 1.21 | 700 | |
| LS4 | Antimony | 08/15/2007 | 2.9 | ug/l | 6 | 2 | | |
| LS4 | Arsenic | 08/15/2007 | 13 | ug/l | 10 | 1 | 50 | |
| LS4 | Barium | 08/15/2007 | 184 | ug/l | 100 | 0.04 | 2000 | |
| **LS4** | **Benzene** | **08/15/2007** | **4.3** | **ug/l** | **1** | **0.16** | **1** | **3.3** |
| LS4 | Carbon Disulfide | 08/15/2007 | 4.6 | ug/l | 100 | 0.14 | | |
| LS4 | Chlorobenzene | 08/15/2007 | 0.7 | ug/l | 3 | 0.13 | 50 | |
| LS4 | Chloroethane | 08/15/2007 | 0.5 | ug/l | 10 | 0.29 | | |
| LS4 | Chloromethane | 08/15/2007 | 0.5 | ug/l | 1 | 0.18 | | |
| LS4 | Chromium | 08/15/2007 | 21 | ug/l | 10 | 0.24 | 50 | |
| LS4 | Cobalt | 08/15/2007 | 11 | ug/l | 10 | 0.41 | | |
| LS4 | Copper | 08/15/2007 | 15 | ug/l | 10 | 0.2 | 1000 | |
| LS4 | Ethylbenzene | 08/15/2007 | 12.3 | ug/l | 1 | 0.16 | 550 | |
| LS4 | Lead | 08/15/2007 | 1.3 | ug/l | 10 | 1.5 | 15 | |
| LS4 | Methylene Chloride | 08/15/2007 | 0.2 | ug/l | 1 | 0.14 | 4.6 | |
| LS4 | Nickel | 08/15/2007 | 58 | ug/l | 50 | 0.66 | 100 | |
| LS4 | Sulfate | 08/15/2007 | 8.6 | mg/l | NE | 5 | 250000 | |
| LS4 | Toluene | 08/15/2007 | 0.7 | ug/l | 1 | 0.13 | 1000 | |
| LS4 | Total Phosphorus | 08/15/2007 | 0.68 | mg/l | NE | 0.04 | | |
| LS4 | Vanadium | 08/15/2007 | 18.1 | ug/l | 25 | 0.42 | | |
| **LS4** | **Vinyl Chloride** | **08/15/2007** | **0.4** | **ug/l** | **1** | **0.34** | **0.015** | **0.385** |
| LS4 | Xylenes | 08/15/2007 | 29.4 | ug/l | 4 | 0.48 | 530 | |
| LS4 | Zinc | 08/15/2007 | 33 | ug/l | 10 | 0.2 | 1050 | |
| LS5 | 1,1-Dichloroethane | 08/15/2007 | 0.6 | ug/l | 5 | 0.16 | 70 | |
| **LS5** | **1,4-Dichlorobenzene** | **08/15/2007** | **6.9** | **ug/l** | **1** | **0.21** | **1.4** | **5.5** |
| LS5 | 2-Butanone | 08/15/2007 | 2.5 | ug/l | 100 | 0.85 | 4200 | |
| LS5 | Acetone | 08/15/2007 | 10.2 | ug/l | 100 | 1.21 | 700 | |
| LS5 | Antimony | 08/15/2007 | 5.3 | ug/l | 6 | 2 | | |
| LS5 | Arsenic | 08/15/2007 | 8 | ug/l | 10 | 1 | 50 | |
| LS5 | Barium | 08/15/2007 | 94.5 | ug/l | 100 | 0.04 | 2000 | |
| **LS5** | **Benzene** | **08/15/2007** | **2.5** | **ug/l** | **1** | **0.16** | **1** | **1.5** |
| LS5 | Carbon Disulfide | 08/15/2007 | 3.1 | ug/l | 100 | 0.14 | | |
| LS5 | Chlorobenzene | 08/15/2007 | 0.2 | ug/l | 3 | 0.13 | 50 | |
| LS5 | Chloroethane | 08/15/2007 | 0.3 | ug/l | 10 | 0.29 | | |
| LS5 | Chloromethane | 08/15/2007 | 0.8 | ug/l | 1 | 0.18 | | |
| LS5 | Chromium | 08/15/2007 | 23 | ug/l | 10 | 0.24 | 50 | |
| LS5 | Cobalt | 08/15/2007 | 15 | ug/l | 10 | 0.41 | | |
| LS5 | Copper | 08/15/2007 | 22 | ug/l | 10 | 0.2 | 1000 | |
| LS5 | Ethylbenzene | 08/15/2007 | 5.2 | ug/l | 1 | 0.16 | 550 | |
| LS5 | Lead | 08/15/2007 | 2.1 | ug/l | 10 | 1.5 | 15 | |
| LS5 | Methylene Chloride | 08/15/2007 | 0.2 | ug/l | 1 | 0.14 | 4.6 | |

| Well ID | Parameter Name[1] | Sample Date | Result | Unit | SWSL [2] | MDL[4] | NCGW2L[3] | Exceedance |
|---|---|---|---|---|---|---|---|---|
| **LS5** | **Nickel** | **08/15/2007** | **102** | **ug/l** | **50** | **0.66** | **100** | **2** |
| LS5 | Selenium | 08/15/2007 | 8.9 | ug/l | 10 | 2 | 50 | |
| LS5 | Sulfate | 08/15/2007 | 37.3 | mg/l | NE | 5 | 250000 | |
| LS5 | Toluene | 08/15/2007 | 2.6 | ug/l | 1 | 0.13 | 1000 | |
| LS5 | Total Phosphorus | 08/15/2007 | 1.56 | mg/l | NE | 0.04 | | |
| LS5 | Vanadium | 08/15/2007 | 19.4 | ug/l | 25 | 0.42 | | |
| **LS5** | **Vinyl Chloride** | **08/15/2007** | **5.6** | **ug/l** | **1** | **0.34** | **0.015** | **5.585** |
| LS5 | Xylenes | 08/15/2007 | 17 | ug/l | 4 | 0.48 | 530 | |
| LS5 | Zinc | 08/15/2007 | 59 | ug/l | 10 | 0.2 | 1050 | |
| LS6 | 1,1-Dichloroethane | 08/15/2007 | 2.6 | ug/l | 5 | 0.16 | 70 | |
| **LS6** | **1,2-Dichloroethane** | **08/15/2007** | **2.2** | **ug/l** | **1** | **0.12** | **0.38** | **1.82** |
| LS6 | 1,2-Dichloropropane | 08/15/2007 | 0.5 | ug/l | 1 | 0.17 | 0.51 | |
| **LS6** | **1,4-Dichlorobenzene** | **08/15/2007** | **3.7** | **ug/l** | **1** | **0.21** | **1.4** | **2.3** |
| LS6 | 2-Butanone | 08/15/2007 | 4 | ug/l | 100 | 0.85 | 4200 | |
| LS6 | Acetone | 08/15/2007 | 5.5 | ug/l | 100 | 1.21 | 700 | |
| LS6 | Antimony | 08/15/2007 | 0.6 | ug/l | 6 | 2 | | |
| LS6 | Arsenic | 08/15/2007 | 5.9 | ug/l | 10 | 1 | 50 | |
| LS6 | Barium | 08/15/2007 | 256 | ug/l | 100 | 0.04 | 2000 | |
| **LS6** | **Benzene** | **08/15/2007** | **11.8** | **ug/l** | **1** | **0.16** | **1** | **10.8** |
| LS6 | Carbon Disulfide | 08/15/2007 | 1.1 | ug/l | 100 | 0.14 | | |
| LS6 | Chlorobenzene | 08/15/2007 | 1.7 | ug/l | 3 | 0.13 | 50 | |
| LS6 | Chloroethane | 08/15/2007 | 1.3 | ug/l | 10 | 0.29 | | |
| LS6 | Chromium | 08/15/2007 | 5.6 | ug/l | 10 | 0.24 | 50 | |
| LS6 | Cobalt | 08/15/2007 | 2.9 | ug/l | 10 | 0.41 | | |
| LS6 | Copper | 08/15/2007 | 4.5 | ug/l | 10 | 0.2 | 1000 | |
| LS6 | Ethylbenzene | 08/15/2007 | 36.8 | ug/l | 1 | 0.16 | 550 | |
| LS6 | Lead | 08/15/2007 | 0.3 | ug/l | 10 | 1.5 | 15 | |
| LS6 | Nickel | 08/15/2007 | 24.4 | ug/l | 50 | 0.66 | 100 | |
| LS6 | Selenium | 08/15/2007 | 2.7 | ug/l | 10 | 2 | 50 | |
| LS6 | Styrene | 08/15/2007 | 1 | ug/l | 1 | 0.16 | 100 | |
| LS6 | Sulfate | 08/15/2007 | 10.6 | mg/l | NE | 5 | 250000 | |
| LS6 | Toluene | 08/15/2007 | 8.9 | ug/l | 1 | 0.13 | 1000 | |
| LS6 | Total Phosphorus | 08/15/2007 | 0.54 | mg/l | NE | 0.04 | | |
| LS6 | Vanadium | 08/15/2007 | 5.5 | ug/l | 25 | 0.42 | | |
| **LS6** | **Vinyl Chloride** | **08/15/2007** | **2.1** | **ug/l** | **1** | **0.34** | **0.015** | **2.085** |
| LS6 | Xylenes | 08/15/2007 | 75.6 | ug/l | 4 | 0.48 | 530 | |
| LS6 | Zinc | 08/15/2007 | 13 | ug/l | 10 | 0.2 | 1050 | |

[1] Table contains all constituents detected above MDL

[2] SWSL = Solid Waste Section Limit (Current as of sampling date)

[3] NCGW2L = North Carolina Ground Water 2L Standard

[4] MDL = Method Detection Limit

NE=Not Established

**Hydrologic Properties at Monitoring Well Locations**
**Wayne County Subtitle D Lined Landfill**

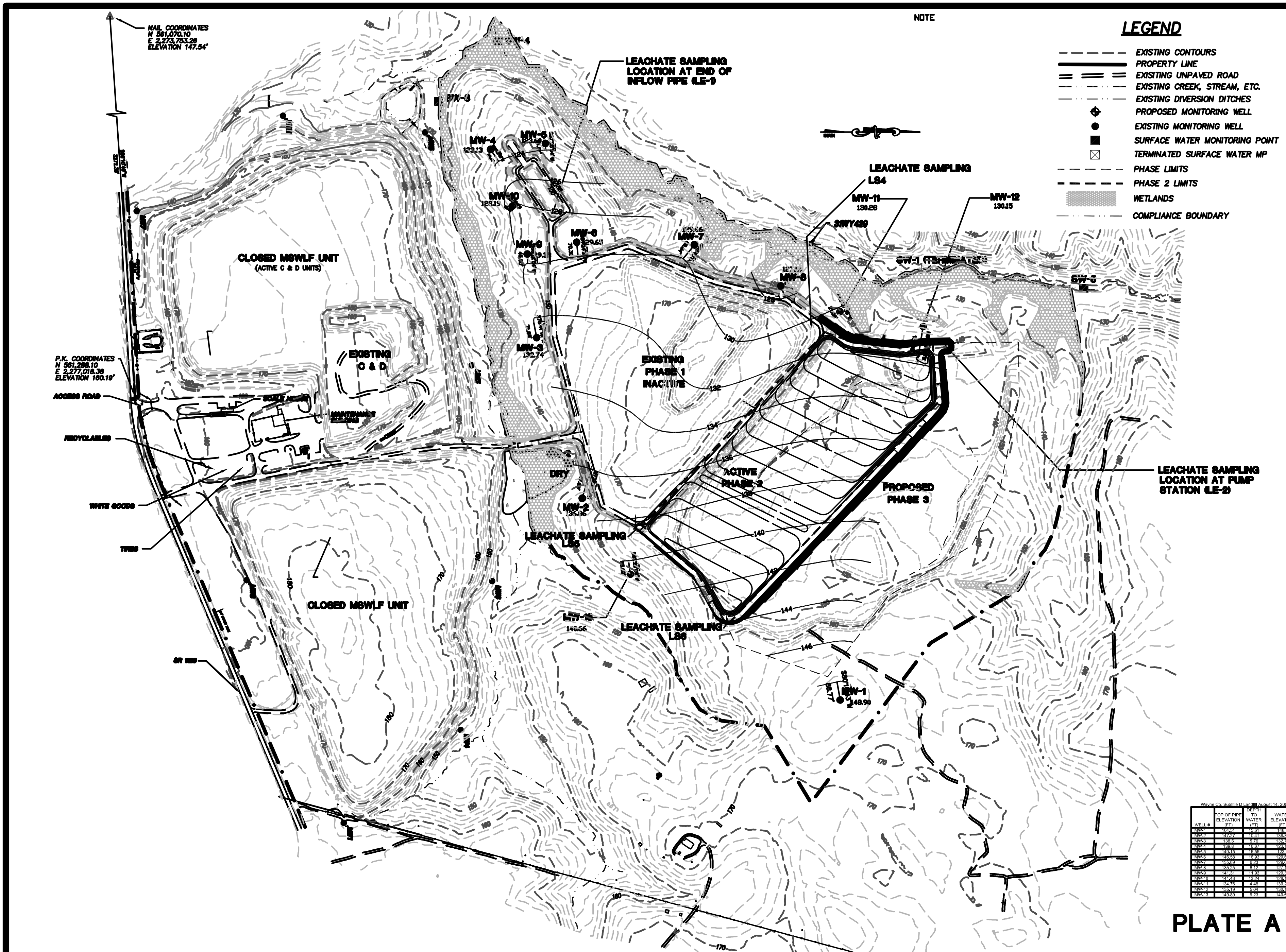
| Monitoring Well | Hydraulic Conductivity (cm/sec) | Effective Porosity (%) | Hydraulic Gradient | Flow Rate (ft/yr) | Flow Direction |
|---|---|---|---|---|---|
| MW-1 | 3.21E-04 | 31% | 0.035 | 37.41 | S80W |
| MW-2 | 1.37E-03 | 31% | 0.016 | 75.22 | N73W |
| MW-3 | 9.72E-04 | 31% | 0.010 | 33.51 | S78W |
| MW-4 | 2.33E-04 | 9% | 0.068 | 182.86 | S56W |
| MW-5 | 1.45E-04 | 9% | 0.013 | 20.96 | S87W |
| MW-6 | 8.38E-05 | 31% | 0.005 | 1.39 | S84W |
| MW-7 | 6.84E-05 | 9% | 0.004 | 3.11 | N50W |
| MW-8 | 1.68E-04 | 9% | 0.014 | 27.65 | S70W |
| MW-9 | 6.37E-04 | 31% | 0.014 | 28.72 | S88W |
| MW-10 | 4.74E-04 | 31% | 0.014 | 22.38 | S39W |
| MW-11 | 1.46E-04 | 22% | 0.082 | 56.00 | S63W |
| MW-12 | 1.63E-04 | 22% | 0.010 | 7.85 | N80W |
| MW-13 | 2.14E-03 | 22% | 0.010 | 101.23 | S82W |

NOTE: Data for effective porosity obtained from Design Hydrogeologic Study for Wayne County.
Hydraulic Conductivity values were obtained from slug tests performed on each monitoring well.
Hydrologic Gradient taken from the August 14, 2007 sampling event.
Flow rate ($Q$) is defined by the equation:

where

$$Q = -\frac{K}{n_e} \cdot \frac{dh}{dl}$$

*K*= hydraulic conductivity
*ne*= effective porosity
*dh*= head difference
*dl*= horizontal distance




Wayne Co, Subtitle D Landfill August 14, 2007

| WELL # | TOP OF PIPE ELEVATION (FT) | DEPTH TO WATER (FT) | WATER ELEVATION (FT) |
|---|---|---|---|
| MW-1 | 164.51 | 15.61 | 148.9 |
| MW-2 | 147.27 | 10.41 | 136.86 |
| MW-3 | 138.5 | 5.76 | 132.74 |
| MW-4 | 139.8 | 16.67 | 123.13 |
| MW-5 | 140.15 | 16.55 | 123.6 |
| MW-6 | 146.58 | 16.93 | 129.65 |
| MW-7 | 135.89 | 6.23 | 129.66 |
| MW-8 | 135.25 | 8.12 | 127.13 |
| MW-9 | 141.31 | 11.93 | 129.38 |
| MW-10 | 141.43 | 13.24 | 128.19 |
| MW-11 | 134.76 | 4.48 | 130.28 |
| MW-12 | 135.19 | 5.04 | 130.15 |
| MW-13 | 149.89 | 9.23 | 140.66 |

# PLATE A

Municipal Services Engineering Company, P.A.

**SUBTITLE D LINED MSWLF LANDFILL FACILITY**
**WAYNE COUNTY**
**NORTH CAROLINA**

**SINGLE DAY POTENTIOMETRIC MAP**

| DATE | BY | REV. | DESCRIPTION |
|---|---|---|---|
| 4/21/03 | LCH | 4 | REVISED EXISTING CONDITIONS |
| 1/8/03 | LCH | 3 | REVISED SHEET NUMBER |
| 2-16-07 | CHS | 2 | MODIFY FOR PHASE 1 CHANGES |
| 8-15-06 | CHS | 1 | CHANGE BUFFER TERMINOLOGY |

SCALE: 1" = 200'
DRAWING NO. P1
SHEET NO. 1 OF 13

# Statistical Analysis Results Summary

**Inter-Well Analysis Summary**
**Wayne County Subtitle D Lined Landfill**
**Background Well: MW-1**

**Arsenic, total**

| %ND | Normality | Method | ND Adj. | Upper Limit (a = 95%) | Unit |
|---|---|---|---|---|---|
| 90.91 | - | Poisson tolerance interval | ND | 16.5 | ug/l |

| Well | Result | Significance |
|---|---|---|
| MW-2 | 13 | no |
| MW-7 | 12 | no |

**Cadmium, total**

| %ND | Normality | Method | ND Adj. | Upper Limit (a = 95%) | Unit |
|---|---|---|---|---|---|
| 100.00 | - | Poisson tolerance interval | ND | 3.5 | ug/l |

| Well | Result | Significance |
|---|---|---|
| **MW-13** | 2.1 | no |

**Chromium, total**

| %ND | Normality | Method | ND Adj. | Upper Limit (a = 95%) | Unit |
|---|---|---|---|---|---|
| 31.82 | no | Non-Parametric Tolerance interval | 1/2ND | 129 | ug/l |

| Well | Result | Significance |
|---|---|---|
| MW-2 | 26 | no |
| MW-13 | 17 | no |

**Lead, total**

| %ND | Normality | Method | ND Adj. | Upper Limit (a = 95%) | Unit |
|---|---|---|---|---|---|
| 50.00 | - | Non-Parametric Tolerance interval | 1/2ND | 76 | ug/l |

| Well | Result | Significance |
|---|---|---|
| **MW-2** | 28 | no |
| **MW-13** | 16 | no |

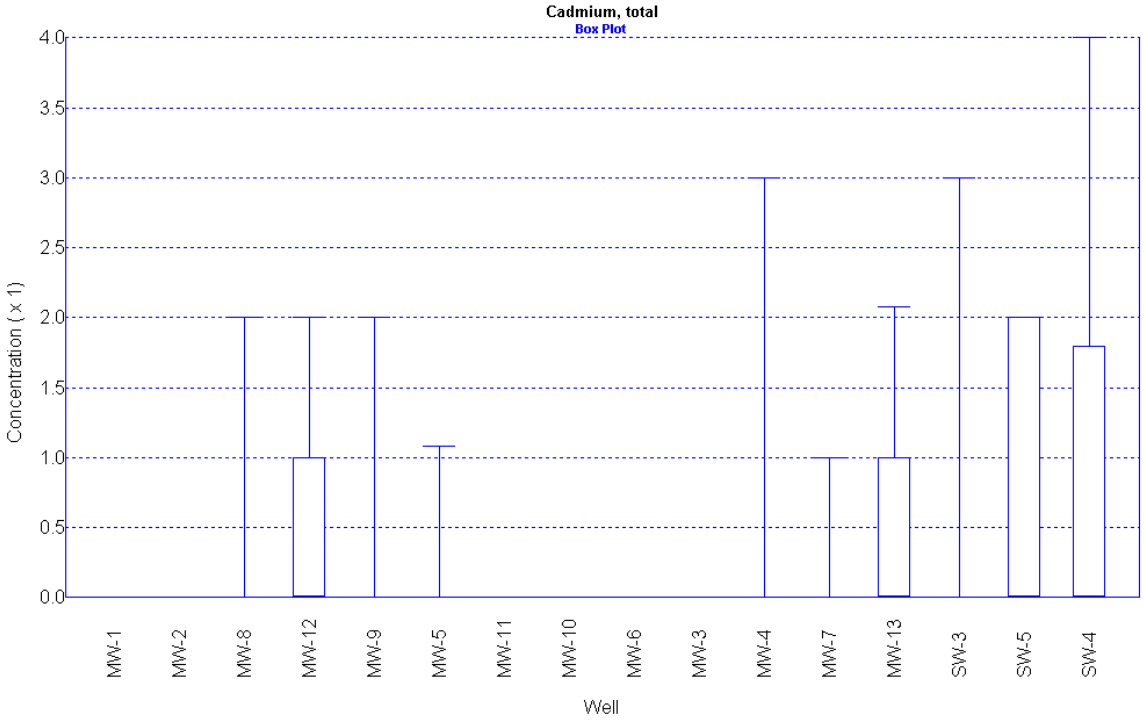
**Zinc, total**

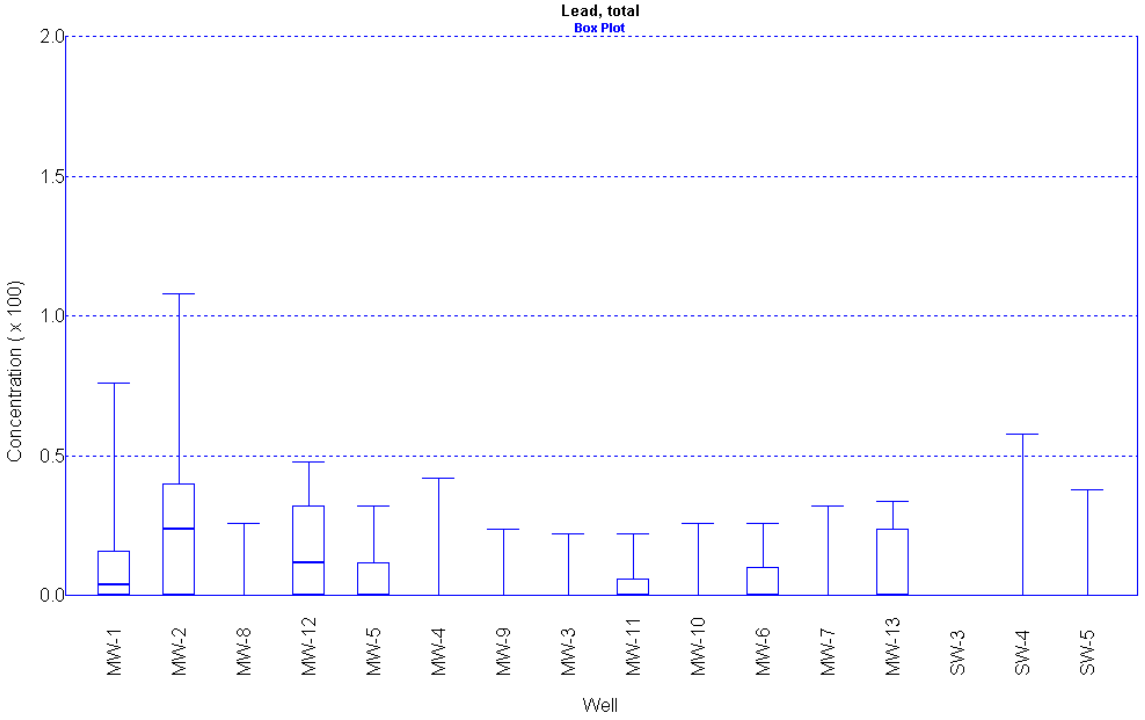
| %ND | Normality | Method | ND Adj. | Upper Limit (a = 95%) | Unit |
|---|---|---|---|---|---|
| 90.91 | log-normal | Poisson tolerance interval | ND | 8.0 | log[ug/l] |

| Well | Result | Significance |
|---|---|---|
| MW-2 | 2.77 | no |
| MW-8 | 2.56 | no |
| MW-12 | 3.26 | no |

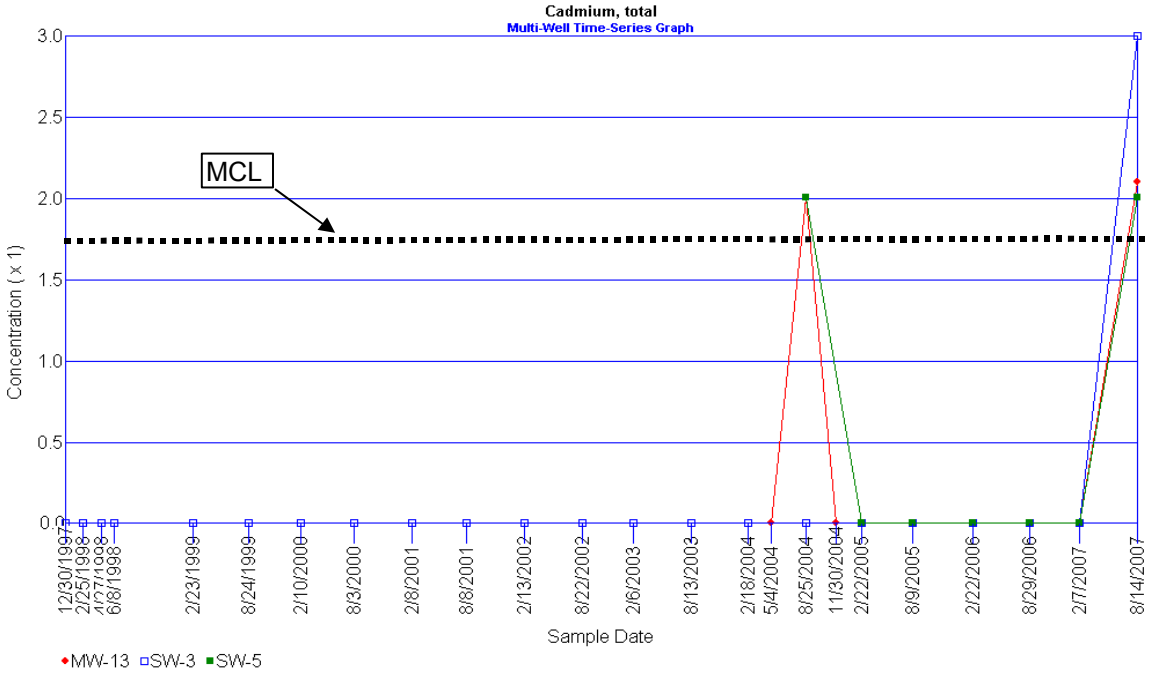
NOTE: Bold-faced monitoring points indicate detected levels exceed North Carolina Groundwater Standard.

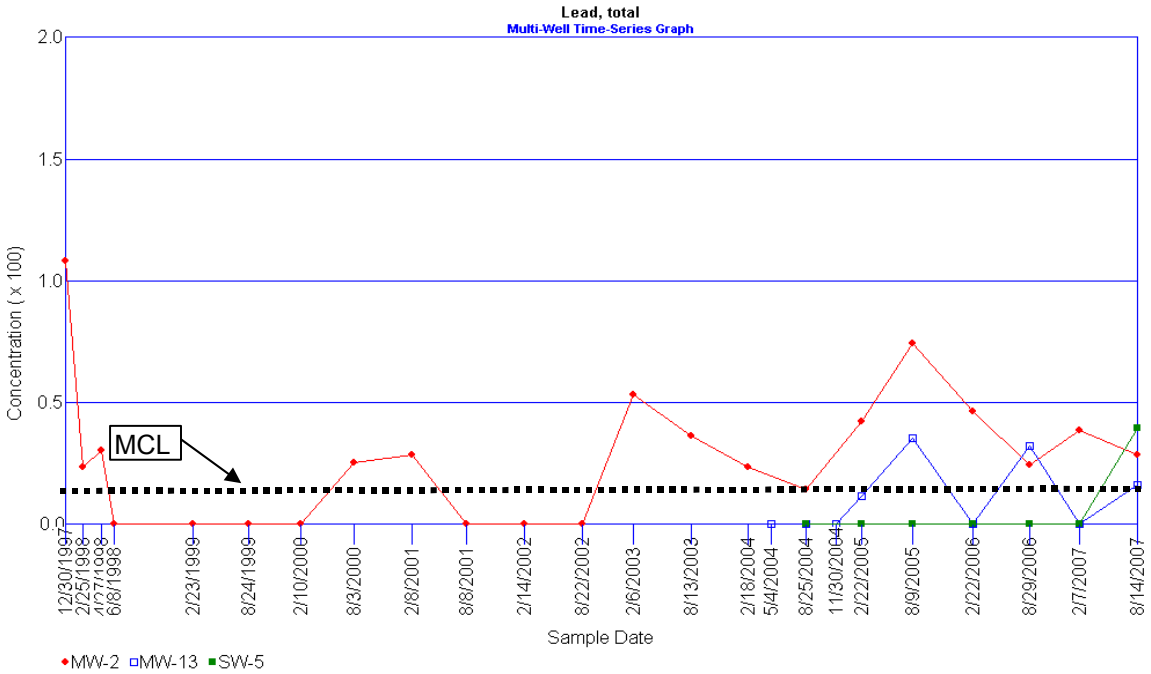
**Box Plots for Select Constituents**
**Wayne County Subtitle D Lined Landfill**



**Time Series Plots for Select Constituents**
**Wayne County Subtitle D Lined Landfill**



# Basic Statistics

# Basic Statistics

## Parameter: Arsenic

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

| | Total Observations |
|---|---|
| 256 | |
| Total Non-Detects | 216 |
| Pooled Mean | 8.91635 |
| Pooled Std Dev | 17.2811 |
| Background Mean | 5.73795 |
| Background Std Dev | 3.48961 |

## Background Wells

There is 1 background well

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-1 | 22 | 20 | 90.9091 | 126.235 |

| Well | Mean | Std Dev | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|
| MW-1 | 5.73795 | 3.48961 | 0 | 2620 | 119.091 |

## Compliance Wells

There are 12 compliance wells

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-11 | 9 | 9 | 100 | 40.235 |
| MW-4 | 23 | 17 | 73.913 | 332.235 |
| MW-5 | 23 | 17 | 73.913 | 261.235 |
| MW-13 | 9 | 9 | 100 | 40.235 |
| MW-8 | 22 | 19 | 86.3636 | 182.235 |
| MW-6 | 22 | 22 | 100 | 105.235 |
| MW-10 | 24 | 24 | 100 | 115.235 |
| MW-12 | 9 | 5 | 55.5556 | 94.235 |
| MW-3 | 23 | 23 | 100 | 110.235 |
| MW-9 | 23 | 23 | 100 | 110.235 |
| MW-2 | 22 | 17 | 77.2727 | 171 |
| MW-7 | 25 | 11 | 44 | 594 |

| Well | Mean | Std Dev | Dif From Bkg | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|---|
| MW-11 | 4.47056 | 1.58833 | -1.2674 | 6.59972 | 976.5 | 108.5 |
| MW-4 | 14.445 | 29.2675 | 8.70705 | 4.97403 | 3275.5 | 142.413 |
| MW-5 | 11.358 | 15.3029 | 5.62009 | 4.97403 | 3284.5 | 142.804 |
| MW-13 | 4.47056 | 1.58833 | -1.2674 | 6.59972 | 976.5 | 108.5 |
| MW-8 | 8.28341 | 9.70647 | 2.54545 | 5.02899 | 2792.5 | 126.932 |
| MW-6 | 4.78341 | 1.0159 | -0.954545 | 5.02899 | 2387 | 108.5 |
| MW-10 | 4.80146 | 0.972652 | -0.936496 | 4.9231 | 2604 | 108.5 |
| MW-12 | 10.4706 | 9.1608 | 4.7326 | 6.59972 | 1465.5 | 162.833 |
| MW-3 | 4.79283 | 0.993571 | -0.945128 | 4.97403 | 2495.5 | 108.5 |
| MW-9 | 4.79283 | 0.993571 | -0.945128 | 4.97403 | 2495.5 | 108.5 |
| MW-2 | 7.77273 | 5.58 | 2.03477 | 5.02899 | 2996.5 | 136.205 |
| MW-7 | 23.76 | 40.7832 | 18.022 | 4.87579 | 4526.5 | 181.06 |

## Analysis of Variance Statistics

| | |
|---|---|
| SS Wells | 8550.16 |
| SS Total | 76152.3 |

## Kruskal-Wallis Statistics

| | |
|---|---|
| Non-Detect Rank | 108.5 |
| Background Rank Sum | 2620 |
| Background Rank Mean | 119.091 |
| H Statistic | 24.8308 |
| H Adjusted for Ties | 62.1817 |

# Basic Statistics

## Parameter: Cadmium, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

| | Total Observations |
|---|---|
| 256 | |
| Total Non-Detects | 245 |
| Pooled Mean | 0.534609 |
| Pooled Std Dev | 0.312825 |
| Background Mean | 0.478636 |
| Background Std Dev | 0.100204 |

## Background Wells

There is 1 background well

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-1 | 22 | 22 | 100 | 10.53 |

| Well | Mean | Std Dev | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|
| MW-1 | 0.478636 | 0.100204 | 0 | 2706 | 123 |

## Compliance Wells

There are 12 compliance wells

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-7 | 25 | 23 | 92 | 13.03 |
| MW-9 | 23 | 22 | 95.6522 | 12.53 |
| MW-8 | 22 | 20 | 90.9091 | 13.33 |
| MW-5 | 23 | 22 | 95.6522 | 11.63 |
| MW-2 | 22 | 22 | 100 | 10.53 |
| MW-11 | 9 | 9 | 100 | 4.03 |
| MW-12 | 9 | 7 | 77.7778 | 7.03 |
| MW-10 | 24 | 24 | 100 | 11.53 |
| MW-6 | 22 | 22 | 100 | 10.53 |
| MW-3 | 23 | 23 | 100 | 11.03 |
| MW-13 | 9 | 7 | 77.7778 | 7.6 |
| MW-4 | 23 | 22 | 95.6522 | 13.53 |

| Well | Mean | Std Dev | Dif From Bkg | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|---|
| MW-7 | 0.5212 | 0.171957 | 0.0425636 | 0.0897868 | 3322 | 132.88 |
| MW-9 | 0.544783 | 0.331989 | 0.0661462 | 0.0915959 | 2956 | 128.522 |
| MW-8 | 0.605909 | 0.431726 | 0.127273 | 0.092608 | 2960 | 134.545 |
| MW-5 | 0.505652 | 0.162392 | 0.0270158 | 0.0915959 | 2954 | 128.435 |
| MW-2 | 0.478636 | 0.100204 | 0 | 0.092608 | 2706 | 123 |
| MW-11 | 0.447778 | 0.156667 | -0.0308586 | 0.121533 | 1107 | 123 |
| MW-12 | 0.781111 | 0.707963 | 0.302475 | 0.121533 | 1366 | 151.778 |
| MW-10 | 0.480417 | 0.0959383 | 0.0017803 | 0.0906582 | 2952 | 123 |
| MW-6 | 0.478636 | 0.100204 | 0 | 0.092608 | 2706 | 123 |
| MW-3 | 0.479565 | 0.0980018 | 0.000928854 | 0.0915959 | 2829 | 123 |
| MW-13 | 0.844444 | 0.683943 | 0.365808 | 0.121533 | 1370 | 152.222 |
| MW-4 | 0.588261 | 0.534778 | 0.109625 | 0.0915959 | 2962 | 128.783 |

## Analysis of Variance Statistics

| | |
|---|---|
| SS Wells | 2.02986 |
| SS Total | 24.9542 |

## Kruskal-Wallis Statistics

| | |
|---|---|
| Non-Detect Rank | 123 |
| Background Rank Sum | 2706 |
| Background Rank Mean | 123 |
| H Statistic | 2.72085 |
| H Adjusted for Ties | 22.0404 |

# Basic Statistics

## Parameter: Chromium, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

| | Total Observations |
|---|---|
| 256 | |
| Total Non-Detects | 140 |
| Pooled Mean | 21.0794 |
| Pooled Std Dev | 32.9125 |
| Background Mean | 36.5055 |
| Background Std Dev | 37.9415 |

## Background Wells

There is 1 background well

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-1 | 22 | 7 | 31.8182 | 803.12 |

| Well | Mean | Std Dev | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|
| MW-1 | 36.5055 | 37.9415 | 0 | 3696.5 | 168.023 |

## Compliance Wells

There are 12 compliance wells

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-5 | 23 | 10 | 43.4783 | 465.12 |
| MW-4 | 23 | 15 | 65.2174 | 418.12 |
| MW-8 | 22 | 13 | 59.0909 | 426.12 |
| MW-11 | 9 | 7 | 77.7778 | 68.12 |
| MW-12 | 9 | 5 | 55.5556 | 182.12 |
| MW-10 | 24 | 12 | 50 | 240.12 |
| MW-6 | 22 | 12 | 54.5455 | 300.12 |
| MW-9 | 23 | 14 | 60.8696 | 347.12 |
| MW-7 | 25 | 13 | 52 | 439.12 |
| MW-13 | 9 | 5 | 55.5556 | 101 |
| MW-3 | 23 | 21 | 91.3043 | 151.12 |
| MW-2 | 22 | 6 | 27.2727 | 1455 |

| Well | Mean | Std Dev | Dif From Bkg | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|---|
| MW-5 | 20.2226 | 23.5267 | -16.2828 | 8.83725 | 3213 | 139.696 |
| MW-4 | 18.1791 | 30.0885 | -18.3263 | 8.83725 | 2586.5 | 112.457 |
| MW-8 | 19.3691 | 31.22 | -17.1364 | 8.9349 | 2706.5 | 123.023 |
| MW-11 | 7.56889 | 7.31797 | -28.9366 | 11.7256 | 849.5 | 94.3889 |
| MW-12 | 20.2356 | 25.4772 | -16.2699 | 11.7256 | 1195.5 | 132.833 |
| MW-10 | 10.005 | 6.91443 | -26.5005 | 8.74678 | 2830 | 117.917 |
| MW-6 | 13.6418 | 13.6449 | -22.8636 | 8.9349 | 2757 | 125.318 |
| MW-9 | 15.0922 | 18.5842 | -21.4133 | 8.83725 | 2765 | 120.217 |
| MW-7 | 17.5648 | 22.9419 | -18.9407 | 8.66271 | 3254.5 | 130.18 |
| MW-13 | 11.2222 | 7.4293 | -25.2832 | 11.7256 | 1096.5 | 121.833 |
| MW-3 | 6.57043 | 6.70173 | -29.935 | 8.83725 | 1872.5 | 81.413 |
| MW-2 | 66.1364 | 68.4205 | 29.6309 | 8.9349 | 4073 | 185.136 |

## Analysis of Variance Statistics

| | |
|---|---|
| SS Wells | 62831.9 |
| SS Total | 276224 |

## Kruskal-Wallis Statistics

| | |
|---|---|
| Non-Detect Rank | 70.5 |
| Background Rank Sum | 3696.5 |
| Background Rank Mean | 168.023 |
| H Statistic | 33.0118 |
| H Adjusted for Ties | 39.4665 |

# Basic Statistics

## Parameter: Lead, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

| | Total Observations |
|---|---|
| 256 | |
| Total Non-Detects | 188 |
| Pooled Mean | 10.1421 |
| Pooled Std Dev | 12.5644 |
| Background Mean | 12.9107 |
| Background Std Dev | 15.6097 |

## Background Wells

There is 1 background well

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-1 | 22 | 11 | 50 | 284.035 |

| Well | Mean | Std Dev | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|
| MW-1 | 12.9107 | 15.6097 | 0 | 3365.5 | 152.977 |

## Compliance Wells

There are 12 compliance wells

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-5 | 23 | 17 | 73.913 | 199.035 |
| MW-4 | 23 | 20 | 86.9565 | 172.035 |
| MW-8 | 22 | 18 | 81.8182 | 164.035 |
| MW-7 | 25 | 21 | 84 | 183.035 |
| MW-9 | 23 | 20 | 86.9565 | 154.035 |
| MW-3 | 23 | 21 | 91.3043 | 140.035 |
| MW-11 | 9 | 7 | 77.7778 | 65.035 |
| MW-12 | 9 | 4 | 44.4444 | 164.035 |
| MW-10 | 24 | 22 | 91.6667 | 146.035 |
| MW-6 | 22 | 15 | 68.1818 | 179.035 |
| MW-13 | 9 | 5 | 55.5556 | 119 |
| MW-2 | 22 | 7 | 31.8182 | 627 |

| Well | Mean | Std Dev | Dif From Bkg | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|---|
| MW-5 | 8.6537 | 7.5577 | -4.25699 | 3.32543 | 2907.5 | 126.413 |
| MW-4 | 7.47978 | 8.75738 | -5.4309 | 3.32543 | 2560 | 111.304 |
| MW-8 | 7.45614 | 6.44735 | -5.45455 | 3.36218 | 2575 | 117.045 |
| MW-7 | 7.3214 | 6.84023 | -5.58928 | 3.25975 | 2863.5 | 114.54 |
| MW-9 | 6.69717 | 5.62625 | -6.21351 | 3.32543 | 2544 | 110.609 |
| MW-3 | 6.08848 | 4.54973 | -6.8222 | 3.32543 | 2426.5 | 105.5 |
| MW-11 | 7.22611 | 6.45224 | -5.68457 | 4.4123 | 1090.5 | 121.167 |
| MW-12 | 18.2261 | 17.1037 | 5.31543 | 4.4123 | 1536 | 170.667 |
| MW-10 | 6.08479 | 4.8338 | -6.82589 | 3.29139 | 2521 | 105.042 |
| MW-6 | 8.13795 | 6.25651 | -4.77273 | 3.36218 | 2873.5 | 130.614 |
| MW-13 | 13.2222 | 12.1324 | 0.31154 | 4.4123 | 1367.5 | 151.944 |
| MW-2 | 28.5 | 25.6325 | 15.5893 | 3.36218 | 4265.5 | 193.886 |

## Analysis of Variance Statistics

| | |
|---|---|
| SS Wells | 10038.9 |
| SS Total | 40255.1 |

## Kruskal-Wallis Statistics

| | |
|---|---|
| Non-Detect Rank | 94.5 |
| Background Rank Sum | 3365.5 |
| Background Rank Mean | 152.977 |
| H Statistic | 32.1315 |
| H Adjusted for Ties | 53.2022 |

# Basic Statistics

## Parameter: Zinc

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

| | Total Observations |
|---|---|
| 256 | |
| Total Non-Detects | 220 |
| Pooled Mean | 35.2305 |
| Pooled Std Dev | 53.5864 |
| Background Mean | 28.8682 |
| Background Std Dev | 27.2456 |

## Background Wells

There is 1 background well

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-1 | 22 | 20 | 90.9091 | 635.1 |

| Well | Mean | Std Dev | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|
| MW-1 | 28.8682 | 27.2456 | 0 | 2679 | 121.773 |

## Compliance Wells

There are 12 compliance wells

| Well | Samples | Non-Detects | % ND | Total |
|---|---|---|---|---|
| MW-13 | 9 | 9 | 100 | 180.1 |
| MW-10 | 24 | 23 | 95.8333 | 605.1 |
| MW-7 | 25 | 19 | 76 | 1099.1 |
| MW-5 | 23 | 21 | 91.3043 | 625.1 |
| MW-11 | 9 | 9 | 100 | 180.1 |
| MW-12 | 9 | 3 | 33.3333 | 681 |
| MW-3 | 23 | 23 | 100 | 530.1 |
| MW-9 | 23 | 23 | 100 | 530.1 |
| MW-4 | 23 | 22 | 95.6522 | 650.1 |
| MW-6 | 22 | 22 | 100 | 505.1 |
| MW-8 | 22 | 8 | 36.3636 | 2165 |
| MW-2 | 22 | 18 | 81.8182 | 633 |

| Well | Mean | Std Dev | Dif From Bkg | Std Err | Rank Sum | Rank Mean |
|---|---|---|---|---|---|---|
| MW-13 | 20.0111 | 9.97502 | -8.85707 | 19.7706 | 994.5 | 110.5 |
| MW-10 | 25.2125 | 12.3692 | -3.65568 | 14.748 | 2779.5 | 115.813 |
| MW-7 | 43.964 | 46.1204 | 15.0958 | 14.6062 | 3548.5 | 141.94 |
| MW-5 | 27.1783 | 16.9865 | -1.68992 | 14.9005 | 2792.5 | 121.413 |
| MW-11 | 20.0111 | 9.97502 | -8.85707 | 19.7706 | 994.5 | 110.5 |
| MW-12 | 75.6667 | 67.1063 | 46.7985 | 19.7706 | 1773.5 | 197.056 |
| MW-3 | 23.0478 | 6.50998 | -5.82036 | 14.9005 | 2541.5 | 110.5 |
| MW-9 | 23.0478 | 6.50998 | -5.82036 | 14.9005 | 2541.5 | 110.5 |
| MW-4 | 28.2652 | 26.2633 | -0.602964 | 14.9005 | 2678 | 116.435 |
| MW-6 | 22.9591 | 6.64893 | -5.90909 | 15.0652 | 2431 | 110.5 |
| MW-8 | 98.4091 | 149.516 | 69.5409 | 15.0652 | 4231 | 192.318 |
| MW-2 | 28.7727 | 15.6111 | -0.0954545 | 15.0652 | 2911 | 132.318 |

## Analysis of Variance Statistics

| | |
|---|---|
| SS Wells | 125570 |
| SS Total | 732233 |

## Kruskal-Wallis Statistics

| | |
|---|---|
| Non-Detect Rank | 110.5 |
| Background Rank Sum | 2679 |
| Background Rank Mean | 121.773 |
| H Statistic | 31.7295 |
| H Adjusted for Ties | 86.8509 |

# Interwell Analyses for Metals

# Poisson Tolerance Limit

## Parameter: Arsenic

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Poisson Count of 22 background Samples = 221.47
Degrees of Freedom = 444

## 95% Confidence Values

Chi-Squared Value (95% Confidence) = 494.126
Lambda (from Zack's formula) = 11.2301
Smallest Degrees of Freedom = 35
Upper Tolerance Limit (95%) = 16.5

## 99% Confidence Values

Chi-Squared Value (99% Confidence) = 516.25
Lambda (from Zack's formula) = 11.733
Smallest Degrees of Freedom = 42
Upper Tolerance Limit (99%) = 20

| | Date | Result | Impacted 95% | Impacted 99% |
|---|---|---|---|---|
| MW-2 | 12/30/1997 | ND<10 | FALSE | FALSE |
| | 2/25/1998 | ND<10 | FALSE | FALSE |
| | 4/27/1998 | ND<10 | FALSE | FALSE |
| | 6/8/1998 | ND<10 | FALSE | FALSE |
| | 2/23/1999 | ND<10 | FALSE | FALSE |
| | 8/24/1999 | ND<10 | FALSE | FALSE |
| | 2/10/2000 | ND<10 | FALSE | FALSE |
| | 8/3/2000 | ND<10 | FALSE | FALSE |
| | 2/8/2001 | ND<10 | FALSE | FALSE |
| | 8/8/2001 | ND<10 | FALSE | FALSE |
| | 2/14/2002 | ND<10 | FALSE | FALSE |
| | 8/22/2002 | ND<10 | FALSE | FALSE |
| | 2/6/2003 | ND<10 | FALSE | FALSE |
| | 8/13/2003 | ND<10 | FALSE | FALSE |
| | 2/18/2004 | ND<10 | FALSE | FALSE |
| | 8/26/2004 | ND<10 | FALSE | FALSE |
| | 2/22/2005 | ND<10 | FALSE | FALSE |
| | 8/9/2005 | 19 | TRUE | FALSE |
| | 2/22/2006 | 22 | TRUE | TRUE |
| | 8/29/2006 | 12 | FALSE | FALSE |
| | 2/7/2007 | 20 | TRUE | FALSE |
| | 8/14/2007 | 13 | FALSE | FALSE |
| MW-7 | 12/30/1997 | 35 | TRUE | TRUE |
| | 2/25/1998 | 30 | TRUE | TRUE |
| | 4/27/1998 | ND<10 | FALSE | FALSE |
| | 6/8/1998 | 14 | FALSE | FALSE |
| | 2/23/1999 | 12 | FALSE | FALSE |
| | 8/24/1999 | ND<10 | FALSE | FALSE |
| | 2/10/2000 | ND<10 | FALSE | FALSE |
| | 8/3/2000 | 42 | TRUE | TRUE |
| | 2/8/2001 | 38 | TRUE | TRUE |
| | 8/8/2001 | 23 | TRUE | TRUE |
| | 8/8/2001 | ND<10 | FALSE | FALSE |
| | 2/14/2002 | ND<10 | FALSE | FALSE |
| | 8/22/2002 | ND<10 | FALSE | FALSE |
| | 8/22/2002 | ND<10 | FALSE | FALSE |
| | 2/6/2003 | 207 | TRUE | TRUE |
| | 8/13/2003 | ND<10 | FALSE | FALSE |
| | 8/13/2003 | ND<10 | FALSE | FALSE |
| | 2/18/2004 | 13 | FALSE | FALSE |
| | 8/26/2004 | ND<10 | FALSE | FALSE |
| | 2/22/2005 | 26 | TRUE | TRUE |
| | 8/9/2005 | 57 | TRUE | TRUE |
| | 2/22/2006 | ND<10 | FALSE | FALSE |
| | 8/29/2006 | 18 | TRUE | FALSE |
| | 2/7/2007 | 12 | FALSE | FALSE |
| | 8/14/2007 | 12 | FALSE | FALSE |

# Poisson Tolerance Limit

## Parameter: Cadmium, total

Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

Poisson Count of 22 background Samples = 21.06
Degrees of Freedom = 44

## 95% Confidence Values

Chi-Squared Value (95% Confidence) = 60.4809
Lambda (from Zack's formula) = 1.37457
Smallest Degrees of Freedom = 9
Upper Tolerance Limit (95%) = 3.5

## 99% Confidence Values

Chi-Squared Value (99% Confidence) = 68.7096
Lambda (from Zack's formula) = 1.56158
Smallest Degrees of Freedom = 12
Upper Tolerance Limit (99%) = 5

| | Date | Result | Impacted 95% | Impacted 99% |
|---|---|---|---|---|
| MW-13 | 5/4/2004 | ND<1 | FALSE | FALSE |
| | 8/26/2004 | 2 | FALSE | FALSE |
| | 11/30/2004 | ND<1 | FALSE | FALSE |
| | 2/22/2005 | ND<1 | FALSE | FALSE |
| | 8/9/2005 | ND<1 | FALSE | FALSE |
| | 2/22/2006 | ND<1 | FALSE | FALSE |
| | 8/29/2006 | ND<1 | FALSE | FALSE |
| | 2/7/2007 | ND<1 | FALSE | FALSE |
| | 8/14/2007 | 2.1 | FALSE | FALSE |

# Shapiro-Wilks Test of Normality

## Parameter: Chromium, total

## Background Wells

## Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL
K = 11; Samples = 22

| i | x(i) | x(n-i+1) | x(n-1+1)-x(i) | a(n-i+1) | b(i) |
|---|---|---|---|---|---|
| 1 | 0.12 | 129 | 128.88 | 0.459 | 59.1559 |
| 2 | 5 | 108 | 103 | 0.3156 | 32.5068 |
| 3 | 5 | 96 | 91 | 0.2571 | 23.3961 |
| 4 | 5 | 90 | 85 | 0.2131 | 18.1135 |
| 5 | 5 | 60 | 55 | 0.1764 | 9.702 |
| 6 | 5 | 57 | 52 | 0.1443 | 7.5036 |
| 7 | 5 | 47 | 42 | 0.115 | 4.83 |
| 8 | 12 | 33 | 21 | 0.0878 | 1.8438 |
| 9 | 17 | 31 | 14 | 0.0618 | 0.8652 |
| 10 | 18 | 28 | 10 | 0.0368 | 0.368 |
| 11 | 20 | 27 | 7 | 0.0122 | 0.0854 |
| 12 | 27 | 20 | -7 | | |
| 13 | 28 | 18 | -10 | | |
| 14 | 31 | 17 | -14 | | |
| 15 | 33 | 12 | -21 | | |
| 16 | 47 | 5 | -42 | | |
| 17 | 57 | 5 | -52 | | |
| 18 | 60 | 5 | -55 | | |
| 19 | 90 | 5 | -85 | | |
| 20 | 96 | 5 | -91 | | |
| 21 | 108 | 5 | -103 | | |
| 22 | 129 | 0.12 | -128.88 | | |

Sum of b values = 158.37
Sample Standard Deviation = 37.9415
W Statistic = 0.829657
5% Critical value of 0.911 exceeds 0.829657
Evidence of non-normality at 95% level of significance
1% Critical value of 0.878 exceeds 0.829657
Evidence of non-normality at 99% level of significance

# Non-Parametric Tolerance Interval

## Parameter: Chromium, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

Total Percent Non-Detects = 33.9623%
Background Samples (n) = 22
Maximum Background Concentration = 129
Minimum Coverage = 87.3%
Average Coverage = 95.6522%

| Well | Sample | Result | Impacted |
|---|---|---|---|
| MW-13 | 5/4/2004 | ND<5 | FALSE |
| MW-13 | 8/26/2004 | ND<5 | FALSE |
| MW-13 | 11/30/2004 | 19 | FALSE |
| MW-13 | 2/22/2005 | ND<5 | FALSE |
| MW-13 | 8/9/2005 | 20 | FALSE |
| MW-13 | 2/22/2006 | ND<5 | FALSE |
| MW-13 | 8/29/2006 | 20 | FALSE |
| MW-13 | 2/7/2007 | ND<5 | FALSE |
| MW-13 | 8/14/2007 | 17 | FALSE |
| MW-2 | 12/30/1997 | 144 | TRUE |
| MW-2 | 2/25/1998 | 126 | FALSE |
| MW-2 | 4/27/1998 | 46 | FALSE |
| MW-2 | 6/8/1998 | ND<5 | FALSE |
| MW-2 | 2/23/1999 | ND<5 | FALSE |
| MW-2 | 8/24/1999 | ND<5 | FALSE |
| MW-2 | 2/10/2000 | ND<5 | FALSE |
| MW-2 | 8/3/2000 | 119 | FALSE |
| MW-2 | 2/8/2001 | 15 | FALSE |
| MW-2 | 8/8/2001 | 94 | FALSE |
| MW-2 | 2/14/2002 | ND<5 | FALSE |
| MW-2 | 8/22/2002 | ND<5 | FALSE |
| MW-2 | 2/6/2003 | 221 | TRUE |
| MW-2 | 8/13/2003 | 173 | TRUE |
| MW-2 | 2/18/2004 | 36 | FALSE |
| MW-2 | 8/26/2004 | 143 | TRUE |
| MW-2 | 2/22/2005 | 166 | TRUE |
| MW-2 | 8/9/2005 | 27 | FALSE |
| MW-2 | 2/22/2006 | 44 | FALSE |
| MW-2 | 8/29/2006 | 20 | FALSE |
| MW-2 | 2/7/2007 | 25 | FALSE |
| MW-2 | 8/14/2007 | 26 | FALSE |

# Shapiro-Wilks Test of Normality

## Parameter: Lead, total

## Background Wells

## Normality Test of Parameter Concentrations

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL
K = 11; Samples = 22

| i | x(i) | x(n-i+1) | x(n-1+1)-x(i) | a(n-i+1) | b(i) |
|---|---|---|---|---|---|
| 1 | 0.035 | 76 | 75.965 | 0.459 | 34.8679 |
| 2 | 5 | 26 | 21 | 0.3156 | 6.6276 |
| 3 | 5 | 22 | 17 | 0.2571 | 4.3707 |
| 4 | 5 | 18 | 13 | 0.2131 | 2.7703 |
| 5 | 5 | 18 | 13 | 0.1764 | 2.2932 |
| 6 | 5 | 17 | 12 | 0.1443 | 1.7316 |
| 7 | 5 | 14 | 9 | 0.115 | 1.035 |
| 8 | 5 | 12 | 7 | 0.0878 | 0.6146 |
| 9 | 5 | 11 | 6 | 0.0618 | 0.3708 |
| 10 | 5 | 10 | 5 | 0.0368 | 0.184 |
| 11 | 5 | 10 | 5 | 0.0122 | 0.061 |
| 12 | 10 | 5 | -5 | | |
| 13 | 10 | 5 | -5 | | |
| 14 | 11 | 5 | -6 | | |
| 15 | 12 | 5 | -7 | | |
| 16 | 14 | 5 | -9 | | |
| 17 | 17 | 5 | -12 | | |
| 18 | 18 | 5 | -13 | | |
| 19 | 18 | 5 | -13 | | |
| 20 | 22 | 5 | -17 | | |
| 21 | 26 | 5 | -21 | | |
| 22 | 76 | 0.035 | -75.965 | | |

Sum of b values = 54.9267
Sample Standard Deviation = 15.6097
W Statistic = 0.589602
5% Critical value of 0.911 exceeds 0.589602
Evidence of non-normality at 95% level of significance
1% Critical value of 0.878 exceeds 0.589602
Evidence of non-normality at 99% level of significance

# Non-Parametric Tolerance Interval

## Parameter: Lead, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

Total Percent Non-Detects = 43.3962%
Background Samples (n) = 22
Maximum Background Concentration = 76
Minimum Coverage = 87.3%
Average Coverage = 95.6522%

| Well | Sample | Result | Impacted |
|---|---|---|---|
| MW-13 | 5/4/2004 | ND<5 | FALSE |
| MW-13 | 8/26/2004 | ND<5 | FALSE |
| MW-13 | 11/30/2004 | ND<5 | FALSE |
| MW-13 | 2/22/2005 | 11 | FALSE |
| MW-13 | 8/9/2005 | 35 | FALSE |
| MW-13 | 2/22/2006 | ND<5 | FALSE |
| MW-13 | 8/29/2006 | 32 | FALSE |
| MW-13 | 2/7/2007 | ND<5 | FALSE |
| MW-13 | 8/14/2007 | 16 | FALSE |
| MW-2 | 12/30/1997 | 108 | TRUE |
| MW-2 | 2/25/1998 | 23 | FALSE |
| MW-2 | 4/27/1998 | 30 | FALSE |
| MW-2 | 6/8/1998 | ND<5 | FALSE |
| MW-2 | 2/23/1999 | ND<5 | FALSE |
| MW-2 | 8/24/1999 | ND<5 | FALSE |
| MW-2 | 2/10/2000 | ND<5 | FALSE |
| MW-2 | 8/3/2000 | 25 | FALSE |
| MW-2 | 2/8/2001 | 28 | FALSE |
| MW-2 | 8/8/2001 | ND<5 | FALSE |
| MW-2 | 2/14/2002 | ND<5 | FALSE |
| MW-2 | 8/22/2002 | ND<5 | FALSE |
| MW-2 | 2/6/2003 | 53 | FALSE |
| MW-2 | 8/13/2003 | 36 | FALSE |
| MW-2 | 2/18/2004 | 23 | FALSE |
| MW-2 | 8/26/2004 | 14 | FALSE |
| MW-2 | 2/22/2005 | 42 | FALSE |
| MW-2 | 8/9/2005 | 74 | FALSE |
| MW-2 | 2/22/2006 | 46 | FALSE |
| MW-2 | 8/29/2006 | 24 | FALSE |
| MW-2 | 2/7/2007 | 38 | FALSE |
| MW-2 | 8/14/2007 | 28 | FALSE |

# Poisson Tolerance Limit

## Parameter: Zinc

Natural Logarithm Transformation
Non-Detects Replaced with Detection Limit

Poisson Count of 22 background Samples = 80.2011
Degrees of Freedom = 162

## 95% Confidence Values

Chi-Squared Value (95% Confidence) = 192.7
Lambda (from Zack's formula) = 4.37955
Smallest Degrees of Freedom = 18
Upper Tolerance Limit (95%) = 8

## 99% Confidence Values

Chi-Squared Value (99% Confidence) = 206.79
Lambda (from Zack's formula) = 4.69976
Smallest Degrees of Freedom = 22
Upper Tolerance Limit (99%) = 10

| | Date | Result | Impacted 95% | Impacted 99% |
|---|---|---|---|---|
| MW-2 | 12/30/1997 | 4.49981 | FALSE | FALSE |
| | 2/25/1998 | 4.06044 | FALSE | FALSE |
| | 4/27/1998 | ND<3.91202 | FALSE | FALSE |
| | 6/8/1998 | ND<3.91202 | FALSE | FALSE |
| | 2/23/1999 | ND<3.91202 | FALSE | FALSE |
| | 8/24/1999 | ND<3.91202 | FALSE | FALSE |
| | 2/10/2000 | ND<3.91202 | FALSE | FALSE |
| | 8/3/2000 | ND<3.91202 | FALSE | FALSE |
| | 2/8/2001 | ND<3.91202 | FALSE | FALSE |
| | 8/8/2001 | ND<3.91202 | FALSE | FALSE |
| | 2/14/2002 | ND<3.91202 | FALSE | FALSE |
| | 8/22/2002 | ND<3.91202 | FALSE | FALSE |
| | 2/6/2003 | ND<3.91202 | FALSE | FALSE |
| | 8/13/2003 | ND<3.91202 | FALSE | FALSE |
| | 2/18/2004 | ND<3.91202 | FALSE | FALSE |
| | 8/26/2004 | ND<3.91202 | FALSE | FALSE |
| | 2/22/2005 | ND<3.91202 | FALSE | FALSE |
| | 8/9/2005 | ND<3.91202 | FALSE | FALSE |
| | 2/22/2006 | ND<3.91202 | FALSE | FALSE |
| | 8/29/2006 | ND<3.91202 | FALSE | FALSE |
| | 2/7/2007 | 2.94444 | FALSE | FALSE |
| | 8/14/2007 | 2.77259 | FALSE | FALSE |
| MW-12 | 5/4/2004 | ND<3.91202 | FALSE | FALSE |
| | 8/26/2004 | 4.23411 | FALSE | FALSE |
| | 11/30/2004 | ND<3.91202 | FALSE | FALSE |
| | 2/22/2005 | 5.17615 | FALSE | FALSE |
| | 8/9/2005 | 5.20949 | FALSE | FALSE |
| | 2/22/2006 | 4.7185 | FALSE | FALSE |
| | 8/29/2006 | 4.07754 | FALSE | FALSE |
| | 2/7/2007 | ND<2.30259 | FALSE | FALSE |
| | 8/14/2007 | 3.2581 | FALSE | FALSE |
| MW-8 | 12/30/1997 | 6.17587 | FALSE | FALSE |
| | 2/25/1998 | 6.39526 | FALSE | FALSE |
| | 4/27/1998 | 4.2485 | FALSE | FALSE |
| | 6/8/1998 | ND<3.91202 | FALSE | FALSE |
| | 2/23/1999 | ND<3.91202 | FALSE | FALSE |
| | 8/24/1999 | ND<3.91202 | FALSE | FALSE |
| | 2/10/2000 | ND<3.91202 | FALSE | FALSE |
| | 8/3/2000 | 4.31749 | FALSE | FALSE |
| | 2/8/2001 | 3.95124 | FALSE | FALSE |
| | 8/8/2001 | 4.44265 | FALSE | FALSE |
| | 2/14/2002 | ND<3.91202 | FALSE | FALSE |
| | 8/22/2002 | ND<3.91202 | FALSE | FALSE |
| | 2/6/2003 | 5.24175 | FALSE | FALSE |
| | 8/13/2003 | 4.54329 | FALSE | FALSE |
| | 2/18/2004 | ND<3.91202 | FALSE | FALSE |
| | 8/26/2004 | 4.14313 | FALSE | FALSE |
| | 2/22/2005 | 4.2485 | FALSE | FALSE |
| | 8/9/2005 | 4.44265 | FALSE | FALSE |
| | 2/22/2006 | 4.34381 | FALSE | FALSE |
| | 8/29/2006 | ND<3.91202 | FALSE | FALSE |
| | 2/7/2007 | 2.48491 | FALSE | FALSE |

| | | | |
|---|---|---|---|
| 8/14/2007 | 2.56495 | FALSE | FALSE |

# Laboratory Results

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6029

WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY ,NC 28333

DATE COLLECTED: 08/14/07
DATE REPORTED : 09/04/07

REVIEWED BY:

| PARAMETERS | MDL | SWSL | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PH (field measurement), Units | | | 5.7 | 5.9 | 5.6 | 5.0 | 4.9 | 08/14/07 | RJH | SM4500HB |
| Antimony, ug/l | 0.05 | 6.0 | --- U | 0.2 J | 0.1 J | --- U | --- U | 08/20/07 | CMF | EPA200.8 |
| Arsenic, ug/l | 0.47 | 10.0 | 0.8 J | 13 | 0.6 J | 1.4 J | 3.0 J | 08/20/07 | CMF | EPA200.8 |
| Barium, ug/l | 0.04 | 100.0 | 9.6 J | 49.1 J | 37.0 J | 32.7 J | 44.3 J | 08/20/07 | CMF | EPA200.8 |
| Beryllium, ug/l | 0.08 | 1.0 | --- U | 0.6 J | --- U | --- U | 0.2 J | 08/20/07 | CMF | EPA200.8 |
| Cadmium, ug/l | 0.06 | 1.0 | 0.1 J | 0.7 J | --- U | --- U | 0.1 J | 08/20/07 | CMF | EPA200.8 |
| Cobalt, ug/l | 0.41 | 10.0 | --- U | 0.5 J | 0.6 J | --- U | 0.6 J | 08/20/07 | CMF | EPA200.8 |
| Copper, ug/l | 0.20 | 10.0 | --- U | 3.5 J | --- U | --- U | 0.6 J | 08/20/07 | CMF | EPA200.8 |
| Total Chromium, ug/l | 0.24 | 10.0 | 3.3 J | 26 | --- U | 1.3 J | 2.8 J | 08/20/07 | CMF | EPA200.8 |
| Lead, ug/l | 0.07 | 10.0 | 1.0 J | 28 | 0.3 J | 0.8 J | 1.7 J | 08/20/07 | CMF | EPA200.8 |
| Nickel, ug/l | 0.66 | 50.0 | --- U | 1.2 J | --- U | --- U | --- U | 08/20/07 | CMF | EPA200.8 |
| Selenium, ug/l | 0.35 | 10.0 | --- U | 3.5 J | --- U | --- U | --- U | 08/20/07 | CMF | EPA200.8 |
| Silver, ug/l | 0.52 | 10.0 | --- U | --- U | --- U | --- U | --- U | 08/20/07 | CMF | EPA200.8 |
| Thallium, ug/l | 0.07 | 5.0 | --- U | 0.2 J | 0.3 J | --- U | --- U | 08/20/07 | CMF | EPA200.8 |
| Vanadium, ug/l | 0.42 | 25.0 | 7.2 J | 39 | --- U | 2.6 J | 5.1 J | 08/20/07 | CMF | EPA200.8 |
| Zinc, ug/l | 0.20 | 10.0 | 0.5 J | 16 | --- U | --- U | 1.6 J | 08/20/07 | CMF | EPA200.8 |
| Conductivity (at 25c), uMhos | 1.0 | 1.0 | 35 | 333 | 187 | 31 | 34 | 08/14/07 | RJH | SM2510B |
| Temperature, °C | | | 18 | 18 | 19 | 17 | 16 | 08/14/07 | RJH | SM2550B |
| Static Water Level, feet | | | 15.61 | 10.41 | 5.76 | 16.67 | 16.55 | 08/14/07 | RJH | |
| Well Depth, feet | | | 25.03 | 21.98 | 22.58 | 27.35 | 26.15 | 08/14/07 | RJH | |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633


ID#: 6029

WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY ,NC 28333

DATE COLLECTED: 08/14/07
DATE REPORTED : 09/04/07

REVIEWED BY:

| PARAMETERS | MDL | SWSL | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PH (field measurement), Units | | | 4.9 | 5.2 | 5.2 | 4.8 | 4.8 | 08/14/07 | RJH | SM4500HB |
| Antimony, ug/l | 0.05 | 6.0 | --- U | 0.1 J | --- U | --- U | | 08/20/07 | CMF | EPA200.8 |
| Antimony, ug/l | 0.05 | 6.0 | | | | | 0.1 J | 08/21/07 | LFJ | EPA200.8 |
| Arsenic, ug/l | 0.47 | 10.0 | 1.8 J | 12 | 0.8 J | --- U | | 08/20/07 | CMF | EPA200.8 |
| Arsenic, ug/l | 0.47 | 10.0 | | | | | 1.0 J | 08/21/07 | LFJ | EPA200.8 |
| Barium, ug/l | 0.04 | 100.0 | 28.9 J | 40.8 J | 15.7 J | 52.9 J | | 08/20/07 | CMF | EPA200.8 |
| Barium, ug/l | 0.04 | 100.0 | | | | | 42.8 J | 08/21/07 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.08 | 1.0 | --- U | 0.3 J | 0.1 J | 0.1 J | | 08/20/07 | CMF | EPA200.8 |
| Beryllium, ug/l | 0.08 | 1.0 | | | | | 0.3 J | 08/21/07 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.06 | 1.0 | --- U | 0.1 J | 0.1 J | 0.3 J | | 08/20/07 | CMF | EPA200.8 |
| Cadmium, ug/l | 0.06 | 1.0 | | | | | 0.1 J | 08/21/07 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.41 | 10.0 | --- U | 1.8 J | 0.9 J | --- U | | 08/20/07 | CMF | EPA200.8 |
| Cobalt, ug/l | 0.41 | 10.0 | | | | | --- U | 08/21/07 | LFJ | EPA200.8 |
| Copper, ug/l | 0.20 | 10.0 | 0.9 J | 0.4 J | --- U | --- U | | 08/20/07 | CMF | EPA200.8 |
| Copper, ug/l | 0.20 | 10.0 | | | | | 1.1 J | 08/21/07 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.24 | 10.0 | 4.1 J | 2.1 J | 2.0 J | 0.8 J | | 08/20/07 | CMF | EPA200.8 |
| Total Chromium, ug/l | 0.24 | 10.0 | | | | | 4.3 J | 08/21/07 | LFJ | EPA200.8 |
| Lead, ug/l | 0.07 | 10.0 | 2.7 J | 0.7 J | 0.7 J | 1.5 J | | 08/20/07 | CMF | EPA200.8 |
| Lead, ug/l | 0.07 | 10.0 | | | | | 3.7 J | 08/21/07 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.66 | 50.0 | --- U | 0.7 J | 1.8 J | --- U | | 08/20/07 | CMF | EPA200.8 |
| Nickel, ug/l | 0.66 | 50.0 | | | | | 1.0 J | 08/21/07 | LFJ | EPA200.8 |
| Selenium, ug/l | 0.35 | 10.0 | --- U | 1.1 J | --- U | --- U | | 08/20/07 | CMF | EPA200.8 |
| Selenium, ug/l | 0.35 | 10.0 | | | | | --- U | 08/21/07 | LFJ | EPA200.8 |
| Silver, ug/l | 0.52 | 10.0 | --- U | --- U | --- U | --- U | | 08/20/07 | CMF | EPA200.8 |
| Silver, ug/l | 0.52 | 10.0 | | | | | --- U | 08/23/07 | LFJ | EPA200.8 |
| Thallium, ug/l | 0.07 | 5.0 | --- U | 0.1 J | --- U | --- U | | 08/20/07 | CMF | EPA200.8 |
| Thallium, ug/l | 0.07 | 5.0 | | | | | 0.3 J | 08/21/07 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.42 | 25.0 | 4.9 J | 4.3 J | 2.8 J | 1.1 J | | 08/20/07 | CMF | EPA200.8 |
| Vanadium, ug/l | 0.42 | 25.0 | | | | | 5.7 J | 08/21/07 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.20 | 10.0 | --- U | 3.0 J | 13 | --- U | | 08/20/07 | CMF | EPA200.8 |
| Zinc, ug/l | 0.20 | 10.0 | | | | | 4.8 J | 08/23/07 | LFJ | EPA200.8 |
| Conductivity (at 25c), uMhos | 1.0 | 1.0 | 30 | 60 | 40 | 40 | 38 | 08/14/07 | RJH | SM2510B |
| Temperature, °C | | | 17 | 19 | 19 | 19 | 19 | 08/14/07 | RJH | SM2550B |
| Static Water Level, feet | | | 16.93 | 6.23 | 8.12 | 11.93 | 13.24 | 08/14/07 | RJH | |
| Well Depth, feet | | | 27.19 | 22.63 | 22.69 | 24.03 | 25.19 | 08/14/07 | RJH | |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6029

WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY ,NC 28333

DATE COLLECTED: 08/14/07
DATE REPORTED : 09/04/07

REVIEWED BY:

| PARAMETERS | MDL | SWSL | Duplicate WL10 ) | Equipment Blank | Trip Blank | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|
| Antimony, ug/l | 0.05 | 6.0 | --- U | | | 08/21/07 | LFJ | EPA200.8 |
| Antimony, ug/l | 0.05 | 6.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Arsenic, ug/l | 0.47 | 10.0 | 1.7 J | | | 08/21/07 | LFJ | EPA200.8 |
| Arsenic, ug/l | 0.47 | 10.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Barium, ug/l | 0.04 | 100.0 | 46.9 J | | | 08/21/07 | LFJ | EPA200.8 |
| Barium, ug/l | 0.04 | 100.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.08 | 1.0 | 0.3 J | | | 08/21/07 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.08 | 1.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.06 | 1.0 | 0.1 J | | | 08/21/07 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.06 | 1.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.41 | 10.0 | --- U | | | 08/21/07 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.41 | 10.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Copper, ug/l | 0.20 | 10.0 | 1.3 J | | | 08/21/07 | LFJ | EPA200.8 |
| Copper, ug/l | 0.20 | 10.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.24 | 10.0 | 5.0 J | | | 08/21/07 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.24 | 10.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Lead, ug/l | 0.07 | 10.0 | 4.1 J | | | 08/21/07 | LFJ | EPA200.8 |
| Lead, ug/l | 0.07 | 10.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.66 | 50.0 | 0.9 J | | | 08/21/07 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.66 | 50.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Selenium, ug/l | 0.35 | 10.0 | --- U | | | 08/21/07 | LFJ | EPA200.8 |
| Selenium, ug/l | 0.35 | 10.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Silver, ug/l | 0.52 | 10.0 | --- U | | | 08/23/07 | LFJ | EPA200.8 |
| Silver, ug/l | 0.52 | 10.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Thallium, ug/l | 0.07 | 5.0 | 0.2 J | | | 08/21/07 | LFJ | EPA200.8 |
| Thallium, ug/l | 0.07 | 5.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.42 | 25.0 | 6.7 J | | | 08/21/07 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.42 | 25.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.20 | 10.0 | 5.9 J | | | 08/23/07 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.20 | 10.0 | | --- U | | 08/20/07 | LFJ | EPA200.8 |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY, NC 28333

CLIENT ID: 6029

ANALYST: MAO
DATE COLLECTED: 08/14/07
DATE ANALYZED: 08/23/07
DATE REPORTED: 09/04/07



REVIEWED BY:

## VOLATILE ORGANICS
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 |
|---|---|---|---|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 2. Vinyl Chloride | 0.34 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 3. Bromomethane | 0.26 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 4. Chloroethane | 0.29 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 5. Trichlorofluoromethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 7. Acetone | 1.21 | 100.0 | 2.50 J | 2.10 J | --- U | --- U | --- U |
| 8. Iodomethane | 0.12 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 9. Carbon Disulfide | 0.14 | 100.0 | --- U | --- U | --- U | --- U | --- U |
| 10. Methylene Chloride | 0.14 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 11. trans-1,2-Dichloroethene | 0.13 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 12. 1,1-Dichloroethane | 0.16 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 13. Vinyl Acetate | 0.20 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 15. 2-Butanone | 0.85 | 100.0 | 1.80 J | 1.40 J | --- U | --- U | --- U |
| 16. Bromochloromethane | 0.11 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 17. Chloroform | 0.13 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 18. 1,1,1-Trichloroethane | 0.11 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 19. Carbon Tetrachloride | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 20. Benzene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 21. 1,2-Dichloroethane | 0.12 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 22. Trichloroethene | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 23. 1,2-Dichloropropane | 0.17 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 24. Bromodichloromethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 25. Cis-1,3-Dichloropropene | 0.17 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 26. 4-Methyl-2-Pentanone | 0.68 | 100.0 | --- U | --- U | --- U | --- U | --- U |
| 27. Toluene | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 28. trans-1,3-Dichloropropene | 0.14 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 29. 1,1,2-Trichloroethane | 0.20 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 30. Tetrachloroethene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 31. 2-Hexanone | 1.00 | 50.0 | --- U | --- U | --- U | --- U | --- U |
| 32. Dibromochloromethane | 0.14 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 33. 1,2-Dibromoethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 34. Chlorobenzene | 0.13 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 35. 1,1,1,2-Tetrachloroethane | 0.14 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 36. Ethylbenzene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 37. Xylenes | 0.48 | 4.0 | --- U | --- U | --- U | --- U | --- U |
| 38. Dibromomethane | 0.17 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 39. Styrene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 40. Bromoform | 0.11 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 41. 1,1,2,2-Tetrachloroethane | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 42. 1,2,3-Trichloropropane | 0.06 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 43. 1,4-Dichlorobenzene | 0.21 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 44. 1,2-Dichlorobenzene | 0.13 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 45. 1,2-Dibromo-3-Chloropropane | 0.26 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 46. Acrylonitrile | 1.49 | 200.0 | --- U | --- U | --- U | --- U | --- U |
| 47. trans-1,4-Dichloro-2-Butene | 0.14 | 100.0 | --- U | --- U | --- U | --- U | --- U |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633


CLIENT: WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY, NC 28333

CLIENT ID: 6029

ANALYST: MAO
DATE COLLECTED: 08/14/07
DATE ANALYZED: 08/23/07
DATE REPORTED: 09/04/07



REVIEWED BY:

## VOLATILE ORGANICS
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | MW-6 | MW-7 | MW-8 | MW-9 | MW-10 |
|---|---|---|---|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | --- U | --- U | --- U | 0.20 J | --- U |
| 2. Vinyl Chloride | 0.34 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 3. Bromomethane | 0.26 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 4. Chloroethane | 0.29 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 5. Trichlorofluoromethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 7. Acetone | 1.21 | 100.0 | 1.50 J | 1.60 J | --- U | 2.70 J | --- U |
| 8. Iodomethane | 0.12 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 9. Carbon Disulfide | 0.14 | 100.0 | --- U | --- U | --- U | --- U | --- U |
| 10. Methylene Chloride | 0.14 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 11. trans-1,2-Dichloroethene | 0.13 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 12. 1,1-Dichloroethane | 0.16 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 13. Vinyl Acetate | 0.20 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 15. 2-Butanone | 0.85 | 100.0 | --- U | --- U | --- U | 1.40 J | --- U |
| 16. Bromochloromethane | 0.11 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 17. Chloroform | 0.13 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 18. 1,1,1-Trichloroethane | 0.11 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 19. Carbon Tetrachloride | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 20. Benzene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 21. 1,2-Dichloroethane | 0.12 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 22. Trichloroethene | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 23. 1,2-Dichloropropane | 0.17 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 24. Bromodichloromethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 25. Cis-1,3-Dichloropropene | 0.17 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 26. 4-Methyl-2-Pentanone | 0.68 | 100.0 | --- U | --- U | --- U | --- U | --- U |
| 27. Toluene | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 28. trans-1,3-Dichloropropene | 0.14 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 29. 1,1,2-Trichloroethane | 0.20 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 30. Tetrachloroethene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 31. 2-Hexanone | 1.00 | 50.0 | --- U | --- U | --- U | --- U | --- U |
| 32. Dibromochloromethane | 0.14 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 33. 1,2-Dibromoethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 34. Chlorobenzene | 0.13 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 35. 1,1,1,2-Tetrachloroethane | 0.14 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 36. Ethylbenzene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 37. Xylenes | 0.48 | 4.0 | --- U | --- U | --- U | --- U | --- U |
| 38. Dibromomethane | 0.17 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 39. Styrene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 40. Bromoform | 0.11 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 41. 1,1,2,2-Tetrachloroethane | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 42. 1,2,3-Trichloropropane | 0.06 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 43. 1,4-Dichlorobenzene | 0.21 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 44. 1,2-Dichlorobenzene | 0.13 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 45. 1,2-Dibromo-3-Chloropropane | 0.26 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 46. Acrylonitrile | 1.49 | 200.0 | --- U | --- U | --- U | --- U | --- U |
| 47. trans-1,4-Dichloro-2-Butene | 0.14 | 100.0 | --- U | --- U | --- U | --- U | --- U |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
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CLIENT: WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY, NC 28333

CLIENT ID: 6029

ANALYST: MAO
DATE COLLECTED: 08/14/07
DATE ANALYZED: 08/23/07
DATE REPORTED: 09/04/07



REVIEWED BY:

## VOLATILE ORGANICS
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | Duplicate ( WL10 ) | Equipment Blank | Trip Blank |
|---|---|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | --- U | --- U | --- U |
| 2. Vinyl Chloride | 0.34 | 1.0 | --- U | --- U | --- U |
| 3. Bromomethane | 0.26 | 10.0 | --- U | --- U | --- U |
| 4. Chloroethane | 0.29 | 10.0 | --- U | --- U | --- U |
| 5. Trichlorofluoromethane | 0.13 | 1.0 | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U |
| 7. Acetone | 1.21 | 100.0 | --- U | --- U | 2.50 J |
| 8. Iodomethane | 0.12 | 10.0 | --- U | --- U | --- U |
| 9. Carbon Disulfide | 0.14 | 100.0 | --- U | --- U | --- U |
| 10. Methylene Chloride | 0.14 | 1.0 | --- U | --- U | 0.40 J |
| 11. trans-1,2-Dichloroethene | 0.13 | 5.0 | --- U | --- U | --- U |
| 12. 1,1-Dichloroethane | 0.16 | 5.0 | --- U | --- U | --- U |
| 13. Vinyl Acetate | 0.20 | 5.0 | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U |
| 15. 2-Butanone | 0.85 | 100.0 | --- U | --- U | 1.40 J |
| 16. Bromochloromethane | 0.11 | 3.0 | --- U | --- U | --- U |
| 17. Chloroform | 0.13 | 5.0 | --- U | --- U | --- U |
| 18. 1,1,1-Trichloroethane | 0.11 | 1.0 | --- U | --- U | --- U |
| 19. Carbon Tetrachloride | 0.13 | 1.0 | --- U | --- U | --- U |
| 20. Benzene | 0.16 | 1.0 | --- U | --- U | --- U |
| 21. 1,2-Dichloroethane | 0.12 | 1.0 | --- U | --- U | --- U |
| 22. Trichloroethene | 0.13 | 1.0 | --- U | --- U | --- U |
| 23. 1,2-Dichloropropane | 0.17 | 1.0 | --- U | --- U | --- U |
| 24. Bromodichloromethane | 0.13 | 1.0 | --- U | --- U | --- U |
| 25. Cis-1,3-Dichloropropene | 0.17 | 1.0 | --- U | --- U | --- U |
| 26. 4-Methyl-2-Pentanone | 0.68 | 100.0 | --- U | --- U | --- U |
| 27. Toluene | 0.13 | 1.0 | --- U | --- U | --- U |
| 28. trans-1,3-Dichloropropene | 0.14 | 1.0 | --- U | --- U | --- U |
| 29. 1,1,2-Trichloroethane | 0.20 | 5.0 | --- U | --- U | --- U |
| 30. Tetrachloroethene | 0.16 | 1.0 | --- U | --- U | --- U |
| 31. 2-Hexanone | 1.00 | 50.0 | --- U | --- U | --- U |
| 32. Dibromochloromethane | 0.14 | 1.0 | --- U | --- U | --- U |
| 33. 1,2-Dibromoethane | 0.13 | 1.0 | --- U | --- U | --- U |
| 34. Chlorobenzene | 0.13 | 3.0 | --- U | --- U | --- U |
| 35. 1,1,1,2-Tetrachloroethane | 0.14 | 5.0 | --- U | --- U | --- U |
| 36. Ethylbenzene | 0.16 | 1.0 | --- U | --- U | --- U |
| 37. Xylenes | 0.48 | 4.0 | --- U | --- U | --- U |
| 38. Dibromomethane | 0.17 | 10.0 | --- U | --- U | --- U |
| 39. Styrene | 0.16 | 1.0 | --- U | --- U | --- U |
| 40. Bromoform | 0.11 | 3.0 | --- U | --- U | --- U |
| 41. 1,1,2,2-Tetrachloroethane | 0.16 | 1.0 | --- U | --- U | --- U |
| 42. 1,2,3-Trichloropropane | 0.06 | 1.0 | --- U | --- U | --- U |
| 43. 1,4-Dichlorobenzene | 0.21 | 1.0 | --- U | --- U | --- U |
| 44. 1,2-Dichlorobenzene | 0.13 | 5.0 | --- U | --- U | --- U |
| 45. 1,2-Dibromo-3-Chloropropane | 0.26 | 1.0 | --- U | --- U | --- U |
| 46. Acrylonitrile | 1.49 | 200.0 | --- U | --- U | --- U |
| 47. trans-1,4-Dichloro-2-Butene | 0.14 | 100.0 | --- U | --- U | --- U |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

**Environment 1, Inc.**
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

Phone (252) 756-6208 • Fax (252) 756-0633

# CHAIN OF CUSTODY RECORD



**CLIENT:** 6029 **Week:** 33

**WAYNE CO. LANDFILL (LINED)**
**MR. LLOYD COOK**
**460B LANDFILL ROAD**
**DUDLEY NC 28333**

**(919) 689-2994**

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

| SAMPLE LOCATION | COLLECTION DATE | COLLECTION TIME | TOTAL CHLORINE, mg/l AT COLLECTION | TEMPERATURE, °C AT COLLECTION | # OF CONTAINERS | Field pH | BOD | COD | Nitrate-Nitrite | PO4 | Sulfate | Metals | Conductivity | Temperature | Field Parameter | EPA 8260B | 8260 Dup. 1 | 8260 Dup. 2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHLORINE NEUTRALIZED AT COLLECTION | | | | | | | | | | | | | | | | | | | | | |
| pH CHECK (LAB) | | | | | | | | | | | | L2 | | | | L2 | L2 | L2 | | | |
| CONTAINER TYPE, P/G | | | | | | P | P | P | P | P | P | P | P | P | | G | G | G | | | |
| CHEMICAL PRESERVATION | | | | | | A | A | C | C | C | A | B | A | A | | E | E | E | | | |
| MW-1 | 08/14/07 | 1220 | | 18 | 5 | G | | | | | | G | G | G | G | G | G | G | | | |
| MW-2 | 08/14/07 | 1250 | | 18 | 4 | G | | | | | | G | G | G | G | G | G | | | | |
| MW-3 | 08/14/07 | 0940 | | 19 | 4 | G | | | | | | G | G | G | G | G | G | | | | |
| MW-4 | 08/14/07 | 1055 | | 17 | 4 | G | | | | | | G | G | G | G | G | G | | | | |
| MW-5 | 08/14/07 | 1035 | | 16 | 4 | G | | | | | | G | G | G | G | G | G | | | | |
| MW-6 | 08/14/07 | 1020 | | 17 | 4 | G | | | | | | G | G | G | G | G | G | | | | |
| MW-7 | 08/14/07 | 0945 | | 19 | 4 | G | | | | | | G | G | G | G | G | G | | | | |
| MW-8 | 08/14/07 | 0955 | | 19 | 4 | G | | | | | | G | G | G | G | G | G | | | | |
| MW-9 | 08/14/07 | 0850 | | 19 | 4 | G | | | | | | G | G | G | G | G | G | | | | |
| MW-10 | 08/14/07 | 0905 | | 19 | 5 | G | | | | | | G | G | G | G | G | G | G | | | |
| Duplicate (MW-10) | 08/14/07 | 0905 | | 19 | 3 | | | | | | | G | | | | G | G | | | | |

PARAMETERS

A - NONE D - NAOH
B - $HNO_3$ E - HCL
C - $H_2SO_4$ F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:
☐ WASTEWATER (NPDES)
☐ DRINKING WATER
☐ DWQ/GW
☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY: Y N

SAMPLES COLLECTED BY: (Please Print) H Lane Fox

SAMPLES RECEIVED IN LAB AT 3.6 °C

| RELINQUISHED BY (SIG.) (SAMPLER) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
|---|---|---|---|
| [signature] | 08/14/07 | [signature] | 8/14/07 3:11 |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
| | | | |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
| | | | |

COMMENTS:

Instructions for completing this form are on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5

№ 147293

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6029 A

WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY ,NC 28333

DATE COLLECTED: 08/14/07
DATE REPORTED : 09/04/07

REVIEWED BY:

| PARAMETERS | MDL | SWSL | SW-2 | SW-3 | SW-4 | SW-5 | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|---|
| PH (field measurement), Units | | | Missing | 7.2 | 6.3 | 5.7 | 08/14/07 | RJH | SM4500HB |
| Antimony, ug/l | 0.05 | 6.0 | Missing | 0.2 J | 0.1 J | 0.2 J | 08/20/07 | LFJ | EPA200.8 |
| Arsenic, ug/l | 0.47 | 10.0 | Missing | 1.9 J | 1.9 J | 2.3 J | 08/20/07 | LFJ | EPA200.8 |
| Barium, ug/l | 0.04 | 100.0 | Missing | 101 | 150 | | 08/20/07 | LFJ | EPA200.8 |
| Barium, ug/l | 0.04 | 100.0 | | | | 689 | 08/21/07 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.08 | 1.0 | Missing | --- U | --- U | 0.9 J | 08/20/07 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.06 | 1.0 | Missing | 3.0 | 1.2 | 2.0 | 08/20/07 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.41 | 10.0 | Missing | 0.7 J | 3.2 J | 5.0 J | 08/20/07 | LFJ | EPA200.8 |
| Copper, ug/l | 0.20 | 10.0 | Missing | 1.9 J | 0.5 J | 8.3 J | 08/20/07 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.24 | 10.0 | Missing | 3.0 J | 0.9 J | 12 | 08/20/07 | LFJ | EPA200.8 |
| Lead, ug/l | 0.07 | 10.0 | Missing | 0.7 J | 1.0 J | 39 | 08/20/07 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.66 | 50.0 | Missing | 1.9 J | 1.0 J | 7.0 J | 08/20/07 | LFJ | EPA200.8 |
| Selenium, ug/l | 0.35 | 10.0 | Missing | 0.9 J | --- U | 2.1 J | 08/20/07 | LFJ | EPA200.8 |
| Silver, ug/l | 0.52 | 10.0 | Missing | --- U | --- U | --- U | 08/20/07 | LFJ | EPA200.8 |
| Thallium, ug/l | 0.07 | 5.0 | Missing | --- U | --- U | 0.2 J | 08/20/07 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.42 | 25.0 | Missing | 2.0 J | 1.4 J | 10.7 J | 08/20/07 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.20 | 10.0 | Missing | 12 | 5.1 J | 38 | 08/20/07 | LFJ | EPA200.8 |
| Conductivity (at 25c), uMhos | 1.0 | 1.0 | Missing | 696 | 182 | 190 | 08/14/07 | RJH | SM2510B |
| Temperature, °C | | | Missing | 23 | 20 | 20 | 08/14/07 | RJH | SM2550B |
| 8260 (Duplicate) | | | Missing | | | | / / | | |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633


CLIENT: WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY, NC 28333

CLIENT ID: 6029 A

ANALYST: MAO
DATE COLLECTED: 08/14/07
DATE ANALYZED: 08/24/77
DATE REPORTED: 09/04/07



REVIEWED BY:

## VOLATILE ORGANICS
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | SW-3 | SW-4 | SW-5 |
|---|---|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | 0.30 J | --- U | --- U |
| 2. Vinyl Chloride | 0.34 | 1.0 | --- U | --- U | --- U |
| 3. Bromomethane | 0.26 | 10.0 | --- U | --- U | --- U |
| 4. Chloroethane | 0.29 | 10.0 | --- U | --- U | --- U |
| 5. Trichlorofluoromethane | 0.13 | 1.0 | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U |
| 7. Acetone | 1.21 | 100.0 | 4.30 J | 6.90 J | 3.00 J |
| 8. Iodomethane | 0.12 | 10.0 | --- U | --- U | --- U |
| 9. Carbon Disulfide | 0.14 | 100.0 | --- U | --- U | --- U |
| 10. Methylene Chloride | 0.14 | 1.0 | --- U | --- U | --- U |
| 11. trans-1,2-Dichloroethene | 0.13 | 5.0 | --- U | --- U | --- U |
| 12. 1,1-Dichloroethane | 0.16 | 5.0 | --- U | --- U | --- U |
| 13. Vinyl Acetate | 0.20 | 5.0 | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U |
| 15. 2-Butanone | 0.85 | 100.0 | 1.70 J | 2.10 J | 1.70 J |
| 16. Bromochloromethane | 0.11 | 3.0 | --- U | --- U | --- U |
| 17. Chloroform | 0.13 | 5.0 | --- U | --- U | --- U |
| 18. 1,1,1-Trichloroethane | 0.11 | 1.0 | --- U | --- U | --- U |
| 19. Carbon Tetrachloride | 0.13 | 1.0 | --- U | --- U | --- U |
| 20. Benzene | 0.16 | 1.0 | --- U | --- U | --- U |
| 21. 1,2-Dichloroethane | 0.12 | 1.0 | --- U | --- U | --- U |
| 22. Trichloroethene | 0.13 | 1.0 | --- U | --- U | --- U |
| 23. 1,2-Dichloropropane | 0.17 | 1.0 | --- U | --- U | --- U |
| 24. Bromodichloromethane | 0.13 | 1.0 | --- U | --- U | --- U |
| 25. Cis-1,3-Dichloropropene | 0.17 | 1.0 | --- U | --- U | --- U |
| 26. 4-Methyl-2-Pentanone | 0.68 | 100.0 | --- U | --- U | --- U |
| 27. Toluene | 0.13 | 1.0 | --- U | 1.00 | 2.50 |
| 28. trans-1,3-Dichloropropene | 0.14 | 1.0 | --- U | --- U | --- U |
| 29. 1,1,2-Trichloroethane | 0.20 | 5.0 | --- U | --- U | --- U |
| 30. Tetrachloroethene | 0.16 | 1.0 | --- U | --- U | --- U |
| 31. 2-Hexanone | 1.00 | 50.0 | --- U | --- U | --- U |
| 32. Dibromochloromethane | 0.14 | 1.0 | --- U | --- U | --- U |
| 33. 1,2-Dibromoethane | 0.13 | 1.0 | --- U | --- U | --- U |
| 34. Chlorobenzene | 0.13 | 3.0 | --- U | --- U | --- U |
| 35. 1,1,1,2-Tetrachloroethane | 0.14 | 5.0 | --- U | --- U | --- U |
| 36. Ethylbenzene | 0.16 | 1.0 | --- U | --- U | --- U |
| 37. Xylenes | 0.48 | 4.0 | --- U | --- U | --- U |
| 38. Dibromomethane | 0.17 | 10.0 | --- U | --- U | --- U |
| 39. Styrene | 0.16 | 1.0 | --- U | --- U | --- U |
| 40. Bromoform | 0.11 | 3.0 | --- U | --- U | --- U |
| 41. 1,1,2,2-Tetrachloroethane | 0.16 | 1.0 | --- U | --- U | --- U |
| 42. 1,2,3-Trichloropropane | 0.06 | 1.0 | --- U | --- U | --- U |
| 43. 1,4-Dichlorobenzene | 0.21 | 1.0 | --- U | --- U | --- U |
| 44. 1,2-Dichlorobenzene | 0.13 | 5.0 | --- U | --- U | --- U |
| 45. 1,2-Dibromo-3-Chloropropane | 0.26 | 1.0 | --- U | --- U | --- U |
| 46. Acrylonitrile | 1.49 | 200.0 | --- U | --- U | --- U |
| 47. trans-1,4-Dichloro-2-Butene | 0.14 | 100.0 | --- U | --- U | --- U |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

**Environment 1, Inc.**
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

Phone (252) 756-6208 • Fax (252) 756-0633

# CHAIN OF CUSTODY RECORD



**CLIENT:** 6029 A **Week: 33**

**WAYNE CO. LANDFILL (LINED)**
**MR. LLOYD COOK**
**460B LANDFILL ROAD**
**DUDLEY NC 28333**

**(919) 689-2994**

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

| SAMPLE LOCATION | COLLECTION DATE | COLLECTION TIME | TOTAL CHLORINE, mg/l AT COLLECTION | TEMPERATURE, °C AT COLLECTION | # OF CONTAINERS | Field pH | Metals | Conductivity | Temperature | EPA 8260B | 8260 Dup. 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CHLORINE NEUTRALIZED AT COLLECTION | | | | | | | | | | | |
| pH CHECK (LAB) | | | | | | | Y | | | Y | Y |
| CONTAINER TYPE, P/G | | | | | | P | P | P | P | G | G |
| CHEMICAL PRESERVATION | | | | | | A | B | A | A | E | E |
| SW-2 | | | | | 4 | | | | | | |
| SW-3 | 08/14/07 | 1050 | | 23 | 4 | G | G | G | G | G | G |
| SW-4 | 08/14/07 | 1200 | | 20 | 4 | G | G | G | G | G | G |
| SW-5 | 08/14/07 | 1135 | | 20 | 4 | G | G | G | G | G | G |

PARAMETERS

A - NONE D - NAOH
B - $HNO_3$ E - HCL
C - $H_2SO_4$ F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:
☐ WASTEWATER (NPDES)
☐ DRINKING WATER
☐ DWQ/GW
☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY: Y N

SAMPLES COLLECTED BY: (Please Print) H Lloyd Fox

SAMPLES RECEIVED IN LAB AT 3.6 °C

| RELINQUISHED BY (SIG.) (SAMPLER) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
|---|---|---|---|
| Bob H Lloyd | 08/14/07 | Anthony Ladd | 8/14/07 3:11 |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |

COMMENTS: SW 2 missing

Instructions for completing this form are on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5

№ 147291

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6029 C

WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY ,NC 28333

DATE COLLECTED: 08/14/07
DATE REPORTED : 09/04/07

REVIEWED BY:

| PARAMETERS | MDL | SWSL | MW-11 | MW-12 | MW-13 | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|
| PH (field measurement), Units | | | 4.9 | 5.2 | 4.9 | 08/14/07 | RJH | SM4500HB |
| Antimony, ug/l | 0.05 | 6.0 | --- U | --- U | --- U | 08/20/07 | LFJ | EPA200.8 |
| Arsenic, ug/l | 0.47 | 10.0 | --- U | 0.9 J | 1.8 J | 08/20/07 | LFJ | EPA200.8 |
| Barium, ug/l | 0.04 | 100.0 | 34.3 J | 31.3 J | 31.2 J | 08/20/07 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.08 | 1.0 | 0.2 J | 0.2 J | 0.4 J | 08/20/07 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.06 | 1.0 | 0.2 J | 0.4 J | 2.1 | 08/20/07 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.41 | 10.0 | 1.4 J | 1.4 J | --- U | 08/20/07 | LFJ | EPA200.8 |
| Copper, ug/l | 0.20 | 10.0 | --- U | 0.6 J | 1.1 J | 08/20/07 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.24 | 10.0 | 1.5 J | 2.3 J | 17 | 08/20/07 | LFJ | EPA200.8 |
| Lead, ug/l | 0.07 | 10.0 | 1.5 J | 1.4 J | 16 | 08/20/07 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.66 | 50.0 | --- U | 2.0 J | 1.0 J | 08/20/07 | LFJ | EPA200.8 |
| Selenium, ug/l | 0.35 | 10.0 | --- U | --- U | --- U | 08/20/07 | LFJ | EPA200.8 |
| Silver, ug/l | 0.52 | 10.0 | --- U | --- U | --- U | 08/20/07 | LFJ | EPA200.8 |
| Thallium, ug/l | 0.07 | 5.0 | 0.2 J | 0.1 J | 0.1 J | 08/20/07 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.42 | 25.0 | 1.3 J | 2.9 J | 30 | 08/20/07 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.20 | 10.0 | 1.1 J | 26 | 7.1 J | 08/20/07 | LFJ | EPA200.8 |
| Conductivity (at 25c), uMhos | 1.0 | 1.0 | 42 | 56 | 80 | 08/14/07 | RJH | SM2510B |
| Temperature, °C | | | 20 | 18 | 18 | 08/14/07 | RJH | SM2550B |
| Static Water Level, feet | | | 4.48 | 9.24 | 9.23 | 08/14/07 | RJH | |
| Well Depth, feet | | | 18.40 | 19.35 | 19.22 | 08/14/07 | RJH | |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633


CLIENT: WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY, NC 28333

CLIENT ID: 6029 C

ANALYST: MAO
DATE COLLECTED: 08/14/07
DATE ANALYZED: 08/24/07
DATE REPORTED: 09/04/07



REVIEWED BY: _____

## VOLATILE ORGANICS
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | MW-11 | MW-12 | MW-13 |
|---|---|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | --- U | --- U | --- U |
| 2. Vinyl Chloride | 0.34 | 1.0 | --- U | --- U | --- U |
| 3. Bromomethane | 0.26 | 10.0 | --- U | --- U | --- U |
| 4. Chloroethane | 0.29 | 10.0 | --- U | --- U | --- U |
| 5. Trichlorofluoromethane | 0.13 | 1.0 | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U |
| 7. Acetone | 1.21 | 100.0 | --- U | 1.80 J | --- U |
| 8. Iodomethane | 0.12 | 10.0 | --- U | --- U | --- U |
| 9. Carbon Disulfide | 0.14 | 100.0 | --- U | --- U | --- U |
| 10. Methylene Chloride | 0.14 | 1.0 | --- U | --- U | --- U |
| 11. trans-1,2-Dichloroethene | 0.13 | 5.0 | --- U | --- U | --- U |
| 12. 1,1-Dichloroethane | 0.16 | 5.0 | --- U | --- U | --- U |
| 13. Vinyl Acetate | 0.20 | 5.0 | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U |
| 15. 2-Butanone | 0.85 | 100.0 | 0.90 J | 1.20 J | --- U |
| 16. Bromochloromethane | 0.11 | 3.0 | --- U | --- U | --- U |
| 17. Chloroform | 0.13 | 5.0 | 0.20 J | 0.30 J | --- U |
| 18. 1,1,1-Trichloroethane | 0.11 | 1.0 | --- U | --- U | --- U |
| 19. Carbon Tetrachloride | 0.13 | 1.0 | --- U | --- U | --- U |
| 20. Benzene | 0.16 | 1.0 | --- U | --- U | --- U |
| 21. 1,2-Dichloroethane | 0.12 | 1.0 | --- U | --- U | --- U |
| 22. Trichloroethene | 0.13 | 1.0 | --- U | --- U | --- U |
| 23. 1,2-Dichloropropane | 0.17 | 1.0 | --- U | --- U | --- U |
| 24. Bromodichloromethane | 0.13 | 1.0 | --- U | --- U | --- U |
| 25. Cis-1,3-Dichloropropene | 0.17 | 1.0 | --- U | --- U | --- U |
| 26. 4-Methyl-2-Pentanone | 0.68 | 100.0 | --- U | --- U | --- U |
| 27. Toluene | 0.13 | 1.0 | --- U | --- U | --- U |
| 28. trans-1,3-Dichloropropene | 0.14 | 1.0 | --- U | --- U | --- U |
| 29. 1,1,2-Trichloroethane | 0.20 | 5.0 | --- U | --- U | --- U |
| 30. Tetrachloroethene | 0.16 | 1.0 | --- U | --- U | --- U |
| 31. 2-Hexanone | 1.00 | 50.0 | --- U | --- U | --- U |
| 32. Dibromochloromethane | 0.14 | 1.0 | --- U | --- U | --- U |
| 33. 1,2-Dibromoethane | 0.13 | 1.0 | --- U | --- U | --- U |
| 34. Chlorobenzene | 0.13 | 3.0 | --- U | --- U | --- U |
| 35. 1,1,1,2-Tetrachloroethane | 0.14 | 5.0 | --- U | --- U | --- U |
| 36. Ethylbenzene | 0.16 | 1.0 | --- U | --- U | --- U |
| 37. Xylenes | 0.48 | 4.0 | --- U | --- U | --- U |
| 38. Dibromomethane | 0.17 | 10.0 | --- U | --- U | --- U |
| 39. Styrene | 0.16 | 1.0 | --- U | --- U | --- U |
| 40. Bromoform | 0.11 | 3.0 | --- U | --- U | --- U |
| 41. 1,1,2,2-Tetrachloroethane | 0.16 | 1.0 | --- U | --- U | --- U |
| 42. 1,2,3-Trichloropropane | 0.06 | 1.0 | --- U | --- U | --- U |
| 43. 1,4-Dichlorobenzene | 0.21 | 1.0 | --- U | --- U | --- U |
| 44. 1,2-Dichlorobenzene | 0.13 | 5.0 | --- U | --- U | --- U |
| 45. 1,2-Dibromo-3-Chloropropane | 0.26 | 1.0 | --- U | --- U | --- U |
| 46. Acrylonitrile | 1.49 | 200.0 | --- U | --- U | --- U |
| 47. trans-1,4-Dichloro-2-Butene | 0.14 | 100.0 | --- U | --- U | --- U |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

**Environment 1, Inc.**
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

Phone (252) 756-6208 • Fax (252) 756-0633

# CHAIN OF CUSTODY RECORD



**CLIENT:** 6029 C **Week:** 33

**WAYNE CO. LANDFILL (LINED)**
**MR. LLOYD COOK**
**460B LANDFILL ROAD**
**DUDLEY NC 28333**

**(919) 689-2994**

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHLORINE NEUTRALIZED AT COLLECTION | | | | | | | | | | | | | | | | | | | | | | |
| pH CHECK (LAB) | | | | | | | | | | | | | | | | | | | | | | |
| CONTAINER TYPE, P/G | | | | | | | | | | | | | | | | | | | | | | |
| CHEMICAL PRESERVATION | | | | | | | | | | | | | | | | | | | | | | |
| PARAMETERS | | | | | | | | | | | | | | | | | | | | | | |
| SAMPLE LOCATION | COLLECTION DATE | COLLECTION TIME | TOTAL CHLORINE, mg/l AT COLLECTION | TEMPERATURE, °C AT COLLECTION | # OF CONTAINERS | Field pH | Metals | Conductivity | Temperature | Field Parameter | EPA 8260B | 8260 Dup. 1 | 8260 Dup. 2 | 8260 Dup. 3 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| MW-11 08 | 14 07 | 1120 | | 20 | 6 | G | G | G | G | G | G | G | G | G | | | | | | | | |
| MW-12 08 | 14 07 | 1140 | | 18 | 4 | G | G | G | G | G | G | G | | | | | | | | | | |
| MW-13 08 | 14 07 | 1235 | | 18 | 4 | G | G | G | G | G | G | G | | | | | | | | | | |
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A - NONE D - NAOH
B - $HNO_3$ E - HCL
C - $H_2SO_4$ F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:
☐ WASTEWATER (NPDES)
☐ DRINKING WATER
☐ DWQ/GW
☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY: (Y) N

SAMPLES COLLECTED BY: (Please Print) N Lane / Fat

SAMPLES RECEIVED IN LAB AT 3.6 °C

| RELINQUISHED BY (SIG.) (SAMPLER) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
|---|---|---|---|
| N Lane | 14 07 | Jennifer Lack | 8/14/07 3:11 |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
| | | | |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
| | | | |

COMMENTS:

Instructions for completing this form are on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5

№ 147290

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6029 D

WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY ,NC 28333

DATE COLLECTED: 08/15/07
DATE REPORTED : 09/06/07

REVIEWED BY:

| PARAMETERS | MDL | SWSL | Leachate Sump #2 | Leachate Sump #3 | Leachate Sump #4 | Leachate Sump #5 | Leachate Sump #6 | Analysis Date | Analyst | Method Code |
|---|---|---|---|---|---|---|---|---|---|---|
| PH (field measurement), Units | | | 6.6 | 6.9 | 7.0 | 7.4 | 6.5 | 08/15/07 | RJH | SM4500HB |
| BOD, mg/l | 2.0 | 2.0 | 22 | 120 | 50 | 86 | 23 | 08/15/07 | TRB | SM5210B |
| COD, mg/l | 10.0 | 10.0 | 424 | 501 | 1023 | 916 | 178 | 08/16/07 | TRB | HACH8000 |
| Nitrate-Nitrite, mg/l | | | 0.07 | --- U | --- U | 2.61 | --- U | 08/17/07 | TWA | EPA353.2 |
| Total Phosphorus, mg/l | 0.04 | 0.04 | 0.24 | 0.78 | 0.68 | 1.56 | 0.54 | 08/20/07 | SSR | EPA365.4 |
| Sulfate, mg/l | 5.0 | 250.0 | 57.4 J | 14.5 J | 8.6 J | 37.3 J | 10.6 J | 08/17/07 | TRB | SM4500-SO4 |
| Antimony, ug/l | 2.00 | 6.0 | 0.6 J | 7.0 | 2.9 J | 5.3 J | 0.6 J | 08/20/07 | LFJ | EPA200.8 |
| Arsenic, ug/l | 1.00 | 10.0 | 4.3 J | 9 J | | 8 J | | 08/20/07 | LFJ | EPA200.8 |
| Arsenic, ug/l | 1.00 | 10.0 | | | 13 | | 5.9 J | 09/04/07 | CMF | SM3113B |
| Barium, ug/l | 0.04 | 100.0 | 107 | | | 94.5 J | | 08/20/07 | LFJ | EPA200.8 |
| Barium, ug/l | 0.04 | 100.0 | | 241 | 184 | | 256 | 08/21/07 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.08 | 1.0 | --- U | --- U | | | | 08/20/07 | LFJ | EPA200.8 |
| Beryllium, ug/l | 0.08 | 1.0 | | | --- U | --- U | --- U | 08/21/07 | LFJ | EPA200.8 |
| Cadmium, ug/l | 0.20 | 1.0 | --- U | --- U | --- U | --- U | --- U | 08/20/07 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.41 | 10.0 | 4.3 J | 5.6 J | | | | 08/20/07 | LFJ | EPA200.8 |
| Cobalt, ug/l | 0.41 | 10.0 | | | 11 | 15 | 2.9 J | 08/21/07 | LFJ | EPA200.8 |
| Copper, ug/l | 0.20 | 10.0 | 11 | 7.8 J | | | | 08/20/07 | LFJ | EPA200.8 |
| Copper, ug/l | 0.20 | 10.0 | | | 15 | 22 | 4.5 J | 08/21/07 | LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.24 | 10.0 | 4.9 J | 26 | 21 | 23 | 5.6 J | 08/20/07 | LFJ | EPA200.8 |
| Lead, ug/l | 1.50 | 10.0 | 0.6 J | 1.0 J | 1.3 J | 2.1 J | 0.3 J | 08/20/07 | LFJ | EPA200.8 |
| Nickel, ug/l | 0.66 | 50.0 | 21.3 J | 81 | 58 | 102 | 24.4 J | 08/20/07 | LFJ | EPA200.8 |
| Selenium, ug/l | 2.00 | 10.0 | 5.8 J | 5.3 J | | 8.9 J | | 08/20/07 | LFJ | EPA200.8 |
| Selenium, ug/l | 2.00 | 10.0 | | | --- U | | 2.7 J | 08/29/07 | CMF | SM3113B |
| Silver, ug/l | 0.52 | 10.0 | --- U | --- U | --- U | --- U | --- U | 08/20/07 | LFJ | EPA200.8 |
| Thallium, ug/l | 2.00 | 5.0 | --- U | --- U | --- U | --- U | --- U | 08/20/07 | LFJ | EPA200.8 |
| Vanadium, ug/l | 0.42 | 25.0 | 4.0 J | 9.7 J | 18.1 J | 19.4 J | 5.5 J | 08/20/07 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.20 | 10.0 | 47 | | 33 | | | 08/20/07 | LFJ | EPA200.8 |
| Zinc, ug/l | 0.20 | 10.0 | | 250.9 | | 59 | 13 | 08/21/07 | LFJ | EPA200.8 |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

# Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY, NC 28333

CLIENT ID: 6029 D

ANALYST: MAO
DATE COLLECTED: 08/15/07
DATE ANALYZED: 08/28/07
DATE REPORTED: 09/06/07



REVIEWED BY:

## VOLATILE ORGANICS
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | Leachate Sump #2 | Leachate Sump #3 | Leachate Sump #4 | Leachate Sump #5 | Leachate Sump #6 |
|---|---|---|---|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | --- U | 0.30 J | 0.50 J | 0.80 J | --- U |
| 2. Vinyl Chloride | 0.34 | 1.0 | 1.02 | 1.10 | 0.40 J | 5.60 | 2.10 |
| 3. Bromomethane | 0.26 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 4. Chloroethane | 0.29 | 10.0 | 0.60 J | 1.20 J | 0.50 J | 0.30 J | 1.30 J |
| 5. Trichlorofluoromethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 7. Acetone | 1.21 | 100.0 | 2.80 J | 63.10 J | 14.40 J | 10.20 J | 5.50 J |
| 8. Iodomethane | 0.12 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 9. Carbon Disulfide | 0.14 | 100.0 | 1.80 J | 2.30 J | 4.60 J | 3.10 J | 1.10 J |
| 10. Methylene Chloride | 0.14 | 1.0 | 0.70 J | 0.20 J | 0.20 J | 0.20 J | --- U |
| 11. trans-1,2-Dichloroethene | 0.13 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 12. 1,1-Dichloroethane | 0.16 | 5.0 | 2.30 J | --- U | 0.70 J | 0.60 J | 2.60 J |
| 13. Vinyl Acetate | 0.20 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | 1.40 J | 0.40 J | --- U | --- U | --- U |
| 15. 2-Butanone | 0.85 | 100.0 | 1.80 J | 164.00 | 5.30 J | 2.50 J | 4.00 J |
| 16. Bromochloromethane | 0.11 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 17. Chloroform | 0.13 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 18. 1,1,1-Trichloroethane | 0.11 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 19. Carbon Tetrachloride | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 20. Benzene | 0.16 | 1.0 | 2.10 | 4.10 | 4.30 | 2.50 | 11.80 |
| 21. 1,2-Dichloroethane | 0.12 | 1.0 | 0.20 J | 0.80 J | 0.40 J | --- U | 2.20 |
| 22. Trichloroethene | 0.13 | 1.0 | 0.40 J | --- U | --- U | --- U | --- U |
| 23. 1,2-Dichloropropane | 0.17 | 1.0 | --- U | --- U | 0.20 J | --- U | 0.50 J |
| 24. Bromodichloromethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 25. Cis-1,3-Dichloropropene | 0.17 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 26. 4-Methyl-2-Pentanone | 0.68 | 100.0 | --- U | 8.20 J | 0.80 J | --- U | --- U |
| 27. Toluene | 0.13 | 1.0 | 11.40 | 23.50 | 0.70 J | 2.60 | 8.90 |
| 28. trans-1,3-Dichloropropene | 0.14 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 29. 1,1,2-Trichloroethane | 0.20 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 30. Tetrachloroethene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 31. 2-Hexanone | 1.00 | 50.0 | --- U | 1.90 J | --- U | --- U | --- U |
| 32. Dibromochloromethane | 0.14 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 33. 1,2-Dibromoethane | 0.13 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 34. Chlorobenzene | 0.13 | 3.0 | 0.80 J | 0.20 J | 0.70 J | 0.20 J | 1.70 J |
| 35. 1,1,1,2-Tetrachloroethane | 0.14 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 36. Ethylbenzene | 0.16 | 1.0 | 13.80 | 5.00 | 12.30 | 5.20 | 36.80 |
| 37. Xylenes | 0.48 | 4.0 | 34.50 | 13.20 | 29.40 | 17.00 | 75.60 |
| 38. Dibromomethane | 0.17 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 39. Styrene | 0.16 | 1.0 | --- U | --- U | --- U | --- U | 1.00 |
| 40. Bromoform | 0.11 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 41. 1,1,2,2-Tetrachloroethane | 0.16 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 42. 1,2,3-Trichloropropane | 0.06 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 43. 1,4-Dichlorobenzene | 0.21 | 1.0 | 2.90 | 1.50 | 5.60 | 6.90 | 3.70 |
| 44. 1,2-Dichlorobenzene | 0.13 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 45. 1,2-Dibromo-3-Chloropropane | 0.26 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 46. Acrylonitrile | 1.49 | 200.0 | --- U | --- U | --- U | --- U | --- U |
| 47. trans-1,4-Dichloro-2-Butene | 0.14 | 100.0 | --- U | --- U | --- U | --- U | --- U |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: WAYNE CO. LANDFILL (LINED)
MR. TIM ROGERS
460B LANDFILL ROAD
DUDLEY, NC 28333

CLIENT ID: 6029 D

ANALYST: MAO
DATE COLLECTED: 08/15/07
DATE ANALYZED: 08/28/07
DATE REPORTED: 09/06/07



REVIEWED BY:

## VOLATILE ORGANICS
## EPA METHOD 8260B

| PARAMETERS, ug/l | MDL | SWSL | Trip Blank |
|---|---|---|---|
| 1. Chloromethane | 0.18 | 1.0 | --- U |
| 2. Vinyl Chloride | 0.34 | 1.0 | --- U |
| 3. Bromomethane | 0.26 | 10.0 | --- U |
| 4. Chloroethane | 0.29 | 10.0 | --- U |
| 5. Trichlorofluoromethane | 0.13 | 1.0 | --- U |
| 6. 1,1-Dichloroethene | 0.14 | 5.0 | --- U |
| 7. Acetone | 1.21 | 100.0 | --- U |
| 8. Iodomethane | 0.12 | 10.0 | --- U |
| 9. Carbon Disulfide | 0.14 | 100.0 | --- U |
| 10. Methylene Chloride | 0.14 | 1.0 | --- U |
| 11. trans-1,2-Dichloroethene | 0.13 | 5.0 | --- U |
| 12. 1,1-Dichloroethane | 0.16 | 5.0 | --- U |
| 13. Vinyl Acetate | 0.20 | 5.0 | --- U |
| 14. Cis-1,2-Dichloroethene | 0.14 | 5.0 | --- U |
| 15. 2-Butanone | 0.85 | 100.0 | --- U |
| 16. Bromochloromethane | 0.11 | 3.0 | --- U |
| 17. Chloroform | 0.13 | 5.0 | --- U |
| 18. 1,1,1-Trichloroethane | 0.11 | 1.0 | --- U |
| 19. Carbon Tetrachloride | 0.13 | 1.0 | --- U |
| 20. Benzene | 0.16 | 1.0 | --- U |
| 21. 1,2-Dichloroethane | 0.12 | 1.0 | --- U |
| 22. Trichloroethene | 0.13 | 1.0 | --- U |
| 23. 1,2-Dichloropropane | 0.17 | 1.0 | --- U |
| 24. Bromodichloromethane | 0.13 | 1.0 | --- U |
| 25. Cis-1,3-Dichloropropene | 0.17 | 1.0 | --- U |
| 26. 4-Methyl-2-Pentanone | 0.68 | 100.0 | --- U |
| 27. Toluene | 0.13 | 1.0 | --- U |
| 28. trans-1,3-Dichloropropene | 0.14 | 1.0 | --- U |
| 29. 1,1,2-Trichloroethane | 0.20 | 5.0 | --- U |
| 30. Tetrachloroethene | 0.16 | 1.0 | --- U |
| 31. 2-Hexanone | 1.00 | 50.0 | --- U |
| 32. Dibromochloromethane | 0.14 | 1.0 | --- U |
| 33. 1,2-Dibromoethane | 0.13 | 1.0 | --- U |
| 34. Chlorobenzene | 0.13 | 3.0 | --- U |
| 35. 1,1,1,2-Tetrachloroethane | 0.14 | 5.0 | --- U |
| 36. Ethylbenzene | 0.16 | 1.0 | --- U |
| 37. Xylenes | 0.48 | 4.0 | --- U |
| 38. Dibromomethane | 0.17 | 10.0 | --- U |
| 39. Styrene | 0.16 | 1.0 | --- U |
| 40. Bromoform | 0.11 | 3.0 | --- U |
| 41. 1,1,2,2-Tetrachloroethane | 0.16 | 1.0 | --- U |
| 42. 1,2,3-Trichloropropane | 0.06 | 1.0 | --- U |
| 43. 1,4-Dichlorobenzene | 0.21 | 1.0 | --- U |
| 44. 1,2-Dichlorobenzene | 0.13 | 5.0 | --- U |
| 45. 1,2-Dibromo-3-Chloropropane | 0.26 | 1.0 | --- U |
| 46. Acrylonitrile | 1.49 | 200.0 | --- U |
| 47. trans-1,4-Dichloro-2-Butene | 0.14 | 100.0 | --- U |

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

**Environment 1, Inc.**
P.O. Box 7085 414 Oakmont Dr.
Greenville, NC 27858

Phone (252) 756-6208 • Fax (252) 756-0633

# CHAIN OF CUSTODY RECORD



**CLIENT:** 6029 D **Week:** 33

**WAYNE CO. LANDFILL (LINED)**
**MR. LLOYD COOK**
**460B LANDFILL ROAD**
**DUDLEY NC 28333**

**(919) 689-2994**

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

| SAMPLE LOCATION | COLLECTION DATE | COLLECTION TIME | TOTAL CHLORINE, mg/l AT COLLECTION | TEMPERATURE, °C AT COLLECTION | # OF CONTAINERS | Field pH | BOD | COD | Nitrate-Nitrite | PO4 | Sulfate | Metals | EPA 8260B | 8260 Dup. 1 | 8260 Dup. 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHLORINE NEUTRALIZED AT COLLECTION | | | | | | | | | | | | | | | |
| pH CHECK (LAB) | | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| CONTAINER TYPE, P/G | | | | | | P | P | P | P | P | P | P | G | G | G |
| CHEMICAL PRESERVATION | | | | | | A | A | C | C | C | A | B | E | E | E |
| **Leachate Sump #2** 08 | 15 07 | 0935 | | 23 | 9 | G | G | G | G | G | G | G | G | G | |
| **Leachate Sump #3** 08 | 15 07 | 0955 | | 21 | 9 | G | G | G | G | G | G | G | G | G | |
| **Leachate Sump #4** 08 | 15 07 | 0945 | | 25 | 9 | G | G | G | G | G | G | G | G | G | |
| **Leachate Sump #5** 08 | 15 07 | 1020 | | 23 | 9 | G | G | G | G | G | G | G | G | G | |
| **Leachate Sump #6** 08 | 15 07 | 1005 | | 20 | 10 | G | G | G | G | G | G | G | G | G | G |
| **Trip Blank** | | | | | 2 | | | | | | | | | | |

PARAMETERS

A - NONE D - NAOH
B - $HNO_3$ E - HCL
C - $H_2SO_4$ F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:
☐ WASTEWATER (NPDES)
☐ DRINKING WATER
☐ DWQ/GW
☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
Y N

SAMPLES COLLECTED BY: (Please Print) Hogan Fox

SAMPLES RECEIVED IN LAB AT 2.8 °C

| RELINQUISHED BY (SIG.) (SAMPLER) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
|---|---|---|---|
| Bob Hogan 08 | 1507 2:30 | Wayne Fadell | 8/15/07 2:30 |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |
| RELINQUISHED BY (SIG.) | DATE/TIME | RECEIVED BY (SIG.) | DATE/TIME |

COMMENTS:

Instructions for completing this form are on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5

№ 152845

Environment 1, Inc.

| Sampled By ☑ Bob Hilgoe ☐ Bobby Fox<br>Other: | Facility WAYNE CO<br>Project No. | Site ID 6029<br>Date (m/d/y) 08 13 07 |
|---|---|---|

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 5.71 | 5.79 | 5.8 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1473 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W·2 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____

Environment 1, Inc.

| Sampled By ☑ Bob Hilgoe ☑ Bobby Fox<br>Other: | Facility WAYNE CO. | Site ID 6029 |
|---|---|---|
| | Project No. | Date (m/d/y) 08 13/14 07 |

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 5.57 | 5.56 | 5.76 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1473 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-3 | | | | | | | | | |
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| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____

Environment 1, Inc.

| Sampled By ☑ Bob Hilgoe ☑ Bobby Fox<br>Other: | Facility WAYNE CO. | Site ID 6029 |
|---|---|---|
| | Project No. | Date (m/d/yy) 13/14 07 |

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 4.86 | 4.83 | 4.8 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-9 | | | | | | | | | |
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| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____

Environment 1, Inc.

| Sampled By ☒ Bob Hilgoe ☐ Bobby Fox<br>Other: | Facility WAYNE CO. | Site ID C029 |
|---|---|---|
| | Project No. | Date (m/d/y) 08 13 14 07 |

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 4.89 | 4.85 | 4.83 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-10 (DUP) | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____

Environment 1, Inc.

| Sampled By ☒ Bob Hilgoe ☐ Bobby Fox<br>Other: | Facility WAYNE CO. | Site ID 6029 |
|---|---|---|
| | Project No. | Date (m/d/y) 08 13, 14 07 |

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 5.26 | 5.21 | 5.2 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W17 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____ Page ___ of ___

Environment 1, Inc.

| Sampled By ☐ Bob Hilgoe ☑ Bobby Fox<br>Other: | Facility WAYNE CO. | Site ID 6029 |
|---|---|---|
| | Project No. | Date (m/d/y) 98 13,14 07 |

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 5.20 | 5.23 | 5.25 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-8 | | | | | | | | | |
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| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____ Page ___ of ___

Environment 1, Inc.

| Sampled By ☑ Bob Hilgoe ☑ Bobby Fox<br>Other: | Facility WAYNE CO. | Site ID 6029 |
|---|---|---|
| | Project No. | Date (m/d/y) 08 15 14 07 |

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 4.87 | 4.88 | 4.9 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1473 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-6 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____

Environment 1, Inc.

| Sampled By ☐ Bob Hilgoe ☑ Bobby Fox<br>Other: | Facility WAYNE CO. | Site ID 6029 |
|---|---|---|
| | Project No. | Date (m/d/y) 08 13 07 |

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): X 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 4.90 | 4.93 | 4.9 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-5 | | | | | | | | | |
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| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____ Page ___ of ___

Environment 1, Inc.

| Sampled By ☑ Bob Hilgoe ☐ Bobby Fox<br>Other: | Facility WAYNE CO. | Site ID 6029 |
|---|---|---|
| | Project No. | Date (m/d/y) 08 13,14 07 |

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 4.95 | 4.99 | 5.0 ~~4.9~~ | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-4 | | | | | | | | | |
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| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____

Environment 1, Inc.

| Sampled By ☑ Bob Hilgoe ☑ Bobby Fox<br>Other: | Facility WAYNE CO.<br>Project No. | Site ID 6029<br>Date (m/d/y) 08 13,14 07 |
|---|---|---|

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☑

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 4.85 | 4.89 | | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-11 | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____

Environment 1, Inc.

| Sampled By ☒ Bob Hilgoe ☒ Bobby Fox<br>Other: | Facility WAYNE CO. | Site ID 6029 |
|---|---|---|
| | Project No. | Date (m/d/y) 8/13,14 07 |

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 5.07 | 5.12 | 5.15 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W.1 | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |

Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____

Environment 1, Inc.

| Sampled By ☑ Bob Hilgoe ☑ Bobby Fox<br>Other: | Facility WAYNE CO.<br>Project No. | Site ID 6029<br>Date (m/d/y) 8 13, 14 07 |
|---|---|---|

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 5.11 | 5.24 | 5.2 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-12 | | | | | | | | | |
| | | | | | | | | | |
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Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____ Page ___ of ___

Environment 1, Inc.

| Sampled By ☑ Bob Hilgoe ☑ Bobby Fox<br>Other: | Facility WAYNE CO.<br>Project No. | Site ID 6029<br>Date (m/d/y) 08 '3,4 07 |
|---|---|---|

**Site Description** X Monitoring Well ☐ Extraction Well ☐ Irrigation Well ☐ Spring ☐ Borehole ☐ Probe Other:

| | |
|---|---|
| Air Temp: ☐ °C ☐ °F | Weather: |
| Well Locked? ☐ yes ☐ no | Damaged/Repairs Needed: |
| x TOC Description: | |
| TOC Stickup: ft. above/below ground | Well Inside Diameter (ID): x 2-inch ☐ 4-inch Other: |
| Site Remarks (nearby wells pumping, tide, stream stage, etc.) | |

**Water Level Data** Measurement Units: ft. Well or Borehole Total Depth (TD) from TOC:

| x E-Tape, # 2<br>☐ Steel Tape ☐ Other | Pre-Purge Initial | Pre-Purge Confirmation | Purging Start | During Purging | Purging End | After Sampling | Remarks |
|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | |
| Depth to Water | | | | | | | |
| Tape Correction | | | | | | | |
| Water Level (WL) | | | | | | | |
| Product Thickness | | | | | | | |
| Product Recovery<br>☐ gallons ☐ liters | | | | | | | |

Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark on MP or TOC, measure water level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock format). MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured; D - dry; O - obstructed; P - pumping; F - flowing (artesian well); R - recently pumped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness if sheen observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column.

**Field WQ Data** Purge Depth: ☐ Grab ☐ Bailer X Pump Description:

Casing Volume: [_____(TD) - _____(WL)] • [_____(Well ID)]$^2$ • [_____(Conversion Factor)] = _____ gals
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches

Well Goes Dry While Purging ☐

| ☐ Cum. Vol. Purged<br>☐ Pumping Rate | | | | | | (Final) | Meter Type | Remarks |
|---|---|---|---|---|---|---|---|---|
| Time (hh:mm; 24-hr clock) | | | | | | | | |
| pH (Temperature Corrected? ☐) | 4.70 | 4.79 | 4.8 | | | | OAKTON | 4.0/7.0/10.0 Buffers |
| Temperature, °C | | | | | | | | |
| Dissolved Oxygen mg/L | | | | | | | | |
| S Conductivity µS/cm | | | | | | | OAKTON | 1413 498 |
| Turbidity ☐ NTU | | | | | | | | |
| Color/Tint | | | | | | | | |
| Odor | | | | | | | | |
| | | | | | | | | |

Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons or liters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment failures, purge water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (µS/cm at 25°C); EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon

**Sample Data** Sample Depth: ☐ Grab ☐ Bailer X Pump Description:

| Field Sample ID (unique ID on bottles) | Result Code | Date (m/d/y) | Time (hh:mm) | Bottles (total to lab) | Filtered (0.45 µm) | Lab ID | Case ID | SDG ID | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| W-13 | | | | | | | | | |
| | | | | | | | | | |
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Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to second lab); BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mmddyy. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.

| Sampler's Name (print) | Signature |
|---|---|



Date Entered into Database _____ By _____