RCO 2494 P0472

Groundwater Sampling Report and Statistical Analysis

Prepared for

Iredell County Subtitle D Landfill, Phases 1-3, C&D
Statesville, North Carolina

January, 2005

Received
JUN 2005
Waste
Management

MESCO Project Number: G05020.0

Completed on June 9, 2005

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.

June 8, 2005

Mr. Matt Gamble
Solid Waste Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
401 Oberlin Road, Suite 150
Raleigh, NC 27605

Re: Groundwater Sampling and Statistical Analysis
Iredell County Subtitle D Lined Landfill
MESCO Project No. G05020.0

Dear Mr. Gamble:

Municipal Engineering Company, P.A. (MESCO), sampled the Iredell County Subtitle D Landfill located in Statesville NC for the Appendix I list of metals and volatile organic constituents (VOCs) on January 25 & 26, 2005 as part of the detection monitoring program. The entire active facility was sampled including the monitoring locations for the Subtitle D phases 1-3 and the C&D area. Environmental Conservation Laboratories, Inc. (ENCO) of Orlando, FL completed the laboratory analysis of the leachate and the Cary, NC lab completed the remaining analysis. The laboratory results and statistical analysis are included herein.

All detected constituents were analyzed for regulatory exceedance with reference to North Carolina Groundwater Standards. The results are shown in the enclosed table titled "Exceedance Scan". The following table summarize those constituents that exceeded the Standard.

Table 1. Exceedance Summary

Well	Cadmium	Lead	Nickel	DCM	PCE	TCE
MW-2		x				
MW-4A	x		x			
MW-21S	x					
MW-13A	x					
MW-13B				x	x	x

x=concentration greater than standard

Inorganic constituents (Metals) continued to be detected within several of the monitoring locations. However metal exceedances were detected only within compliance wells MW-2, MW-4A, MW-21S, and MW-13A. None of the metals that were detected in concentrations above the Standard during the previous event were found above the MCL during this sampling event. The metal concentration inconsistencies strengthens the ascertain that the metals are naturally inherent in the groundwater.

Volatile Organic Constituents (VOCs) continue to be detected within MW-13B. Water samples obtained from MW-13B continue to contain levels of PCE, TCE, and DCM above the Standard. This was the sixth consecutive sampling event VOCs have been found within this location. All of the VOCs have increased in comparison to the previous sampling event.

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Low levels of cis-1,2-Dichloroethene continue to be detected within MW-9R and MW-9RR near the toe of the slope at the unlined C&D area. The VOC concentrations within the C&D area have not increased compared to the previous sampling event.

The shallowest background well MW-1B and compliance well MW-15 were dry therefore not sampled during this event. Water levels were obtained from several additional piezometers surrounding both the Phase 3 Subtitle D and C&D landfills. These readings were utilized to supplement the water elevations from the monitoring wells to construct a more accurate potentiometric surface.

MESCO completed the enclosed potentiometric map with groundwater elevations on the day of sampling, flow rates and direction. The field data sheet and chain of custody is also enclosed.

The statistical analysis as required by the Solid Waste Section has also been completed by MESCO. The purpose of these analyses is to determine, in comparison to background levels, statistical significance of constituents detected during the January 2005 event. Since insufficient acceptable sampling event results are currently available for the phase 3 area only the monitoring wells for the Subtitle D Landfill phases 1,2 and C&D were used for this statistical analysis.

Statistical Analysis Methodology

Metals

MESCO conducted an interwell statistical analysis on all of the detected metals. Historical data from monitoring wells MW-1A, MW-1B, and MW-1C were defined as the background wells, 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 1) summarizes the methods used for four different %ND ranges.

Table 1. 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 9 metals were tested for statistical significance. For barium, chromium, cobalt, lead, vanadium, and zinc the parametric tolerance limit method with ½ ND substitution was used because the %ND was <50% and the data was "log-normally" distributed when evaluated via Shapiro-Wilks normality test. For all other detected metals, the non-parametric tolerance limit with ½ NDs was used on the original data as its %ND was between 50% - 90% and the data was not normally distributed.

VOCs

All historical VOC detections in the background wells MW-1A, MW-1B, and MW-1C were pooled in order to determine the total number of detections, from which the expected number of detections in a single down gradient monitoring point (y^*) was derived by utilizing the Poisson prediction interval. The parameter y^* is defined by the following equation:

$$y^* = cy + \frac{t^2 c}{2} + tc\sqrt{y\left(1+\frac{1}{c}\right)+\frac{t^2}{4}}$$

where

$c = 1/n$ (n =number of background samples)
t = one-sided value of students t -Statistic at 95% confidence [a]
y = number of events observed in n previous samples
y^* = expected number of events in a single future sample

[a] Gibbons, R.D., 1994, Statistical methods for groundwater monitoring: John Wiley & Sons, Inc., p.12.

For each monitoring location showing any VOC detections, the number of detected VOCs was counted with each detection being considered a "hit". The number was then compared with the expected number of detections derived from the background VOC data. The value of Student's t -Statistic was derived from tabulated values included in Gibbons (1994).

Intrawell Analyses

Intrawell Analyses were conducted only upon those constituents that were initially found to be statistically significant by interwell analysis. In general, intrawell analysis is conducted in order to differentiate true contamination from spatial variability. Baseline levels in this context are defined as the background level derived from the data in a given downgradient well. Intrawell analyses through Shewhart-CUSUM control charts require a minimum of eight independent historical sampling events and a detection rate greater than 25% (%ND≤75%).

Results

Historical data compiled for monitoring wells MW-1A, MW-1B, and MW-1C were used as the baseline. Data distributions were reviewed using time series and box and whiskers plots (enclosed charts). Table 2 summarizes those metals that were found statistically significant by interwell comparison analysis.

Table2. Interwell Analyses Summary

Well	Barium	Nickel
MW-4A		x
MW-8	x	
MW-9R	x	

x=level significantly higher than the background level

The numbers of metal detections continue to be consistent with historical results and all concentrations were found within the historically identified range. MW-4A contained a concentration of nickel above the MCL and in an elevated concentration according to interwell analysis. Barium was detected within MW-8 and MW-9R in statistically significant levels compared to the background well readings. However, no metals were found to have increased according to intrawell analyses through formulation of Shewhart-CUSUM charts.

Volatile Organic Constituents (VOCs) were detected within phase 2 compliance well MW-13B as well as the C&D monitoring wells MW-9R and MW-9RR. MW-13B (shallow) continues to contain 3 VOC detections in exceedance of the Standard. Concentrations of DCE, TCE and PCE were detected above the Standard and found to be statistically significant compared to background levels by the Poisson Prediction interval Analysis. This area has been investigated and the findings of the assessment report concludes that a surface infiltration event has likely caused the contamination in the shallow aquifer monitored by MW-13B.

MW-9R, located downgradient of the C&D landfill, continues to contain levels of cis-1,2-dichloroethene below the Standard. MW-9RR which was installed downgradient of MW-9R also contained cis-1,2-dichloroethene but in a slightly higher concentrations than found within MW-9R. However, neither well is considered to be impacted according to the Poisson Prediction Interval method at a 95% confidence level.

Conclusion

The statistical analysis results conducted on metals indicate no signs of inorganic contamination originating from the Iredell County Subtitle D Landfill. Although a few metals were detected above the Standard and a few were found to have increased compared to the background concentrations none were found to have increased compared to their own historical levels. Statistically significant VOCs were again detected within MW-13B according to the Poisson prediction interval analysis at a 95% confidence level. A groundwater assessment progress report was submitted to the Section on April 26, 2005. The progress report recommended the installation of an additional monitoring well further downgradient of MW-13B and towards the compliance boundary. This monitoring well is intended to delineate the horizontal migration of the leachate plume in the regolith. The progress report also recommended the replacement of

phase 2 compliance well MW-15 since it has been found to be consistently dry. An on-site meeting between the Section and MESCO is scheduled for June 22, 2005 to further discuss the conditions of the aquifer monitored by MW-13A/B.

The facility will continue detection monitoring and will be sampled for the complete Appendix I list of constituents again in July 2005. If you have any questions regarding this report, please contact me 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. David Lambert
Iredell County

Exceedance Scan
Iredell County Subtitle D Landfill

Well ID	Parameter Name [1]	Sample Date	Result	Unit	PQL [2]	MCL [3]	Exceedance
MW-12	Cobalt, total	1/25/2005	0.045	mg/L	0.01	-	
MW-13A	**Cadmium, total**	**1/26/2005**	**0.0057**	**mg/L**	**0.001**	**0.005**	**0.0007**
MW-13A	Chromium, total	1/26/2005	0.012	mg/L	0.01	0.05	
MW-13B	Barium, total	1/26/2005	0.55	mg/L	0.5	2	
MW-13B	Beryllium, total	1/26/2005	0.002	mg/L	0.002	-	
MW-1A	Cadmium, total	1/26/2005	0.0011	mg/L	0.001	0.005	
MW-2	Beryllium, total	1/26/2005	0.0026	mg/L	0.002	-	
MW-2	Cadmium, total	1/26/2005	0.0027	mg/L	0.001	0.005	
MW-2	Cobalt, total	1/26/2005	0.013	mg/L	0.01	-	
MW-2	**Lead, total**	**1/26/2005**	**0.016**	**mg/L**	**0.01**	**0.015**	**0.001**
MW-2	Vanadium	1/26/2005	0.043	mg/L	0.04	-	
MW-22	Cadmium, total	1/25/2005	0.0015	mg/L	0.001	0.005	
MW-4A	**Cadmium, total**	**1/25/2005**	**0.0068**	**mg/L**	**0.001**	**0.005**	**0.0018**
MW-4A	Cobalt, total	1/25/2005	0.017	mg/L	0.01	-	
MW-4A	**Nickel, total**	**1/25/2005**	**0.15**	**mg/L**	**0.05**	**0.1**	**0.05**
MW-4A	Zinc, total	1/25/2005	0.084	mg/L	0.05	2.1	
MW-4B	Cobalt, total	1/25/2005	0.012	mg/L	0.01	-	
MW-7	Lead, total	1/25/2005	0.01	mg/L	0.01	0.015	
MW-8	Barium, total	1/25/2005	0.92	mg/L	0.5	2	
MW-8	Chromium, total	1/25/2005	0.025	mg/L	0.01	0.05	
MW-8	Cobalt, total	1/25/2005	0.047	mg/L	0.01	-	
MW-8	Lead, total	1/25/2005	0.011	mg/L	0.01	0.015	
MW-8	Zinc, total	1/25/2005	0.12	mg/L	0.05	2.1	
MW-9R	Barium, total	1/25/2005	1	mg/L	0.5	2	
MW-9R	Cadmium, total	1/25/2005	0.0023	mg/L	0.001	0.005	
MW-9R	Cobalt, total	1/25/2005	0.028	mg/L	0.01	-	
MW-9R	Lead, total	1/25/2005	0.015	mg/L	0.01	0.015	
MW-9R	Vanadium	1/25/2005	0.058	mg/L	0.04	-	
MW-9R	Zinc, total	1/25/2005	0.058	mg/L	0.05	2.1	
MW-19S	Cobalt, total	1/26/2005	0.05	mg/L	0.01	-	
MW-21D	Arsenic, total	1/27/2005	0.011	mg/L	0.01	0.05	
MW-21S	**Cadmium, total**	**1/27/2005**	**0.0051**	**mg/L**	**0.001**	**0.005**	**0.0001**
MW-21S	Chromium, total	1/27/2005	0.011	mg/L	0.01	0.05	
SW-3	Cobalt, total	1/26/2005	0.012	mg/L	0.01	-	
SW-3	Zinc, total	1/26/2005	0.13	mg/L	0.05	2.1	
MW-12	Toluene	1/25/2005	5	ug/L	5	1000	
MW-13B	1,1-Dichloroethane	1/26/2005	5	ug/L	5	700	
MW-13B	Chloroethane	1/26/2005	10	ug/L	10	-	
MW-13B	**Dichloromethane**	**1/26/2005**	**62**	**ug/L**	**10**	**5**	**57**
MW-13B	**Tetrachloroethylene**	**1/26/2005**	**9**	**ug/L**	**5**	**0.7**	**8.3**
MW-13B	**Trichloroethylene**	**1/26/2005**	**16**	**ug/L**	**5**	**2.8**	**13.2**
MW-9R	cis-1,2-Dichloroethene	1/25/2005	20	ug/L	5	70	
MW-9RR	cis-1,2-Dichloroethene	1/25/2005	25	ug/L	5	70	

[1] Table only contains detected constituents.
[2] PQL = Practical Quantitation Limit
[3] MCL = Maximum Contaminant Level (North Carolina Groundwater Standard)

Hydrologic Properties at Monitoring Well Locations
Iredell County Subtitle D Landfill

Monitoring Well	Hydraulic Conductivity	Effective Porosity (%)	Hydraulic Gradient	Flow Rate (ft/yr)	Flow Direction	Water Table Depth (ft)	Water Table Elev. (ft)
MW-1A	2.00E-04	20%	0.04	39.0	N68E	24.84	842.90
MW-1C	na	20%	0.10	na	N68E	22.81	843.44
MW-2	5.00E-04	20%	0.04	97	N47W	8.5	789.12
MW-3A	2.00E-04	20%	0.03	34	N42W	8.4	783.70
MW-3B	2.00E-04	20%	0.03	28	N51W	7.4	783.21
MW-4A	7.00E-05	5%	0.04	53	N12W	26.65	796.05
MW-6A	7.00E-05	15%	0.04	17	N39E	16.89	776.11
MW-7	2.00E-04	15%	0.04	61	N36E	8.06	790.17
MW-8	1.00E-04	15%	0.03	17	N71E	18.75	778.65
MW-9R	2.00E-04	15%	0.11	147	N80E	11.12	796.07
MW-9RR	1.53E-04	15%	0.49	512	N81E	17.62	788.54
MW-10R	9.00E-05	15%	0.04	23	N80E	22.01	798.73
MW-11	1.30E-05	21%	0.05	3	N71E	10.85	810.61
MW-12	3.90E-06	20%	0.03	0.6	N18E	15.21	790.43
MW-13B	5.30E-06	21%	0.06	2	N38E	35.34	782.76
MW-14A	1.20E-05	21%	0.04	2	N53E	36.8	781.74
MW-16	4.65E-04	15%	0.06	196	N83E	11.02	783.12
P2-1S	1.42E-04	15%	0.07	64	N14E	23.03	837.45
P2-10S	2.38E-04	15%	0.07	115	N20E	30.07	780.35
MW-17	3.73E-05	21.70%	0.02	3	S69E	37.88	816.47
MW-18	7.43E-04	21.70%	0.01	46	S34E	9.85	790.87
MW-19S	4.54E-04	21.70%	0.02	35	S67E	5.85	787.74
MW-20	9.50E-04	21.70%	0.00	16	N88E	5.48	790.45
MW-21S	1.67E-05	21.70%	0.10	8	S24E	35.89	788.08
MW-22	3.35E-05	16.08%	0.04	9	N61E	32.43	799.88
MW-23	1.18E-04	16.08%	0.03	24	N89E	10.8	813.54
MW-24S	2.63E-04	16.08%	0.06	102	S56E	9.48	809.86

NOTE: MW-9 & MW-10 were replaced by MW-9R and MW-10R but the same values for hydraulic conductivity and effective porosity were used.
Values for hydraulic conductivity on all wells and peizometers determined via slug test by MESCO
Hydrologic Gradient taken from the January 25, 26 & 27, 2005 sampling event.

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

where

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

P 1 of 2

Sampling Data Sheet

Municipal Services Engineering Company
Garner, NC Boone, NC

Project: Iredell Co. Subtitle D Landfill, Phases 1,2 & C&D

Samplers: Jonathan Pfohl

Monitoring Point	Sample Date	Sample Time	Sampling Parameters					Water Quality Parameters				
			Depth to Water	Reference Point	Volume Purged	Sample Type	Sampling Depth	pH	Temp.	Specific Cond.	Turbidity	Total Depth
MW-24D	1/25/05	10:00	8.92		15	Pump		6.98	16.3	100	MT	38
MW-24S	1/25/05	10:35	9.48		5	Pump		6.99	16.6	110	clear	16
GwW- M	NS	—	9.10		—	—		—	—	—	—	—
MW-23	1/25/05	11:00	10.80	-0.02' Below Clasp	8	Pump		6.95	16.7	140	clear	23
MW-22		11:35	32.43		Purged Dry	Pump		7.03	16.9	120	clear	37
MW-10R		12:05	22.01		Purged Dry	Pump		7.01	16.8	80	clear	25
MW-9RR		12:40	17.62		3.5	SS Bailer		6.97	16.3	310	ST	22
MW-9R		1:25	11.12		6	SS Bailer		6.99	16.3	330	clear	20
MW-12		2:10	15.21		Bailed Dry	SS Bailer		6.97	16.4	100	clear	25
MW-6A		2:45	16.89		Bailed Dry	SS Bailer		6.93	16.4	130	clear	24.5
MW-6B		3:20	20.08		9	SS Bailer		6.99	16.2	100	clear	38
MW-8		3:55	18.75		Bailed Dry	SS Bailer		7.03	16.6	80	clear	28
MW-7		4:30	8.06		Bailed Dry	SS Bailer		7.01	16.5	60	MT	24
MW-4B		5:00	29.60		Pumped Dry	Pump		6.97	16.4	80	clear	37
MW-4A		5:25	26.65		Bailed Dry	SS Bailer		6.93	16.7	110	clear	26
MW-1C	1/26/05	9:30	22.81	changed locks	Pumped Dry	Pump		6.99	16.6	100	ST	34
MW-1A		10:00	22.51		Pumped Dry	Pump		6.97	16.8	100	clear	40
MW-1B	NS	—	DRY		—	—		—	—	—	—	21

Comments

Sampling Data Sheet

Municipal Service Engineering Company
Garner, NC Boone, NC

Project: Iredell Co. Subtitle D Landfill, Phases 1,2 & C&D

Samplers: Jonathan Pfohl

Monitoring Point	Sample Date	Sample Time	Sampling Parameters					Water Quality Parameters				
			Depth to Water	Reference Point	Volume Purged	Sample Type	Sampling Depth	pH	Temp.	Specific Cond.	Turbidity	Total Depth
MW-16	1/26/05	10:40	11.02		9	Pump		6.87	16.2	190	clear	20
SW-3		11:00	—		—	Dip		7.00	6.0	100	clear	—
MW-3B		2:00	7.40	New Lock	10	Pump		6.92	16.3	130	clear	25.5
MW-3A		2:30	8.40		3	Pump		6.89	16.6	80	clear	12.4
MW-2		3:05	8.50		4	SS Bailer		6.93	16.7	110	clear	13.8
SW-1		3:10	—		—	Dip		7.02	5.9	90	clear	—
MW-15	NS	NS	DRY		—	—		6.93	16.3	180	—	44
MW-14B	1/26/05	3:55	37.00		12	Pump		7.01	16.0	100	S.T	58.5
MW-14A		4:25	36.80		Dried Dry	SS Bailer		6.93	16.3	110	clear	38
MW-13A		4:55	35.80		Pumped Dry	Pump		6.88	16.7	130	clear	64
MW-13B		5:25	35.34		4	SS Bailer		6.83	16.4	430	clear	39
MW-11	1/27/05	8:00	10.85		7	SS Bailer		6.93	16.3	420	ST	23
SW-4		8:25	—		—	Dip		6.99	5.6	90	clear	—
SW-2		8:40	—		—	Dip		7.01	5.7	80	clear	—
Lagoon		3:30	—		—	Pour from inlet		—	—	—	clear	—
Force.												

Comments

Sampling Data Sheet

Municipal Service Engineering Company
Garner, NC Boone, NC

Project: Iredell Co. Subtitle D Landfill, Phase 3

Samplers: Jonathan Pfohl

Monitoring Point	Sample Date	Sample Time	Sampling Parameters					Water Quality Parameters				
			Depth to Water	Reference Point	Volume Purged	Sample Type	Sampling Depth	pH	Temp.	Specific Cond.	Turbidity	Total Depth
MW-19S	1/26/05	11:30	5.85		9	Pump		6.98	16.6	90	clear	20
MW-19D	1/26/05	12:00	8.03		26	Pump		7.01	16.4	80	clear	59
SW-5	1/26/05	3:30	—		—	Dip		7.00	5.7	100	clear	—
MW-20	1/27/05	9:10	5.48		8	Pump		6.88	16.2	120	clear	20
MW-18	↓	9:45	9.85		7	Pump		6.93	16.1	110	clear	20
MW-17		10:20	37.88		Pumped Dry	Pump		7.01	15.9	90	ST	45
MW-21S		11:00	35.88	New Lock	4	Pump		6.89	16.3	120	ST	41
MW-21D		11:50	31.18	New Lock	50	Pump		6.93	15.7	100	clear	138.25
Forcemain	↓	3:45	—		—	Poured		—	—	—	—	—
CD-7	NS	—	11.60									—
P2-10S	NS	—	30.07									—
P2-1S	NS	—	23.03									—
P2-1S	NS	—	41.84									—
P2-19	NS	—	51.59									—

Comments

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Left Asha Co 1/28/05
146497

Sampling Data Sheet

Municipal Services Engineering Company
Garner, NC Boone, NC

Project: Iredell Co. Landfils

Samplers: Jonathan Pfohl

Monitoring Point	Sample Date	Sample Time	Sampling Parameters					Water Quality Parameters				
			Depth to Water	Reference Point	Volume Purged	Sample Type	Sampling Depth	pH	Temp.	Specific Cond.	Turbidity	Total Depth
EB	7:50	1/27/05	–	(ENCO DI		SS Bailer						
FB	7:55	1/27/05	–	water)								
TB	ENCO Field											

Comments

Statistical Analyses Summary

Inter-Well Analyses Summary
Iredell County Subtitle D Landfill

Background Wells: (MW-1A, MW-1B, and MW-1C)

Barium, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
25.64	log-normal	Parametric tolerance interval	1/2 ND	6.41216	log[ug/l]

Well	Result	Significance
MW-8	6.82	yes
MW-9R	6.91	yes
MW-13B	6.31	no

Beryllium, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
89.74	-	Non-parametric tolerance interval	1/2 ND	12.5	ug/l

Well	Result	Significance
MW-2	2.6	no
MW-13B	2.0	no

Cadmium, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
79.49	-	Non-parametric tolerance interval	1/2 ND	48.0	ug/l

Well	Result	Significance
MW-2	2.70	no
MW-4A	6.80	no
MW-9R	2.30	no
MW-13A	5.70	no
MW-22	1.50	no

Chromium, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
28.21	log-normal	Parametric tolerance interval	1/2 ND	4.22130	log[ug/l]

Well	Result	Significance
MW-8	3.22	no
MW-13A	2.48	no

Cobalt, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
46.15	log-normal	Parametric tolerance interval	1/2 ND	3.85870	log[ug/l]

Well	Result	Significance
MW-2	2.56	no
MW-4A	2.83	no
MW-4B	2.48	no
MW-8	3.85	no
MW-9R	3.33	no
MW-12	3.81	no

Lead, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
43.59	log-normal	Parametric tolerance interval	Cohen's	3.5674	log[ug/l]

Well	Result	Significance
MW-2	2.77	no
MW-7	2.30	no
MW-8	2.40	no
MW-9R	2.71	no

Nickel, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
78.38	-	Non-parametric tolerance interval	1/2 ND	125	ug/l

Well	Result	Significance
MW-4A	150.00	yes

Vanadium

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
23.08	log-normal	Parametric tolerance interval	1/2 ND	5.8775	log[ug/l]

Well	Result	Significance
MW-2	3.76	no
MW-9R	4.06	no

Zinc, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
20.51	log-normal	Parametric tolerance interval	1/2 ND	5.8427	log[ug/l]

Well	Result	Significance
MW-4A	4.43	no
MW-8	4.79	no
MW-9R	4.06	no

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

Intra-Well Analysis Summary (Metals)
Iredell County Subtitle D Landfill

Well	Ba	Ni
MW-4A		**no**
MW-8	no	
MW-9R	no	

EXPLANATION

yes=detection statistically significant by intrawell analysis
no=detection not statistically significant by intrawell analysis
N/A=unable to run intrawell analysis due to insufficient number of detections or sampling events
Bold=Detected in exceedance of the Standard

NO Metals were found
to be statistically increased by Shewhart-CUSUM Control Chart

Summary of Pooled VOCs in Background Wells (MW-1A, MW-1B, and MW-1C)
Iredell County Subtitle D Landfill

Constituent	Samples	NDs	% NDs
1,1,1,2-Tetrachloroethane	37	37	100.00
1,1,1-Trichloroethane	37	37	100.00
1,1,2,2-Tetrachloroethane	37	37	100.00
1,1,2-Trichloroethane	37	37	100.00
1,1-Dichloroethane	37	37	100.00
1,1-Dichloroethene	37	37	100.00
1,2,3-Trichloropropane	37	37	100.00
1,2-Dibromo-3-chloropropane	37	37	100.00
1,2-Dibromoethane	37	37	100.00
1,2-Dichlorobenzene	37	37	100.00
1,2-Dichloroethane	37	37	100.00
1,2-Dichloropropane	37	37	100.00
1,4-Dichlorobenzene	37	37	100.00
2-Butanone	35	35	100.00
2-Hexanone	35	35	100.00
4-Methyl-2-Pentanone	35	35	100.00
Acetone	35	35	100.00
Acrylonitrile	35	35	100.00
Benzene	37	37	100.00
Bromochloromethane	37	37	100.00
Bromodichloromethane	37	37	100.00
Bromoform	37	37	100.00
Bromomethane	37	37	100.00
Carbon disulfide	35	30	85.71
Carbon tetrachloride	37	37	100.00
Chlorobenzene	37	37	100.00
Chlorodibromomethane	37	37	100.00
Chloroethane	37	37	100.00
Chloroform	37	37	100.00
Chloromethane	37	37	100.00
cis-1,2-Dichloroethene	37	37	100.00
cis-1,3-Dichloropropene	35	35	100.00
Dibromomethane	37	37	100.00
Dichloromethane	37	37	100.00
Ethylbenzene	37	37	100.00
Iodomethane	35	35	100.00
Styrene	37	37	100.00
Tetrachloroethylene	37	37	100.00
Toluene	37	36	97.30
trans-1,2-Dichloroethene	37	37	100.00
trans-1,3-Dichloropropene	35	35	100.00
trans-1,4-Dichloro-2-butene	35	35	100.00
Trichloroethylene	37	37	100.00
Trichlorofluoromethane	37	37	100.00
Vinyl acetate	35	35	100.00
Vinyl chloride	37	37	100.00
Xylene	37	37	100.00
Total	**1717**	**1711**	**99.65**

Poisson Prediction Interval Based upon Pooled Background VOCs
Iredell County Subtitle D Landfill

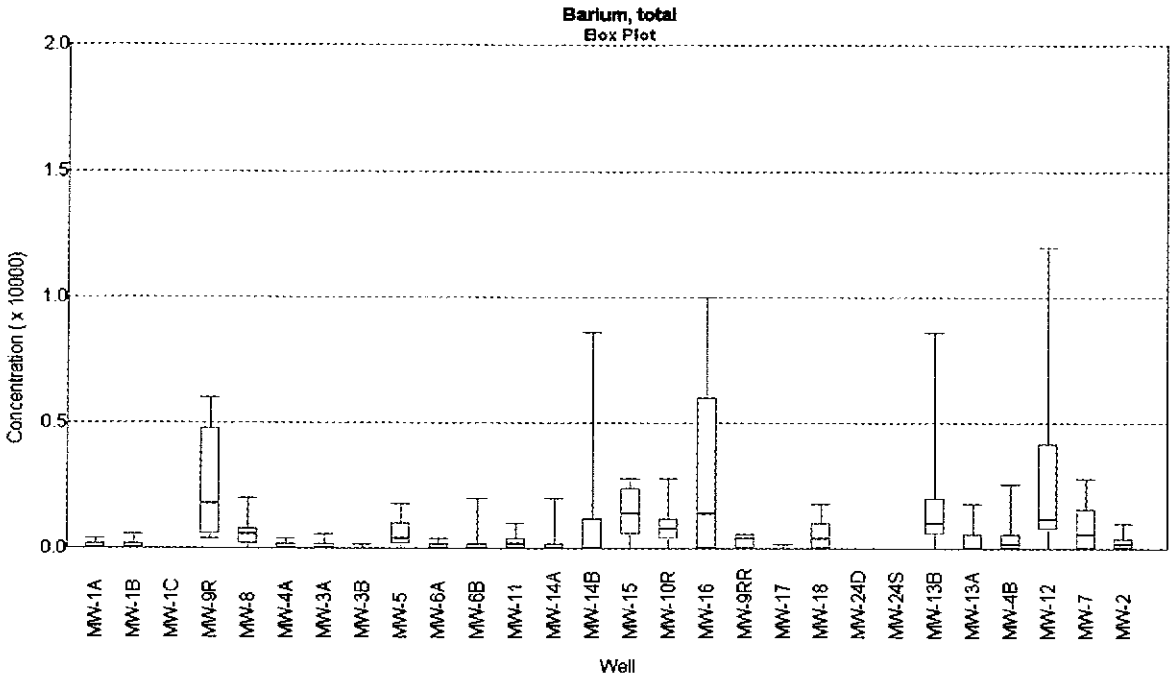
All detected VOCs (Background Wells: MW-1A & MW-1C)

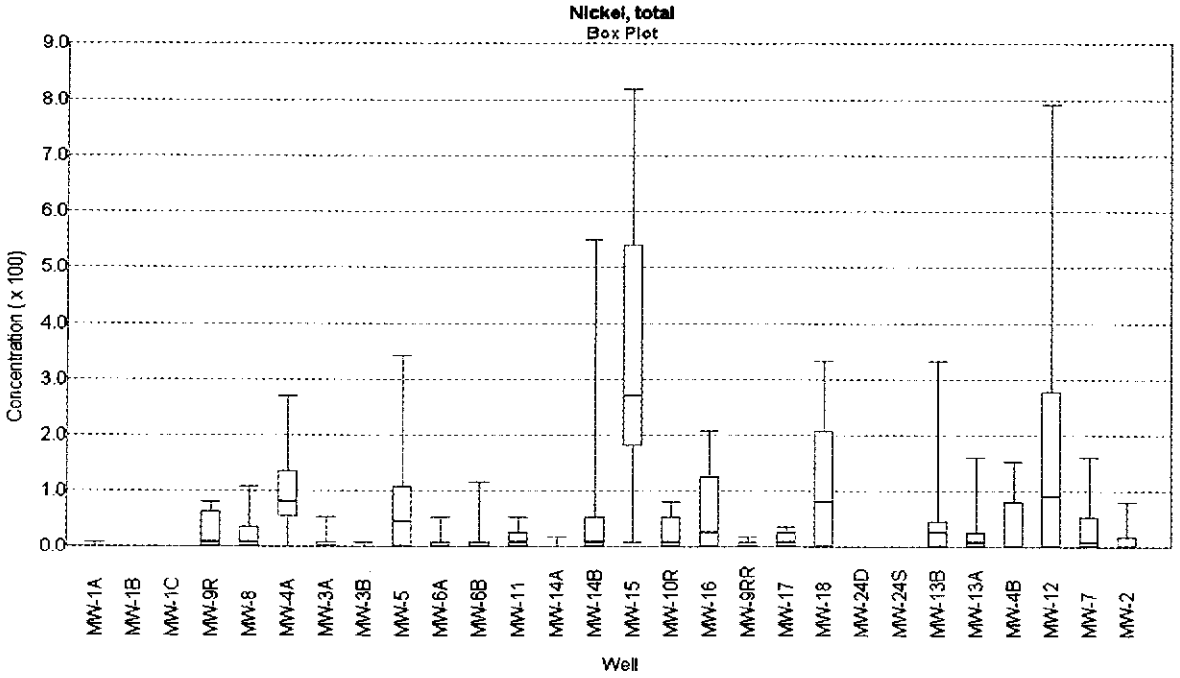
Constituent	MW-9R	MW-9RR	MW-13B	MW-12
Cis-1,2-Dichloroethene	x	x		
Tetrachloroethylene			x	
Dichloromethane			x	
Chloroethane			x	
1,1-Dichloroethane			x	
Toluene				x
Trichloroethylene			x	
Detection(s) per Scan	1.00	1.00	5.00	1.00

Total number of sampling events [n] = 36.53191
Total number of detections in background wells [y] = 6
Number of comparisons (downgradient wells) [k] = 23
One-sided value of Student's t-statistic (95% confidence) [t] = 3.04534
Expected number of detections in a single future sample [y*] = **1.54854**

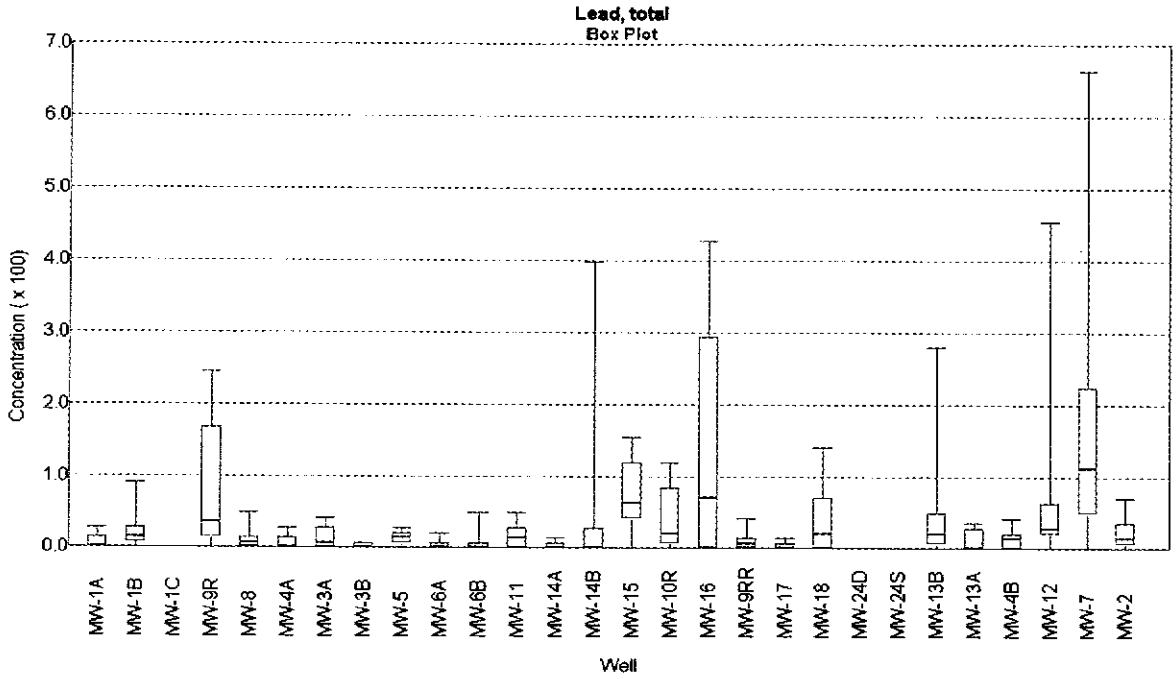
Statistically significant VOC detections at 95% confidence level within MW-13B

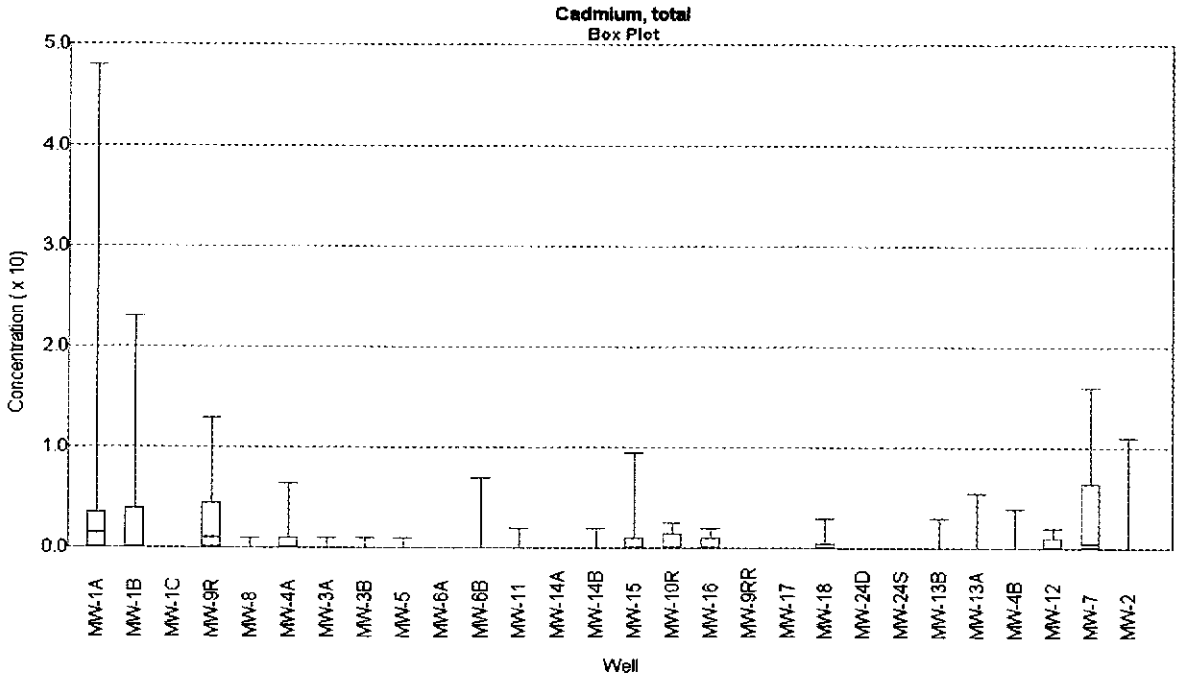
Box Plots for Select Constituents
Iredell County Subtitle D Landfill



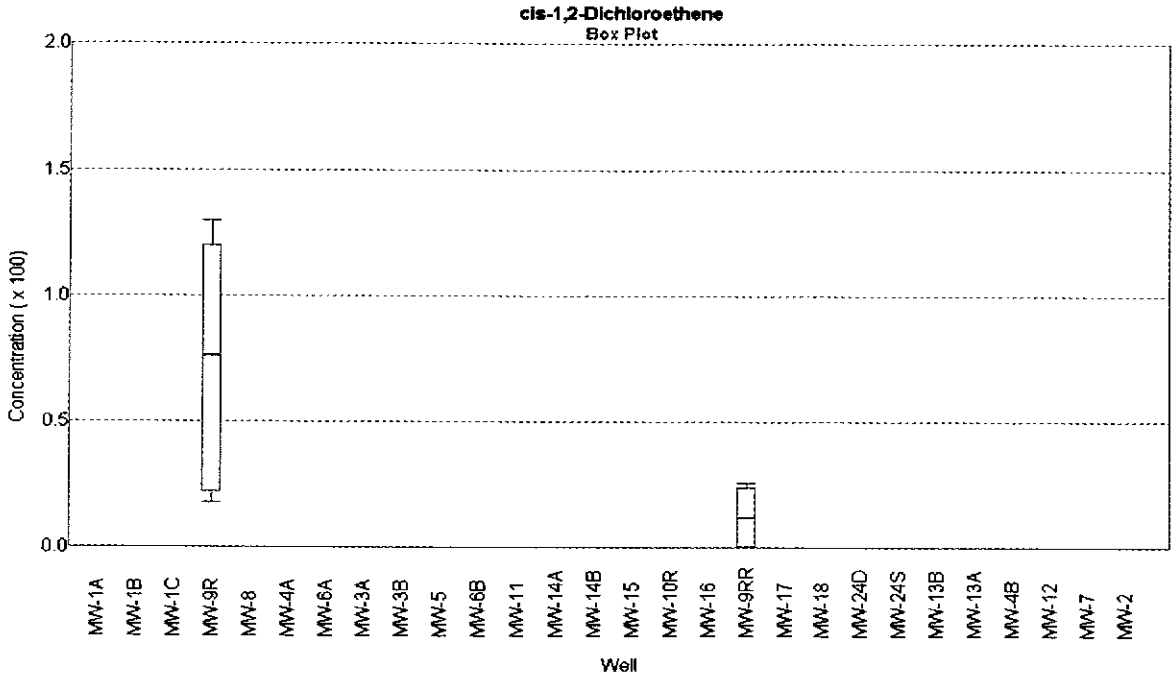


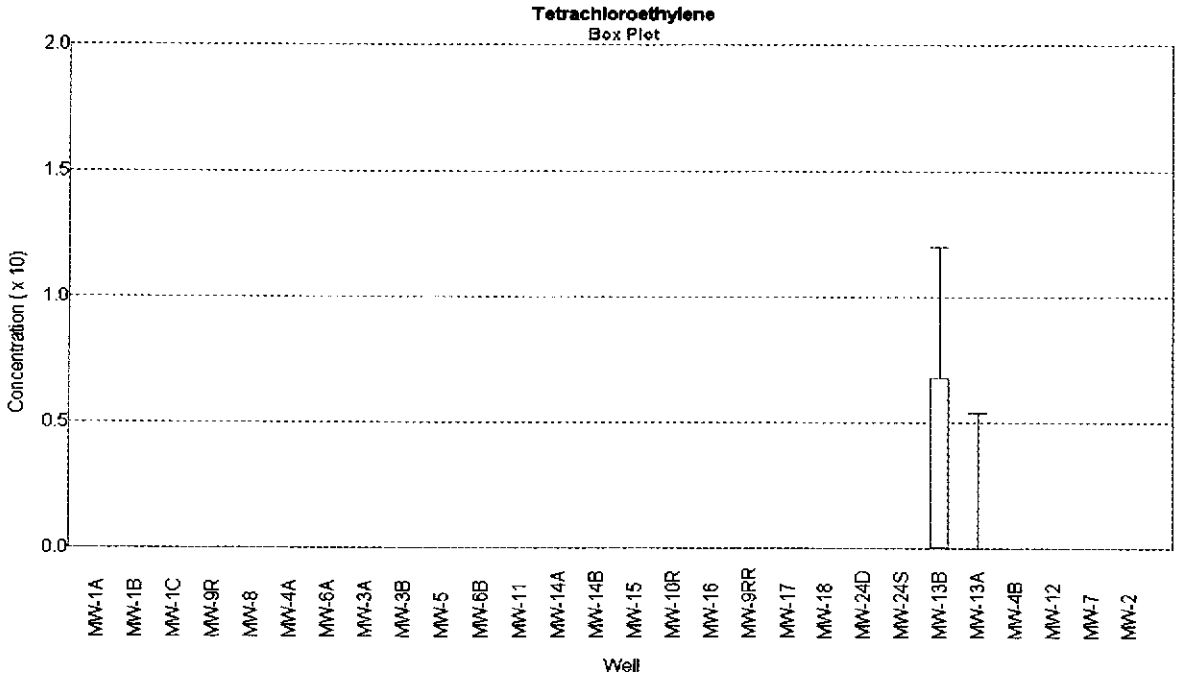
Box Plots for Select Constituents
Iredell County Subtitle D Landfill



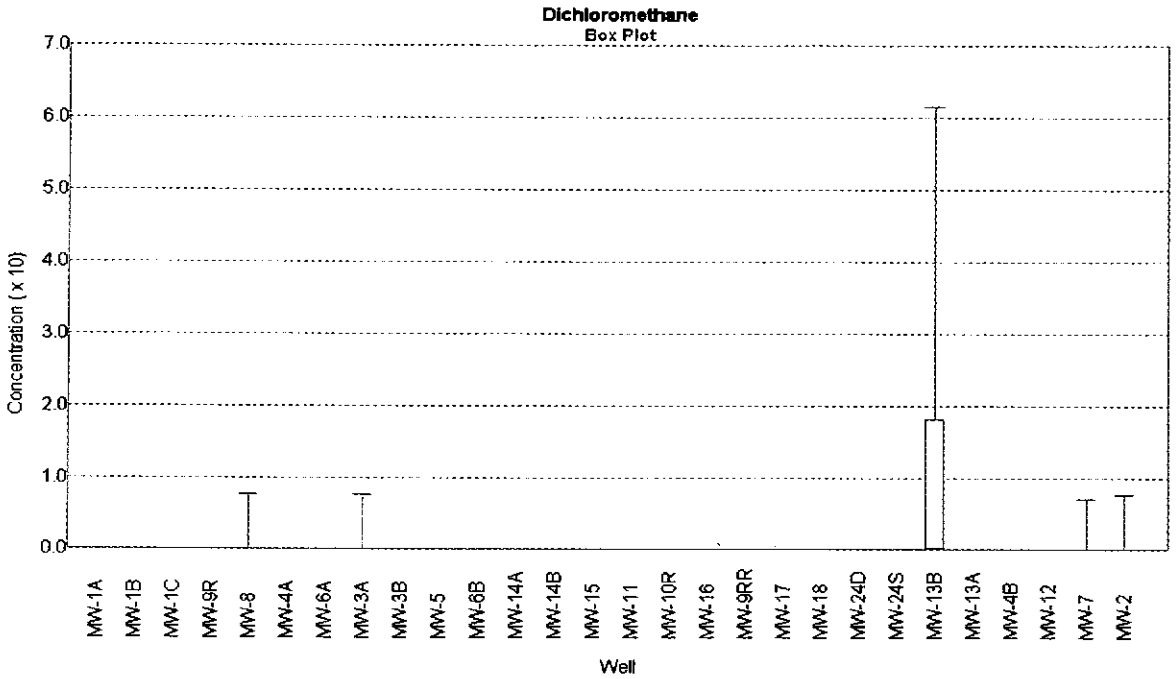


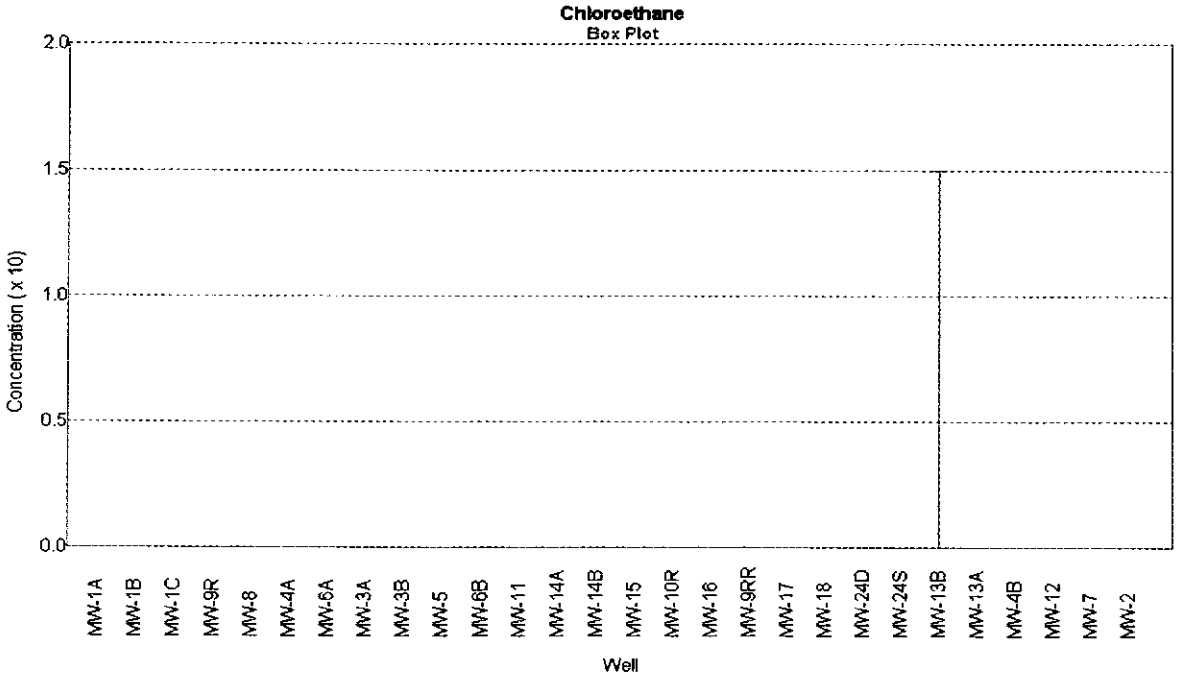
Box Plots for Select Constituents
Iredell County Subtitle D Landfill



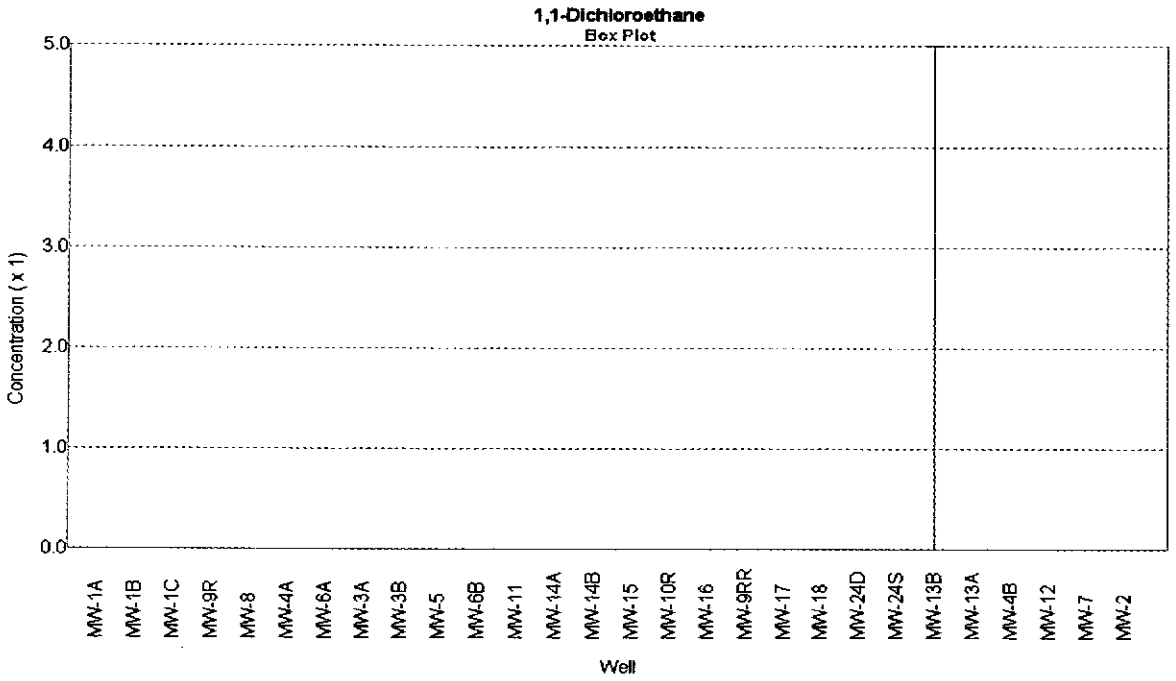


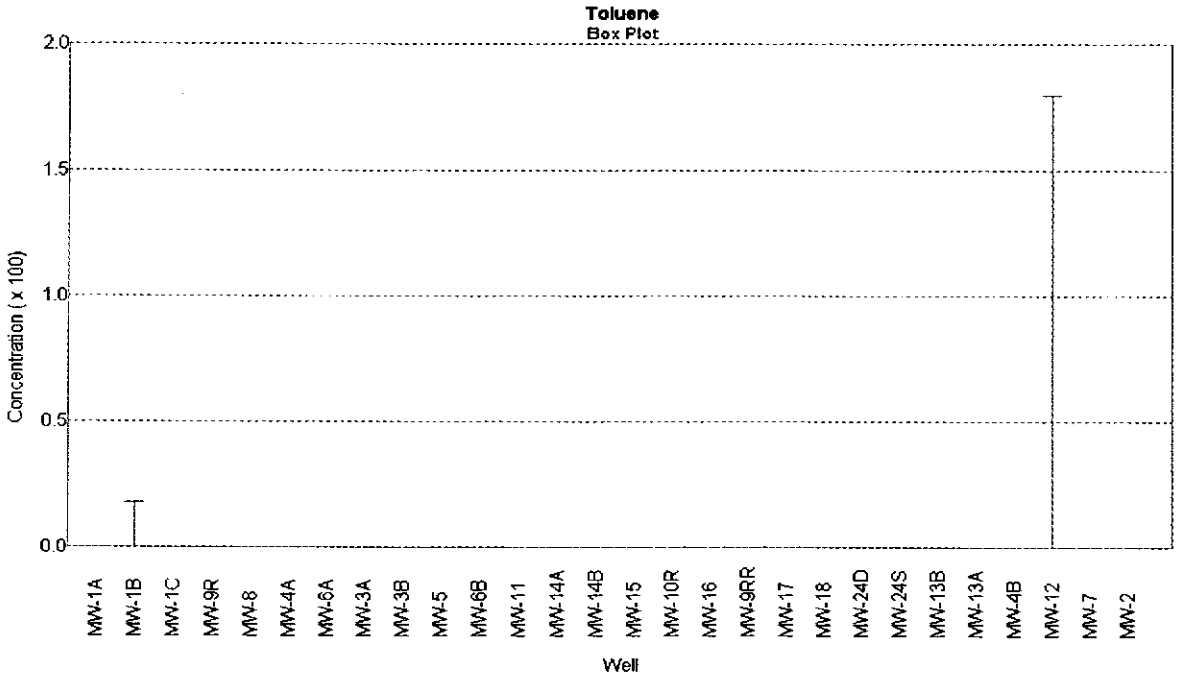
Box Plots for Select Constituents
Iredell County Subtitle D Landfill



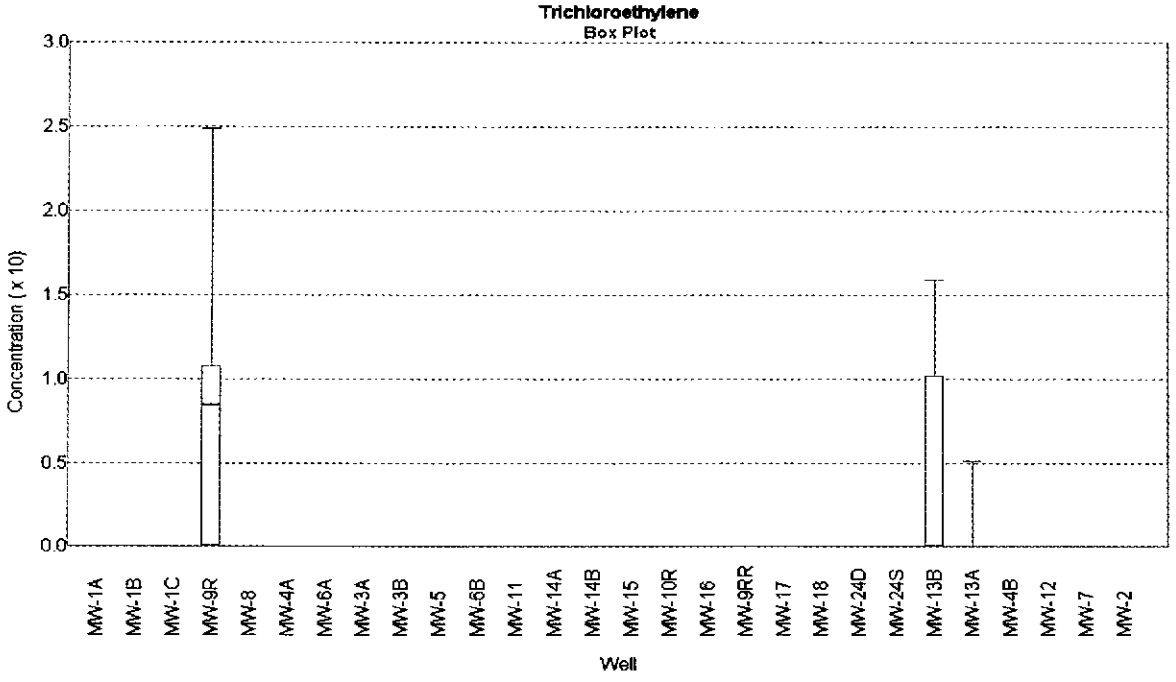


Box Plots for Select Constituents
Iredell County Subtitle D Landfill

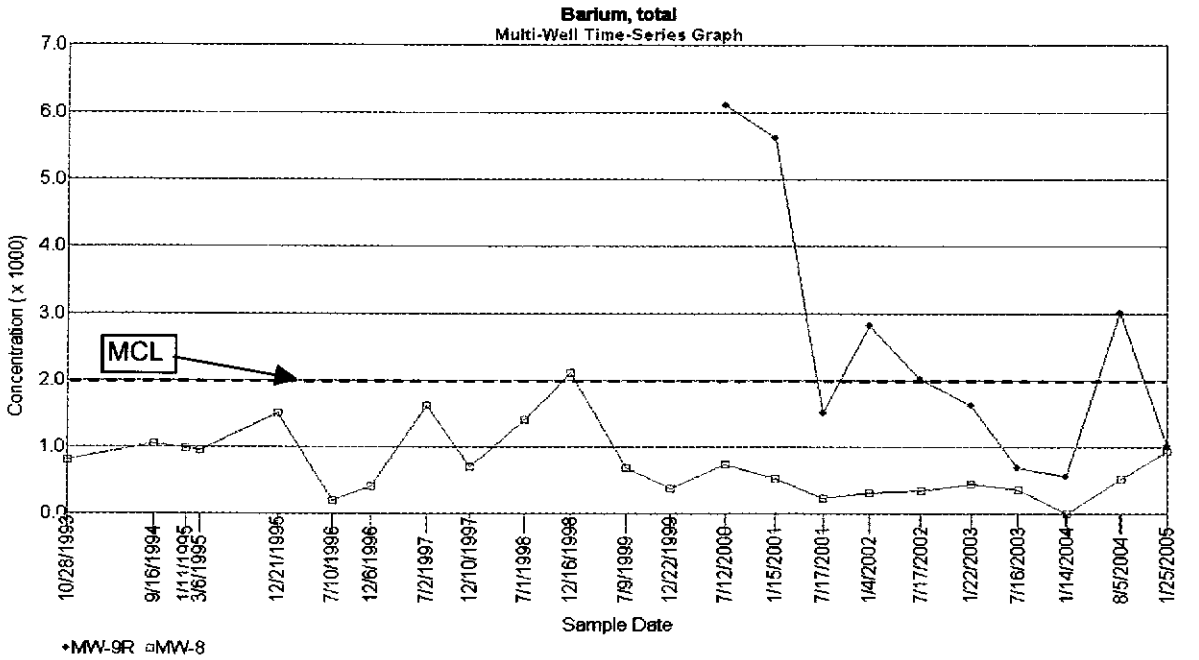


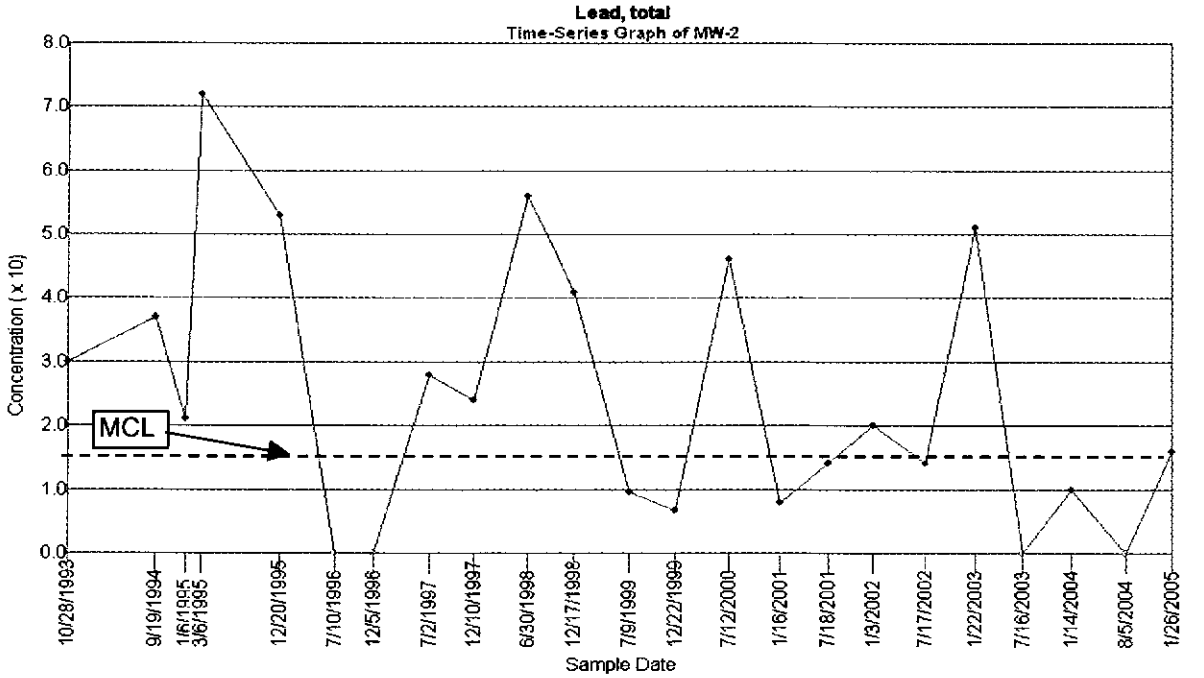


Box Plots for Select Constituents
Iredell County Subtitle D Landfill

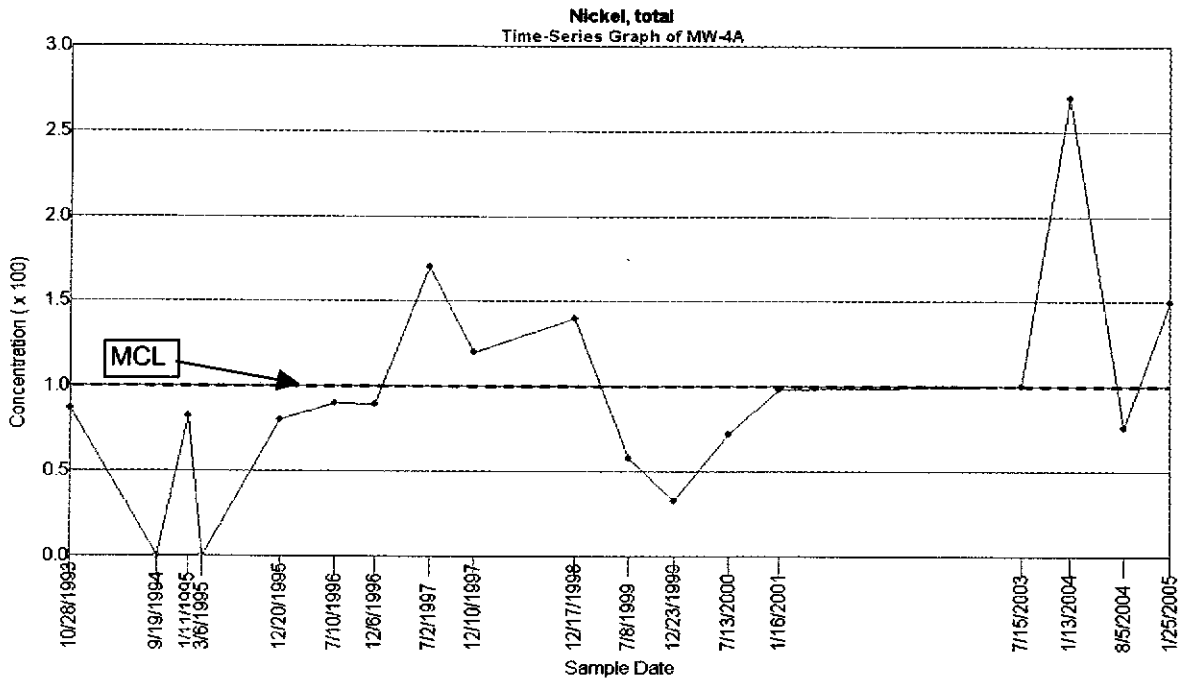


Time Series Plots for Select Constituents
Iredell County Subtitle D Landfill

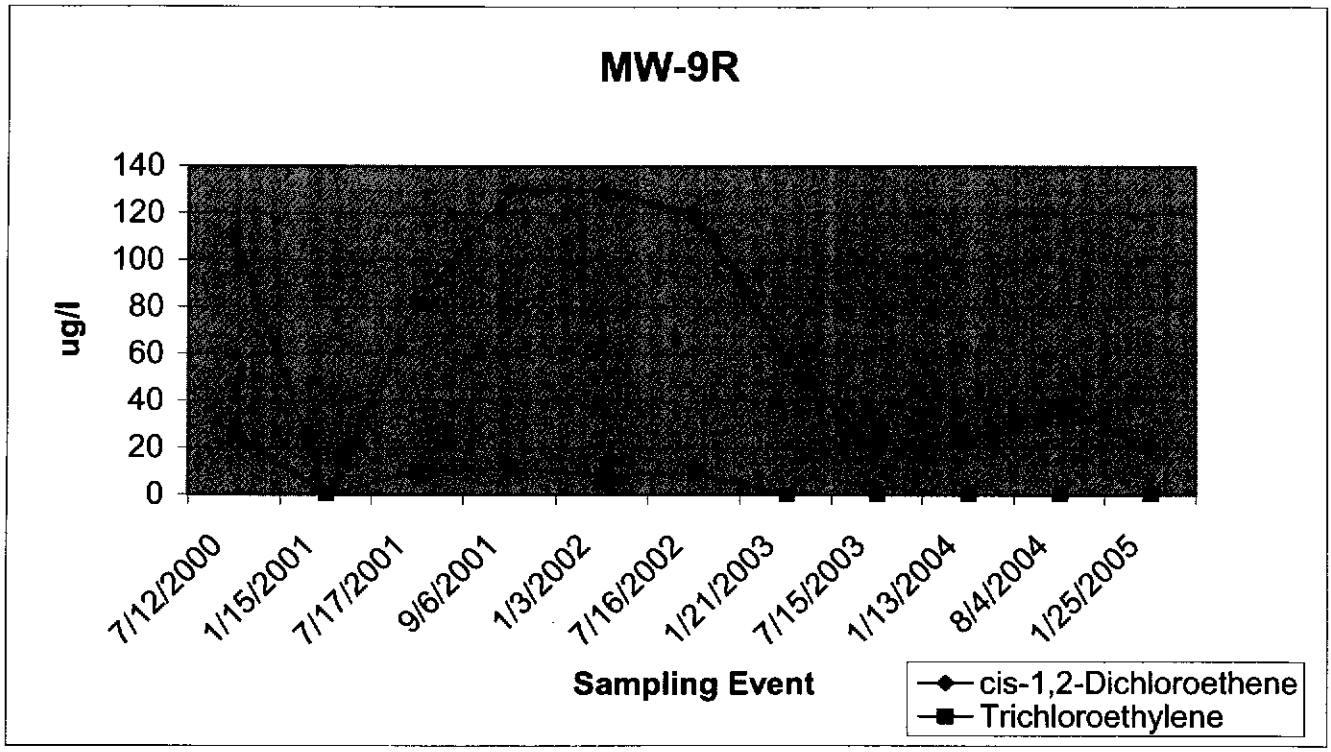


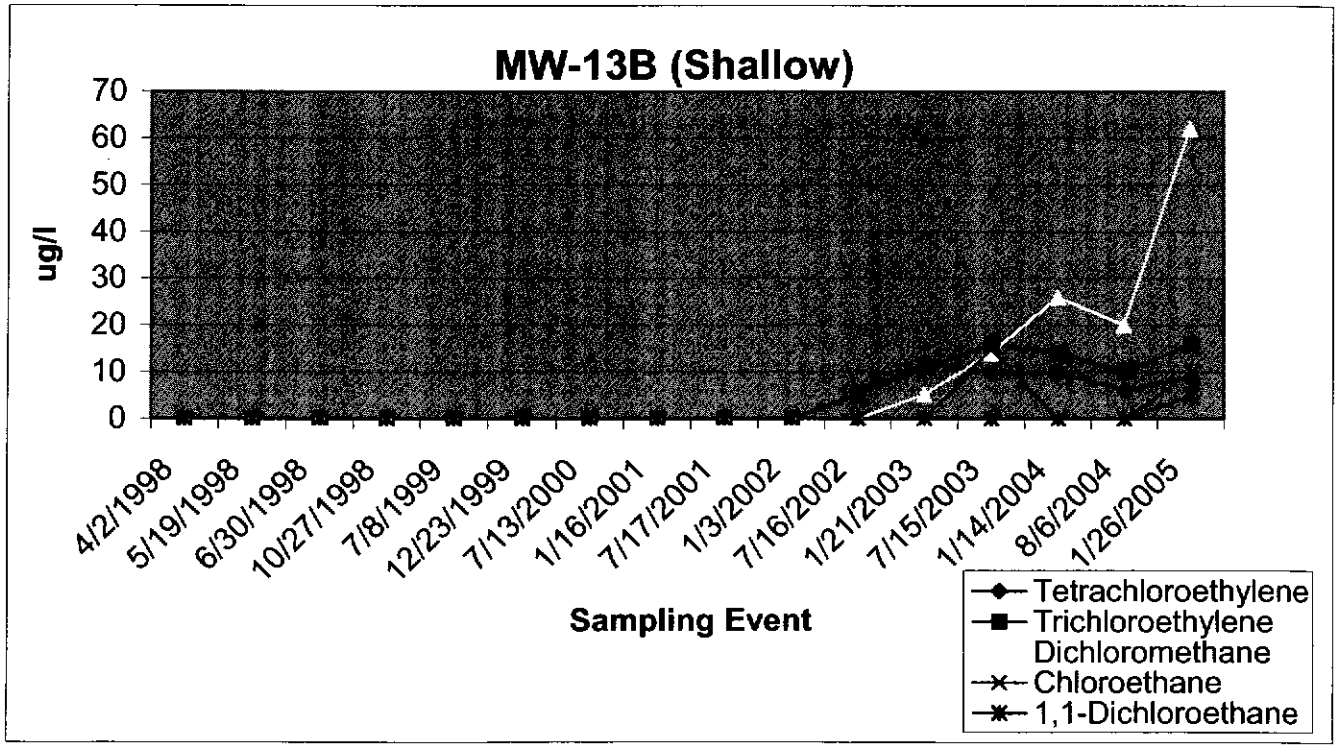


Time Series Plots for Select Constituents
Iredell County Subtitle D Landfill

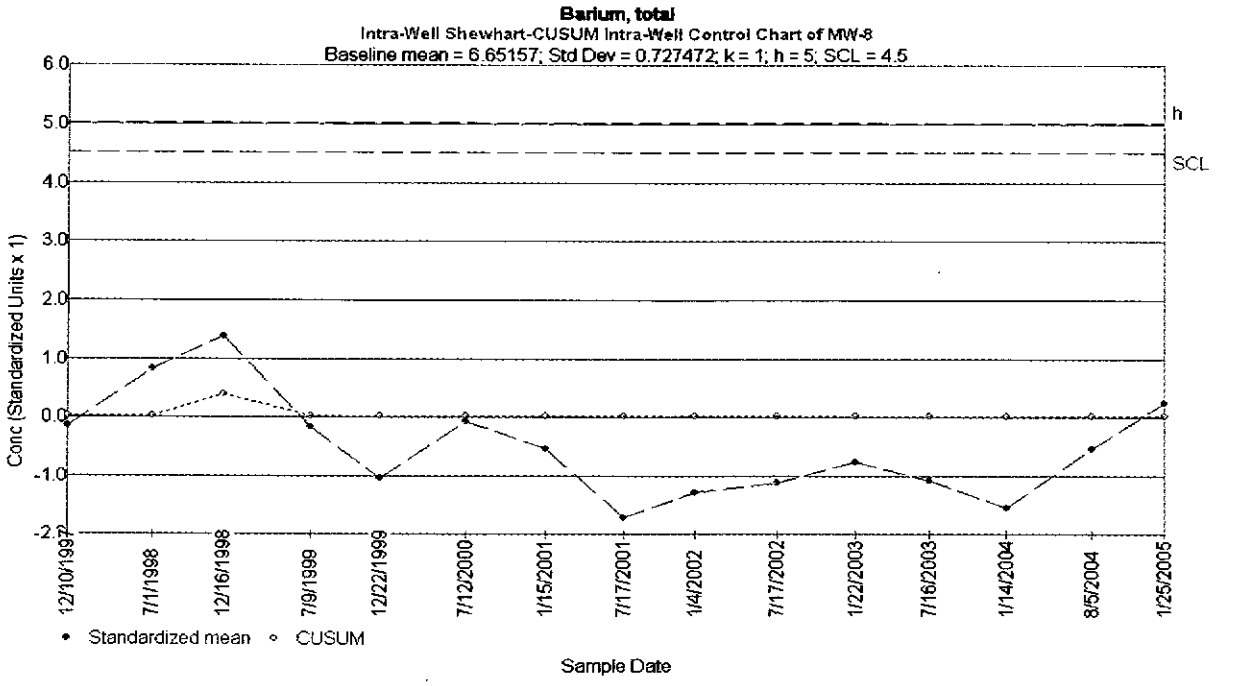


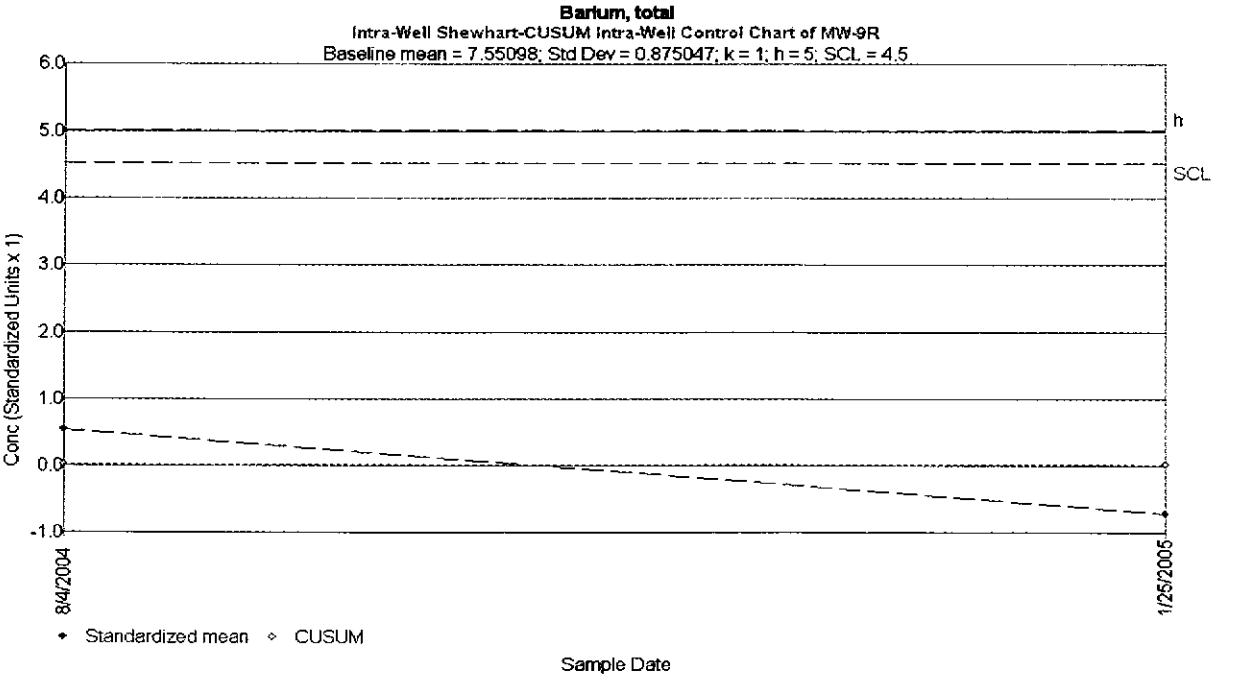
Time Series Plots for Select Constituents
Iredell County Subtitle D Landfill



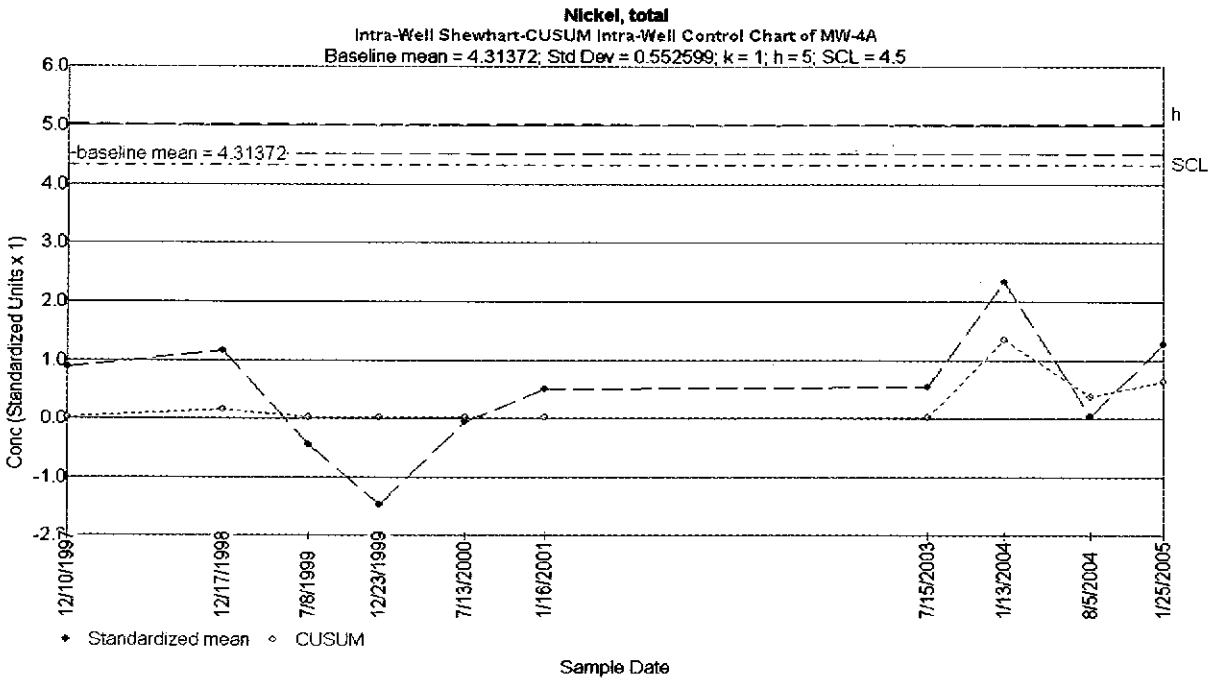


Shewart-CUSUM charts for selected constituents
Iredell County Subtitle D Landfill





Shewart-CUSUM charts for selected constituents
Iredell County Subtitle D Landfill



Basic Statistics

Basic Statistics

Parameter: Barium, total

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

	Total Observations
381	
Total Non-Detects	67
Pooled Mean	760.625
Pooled Std Dev	1478.44
Background Mean	233.846
Background Std Dev	149.343

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	24	5	20.8333	5560
MW-1B	12	2	16.6667	2810
MW-1C	3	3	100	750

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	231.667	133.894	0	3386	141.083
MW-1B	234.167	198.698	0	1686	140.5
MW-1C	250	0	0	102	34

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-2	23	5	21.7391	7865
MW-3A	23	4	17.3913	4940
MW-3B	23	5	21.7391	3454
MW-4A	19	6	31.5789	3940
MW-4B	23	3	13.0435	11260
MW-5	9	0	0	6670
MW-6A	23	5	21.7391	5550
MW-6B	23	5	21.7391	8510
MW-7	22	3	13.6364	21460
MW-8	23	1	4.34783	17240
MW-11	16	3	18.75	6580
MW-12	15	1	6.66667	46520
MW-13A	16	3	18.75	6863
MW-13B	16	1	6.25	34500
MW-14A	11	1	9.09091	4510
MW-14B	16	3	18.75	24476
MW-10R	10	1	10	10440
MW-16	10	1	10	26530
MW-9R	10	0	0	24830
MW-9RR	7	2	28.5714	3540
MW-24D	2	2	100	500
MW-24S	2	2	100	500

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-2	341.957	273.358	108.11	337.429	3870	168.261
MW-3A	214.783	145.941	-19.0635	337.429	3174	138
MW-3B	150.174	92.3667	-83.6722	337.429	2506	108.957
MW-4A	207.368	135.435	-26.4777	359.077	2293	120.684
MW-4B	489.565	519.252	255.719	337.429	4539	197.348
MW-5	741.111	572.81	507.265	474.624	2318	257.556
MW-6A	241.304	114.745	7.45819	337.429	3402	147.913
MW-6B	370	423.524	136.154	337.429	3733	162.304
MW-7	975.455	845.722	741.608	342.219	5401	245.5
MW-8	749.565	504.565	515.719	337.429	5977	259.87
MW-11	411.25	274.223	177.404	381.041	3040	190

MW-12	3101.33	3677.95	2867.49	389.943	4760	317.333
MW-13A	428.938	532.898	195.091	381.041	2518	157.375
MW-13B	2156.25	2496.04	1922.4	381.041	4693	293.313
MW-14A	410	608.128	176.154	438.166	1864	169.455
MW-14B	1529.75	2811.34	1295.9	381.041	2924	182.75
MW-10R	1044	727.235	810.154	454.934	2813	281.3
MW-16	2653	3327.66	2419.15	454.934	2866	286.6
MW-9R	2483	1953.12	2249.15	454.934	3376	337.6
MW-9RR	505.714	227.512	271.868	526.842	1394	199.143
MW-24D	250	0	16.1538	930.523	68	34
MW-24S	250	0	16.1538	930.523	68	34

Analysis of Variance Statistics

SS Wells	2.44174e+008
SS Total	8.30603e+008

Kruskal-Wallis Statistics

Non-Detect Rank	34
Background Rank Sum	5174
Background Rank Mean	132.667
H Statistic	136.285
H Adjusted for Ties	137.03

Basic Statistics

Parameter: Beryllium, total

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

	Total Observations
381	
Total Non-Detects	266
Pooled Mean	7.77717
Pooled Std Dev	28.2484
Background Mean	1.79487
Background Std Dev	4.36601

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	24	22	91.6667	35
MW-1B	12	10	83.3333	35
MW-1C	3	3	100	0

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	1.45833	4.03225	0	3486	145.25
MW-1B	2.91667	5.41812	0	1888	157.333
MW-1C	0	0	0	400.5	133.5

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-2	23	11	47.8261	597.5
MW-3A	23	16	69.5652	77.9
MW-3B	23	23	100	15
MW-4A	19	17	89.4737	35
MW-4B	23	17	73.913	70.5
MW-5	9	4	44.4444	65
MW-6A	23	21	91.3043	35
MW-6B	23	20	86.9565	50
MW-7	22	10	45.4545	238.8
MW-8	23	16	69.5652	102.7
MW-11	16	12	75	35.5
MW-12	15	4	26.6667	347
MW-13A	16	12	75	175
MW-13B	16	5	31.25	442
MW-14A	11	10	90.9091	10
MW-14B	16	9	56.25	220
MW-10R	10	6	60	32.2
MW-16	10	5	50	135
MW-9R	10	3	30	199
MW-9RR	7	6	85.7143	10
MW-24D	2	2	100	0
MW-24S	2	2	100	0

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-2	25.9783	92.763	24.1834	7.30965	5081.5	220.935
MW-3A	3.38696	5.08816	1.59208	7.30965	4137	179.87
MW-3B	0.652174	3.12772	-1.1427	7.30965	3070.5	133.5
MW-4A	1.84211	4.4754	0.0472335	7.77861	2854.5	150.237
MW-4B	3.06522	4.95045	1.27035	7.30965	4020.5	174.804
MW-5	7.22222	5.65194	5.42735	10.2817	2039	226.556
MW-6A	1.52174	4.11062	-0.273133	7.30965	3412.5	148.37
MW-6B	2.17391	4.47876	0.379041	7.30965	3591	156.13
MW-7	10.8545	15.4848	9.05967	7.41342	5199	236.318
MW-8	4.46522	6.73766	2.67035	7.30965	4384	190.609
MW-11	2.21875	4.09458	0.423878	8.25441	2840	177.5

MW-12	23.1333	36.4121	21.3385	8.44726	4311	287.4
MW-13A	10.9375	27.822	9.14263	8.25441	3028	189.25
MW-13B	27.625	38.0384	25.8301	8.25441	4578.5	286.156
MW-14A	0.909091	3.01511	-0.885781	9.49191	1669	151.727
MW-14B	13.75	32.2232	11.9551	8.25441	3651.5	228.219
MW-10R	3.22	4.72765	1.42513	9.85514	2088	208.8
MW-16	13.5	20.0069	11.7051	9.85514	2452.5	245.25
MW-9R	19.9	22.9029	18.1051	9.85514	2906.5	290.65
MW-9RR	1.42857	3.77964	-0.3663	11.4129	1148	164
MW-24D	0	0	-1.79487	20.1577	267	133.5
MW-24S	0	0	-1.79487	20.1577	267	133.5

Analysis of Variance Statistics

SS Wells	28031.9
SS Total	303229

Kruskal-Wallis Statistics

Non-Detect Rank	133.5
Background Rank Sum	5774.5
Background Rank Mean	148.064
H Statistic	66.9435
H Adjusted for Ties	101.476

Basic Statistics

Parameter: Cadmium, total

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

	Total Observations
381	
Total Non-Detects	357
Pooled Mean	0.72336
Pooled Std Dev	3.58166
Background Mean	3.16667
Background Std Dev	8.91652

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	24	19	79.1667	83.5
MW-1B	12	9	75	40
MW-1C	3	3	100	0

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	3.47917	10.471	0	5230	217.917
MW-1B	3.33333	6.51339	0	2721	226.75
MW-1C	0	0	0	537	179

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-2	23	21	91.3043	20
MW-3A	23	23	100	0
MW-3B	23	23	100	0
MW-4A	19	17	89.4737	14.2
MW-4B	23	23	100	0
MW-5	9	9	100	0
MW-6A	23	23	100	0
MW-6B	23	22	95.6522	10
MW-7	22	15	68.1818	76.5
MW-8	23	23	100	0
MW-11	16	16	100	0
MW-12	15	15	100	0
MW-13A	16	14	87.5	11.4
MW-13B	16	16	100	0
MW-14A	11	11	100	0
MW-14B	16	16	100	0
MW-10R	10	10	100	0
MW-16	10	10	100	0
MW-9R	10	8	80	20
MW-9RR	7	7	100	0
MW-24D	2	2	100	0
MW-24S	2	2	100	0

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-2	0.869565	2.88104	-2.2971	0.914112	4494	195.391
MW-3A	0	0	-3.16667	0.914112	4117	179
MW-3B	0	0	-3.16667	0.914112	4117	179
MW-4A	0.747368	2.43843	-2.4193	0.972757	3772	198.526
MW-4B	0	0	-3.16667	0.914112	4117	179
MW-5	0	0	-3.16667	1.28578	1611	179
MW-6A	0	0	-3.16667	0.914112	4117	179
MW-6B	0.434783	2.08514	-2.73188	0.914112	4308	187.304
MW-7	3.47727	5.67467	0.310606	0.927088	5291	240.5
MW-8	0	0	-3.16667	0.914112	4117	179
MW-11	0	0	-3.16667	1.03226	2864	179

MW-12	0	0	-3.16667	1.05638	2685	179
MW-13A	0.7125	2.50117	-2.45417	1.03226	3240	202.5
MW-13B	0	0	-3.16667	1.03226	2864	179
MW-14A	0	0	-3.16667	1.18701	1969	179
MW-14B	0	0	-3.16667	1.03226	2864	179
MW-10R	0	0	-3.16667	1.23244	1790	179
MW-16	0	0	-3.16667	1.23244	1790	179
MW-9R	2	4.21637	-1.16667	1.23244	2187	218.7
MW-9RR	0	0	-3.16667	1.42724	1253	179
MW-24D	0	0	-3.16667	2.52083	358	179
MW-24S	0	0	-3.16667	2.52083	358	179

Analysis of Variance Statistics

SS Wells	570.971
SS Total	4874.74

Kruskal-Wallis Statistics

Non-Detect Rank	179
Background Rank Sum	8488
Background Rank Mean	217.641
H Statistic	10.404
H Adjusted for Ties	58.6723

Basic Statistics

Parameter: Chromium, total

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

	Total Observations
381	
Total Non-Detects	75
Pooled Mean	80.2572
Pooled Std Dev	177.019
Background Mean	19.3333
Background Std Dev	26.066

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	24	5	20.8333	374
MW-1B	12	3	25	365
MW-1C	3	3	100	15

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	15.5833	10.3584	0	2577	107.375
MW-1B	30.4167	43.6129	0	1603	133.583
MW-1C	5	0	0	114	38

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-2	23	6	26.087	1518
MW-3A	23	4	17.3913	1084
MW-3B	23	7	30.4348	397
MW-4A	19	4	21.0526	946
MW-4B	23	3	13.0435	1780
MW-5	9	0	0	1060
MW-6A	23	5	21.7391	710
MW-6B	23	2	8.69565	1117
MW-7	22	6	27.2727	1675
MW-8	23	0	0	3140
MW-11	16	4	25	588
MW-12	15	1	6.66667	6745
MW-13A	16	2	12.5	1179
MW-13B	16	2	12.5	2693
MW-14A	11	3	27.2727	255
MW-14B	16	2	12.5	2936
MW-10R	10	3	30	451
MW-16	10	2	20	840
MW-9R	10	3	30	515
MW-9RR	7	3	42.8571	135
MW-24D	2	1	50	45
MW-24S	2	1	50	15

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-2	66	67.04	46.6667	41.7645	4645	201.957
MW-3A	47.1304	40.6798	27.7971	41.7645	4366	189.826
MW-3B	17.2609	18.174	-2.07246	41.7645	2658	115.565
MW-4A	49.7895	51.4917	30.4561	44.444	3605	189.737
MW-4B	77.3913	72.2349	58.058	41.7645	5103	221.87
MW-5	117.778	101.585	98.4444	58.7456	2442	271.333
MW-6A	30.8696	28.0281	11.5362	41.7645	3753	163.174
MW-6B	48.5652	77.5979	29.2319	41.7645	4146	180.261
MW-7	76.1364	101.312	56.803	42.3574	4326	196.636
MW-8	136.522	189.775	117.188	41.7645	6105	265.435
MW-11	36.75	28.6764	17.4167	47.1625	2909	181.813

MW-12	449.667	528.571	430.333	48.2644	4850	323.333
MW-13A	73.6875	89.0818	54.3542	47.1625	3312	207
MW-13B	168.313	221.12	148.979	47.1625	4037	252.313
MW-14A	23.1818	23.1595	3.84848	54.2331	1604	145.818
MW-14B	183.5	407.837	164.167	47.1625	3393	212.063
MW-10R	45.1	42.5714	25.7667	56.3085	1861	186.1
MW-16	84	99.8833	64.6667	56.3085	2156	215.6
MW-9R	51.5	57.4964	32.1667	56.3085	1864	186.4
MW-9RR	19.2857	19.4569	-0.047619	65.2087	904	129.143
MW-24D	22.5	24.7487	3.16667	115.174	271	135.5
MW-24S	7.5	3.53553	-11.8333	115.174	167	83.5

Analysis of Variance Statistics

SS Wells	2.92368e+006
SS Total	1.19076e+007

Kruskal-Wallis Statistics

Non-Detect Rank	38
Background Rank Sum	4294
Background Rank Mean	110.103
H Statistic	85.5765
H Adjusted for Ties	86.2342

Basic Statistics

Parameter: Cobalt, total

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

	Total Observations
381	
Total Non-Detects	129
Pooled Mean	29.4769
Pooled Std Dev	46.4083
Background Mean	14.0205
Background Std Dev	13.0584

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	24	9	37.5	341.8
MW-1B	12	6	50	190
MW-1C	3	3	100	15

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	14.2417	12.4297	0	3306	137.75
MW-1B	15.8333	15.4968	0	1684	140.333
MW-1C	5	0	0	195	65

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-2	23	4	17.3913	718.9
MW-3A	23	7	30.4348	417
MW-3B	23	13	56.5217	230
MW-4A	19	2	10.5263	506
MW-4B	23	5	21.7391	631
MW-5	9	2	22.2222	390
MW-6A	23	15	65.2174	200
MW-6B	23	15	65.2174	215
MW-7	22	7	31.8182	569
MW-8	23	3	13.0435	1074
MW-11	16	4	25	386
MW-12	15	0	0	1750
MW-13A	16	9	56.25	335
MW-13B	16	3	18.75	1059
MW-14A	11	5	45.4545	105
MW-14B	16	9	56.25	475
MW-10R	10	3	30	228
MW-16	10	2	20	760
MW-9R	10	0	0	480
MW-9RR	7	1	14.2857	95
MW-24D	2	1	50	35
MW-24S	2	1	50	25

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-2	31.2565	26.5081	17.236	10.784	4918	213.826
MW-3A	18.1304	14.3156	4.10992	10.784	3901	169.609
MW-3B	10	9.77008	-4.02051	10.784	2512	109.217
MW-4A	26.6316	16.3136	12.6111	11.4759	4266	224.526
MW-4B	27.4348	25.0995	13.4143	10.784	4905	213.261
MW-5	43.3333	47.4342	29.3128	15.1687	2312	256.889
MW-6A	8.69565	9.91067	-5.32486	10.784	2387	103.783
MW-6B	9.34783	10.0345	-4.67269	10.784	2489	108.217
MW-7	25.8636	29.2645	11.8431	10.9371	4439	201.773
MW-8	46.6957	42.3808	32.6751	10.784	5938	258.174
MW-11	24.125	21.8842	10.1045	12.1778	3421	213.813

MW-12	116.667	120.337	102.646	12.4623	5188	345.867
MW-13A	20.9375	24.3734	6.91699	12.1778	2642	165.125
MW-13B	66.1875	87.2385	52.167	12.1778	4081	255.063
MW-14A	9.54545	5.68091	-4.47506	14.0035	1590	144.545
MW-14B	29.6875	58.7784	15.667	12.1778	2623	163.938
MW-10R	22.8	20.671	8.77949	14.5394	2092	209.2
MW-16	76	88.5626	61.9795	14.5394	2689	268.9
MW-9R	48	36.1478	33.9795	14.5394	3096	309.6
MW-9RR	13.5714	8.52168	-0.449084	16.8375	1416	202.286
MW-24D	17.5	17.6777	3.47949	29.7389	361	180.5
MW-24S	12.5	10.6066	-1.52051	29.7389	320	160

Analysis of Variance Statistics

SS Wells	219441
SS Total	818418

Kruskal-Wallis Statistics

Non-Detect Rank	65
Background Rank Sum	5185
Background Rank Mean	132.949
H Statistic	124.18
H Adjusted for Ties	129.194

Basic Statistics

Parameter: Lead, total

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

	Total Observations
381	
Total Non-Detects	142
Pooled Mean	35.9089
Pooled Std Dev	79.8087
Background Mean	16.0256
Background Std Dev	18.9591

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	24	11	45.8333	265
MW-1B	12	3	25	345
MW-1C	3	3	100	15

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	11.0417	9.08644	0	3284.5	136.854
MW-1B	28.75	28.3745	0	2504.5	208.708
MW-1C	5	0	0	214.5	71.5

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-2	23	4	17.3913	577.9
MW-3A	23	8	34.7826	416.6
MW-3B	23	15	65.2174	145
MW-4A	19	11	57.8947	205
MW-4B	23	6	26.087	436
MW-5	9	2	22.2222	180
MW-6A	23	13	56.5217	205
MW-6B	23	14	60.8696	230
MW-7	22	2	9.09091	4050
MW-8	23	7	30.4348	342.8
MW-11	16	4	25	339
MW-12	15	1	6.66667	1162
MW-13A	16	9	56.25	245
MW-13B	16	3	18.75	882
MW-14A	11	7	63.6364	85
MW-14B	16	9	56.25	955
MW-10R	10	1	10	450
MW-16	10	2	20	1235
MW-9R	10	1	10	785
MW-9RR	7	2	28.5714	110
MW-24D	2	2	100	10
MW-24S	2	2	100	10

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-2	25.1261	19.934	9.10045	17.9712	4910	213.478
MW-3A	18.113	15.072	2.0874	17.9712	4140	180
MW-3B	6.30435	3.09596	-9.72129	17.9712	2404.5	104.543
MW-4A	10.7895	8.70236	-5.23617	19.1241	2543.5	133.868
MW-4B	18.9565	13.0749	2.93088	17.9712	4604	200.174
MW-5	20	9.68246	3.97436	25.2781	1942	215.778
MW-6A	8.91304	6.56376	-7.1126	17.9712	3029.5	131.717
MW-6B	10	11.4812	-6.02564	17.9712	3030	131.739
MW-7	184.091	196.115	168.065	18.2263	7132	324.182
MW-8	14.9043	13.1021	-1.12129	17.9712	4228.5	183.848
MW-11	21.1875	16.4488	5.16186	20.2939	3443	215.188

MW-12	77.4667	119.223	61.441	20.7681	4368.5	291.233
MW-13A	15.3125	16.1729	-0.713141	20.2939	2607.5	162.969
MW-13B	55.125	83.0437	39.0994	20.2939	3863.5	241.469
MW-14A	7.72727	4.67099	-8.29837	23.3364	1376.5	125.136
MW-14B	59.6875	124.251	43.6619	20.2939	2935.5	183.469
MW-10R	45	41.0961	28.9744	24.2294	2674.5	267.45
MW-16	123.5	148.4	107.474	24.2294	2822	282.2
MW-9R	78.5	82.3289	62.4744	24.2294	3006.5	300.65
MW-9RR	15.7143	12.3924	-0.311355	28.0592	1420	202.857
MW-24D	5	0	-11.0256	49.5589	143	71.5
MW-24S	5	0	-11.0256	49.5589	143	71.5

Analysis of Variance Statistics

SS Wells	756953
SS Total	2.42038e+006

Kruskal-Wallis Statistics

Non-Detect Rank	71.5
Background Rank Sum	6003.5
Background Rank Mean	153.936
H Statistic	119.087
H Adjusted for Ties	125.589

Basic Statistics

Parameter: Nickel, total

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

	Total Observations
364	
Total Non-Detects	185
Pooled Mean	46.3423
Pooled Std Dev	70.3666
Background Mean	26.8
Background Std Dev	25.9506

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	23	15	65.2174	536.6
MW-1B	11	11	100	380
MW-1C	3	3	100	75

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	23.3304	24.5639	0	2918	126.87
MW-1B	34.5455	31.6587	0	1023	93
MW-1C	25	0	0	279	93

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-2	22	11	50	594
MW-3A	22	13	59.0909	533
MW-3B	22	18	81.8182	392
MW-4A	18	2	11.1111	1793
MW-4B	22	13	59.0909	1089
MW-5	9	3	33.3333	805
MW-6A	22	13	59.0909	523
MW-6B	22	14	63.6364	595
MW-7	21	9	42.8571	1006
MW-8	22	9	40.9091	789
MW-11	15	6	40	460
MW-12	14	4	28.5714	2600
MW-13A	15	5	33.3333	626
MW-13B	15	4	26.6667	1178
MW-14A	10	8	80	290
MW-14B	15	7	46.6667	1026
MW-10R	10	3	30	371
MW-16	10	4	40	630
MW-9R	10	3	30	342
MW-9RR	7	3	42.8571	135
MW-24D	2	2	100	50
MW-24S	2	2	100	50

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-2	27	18.3977	0.2	16.9371	3634	165.182
MW-3A	24.2273	12.6413	-2.57273	16.9371	3335	151.591
MW-3B	17.8182	11.7296	-8.98182	16.9371	2470	112.273
MW-4A	99.6111	57.0481	72.8111	18.0788	5396	299.778
MW-4B	49.5	41.1244	22.7	16.9371	4013	182.409
MW-5	89.4444	106.167	62.6444	23.382	2160	240
MW-6A	23.7727	12.2199	-3.02727	16.9371	3357	152.591
MW-6B	27.0455	24.7203	0.245455	16.9371	3365	152.955
MW-7	47.9048	40.1023	21.1048	17.1881	4388	208.952
MW-8	35.8636	23.4466	9.06364	16.9371	4397	199.864
MW-11	30.6667	29.2078	3.86667	19.2566	2829	188.6

MW-12	185.714	209.88	158.914	19.7399	3814	272.429
MW-13A	41.7333	49.1506	14.9333	19.2566	3079	205.267
MW-13B	78.5333	92.6714	51.7333	19.2566	3607	240.467
MW-14A	29	34.7851	2.2	22.4219	1219	121.9
MW-14B	68.4	137.196	41.6	19.2566	2906	193.733
MW-10R	37.1	21.5172	10.3	22.4219	2245	224.5
MW-16	63	66.4246	36.2	22.4219	2233	223.3
MW-9R	34.2	27.7841	7.4	22.4219	2155	215.5
MW-9RR	19.2857	8.86405	-7.51429	25.93	1236	176.571
MW-24D	25	0	-1.8	45.6711	186	93
MW-24S	25	0	-1.8	45.6711	186	93

Analysis of Variance Statistics

SS Wells	455696
SS Total	1.79738e+006

Kruskal-Wallis Statistics

Non-Detect Rank	93
Background Rank Sum	4220
Background Rank Mean	114.054
H Statistic	84.4528
H Adjusted for Ties	97.2153

Basic Statistics

Parameter: Vanadium

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

	Total Observations
381	
Total Non-Detects	86
Pooled Mean	163.226
Pooled Std Dev	361.068
Background Mean	85.2821
Background Std Dev	125.36

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	24	4	16.6667	1871
MW-1B	12	2	16.6667	1395
MW-1C	3	3	100	60

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	77.9583	125.878	0	3855	160.625
MW-1B	116.25	137.231	0	2325	193.75
MW-1C	20	0	0	130.5	43.5

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-2	23	3	13.0435	2949
MW-3A	23	3	13.0435	2438
MW-3B	23	8	34.7826	876
MW-4A	19	3	15.7895	1696
MW-4B	23	5	21.7391	2820
MW-5	9	1	11.1111	1815
MW-6A	23	6	26.087	1031
MW-6B	23	5	21.7391	1108
MW-7	22	4	18.1818	3485
MW-8	23	3	13.0435	2558
MW-11	16	3	18.75	2450
MW-12	15	1	6.66667	11130
MW-13A	16	7	43.75	1780
MW-13B	16	4	25	5405
MW-14A	11	3	27.2727	460
MW-14B	16	4	25	4977
MW-10R	10	3	30	1780
MW-16	10	4	40	4445
MW-9R	10	0	0	4930
MW-9RR	7	3	42.8571	650
MW-24D	2	2	100	40
MW-24S	2	2	100	40

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-2	128.217	112.72	42.9353	88.0193	4969.5	216.065
MW-3A	106	93.9768	20.7179	88.0193	4630.5	201.326
MW-3B	38.087	51.5187	-47.1951	88.0193	2766	120.261
MW-4A	89.2632	98.5607	3.98111	93.6662	3478.5	183.079
MW-4B	122.609	111.965	37.3266	88.0193	4732.5	205.761
MW-5	201.667	258.384	116.385	123.807	2156.5	239.611
MW-6A	44.8261	38.6801	-40.456	88.0193	3332	144.87
MW-6B	48.1739	73.8418	-37.1081	88.0193	3254.5	141.5
MW-7	158.409	180.551	73.127	89.2687	4722	214.636
MW-8	111.217	104.653	25.9353	88.0193	4761.5	207.022
MW-11	153.125	194.344	67.8429	99.3956	3490.5	218.156

MW-12	742	1106.09	656.718	101.718	4676.5	311.767
MW-13A	111.25	170.817	25.9679	99.3956	2507.5	156.719
MW-13B	337.813	538.637	252.53	99.3956	3783	236.438
MW-14A	41.8182	51.3455	-43.4639	114.297	1502.5	136.591
MW-14B	311.063	736.071	225.78	99.3956	2842	177.625
MW-10R	178	168.708	92.7179	118.671	2198.5	219.85
MW-16	444.5	617.596	359.218	118.671	2235	223.5
MW-9R	493	510.948	407.718	118.671	3072	307.2
MW-9RR	92.8571	99.7855	7.57509	137.428	1175.5	167.929
MW-24D	20	0	-65.2821	242.73	87	43.5
MW-24S	20	0	-65.2821	242.73	87	43.5

Analysis of Variance Statistics

SS Wells	9.63761e+006
SS Total	4.95407e+007

Kruskal-Wallis Statistics

Non-Detect Rank	43.5
Background Rank Sum	6310.5
Background Rank Mean	161.808
H Statistic	72.4482
H Adjusted for Ties	73.291

Basic Statistics

Parameter: Zinc, total

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

	Total Observations
381	
Total Non-Detects	63
Pooled Mean	200.677
Pooled Std Dev	332.046
Background Mean	95.8718
Background Std Dev	88.8222

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	24	3	12.5	2514
MW-1B	12	3	25	1115
MW-1C	3	2	66.6667	110

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	104.75	93.1092	0	3866	161.083
MW-1B	92.9167	88.9703	0	1766	147.167
MW-1C	36.6667	20.2073	0	189	63

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-2	23	3	13.0435	3032
MW-3A	23	3	13.0435	3265
MW-3B	23	9	39.1304	1038
MW-4A	19	2	10.5263	1620
MW-4B	23	3	13.0435	3115
MW-5	9	0	0	3420
MW-6A	23	5	21.7391	1595
MW-6B	23	4	17.3913	1898
MW-7	22	1	4.54545	7515
MW-8	23	0	0	3970
MW-11	16	2	12.5	3570
MW-12	15	1	6.66667	10365
MW-13A	16	4	25	2283
MW-13B	16	3	18.75	6815
MW-14A	11	3	27.2727	765
MW-14B	16	4	25	4470
MW-10R	10	3	30	1688
MW-16	10	1	10	8155
MW-9R	10	1	10	3075
MW-9RR	7	1	14.2857	775
MW-24D	2	1	50	145
MW-24S	2	1	50	145

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-2	131.826	109.384	35.9543	76.4503	4269	185.609
MW-3A	141.957	130.643	46.0847	76.4503	4390	190.87
MW-3B	45.1304	35.4123	-50.7414	76.4503	2214	96.2609
MW-4A	85.2632	63.256	-10.6086	81.355	2923	153.842
MW-4B	135.435	111.027	39.563	76.4503	4372	190.087
MW-5	380	339.153	284.128	107.534	2571	285.667
MW-6A	69.3478	40.4605	-26.524	76.4503	3110	135.217
MW-6B	82.5217	98.368	-13.3501	76.4503	3204	139.304
MW-7	341.591	372.231	245.719	77.5355	5806	263.909
MW-8	172.609	113.907	76.7369	76.4503	5371	233.522
MW-11	223.125	173.531	127.253	86.3314	3845	240.313

MW-12	691	802.666	595.128	88.3484	4588	305.867
MW-13A	142.688	166.079	46.8157	86.3314	2721	170.063
MW-13B	425.938	505.154	330.066	86.3314	3886	242.875
MW-14A	69.5455	55.4732	-26.3263	99.2741	1479	134.455
MW-14B	279.375	506.846	183.503	86.3314	2810	175.625
MW-10R	168.8	146.663	72.9282	103.073	2000	200
MW-16	815.5	811.536	719.628	103.073	2952	295.2
MW-9R	307.5	278.121	211.628	103.073	2591	259.1
MW-9RR	110.714	55.8591	14.8425	119.365	1339	191.286
MW-24D	72.5	67.1751	-23.3718	210.826	254	127
MW-24S	72.5	67.1751	-23.3718	210.826	255	127.5

Analysis of Variance Statistics

SS Wells	1.17938e+007
SS Total	4.18968e+007

Kruskal-Wallis Statistics

Non-Detect Rank	32
Background Rank Sum	5821
Background Rank Mean	149.256
H Statistic	96.583
H Adjusted for Ties	97.0215

Basic Statistics

Parameter: 1,1-Dichloroethane

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

	Total Observations
373	
Total Non-Detects	372
Pooled Mean	2.5067
Pooled Std Dev	0.129445
Background Mean	2.5
Background Std Dev	0

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	23	23	100	57.5
MW-1B	11	11	100	27.5
MW-1C	3	3	100	7.5

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	2.5	0	0	4289.5	186.5
MW-1B	2.5	0	0	2051.5	186.5
MW-1C	2.5	0	0	559.5	186.5

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-4A	19	19	100	47.5
MW-4B	23	23	100	57.5
MW-6A	23	23	100	57.5
MW-7	21	21	100	52.5
MW-8	22	22	100	55
MW-2	22	22	100	55
MW-3A	22	22	100	55
MW-3B	22	22	100	55
MW-5	8	8	100	20
MW-6B	22	22	100	55
MW-11	16	16	100	40
MW-12	15	15	100	37.5
MW-13A	16	16	100	40
MW-13B	16	15	93.75	42.5
MW-14A	11	11	100	27.5
MW-14B	16	16	100	40
MW-10R	10	10	100	25
MW-16	10	10	100	25
MW-9R	11	11	100	27.5
MW-9RR	7	7	100	17.5
MW-24D	2	2	100	5
MW-24S	2	2	100	5

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-4A	2.5	0	0	0.0366229	3543.5	186.5
MW-4B	2.5	0	0	0.0344546	4289.5	186.5
MW-6A	2.5	0	0	0.0344546	4289.5	186.5
MW-7	2.5	0	0	0.0354519	3916.5	186.5
MW-8	2.5	0	0	0.0349341	4103	186.5
MW-2	2.5	0	0	0.0349341	4103	186.5
MW-3A	2.5	0	0	0.0349341	4103	186.5
MW-3B	2.5	0	0	0.0349341	4103	186.5
MW-5	2.5	0	0	0.0505937	1492	186.5
MW-6B	2.5	0	0	0.0349341	4103	186.5
MW-11	2.5	0	0	0.0388251	2984	186.5

MW-12	2.5	0	0	0.0397184	2797.5	186.5
MW-13A	2.5	0	0	0.0388251	2984	186.5
MW-13B	2.65625	0.625	0.15625	0.0388251	3170.5	198.156
MW-14A	2.5	0	0	0.0445615	2051.5	186.5
MW-14B	2.5	0	0	0.0388251	2984	186.5
MW-10R	2.5	0	0	0.0462471	1865	186.5
MW-16	2.5	0	0	0.0462471	1865	186.5
MW-9R	2.5	0	0	0.0445615	2051.5	186.5
MW-9RR	2.5	0	0	0.0534826	1305.5	186.5
MW-24D	2.5	0	0	0.0942003	373	186.5
MW-24S	2.5	0	0	0.0942003	373	186.5

Analysis of Variance Statistics

SS Wells	0.373869
SS Total	6.23324

Kruskal-Wallis Statistics

Non-Detect Rank	186.5
Background Rank Sum	6900.5
Background Rank Mean	186.5
H Statistic	0.178977
H Adjusted for Ties	22.3125

Basic Statistics

Parameter: Tetrachloroethylene

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

	Total Observations
373	
Total Non-Detects	367
Pooled Mean	2.6
Pooled Std Dev	0.83547
Background Mean	2.5
Background Std Dev	0

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	23	23	100	57.5
MW-1B	11	11	100	27.5
MW-1C	3	3	100	7.5

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	2.5	0	0	4232	184
MW-1B	2.5	0	0	2024	184
MW-1C	2.5	0	0	552	184

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-4A	19	19	100	47.5
MW-4B	23	23	100	57.5
MW-6A	23	23	100	57.5
MW-7	21	21	100	52.5
MW-8	22	22	100	55
MW-2	22	22	100	55
MW-3A	22	22	100	55
MW-3B	22	22	100	55
MW-5	8	8	100	20
MW-6B	22	22	100	55
MW-11	16	16	100	40
MW-12	15	15	100	37.5
MW-13A	16	15	93.75	42.9
MW-13B	16	11	68.75	74.4
MW-14A	11	11	100	27.5
MW-14B	16	16	100	40
MW-10R	10	10	100	25
MW-16	10	10	100	25
MW-9R	11	11	100	27.5
MW-9RR	7	7	100	17.5
MW-24D	2	2	100	5
MW-24S	2	2	100	5

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-4A	2.5	0	0	0.207945	3496	184
MW-4B	2.5	0	0	0.195633	4232	184
MW-6A	2.5	0	0	0.195633	4232	184
MW-7	2.5	0	0	0.201296	3864	184
MW-8	2.5	0	0	0.198356	4048	184
MW-2	2.5	0	0	0.198356	4048	184
MW-3A	2.5	0	0	0.198356	4048	184
MW-3B	2.5	0	0	0.198356	4048	184
MW-5	2.5	0	0	0.287271	1472	184
MW-6B	2.5	0	0	0.198356	4048	184
MW-11	2.5	0	0	0.220449	2944	184

MW-12	2.5	0	0	0.225521	2760	184
MW-13A	2.68125	0.725	0.18125	0.220449	3128	195.5
MW-13B	4.65	3.4739	2.15	0.220449	3879	242.438
MW-14A	2.5	0	0	0.25302	2024	184
MW-14B	2.5	0	0	0.220449	2944	184
MW-10R	2.5	0	0	0.262591	1840	184
MW-16	2.5	0	0	0.262591	1840	184
MW-9R	2.5	0	0	0.25302	2024	184
MW-9RR	2.5	0	0	0.303674	1288	184
MW-24D	2.5	0	0	0.534869	368	184
MW-24S	2.5	0	0	0.534869	368	184

Analysis of Variance Statistics

SS Wells	70.7556
SS Total	259.66

Kruskal-Wallis Statistics

Non-Detect Rank	184
Background Rank Sum	6808
Background Rank Mean	184
H Statistic	4.59332
H Adjusted for Ties	96.7309

Basic Statistics

Parameter: Trichloroethylene

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

	Total Observations
373	
Total Non-Detects	361
Pooled Mean	2.82386
Pooled Std Dev	1.98372
Background Mean	2.5
Background Std Dev	0

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	23	23	100	57.5
MW-1B	11	11	100	27.5
MW-1C	3	3	100	7.5

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	2.5	0	0	4163	181
MW-1B	2.5	0	0	1991	181
MW-1C	2.5	0	0	543	181

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-4A	19	19	100	47.5
MW-4B	23	23	100	57.5
MW-6A	23	23	100	57.5
MW-7	21	21	100	52.5
MW-8	22	22	100	55
MW-2	22	22	100	55
MW-3A	22	22	100	55
MW-3B	22	22	100	55
MW-5	8	8	100	20
MW-6B	22	22	100	55
MW-11	16	16	100	40
MW-12	15	15	100	37.5
MW-13A	16	15	93.75	42.7
MW-13B	16	11	68.75	94.5
MW-14A	11	11	100	27.5
MW-14B	16	16	100	40
MW-10R	10	10	100	25
MW-16	10	10	100	25
MW-9R	11	5	45.4545	91.1
MW-9RR	7	7	100	17.5
MW-24D	2	2	100	5
MW-24S	2	2	100	5

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-4A	2.5	0	0	0.466124	3439	181
MW-4B	2.5	0	0	0.438526	4163	181
MW-6A	2.5	0	0	0.438526	4163	181
MW-7	2.5	0	0	0.45122	3801	181
MW-8	2.5	0	0	0.44463	3982	181
MW-2	2.5	0	0	0.44463	3982	181
MW-3A	2.5	0	0	0.44463	3982	181
MW-3B	2.5	0	0	0.44463	3982	181
MW-5	2.5	0	0	0.64394	1448	181
MW-6B	2.5	0	0	0.44463	3982	181
MW-11	2.5	0	0	0.494153	2896	181

MW-12	2.5	0	0	0.505522	2715	181
MW-13A	2.66875	0.675	0.16875	0.494153	3077	192.313
MW-13B	5.90625	5.41362	3.40625	0.494153	3835	239.688
MW-14A	2.5	0	0	0.567163	1991	181
MW-14B	2.5	0	0	0.494153	2896	181
MW-10R	2.5	0	0	0.588617	1810	181
MW-16	2.5	0	0	0.588617	1810	181
MW-9R	8.28182	7.09039	5.78182	0.567163	3109	282.636
MW-9RR	2.5	0	0	0.680708	1267	181
MW-24D	2.5	0	0	1.19895	362	181
MW-24S	2.5	0	0	1.19895	362	181

Analysis of Variance Statistics

SS Wells	514.698
SS Total	1463.88

Kruskal-Wallis Statistics

Non-Detect Rank	181
Background Rank Sum	6697
Background Rank Mean	181
H Statistic	13.5359
H Adjusted for Ties	144.856

Basic Statistics

Parameter: Chloroethane

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

	Total Observations
373	
Total Non-Detects	371
Pooled Mean	5.04021
Pooled Std Dev	0.578273
Background Mean	5
Background Std Dev	0

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	23	23	100	115
MW-1B	11	11	100	55
MW-1C	3	3	100	15

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	5	0	0	4278	186
MW-1B	5	0	0	2046	186
MW-1C	5	0	0	558	186

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-4A	19	19	100	95
MW-4B	23	23	100	115
MW-6A	23	23	100	115
MW-7	21	21	100	105
MW-8	22	22	100	110
MW-2	22	22	100	110
MW-3A	22	22	100	110
MW-3B	22	22	100	110
MW-5	8	8	100	40
MW-6B	22	22	100	110
MW-11	16	16	100	80
MW-12	15	15	100	75
MW-13A	16	16	100	80
MW-13B	16	14	87.5	95
MW-14A	11	11	100	55
MW-14B	16	16	100	80
MW-10R	10	10	100	50
MW-16	10	10	100	50
MW-9R	11	11	100	55
MW-9RR	7	7	100	35
MW-24D	2	2	100	10
MW-24S	2	2	100	10

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-4A	5	0	0	0.159355	3534	186
MW-4B	5	0	0	0.14992	4278	186
MW-6A	5	0	0	0.14992	4278	186
MW-7	5	0	0	0.15426	3906	186
MW-8	5	0	0	0.152007	4092	186
MW-2	5	0	0	0.152007	4092	186
MW-3A	5	0	0	0.152007	4092	186
MW-3B	5	0	0	0.152007	4092	186
MW-5	5	0	0	0.220146	1488	186
MW-6B	5	0	0	0.152007	4092	186
MW-11	5	0	0	0.168938	2976	186

MW-12	5	0	0	0.172824	2790	186
MW-13A	5	0	0	0.168938	2976	186
MW-13B	5.9375	2.71953	0.9375	0.168938	3349	209.313
MW-14A	5	0	0	0.193898	2046	186
MW-14B	5	0	0	0.168938	2976	186
MW-10R	5	0	0	0.201232	1860	186
MW-16	5	0	0	0.201232	1860	186
MW-9R	5	0	0	0.193898	2046	186
MW-9RR	5	0	0	0.232716	1302	186
MW-24D	5	0	0	0.409889	372	186
MW-24S	5	0	0	0.409889	372	186

Analysis of Variance Statistics

SS Wells	13.4593
SS Total	124.397

Kruskal-Wallis Statistics

Non-Detect Rank	186
Background Rank Sum	6882
Background Rank Mean	186
H Statistic	0.715909
H Adjusted for Ties	44.745

Basic Statistics

Parameter: Toluene

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

	Total Observations
373	
Total Non-Detects	369
Pooled Mean	3.10322
Pooled Std Dev	9.34139
Background Mean	2.94595
Background Std Dev	2.71258

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	23	23	100	57.5
MW-1B	11	10	90.9091	44
MW-1C	3	3	100	7.5

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	2.5	0	0	4255	185
MW-1B	4	4.97494	0	2221	201.909
MW-1C	2.5	0	0	555	185

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-4A	19	19	100	47.5
MW-4B	23	23	100	57.5
MW-6A	23	23	100	57.5
MW-7	21	21	100	52.5
MW-8	22	22	100	55
MW-2	22	22	100	55
MW-3A	22	22	100	55
MW-3B	22	22	100	55
MW-5	8	8	100	20
MW-6B	22	22	100	55
MW-11	16	16	100	40
MW-12	15	12	80	246
MW-13A	16	16	100	40
MW-13B	16	16	100	40
MW-14A	11	11	100	27.5
MW-14B	16	16	100	40
MW-10R	10	10	100	25
MW-16	10	10	100	25
MW-9R	11	11	100	27.5
MW-9RR	7	7	100	17.5
MW-24D	2	2	100	5
MW-24S	2	2	100	5

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-4A	2.5	0	-0.445946	2.60625	3515	185
MW-4B	2.5	0	-0.445946	2.45194	4255	185
MW-6A	2.5	0	-0.445946	2.45194	4255	185
MW-7	2.5	0	-0.445946	2.52292	3885	185
MW-8	2.5	0	-0.445946	2.48607	4070	185
MW-2	2.5	0	-0.445946	2.48607	4070	185
MW-3A	2.5	0	-0.445946	2.48607	4070	185
MW-3B	2.5	0	-0.445946	2.48607	4070	185
MW-5	2.5	0	-0.445946	3.60047	1480	185
MW-6B	2.5	0	-0.445946	2.48607	4070	185
MW-11	2.5	0	-0.445946	2.76297	2960	185

MW-12	16.4	45.8465	13.4541	2.82653	3335	222.333
MW-13A	2.5	0	-0.445946	2.76297	2960	185
MW-13B	2.5	0	-0.445946	2.76297	2960	185
MW-14A	2.5	0	-0.445946	3.17119	2035	185
MW-14B	2.5	0	-0.445946	2.76297	2960	185
MW-10R	2.5	0	-0.445946	3.29115	1850	185
MW-16	2.5	0	-0.445946	3.29115	1850	185
MW-9R	2.5	0	-0.445946	3.17119	2035	185
MW-9RR	2.5	0	-0.445946	3.80606	1295	185
MW-24D	2.5	0	-0.445946	6.70372	370	185
MW-24S	2.5	0	-0.445946	6.70372	370	185

Analysis of Variance Statistics

SS Wells	2787.18
SS Total	32461.3

Kruskal-Wallis Statistics

Non-Detect Rank	185
Background Rank Sum	7031
Background Rank Mean	190.027
H Statistic	1.75049
H Adjusted for Ties	54.9984

Basic Statistics

Parameter: cis-1,2-Dichloroethene

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

	Total Observations
373	
Total Non-Detects	358
Pooled Mean	4.77212
Pooled Std Dev	14.1553
Background Mean	2.5
Background Std Dev	0

Background Wells

There are 3 background wells

Well	Samples	Non-Detects	% ND	Total
MW-1A	23	23	100	57.5
MW-1B	11	11	100	27.5
MW-1C	3	3	100	7.5

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-1A	2.5	0	0	4128.5	179.5
MW-1B	2.5	0	0	1974.5	179.5
MW-1C	2.5	0	0	538.5	179.5

Compliance Wells

There are 22 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-4A	19	19	100	47.5
MW-4B	23	23	100	57.5
MW-6A	23	23	100	57.5
MW-7	21	21	100	52.5
MW-8	22	22	100	55
MW-2	22	22	100	55
MW-3A	22	22	100	55
MW-3B	22	22	100	55
MW-5	8	8	100	20
MW-6B	22	22	100	55
MW-11	16	16	100	40
MW-12	15	15	100	37.5
MW-13A	16	16	100	40
MW-13B	16	16	100	40
MW-14A	11	11	100	27.5
MW-14B	16	16	100	40
MW-10R	10	10	100	25
MW-16	10	10	100	25
MW-9R	11	0	0	808
MW-9RR	7	3	42.8571	84.5
MW-24D	2	2	100	5
MW-24S	2	2	100	5

Well	Mean	Std Dev	Dif From Bk	Std Err	Rank Sum	Rank Mean
MW-4A	2.5	0	0	2.16318	3410.5	179.5
MW-4B	2.5	0	0	2.03511	4128.5	179.5
MW-6A	2.5	0	0	2.03511	4128.5	179.5
MW-7	2.5	0	0	2.09402	3769.5	179.5
MW-8	2.5	0	0	2.06343	3949	179.5
MW-2	2.5	0	0	2.06343	3949	179.5
MW-3A	2.5	0	0	2.06343	3949	179.5
MW-3B	2.5	0	0	2.06343	3949	179.5
MW-5	2.5	0	0	2.98839	1436	179.5
MW-6B	2.5	0	0	2.06343	3949	179.5
MW-11	2.5	0	0	2.29326	2872	179.5

MW-12	2.5	0	0	2.34602	2692.5	179.5
MW-13A	2.5	0	0	2.29326	2872	179.5
MW-13B	2.5	0	0	2.29326	2872	179.5
MW-14A	2.5	0	0	2.63209	1974.5	179.5
MW-14B	2.5	0	0	2.29326	2872	179.5
MW-10R	2.5	0	0	2.73165	1795	179.5
MW-16	2.5	0	0	2.73165	1795	179.5
MW-9R	73.4545	44.471	70.9545	2.63209	4042	367.455
MW-9RR	12.0714	10.5334	9.57143	3.15903	1986.5	283.786
MW-24D	2.5	0	0	5.56408	359	179.5
MW-24S	2.5	0	0	5.56408	359	179.5

Analysis of Variance Statistics

SS Wells	54095.7
SS Total	74538.1

Kruskal-Wallis Statistics

Non-Detect Rank	179.5
Background Rank Sum	6641.5
Background Rank Mean	179.5
H Statistic	38.1709
H Adjusted for Ties	329.465

Interwell Analyses for Metals

Shapiro-Wilks Test of Normality
Parameter: Barium, total
Background Wells
Normality Test of Parameter Concentrations

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL
K = 19; Samples = 39

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)	a(n-i+1)	b(i)
1	3.3673	6.53669	3.1694	0.3989	1.26427
2	3.8712	6.32794	2.45674	0.2755	0.676831
3	4.34381	6.23048	1.88668	0.238	0.449029
4	4.45435	6.17379	1.71944	0.2104	0.36177
5	4.56435	6.13123	1.56688	0.188	0.294573
6	4.60517	5.9135	1.30833	0.1689	0.220977
7	4.60517	5.9135	1.30833	0.152	0.198867
8	4.70048	5.82895	1.12847	0.1366	0.154148
9	4.70048	5.73657	1.03609	0.1225	0.126921
10	4.70048	5.59842	0.897942	0.1092	0.0980552
11	4.70048	5.52146	0.820981	0.0967	0.0793888
12	4.78749	5.52146	0.733969	0.0848	0.0622406
13	4.86753	5.52146	0.653926	0.0733	0.0479328
14	4.94164	5.52146	0.579818	0.0622	0.0360647
15	4.99043	5.52146	0.531028	0.0515	0.027348
16	5.07517	5.52146	0.446287	0.0409	0.0182531
17	5.1358	5.52146	0.385662	0.0305	0.0117627
18	5.19296	5.52146	0.328504	0.0203	0.00666863
19	5.39363	5.52146	0.127833	0.0101	0.00129112
20	5.52146	5.52146	0		
21	5.52146	5.39363	-0.127833		
22	5.52146	5.19296	-0.328504		
23	5.52146	5.1358	-0.385662		
24	5.52146	5.07517	-0.446287		
25	5.52146	4.99043	-0.531028		
26	5.52146	4.94164	-0.579818		
27	5.52146	4.86753	-0.653926		
28	5.52146	4.78749	-0.733969		
29	5.52146	4.70048	-0.820981		
30	5.59842	4.70048	-0.897942		
31	5.73657	4.70048	-1.03609		
32	5.82895	4.70048	-1.12847		
33	5.9135	4.60517	-1.30833		
34	5.9135	4.60517	-1.30833		
35	6.13123	4.56435	-1.56688		
36	6.17379	4.45435	-1.71944		
37	6.23048	4.34381	-1.88668		
38	6.32794	3.8712	-2.45674		
39	6.53669	3.3673	-3.1694		

Sum of b values = 4.13639
Sample Standard Deviation = 0.682847
W Statistic = 0.965636
5% Critical value of 0.939 is less than 0.965636
Data is normally distributed at 95% level of significance
1% Critical value of 0.917 is less than 0.965636
Data is normally distributed at 99% level of significance

Parametric Tolerance Interval Analysis

Parameter: Barium, total

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL

Background mean = 5.24625
Background standard deviation = 0.682847
One-sided normal tolerance factor at 95% confidence = 1.70743
Tolerance factor calculation follows USEPA 1992 Guidance
Upper tolerance limit = 6.41216

Well	Date	Result	Impacted
MW-8	10/28/1993	6.66823	TRUE
	9/16/1994	6.94698	TRUE
	1/11/1995	6.88141	TRUE
	3/6/1995	6.84055	TRUE
	12/21/1995	7.31322	TRUE
	7/10/1996	5.19296	FALSE
	12/6/1996	5.99146	FALSE
	7/2/1997	7.37776	TRUE
	12/10/1997	6.53669	TRUE
	7/1/1998	7.24423	TRUE
	12/16/1998	7.64969	TRUE
	7/9/1999	6.52062	TRUE
	12/22/1999	5.8861	FALSE
	7/12/2000	6.59304	TRUE
	1/15/2001	6.25383	FALSE
	7/17/2001	5.39363	FALSE
	1/4/2002	5.70378	FALSE
	7/17/2002	5.82895	FALSE
	1/22/2003	6.08677	FALSE
	7/16/2003	5.85793	FALSE
	1/14/2004	ND<5.52146	FALSE
	8/5/2004	6.25383	FALSE
	1/25/2005	6.82437	TRUE
MW-13B	4/2/1998	8.7323	TRUE
	5/19/1998	9.07108	TRUE
	6/30/1998	8.63052	TRUE
	10/27/1998	7.31322	TRUE
	7/8/1999	6.50728	TRUE
	12/23/1999	7.00307	TRUE
	7/13/2000	7.24423	TRUE
	1/16/2001	7.00307	TRUE
	7/17/2001	6.63332	TRUE
	1/3/2002	7.54961	TRUE
	7/16/2002	3.55535	FALSE
	1/21/2003	8.00637	TRUE
	7/15/2003	6.27288	FALSE
	1/14/2004	7.09008	TRUE
	8/6/2004	ND<5.52146	FALSE
	1/26/2005	6.30992	FALSE
MW-9R	7/12/2000	8.71604	TRUE
	1/15/2001	8.63052	TRUE
	7/17/2001	7.31322	TRUE
	1/3/2002	7.93737	TRUE
	7/16/2002	7.6009	TRUE
	1/21/2003	7.37776	TRUE
	7/15/2003	6.52209	TRUE
	1/13/2004	6.30992	FALSE
	8/4/2004	8.00637	TRUE
	1/25/2005	6.90776	TRUE

Non-Parametric Tolerance Interval

Parameter: Beryllium, total

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

Total Percent Non-Detects = 39.7436%
Background Samples (n) = 39
Maximum Background Concentration = 12.5
Minimum Coverage = 92.6%
Average Coverage = 97.5%

Well	Sample	Result	Impacted
MW-13B	4/2/1998	130	TRUE
MW-13B	5/19/1998	98	TRUE
MW-13B	6/30/1998	ND<5	FALSE
MW-13B	10/27/1998	38	TRUE
MW-13B	7/8/1999	11	FALSE
MW-13B	12/23/1999	18	TRUE
MW-13B	7/13/2000	24	TRUE
MW-13B	1/16/2001	17	TRUE
MW-13B	7/17/2001	14	TRUE
MW-13B	1/3/2002	20	TRUE
MW-13B	7/16/2002	ND<0.5	FALSE
MW-13B	1/21/2003	59	TRUE
MW-13B	7/15/2003	4.9	FALSE
MW-13B	1/14/2004	5.5	FALSE
MW-13B	8/6/2004	ND<1	FALSE
MW-13B	1/26/2005	2	FALSE
MW-2	10/28/1993	6	FALSE
MW-2	9/19/1994	ND<12.5	FALSE
MW-2	1/6/1995	8	FALSE
MW-2	3/6/1995	17	TRUE
MW-2	12/20/1995	14	TRUE
MW-2	7/10/1996	ND<0.5	FALSE
MW-2	12/5/1996	2	FALSE
MW-2	7/2/1997	8	FALSE
MW-2	12/10/1997	6	FALSE
MW-2	6/30/1998	30	TRUE
MW-2	12/17/1998	11	FALSE
MW-2	7/9/1999	1.7	FALSE
MW-2	12/22/1999	ND<0.5	FALSE
MW-2	7/12/2000	450	TRUE
MW-2	1/16/2001	2.5	FALSE
MW-2	7/18/2001	4.7	FALSE
MW-2	1/3/2002	6.5	FALSE
MW-2	7/17/2002	2.3	FALSE
MW-2	1/22/2003	9.4	FALSE
MW-2	7/16/2003	ND<0.5	FALSE
MW-2	1/14/2004	3.2	FALSE
MW-2	8/5/2004	ND<1	FALSE
MW-2	1/26/2005	2.6	FALSE

Non-Parametric Tolerance Interval

Parameter: Cadmium, total

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

Total Percent Non-Detects = 64.2202%
Background Samples (n) = 39
Maximum Background Concentration = 48
Minimum Coverage = 92.6%
Average Coverage = 97.5%

Well	Sample	Result	Impacted
MW-2	10/28/1993	ND<1	FALSE
MW-2	9/19/1994	ND<0.5	FALSE
MW-2	1/6/1995	ND<0.5	FALSE
MW-2	3/6/1995	ND<0.5	FALSE
MW-2	12/20/1995	2	FALSE
MW-2	7/10/1996	ND<0.5	FALSE
MW-2	12/5/1996	ND<0.5	FALSE
MW-2	7/2/1997	ND<0.5	FALSE
MW-2	12/10/1997	ND<0.5	FALSE
MW-2	6/30/1998	ND<0.5	FALSE
MW-2	12/17/1998	ND<0.5	FALSE
MW-2	7/9/1999	ND<0.5	FALSE
MW-2	12/22/1999	ND<0.5	FALSE
MW-2	7/12/2000	8	FALSE
MW-2	1/16/2001	ND<0.5	FALSE
MW-2	7/18/2001	ND<0.5	FALSE
MW-2	1/3/2002	ND<0.5	FALSE
MW-2	7/17/2002	ND<0.5	FALSE
MW-2	1/22/2003	ND<0.5	FALSE
MW-2	7/16/2003	ND<0.5	FALSE
MW-2	1/14/2004	11	FALSE
MW-2	8/5/2004	ND<0.5	FALSE
MW-2	1/26/2005	2.7	FALSE
MW-4A	10/28/1993	ND<1	FALSE
MW-4A	9/19/1994	ND<0.5	FALSE
MW-4A	1/11/1995	ND<0.5	FALSE
MW-4A	3/6/1995	ND<0.5	FALSE
MW-4A	12/20/1995	ND<0.5	FALSE
MW-4A	7/10/1996	ND<0.5	FALSE
MW-4A	12/6/1996	ND<0.5	FALSE
MW-4A	7/2/1997	ND<0.5	FALSE
MW-4A	12/10/1997	ND<0.5	FALSE
MW-4A	6/30/1998	ND<0.5	FALSE
MW-4A	12/17/1998	2.5	FALSE
MW-4A	7/8/1999	ND<0.5	FALSE
MW-4A	12/23/1999	ND<0.5	FALSE
MW-4A	7/13/2000	ND<0.5	FALSE
MW-4A	1/16/2001	4.2	FALSE
MW-4A	7/15/2003	1.3	FALSE
MW-4A	1/13/2004	1.7	FALSE
MW-4A	8/5/2004	1.3	FALSE
MW-4A	1/25/2005	6.8	FALSE
MW-13A	4/2/1998	ND<0.5	FALSE
MW-13A	5/19/1998	ND<0.5	FALSE
MW-13A	6/30/1998	ND<0.5	FALSE
MW-13A	10/26/1998	ND<0.5	FALSE
MW-13A	7/8/1999	ND<0.5	FALSE
MW-13A	12/23/1999	ND<0.5	FALSE
MW-13A	7/13/2000	ND<0.5	FALSE

MW-13A	1/16/2001	1.4	FALSE
MW-13A	7/17/2001	ND<0.5	FALSE
MW-13A	1/3/2002	ND<0.5	FALSE
MW-13A	7/16/2002	ND<0.5	FALSE
MW-13A	1/21/2003	ND<0.5	FALSE
MW-13A	7/15/2003	ND<0.5	FALSE
MW-13A	1/14/2004	1.2	FALSE
MW-13A	8/6/2004	ND<0.5	FALSE
MW-13A	1/26/2005	5.7	FALSE
MW-22	8/4/2004	ND<0.5	FALSE
MW-22	1/25/2005	1.5	FALSE
MW-9R	7/12/2000	ND<0.5	FALSE
MW-9R	1/15/2001	ND<0.5	FALSE
MW-9R	7/17/2001	ND<0.5	FALSE
MW-9R	1/3/2002	ND<0.5	FALSE
MW-9R	7/16/2002	13	FALSE
MW-9R	1/21/2003	3.2	FALSE
MW-9R	7/15/2003	1.7	FALSE
MW-9R	1/13/2004	1.2	FALSE
MW-9R	8/4/2004	5.3	FALSE
MW-9R	1/25/2005	2.3	FALSE

Shapiro-Wilks Test of Normality
Parameter: Chromium, total
Background Wells
Normality Test of Parameter Concentrations

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL
K = 19; Samples = 39

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)	a(n-i+1)	b(i)
1	0	4.94164	4.94164	0.3989	1.97122
2	0	4.58497	4.58497	0.2755	1.26316
3	0	3.61092	3.61092	0.238	0.859398
4	1.60944	3.4012	1.79176	0.2104	0.376986
5	1.60944	3.4012	1.79176	0.188	0.336851
6	1.60944	3.4012	1.79176	0.1689	0.302628
7	1.60944	3.4012	1.79176	0.152	0.272347
8	1.60944	3.3322	1.72277	0.1366	0.23533
9	1.60944	3.13549	1.52606	0.1225	0.186942
10	1.60944	2.99573	1.38629	0.1092	0.151383
11	1.60944	2.99573	1.38629	0.0967	0.134055
12	1.60944	2.94444	1.335	0.0848	0.113208
13	1.60944	2.94444	1.335	0.0733	0.0978556
14	1.79176	2.89037	1.09861	0.0622	0.0683337
15	1.88707	2.83321	0.946144	0.0515	0.0487264
16	1.98787	2.70805	0.720176	0.0409	0.0294552
17	2.20827	2.63906	0.430783	0.0305	0.0131389
18	2.30259	2.63906	0.336472	0.0203	0.00683039
19	2.48491	2.56495	0.0800427	0.0101	0.000808431
20	2.48491	2.48491	0		
21	2.56495	2.48491	-0.0800427		
22	2.63906	2.30259	-0.336472		
23	2.63906	2.20827	-0.430783		
24	2.70805	1.98787	-0.720176		
25	2.83321	1.88707	-0.946144		
26	2.89037	1.79176	-1.09861		
27	2.94444	1.60944	-1.335		
28	2.94444	1.60944	-1.335		
29	2.99573	1.60944	-1.38629		
30	2.99573	1.60944	-1.38629		
31	3.13549	1.60944	-1.52606		
32	3.3322	1.60944	-1.72277		
33	3.4012	1.60944	-1.79176		
34	3.4012	1.60944	-1.79176		
35	3.4012	1.60944	-1.79176		
36	3.4012	1.60944	-1.79176		
37	3.61092	0	-3.61092		
38	4.58497	0	-4.58497		
39	4.94164	0	-4.94164		

Sum of b values = 6.46866
Sample Standard Deviation = 1.08161
W Statistic = 0.941251
5% Critical value of 0.939 is less than 0.941251
Data is normally distributed at 95% level of significance
1% Critical value of 0.917 is less than 0.941251
Data is normally distributed at 99% level of significance

Parametric Tolerance Interval Analysis

Parameter: Chromium, total

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL

Background mean = 2.37453
Background standard deviation = 1.08161
One-sided normal tolerance factor at 95% confidence = 1.70743
Tolerance factor calculation follows USEPA 1992 Guidance
Upper tolerance limit = 4.2213

Well	Date	Result	Impacted
MW-13A	4/2/1998	5.48064	TRUE
	5/19/1998	5.19296	TRUE
	6/30/1998	4.94164	TRUE
	10/26/1998	5.59842	TRUE
	7/8/1999	3.2581	FALSE
	12/23/1999	3.7612	FALSE
	7/13/2000	3.93183	FALSE
	1/16/2001	2.94444	FALSE
	7/17/2001	2.83321	FALSE
	1/3/2002	3.04452	FALSE
	7/16/2002	4.86753	TRUE
	1/21/2003	2.63906	FALSE
	7/15/2003	1.82455	FALSE
	1/14/2004	ND<1.60944	FALSE
	8/6/2004	ND<1.60944	FALSE
	1/26/2005	2.48491	FALSE
MW-8	10/28/1993	4.59512	TRUE
	9/16/1994	5.09375	TRUE
	1/11/1995	4.82831	TRUE
	3/6/1995	4.77912	TRUE
	12/21/1995	4.99721	TRUE
	7/10/1996	2.30259	FALSE
	12/6/1996	2.63906	FALSE
	7/2/1997	6.01616	TRUE
	12/10/1997	2.89037	FALSE
	7/1/1998	5.96615	TRUE
	12/16/1998	6.75693	TRUE
	7/9/1999	5.01728	TRUE
	12/22/1999	3.85015	FALSE
	7/12/2000	4.60517	TRUE
	1/15/2001	4.38203	TRUE
	7/17/2001	3.55535	FALSE
	1/4/2002	3.82864	FALSE
	7/17/2002	3.98898	FALSE
	1/22/2003	4.86753	TRUE
	7/16/2003	4.23411	TRUE
	1/14/2004	2.63906	FALSE
	8/5/2004	3.04452	FALSE
	1/25/2005	3.21888	FALSE

Shapiro-Wilks Test of Normality
Parameter: Cobalt, total
Background Wells
Normality Test of Parameter Concentrations

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL
K = 19; Samples = 39

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)	a(n-i+1)	b(i)
1	0	3.91202	3.91202	0.3989	1.56051
2	0	3.91202	3.91202	0.2755	1.07776
3	0.916291	3.78419	2.8679	0.238	0.68256
4	0.916291	3.46574	2.54945	0.2104	0.536403
5	0.916291	3.3673	2.45101	0.188	0.460789
6	1.09861	3.2581	2.15948	0.1689	0.364737
7	1.16315	3.21888	2.05573	0.152	0.31247
8	1.60944	3.13549	1.52606	0.1366	0.208459
9	1.60944	2.99573	1.38629	0.1225	0.169821
10	1.60944	2.94444	1.335	0.1092	0.145782
11	1.60944	2.94444	1.335	0.0967	0.129095
12	1.60944	2.89037	1.28093	0.0848	0.108623
13	1.60944	2.77259	1.16315	0.0733	0.085259
14	1.60944	2.77259	1.16315	0.0622	0.072348
15	1.60944	2.56495	0.955511	0.0515	0.0492088
16	1.60944	2.56495	0.955511	0.0409	0.0390804
17	1.79176	2.3979	0.606136	0.0305	0.0184871
18	1.80829	2.11626	0.307967	0.0203	0.00625172
19	1.80829	1.96009	0.151806	0.0101	0.00153324
20	1.91692	1.91692	0		
21	1.96009	1.80829	-0.151806		
22	2.11626	1.80829	-0.307967		
23	2.3979	1.79176	-0.606136		
24	2.56495	1.60944	-0.955511		
25	2.56495	1.60944	-0.955511		
26	2.77259	1.60944	-1.16315		
27	2.77259	1.60944	-1.16315		
28	2.89037	1.60944	-1.28093		
29	2.94444	1.60944	-1.335		
30	2.94444	1.60944	-1.335		
31	2.99573	1.60944	-1.38629		
32	3.13549	1.60944	-1.52606		
33	3.21888	1.16315	-2.05573		
34	3.2581	1.09861	-2.15948		
35	3.3673	0.916291	-2.45101		
36	3.46574	0.916291	-2.54945		
37	3.78419	0.916291	-2.8679		
38	3.91202	0	-3.91202		
39	3.91202	0	-3.91202		

Sum of b values = 6.02918
Sample Standard Deviation = 1.00151
W Statistic = 0.953721
5% Critical value of 0.939 is less than 0.953721
Data is normally distributed at 95% level of significance
1% Critical value of 0.917 is less than 0.953721
Data is normally distributed at 99% level of significance

Parametric Tolerance Interval Analysis

Parameter: Cobalt, total

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL

Background mean = 2.14869
Background standard deviation = 1.00151
One-sided normal tolerance factor at 95% confidence = 1.70743
Tolerance factor calculation follows USEPA 1992 Guidance
Upper tolerance limit = 3.8587

Well	Date	Result	Impacted
MW-8	10/28/1993	3.63759	FALSE
	9/16/1994	ND<3.91202	TRUE
	1/11/1995	3.82864	FALSE
	3/6/1995	4.86753	TRUE
	12/21/1995	4.99721	TRUE
	7/10/1996	1.09861	FALSE
	12/6/1996	1.94591	FALSE
	7/2/1997	4.60517	TRUE
	12/10/1997	2.63906	FALSE
	7/1/1998	4.57471	TRUE
	12/16/1998	4.70048	TRUE
	7/9/1999	3.93769	TRUE
	12/22/1999	2.56495	FALSE
	7/12/2000	3.55535	FALSE
	1/15/2001	3.3673	FALSE
	7/17/2001	2.48491	FALSE
	1/4/2002	2.89037	FALSE
	7/17/2002	2.99573	FALSE
	1/22/2003	3.63759	FALSE
	7/16/2003	3.2581	FALSE
	1/14/2004	ND<1.60944	FALSE
	8/5/2004	3.13549	FALSE
	1/25/2005	3.85015	FALSE
MW-4B	10/28/1993	ND<1.60944	FALSE
	9/19/1994	ND<3.91202	TRUE
	1/11/1995	3.2581	FALSE
	3/6/1995	3.78419	FALSE
	12/20/1995	ND<1.60944	FALSE
	7/10/1996	2.30259	FALSE
	12/6/1996	ND<0	FALSE
	7/2/1997	3.04452	FALSE
	12/10/1997	3.09104	FALSE
	6/30/1998	3.29584	FALSE
	12/17/1998	1.66771	FALSE
	7/8/1999	ND<0.916291	FALSE
	12/23/1999	2.16332	FALSE
	7/13/2000	3.78419	FALSE
	1/16/2001	3.58352	FALSE
	7/18/2001	3.09104	FALSE
	1/4/2002	3.3673	FALSE
	7/16/2002	4.78749	TRUE
	1/21/2003	3.55535	FALSE
	7/15/2003	3.8712	TRUE
	1/13/2004	3.29584	FALSE
	8/5/2004	2.94444	FALSE
	1/25/2005	2.48491	FALSE
MW-12	4/2/1998	6.06379	TRUE
	5/19/1998	5.82895	TRUE
	6/30/1998	5.39363	TRUE
	10/27/1998	3.61092	FALSE
	7/8/1999	3.58352	FALSE
	12/23/1999	3.61092	FALSE

	7/13/2000	4.94164	TRUE
	1/16/2001	4.60517	TRUE
	7/18/2001	3.68888	FALSE
	1/3/2002	4.09434	TRUE
	1/21/2003	4.29046	TRUE
	7/16/2003	4.26268	TRUE
	1/13/2004	4.07754	TRUE
	8/5/2004	3.89182	TRUE
	1/25/2005	3.80666	FALSE
MW-2	10/28/1993	3.49651	FALSE
	9/19/1994	ND<3.91202	TRUE
	1/6/1995	4.09434	TRUE
	3/6/1995	4.47734	TRUE
	12/20/1995	4.06044	TRUE
	7/10/1996	1.09861	FALSE
	12/5/1996	2.70805	FALSE
	7/2/1997	3.49651	FALSE
	12/10/1997	3.13549	FALSE
	6/30/1998	4.34381	TRUE
	12/17/1998	3.46574	FALSE
	7/9/1999	2.06686	FALSE
	12/22/1999	2.02815	FALSE
	7/12/2000	4.36945	TRUE
	1/16/2001	2.18605	FALSE
	7/18/2001	2.83321	FALSE
	1/3/2002	3.2581	FALSE
	7/17/2002	2.56495	FALSE
	1/22/2003	3.68888	FALSE
	7/16/2003	ND<0.916291	FALSE
	1/14/2004	3.09104	FALSE
	8/5/2004	ND<1.60944	FALSE
	1/26/2005	2.56495	FALSE
MW-4A	10/28/1993	3.71357	FALSE
	9/19/1994	ND<3.91202	TRUE
	1/11/1995	3.21888	FALSE
	3/6/1995	3.29584	FALSE
	12/20/1995	2.83321	FALSE
	7/10/1996	1.94591	FALSE
	12/6/1996	2.30259	FALSE
	7/2/1997	4.02535	TRUE
	12/10/1997	3.46574	FALSE
	6/30/1998	3.4012	FALSE
	12/17/1998	3.21888	FALSE
	7/8/1999	2.19722	FALSE
	12/23/1999	1.66771	FALSE
	7/13/2000	2.77259	FALSE
	1/16/2001	3.04452	FALSE
	7/15/2003	2.70805	FALSE
	1/13/2004	4.04305	TRUE
	8/5/2004	ND<1.60944	FALSE
	1/25/2005	2.83321	FALSE
MW-9R	7/12/2000	4.78749	TRUE
	1/15/2001	4.70048	TRUE
	7/17/2001	3.63759	FALSE
	1/3/2002	3.21888	FALSE
	7/16/2002	3.43399	FALSE
	1/21/2003	3.7612	FALSE
	7/15/2003	2.89037	FALSE
	1/13/2004	3.09104	FALSE
	8/4/2004	3.73767	FALSE
	1/25/2005	3.3322	FALSE

Shapiro-Wilks Test of Normality
Parameter: Lead, total
Background Wells
Normality Test of Parameter Concentrations

Natural Logarithm Transformation
Cohen's Adjustment
K = 19; Samples = 39

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)	a(n-i+1)	b(i)
1	1.09861	4.52179	3.42318	0.3989	1.36551
2	1.19392	4.40672	3.2128	0.2755	0.885126
3	1.60944	3.58352	1.97408	0.238	0.469831
4	1.60944	3.52636	1.91692	0.2104	0.403321
5	1.60944	3.49651	1.88707	0.188	0.354769
6	1.60944	3.43399	1.82455	0.1689	0.308166
7	1.60944	3.3673	1.75786	0.152	0.267194
8	1.60944	3.13549	1.52606	0.1366	0.208459
9	1.60944	3.09104	1.4816	0.1225	0.181497
10	1.60944	3.04452	1.43508	0.1092	0.156711
11	1.77495	2.99573	1.22078	0.0967	0.118049
12	1.94591	2.94444	0.998529	0.0848	0.0846752
13	1.94591	2.77259	0.826679	0.0733	0.0605955
14	2.04122	2.70805	0.66683	0.0622	0.0414768
15	2.10413	2.63906	0.534923	0.0515	0.0275485
16	2.30259	2.3979	0.0953102	0.0409	0.00389819
17	2.30259	2.3979	0.0953102	0.0305	0.00290696
18	2.30259	2.30259	0	0.0203	0
19	2.30259	2.30259	0	0.0101	0
20	2.30259	2.30259	0		
21	2.30259	2.30259	0		
22	2.30259	2.30259	0		
23	2.3979	2.30259	-0.0953102		
24	2.3979	2.30259	-0.0953102		
25	2.63906	2.10413	-0.534923		
26	2.70805	2.04122	-0.66683		
27	2.77259	1.94591	-0.826679		
28	2.94444	1.94591	-0.998529		
29	2.99573	1.77495	-1.22078		
30	3.04452	1.60944	-1.43508		
31	3.09104	1.60944	-1.4816		
32	3.13549	1.60944	-1.52606		
33	3.3673	1.60944	-1.75786		
34	3.43399	1.60944	-1.82455		
35	3.49651	1.60944	-1.88707		
36	3.52636	1.60944	-1.91692		
37	3.58352	1.60944	-1.97408		
38	4.40672	1.19392	-3.2128		
39	4.52179	1.09861	-3.42318		

Sum of b values = 4.93973
Sample Standard Deviation = 0.825846
W Statistic = 0.94151
5% Critical value of 0.939 is less than 0.94151
Data is normally distributed at 95% level of significance
1% Critical value of 0.917 is less than 0.94151
Data is normally distributed at 99% level of significance

Parametric Tolerance Interval Analysis

Parameter: Lead, total

Natural Logarithm Transformation
Cohen's Adjustment

Background mean = 0.7828
Background standard deviation = 1.63088
One-sided normal tolerance factor at 95% confidence = 1.70743
Tolerance factor calculation follows USEPA 1992 Guidance
Upper tolerance limit = 3.56741

Well	Date	Result	Impacted
MW-8	10/28/1993	2.83321	FALSE
	9/16/1994	3.04452	FALSE
	1/11/1995	2.77259	FALSE
	3/6/1995	2.99573	FALSE
	12/21/1995	3.04452	FALSE
	7/10/1996	ND<1.60944	FALSE
	12/6/1996	ND<1.60944	FALSE
	7/2/1997	3.55535	FALSE
	12/10/1997	1.79176	FALSE
	7/1/1998	3.61092	TRUE
	12/16/1998	3.95124	TRUE
	7/9/1999	2.74727	FALSE
	12/22/1999	ND<1.60944	FALSE
	7/12/2000	2.3979	FALSE
	1/15/2001	2.05412	FALSE
	7/17/2001	1.22378	FALSE
	1/4/2002	ND<1.09861	FALSE
	7/17/2002	2.2192	FALSE
	1/22/2003	2.63906	FALSE
	7/16/2003	2.16332	FALSE
	1/14/2004	ND<2.30259	FALSE
	8/5/2004	ND<2.30259	FALSE
	1/25/2005	2.3979	FALSE
MW-2	10/28/1993	3.4012	FALSE
	9/19/1994	3.61092	TRUE
	1/6/1995	3.04452	FALSE
	3/6/1995	4.27667	TRUE
	12/20/1995	3.97029	TRUE
	7/10/1996	ND<1.60944	FALSE
	12/5/1996	ND<1.60944	FALSE
	7/2/1997	3.3322	FALSE
	12/10/1997	3.17805	FALSE
	6/30/1998	4.02535	TRUE
	12/17/1998	3.71357	TRUE
	7/9/1999	2.26176	FALSE
	12/22/1999	1.88707	FALSE
	7/12/2000	3.82864	TRUE
	1/16/2001	2.06686	FALSE
	7/18/2001	2.63906	FALSE
	1/3/2002	2.99573	FALSE
	7/17/2002	2.63906	FALSE
	1/22/2003	3.93183	TRUE
	7/16/2003	ND<1.60944	FALSE
	1/14/2004	2.30259	FALSE
	8/5/2004	ND<2.30259	FALSE
	1/26/2005	2.77259	FALSE
MW-9R	7/12/2000	5.29832	TRUE
	1/15/2001	5.52146	TRUE
	7/17/2001	4.5326	TRUE
	1/3/2002	3.68888	TRUE
	7/16/2002	3.61092	TRUE
	1/21/2003	4.35671	TRUE

	7/15/2003	3.13549	FALSE
	1/13/2004	ND<2.30259	FALSE
	8/4/2004	3.55535	FALSE
	1/25/2005	2.70805	FALSE
MW-7	10/28/1993	3.82864	TRUE
	9/16/1994	5.35186	TRUE
	1/11/1995	4.52179	TRUE
	3/6/1995	4.38203	TRUE
	12/20/1995	5.51343	TRUE
	7/10/1996	ND<1.60944	FALSE
	12/6/1996	ND<1.60944	FALSE
	7/1/1997	6.44572	TRUE
	12/10/1997	4.5326	TRUE
	6/30/1998	6.39693	TRUE
	7/9/1999	4.66344	TRUE
	12/23/1999	4.23411	TRUE
	7/13/2000	6.50728	TRUE
	1/15/2001	5.43808	TRUE
	7/18/2001	4.94164	TRUE
	1/4/2002	4.70048	TRUE
	7/17/2002	5.19296	TRUE
	1/21/2003	5.29832	TRUE
	7/16/2003	5.07517	TRUE
	1/14/2004	3.78419	TRUE
	8/5/2004	4.78749	TRUE
	1/25/2005	2.30259	FALSE

Non-Parametric Tolerance Interval

Parameter: Nickel, total

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

Total Percent Non-Detects = 56.3636%
Background Samples (n) = 37
Maximum Background Concentration = 125
Minimum Coverage = 92.2%
Average Coverage = 97.3684%

Well	Sample	Result	Impacted
MW-4A	10/28/1993	87	FALSE
MW-4A	9/19/1994	ND<50	FALSE
MW-4A	1/11/1995	82	FALSE
MW-4A	3/6/1995	ND<25	FALSE
MW-4A	12/20/1995	80	FALSE
MW-4A	7/10/1996	90	FALSE
MW-4A	12/6/1996	89	FALSE
MW-4A	7/2/1997	170	TRUE
MW-4A	12/10/1997	120	FALSE
MW-4A	12/17/1998	140	TRUE
MW-4A	7/8/1999	58	FALSE
MW-4A	12/23/1999	33	FALSE
MW-4A	7/13/2000	72	FALSE
MW-4A	1/16/2001	98	FALSE
MW-4A	7/15/2003	100	FALSE
MW-4A	1/13/2004	270	TRUE
MW-4A	8/5/2004	76	FALSE
MW-4A	1/25/2005	150	TRUE

Shapiro-Wilks Test of Normality
Parameter: Vanadium
Background Wells
Normality Test of Parameter Concentrations

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL
K = 19; Samples = 39

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)	a(n-i+1)	b(i)
1	0.916291	6.41346	5.49717	0.3989	2.19282
2	0.916291	6.04025	5.12396	0.2755	1.41165
3	1.60944	5.8861	4.27667	0.238	1.01785
4	1.84055	5.1358	3.29525	0.2104	0.69332
5	1.94591	5.1358	3.18989	0.188	0.599699
6	2.77259	5.07517	2.30259	0.1689	0.388907
7	2.83321	4.94164	2.10843	0.152	0.320481
8	2.94444	4.86753	1.9231	0.1366	0.262695
9	2.94444	4.82831	1.88387	0.1225	0.230775
10	2.99573	4.79579	1.80006	0.1092	0.196566
11	2.99573	4.70048	1.70475	0.0967	0.164849
12	2.99573	4.55388	1.55814	0.0848	0.132131
13	2.99573	4.47734	1.4816	0.0733	0.108602
14	2.99573	4.35671	1.36098	0.0622	0.0846527
15	2.99573	4.12713	1.1314	0.0515	0.0582672
16	2.99573	3.8712	0.875469	0.0409	0.0358067
17	2.99573	3.46574	0.470004	0.0305	0.0143351
18	3.04452	3.29584	0.251314	0.0203	0.00510168
19	3.13549	3.2581	0.122602	0.0101	0.00123828
20	3.13549	3.13549	0		
21	3.2581	3.13549	-0.122602		
22	3.29584	3.04452	-0.251314		
23	3.46574	2.99573	-0.470004		
24	3.8712	2.99573	-0.875469		
25	4.12713	2.99573	-1.1314		
26	4.35671	2.99573	-1.36098		
27	4.47734	2.99573	-1.4816		
28	4.55388	2.99573	-1.55814		
29	4.70048	2.99573	-1.70475		
30	4.79579	2.99573	-1.80006		
31	4.82831	2.94444	-1.88387		
32	4.86753	2.94444	-1.9231		
33	4.94164	2.83321	-2.10843		
34	5.07517	2.77259	-2.30259		
35	5.1358	1.94591	-3.18989		
36	5.1358	1.84055	-3.29525		
37	5.8861	1.60944	-4.27667		
38	6.04025	0.916291	-5.12396		
39	6.41346	0.916291	-5.49717		

Sum of b values = 7.91975
Sample Standard Deviation = 1.3214
W Statistic = 0.9453
5% Critical value of 0.939 is less than 0.9453
Data is normally distributed at 95% level of significance
1% Critical value of 0.917 is less than 0.9453
Data is normally distributed at 99% level of significance

Parametric Tolerance Interval Analysis

Parameter: Vanadium

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL

Background mean = 3.6213
Background standard deviation = 1.3214
One-sided normal tolerance factor at 95% confidence = 1.70743
Tolerance factor calculation follows USEPA 1992 Guidance
Upper tolerance limit = 5.8775

Well	Date	Result	Impacted
MW-2	10/28/1993	4.83628	FALSE
	9/19/1994	5.66988	FALSE
	1/6/1995	4.33073	FALSE
	3/6/1995	5.9428	TRUE
	12/20/1995	5.37064	FALSE
	7/10/1996	ND<0.916291	FALSE
	12/5/1996	2.77259	FALSE
	7/2/1997	5.1358	FALSE
	12/10/1997	4.70048	FALSE
	6/30/1998	5.59842	FALSE
	12/17/1998	5.63479	FALSE
	7/9/1999	3.66356	FALSE
	12/22/1999	3.91202	FALSE
	7/12/2000	5.1358	FALSE
	1/16/2001	3.98898	FALSE
	7/18/2001	4.49981	FALSE
	1/3/2002	4.94164	FALSE
	7/17/2002	3.93183	FALSE
	1/22/2003	5.73657	FALSE
	7/16/2003	2.17475	FALSE
	1/14/2004	ND<2.99573	FALSE
	8/5/2004	ND<2.99573	FALSE
	1/26/2005	3.7612	FALSE
MW-9R	7/12/2000	7.24423	TRUE
	1/15/2001	7.24423	TRUE
	7/17/2001	6.39693	TRUE
	1/3/2002	5.39363	FALSE
	7/16/2002	5.34711	FALSE
	1/21/2003	6.13123	TRUE
	7/15/2003	4.78749	FALSE
	1/13/2004	3.78419	FALSE
	8/4/2004	6.04025	TRUE
	1/25/2005	4.06044	FALSE

Shapiro-Wilks Test of Normality
Parameter: Zinc, total
Background Wells
Normality Test of Parameter Concentrations

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL
K = 19; Samples = 39

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)	a(n-i+1)	b(i)
1	1.60944	5.85793	4.2485	0.3989	1.69472
2	2.56495	5.66988	3.10493	0.2755	0.855409
3	2.99573	5.52146	2.52573	0.238	0.601123
4	3.04452	5.39363	2.34911	0.2104	0.494252
5	3.04452	5.3845	2.33997	0.188	0.439915
6	3.21888	5.33272	2.11384	0.1689	0.357028
7	3.21888	5.24702	2.02815	0.152	0.308279
8	3.21888	5.19296	1.97408	0.1366	0.269659
9	3.21888	5.1358	1.91692	0.1225	0.234823
10	3.21888	5.12396	1.90509	0.1092	0.208036
11	3.21888	5.07517	1.8563	0.0967	0.179504
12	3.21888	4.94164	1.72277	0.0848	0.146091
13	3.21888	4.78749	1.56862	0.0733	0.11498
14	3.43399	4.64439	1.2104	0.0622	0.0752871
15	3.52636	4.60517	1.07881	0.0515	0.0555587
16	3.58352	4.55388	0.970358	0.0409	0.0396876
17	3.66356	4.2485	0.584934	0.0305	0.0178405
18	3.8712	4.23411	0.362905	0.0203	0.00736698
19	3.8712	4.09434	0.223144	0.0101	0.00225375
20	3.91202	3.91202	0		
21	4.09434	3.8712	-0.223144		
22	4.23411	3.8712	-0.362905		
23	4.2485	3.66356	-0.584934		
24	4.55388	3.58352	-0.970358		
25	4.60517	3.52636	-1.07881		
26	4.64439	3.43399	-1.2104		
27	4.78749	3.21888	-1.56862		
28	4.94164	3.21888	-1.72277		
29	5.07517	3.21888	-1.8563		
30	5.12396	3.21888	-1.90509		
31	5.1358	3.21888	-1.91692		
32	5.19296	3.21888	-1.97408		
33	5.24702	3.21888	-2.02815		
34	5.33272	3.21888	-2.11384		
35	5.3845	3.04452	-2.33997		
36	5.39363	3.04452	-2.34911		
37	5.52146	2.99573	-2.52573		
38	5.66988	2.56495	-3.10493		
39	5.85793	1.60944	-4.2485		

Sum of b values = 6.10182
Sample Standard Deviation = 1.02041
W Statistic = 0.940984
5% Critical value of 0.939 is less than 0.940984
Data is normally distributed at 95% level of significance
1% Critical value of 0.917 is less than 0.940984
Data is normally distributed at 99% level of significance

Parametric Tolerance Interval Analysis

Parameter: Zinc, total

Natural Logarithm Transformation
Non-Detects Replaced with 1/2 DL

Background mean = 4.10043
Background standard deviation = 1.02041
One-sided normal tolerance factor at 95% confidence = 1.70743
Tolerance factor calculation follows USEPA 1992 Guidance
Upper tolerance limit = 5.84271

Well	Date	Result	Impacted
MW-9R	7/12/2000	6.67203	TRUE
	1/15/2001	6.65929	TRUE
	7/17/2001	6.04025	TRUE
	1/3/2002	5.24702	FALSE
	7/16/2002	5.01064	FALSE
	1/21/2003	5.76832	FALSE
	7/15/2003	4.60517	FALSE
	1/13/2004	ND<3.21888	FALSE
	8/4/2004	5.48064	FALSE
	1/25/2005	4.06044	FALSE
MW-8	10/28/1993	5.44242	FALSE
	9/16/1994	5.70378	FALSE
	1/11/1995	5.64897	FALSE
	3/6/1995	5.65948	FALSE
	12/21/1995	5.56068	FALSE
	7/10/1996	3.43399	FALSE
	12/6/1996	4.09434	FALSE
	7/2/1997	6.08677	TRUE
	12/10/1997	4.70048	FALSE
	7/1/1998	5.99146	TRUE
	12/16/1998	5.39363	FALSE
	7/9/1999	5.40268	FALSE
	12/22/1999	4.30407	FALSE
	7/12/2000	5.1358	FALSE
	1/15/2001	4.86753	FALSE
	7/17/2001	4.02535	FALSE
	1/4/2002	4.60517	FALSE
	7/17/2002	4.35671	FALSE
	1/22/2003	5.07517	FALSE
	7/16/2003	4.60517	FALSE
	1/14/2004	4.09434	FALSE
	8/5/2004	4.38203	FALSE
	1/25/2005	4.78749	FALSE
MW-4A	10/28/1993	5.45104	FALSE
	9/19/1994	3.91202	FALSE
	1/11/1995	5.03044	FALSE
	3/6/1995	4.49981	FALSE
	12/20/1995	ND<3.21888	FALSE
	7/10/1996	2.89037	FALSE
	12/6/1996	3.09104	FALSE
	7/2/1997	5.19296	FALSE
	12/10/1997	4.56435	FALSE
	6/30/1998	4.45435	FALSE
	12/17/1998	2.3979	FALSE
	7/8/1999	3.82864	FALSE
	12/23/1999	2.77259	FALSE
	7/13/2000	5.07517	FALSE
	1/16/2001	4.94164	FALSE
	7/15/2003	4.30407	FALSE
	1/13/2004	4.70048	FALSE
	8/5/2004	ND<3.21888	FALSE
	1/25/2005	4.43082	FALSE

Laboratory Results

QSARF # P1 2035

P1 2635

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ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE	PROJECT NO.	P.O. NUMBER
IRDEL CO. SUB. D LF, PH 1&2	G05013.0	

PROJECT LOC. (State): NC

SAMPLER(s) NAME: J. Pfohl

PH: (919)-772-5393

FAX: (919)-772-1176

CLIENT NAME: Municipal Engineering Services

CLIENT PROJECT MANAGER: Mr. Jonathan Pfohl

CLIENT ADDRESS (CITY, STATE, ZIP): 1140 Benson Road Garner, NC 27529

PAGE 1 OF 3

☒ STANDARD REPORT DELIVERY

☐ EXPEDITED REPORT DELIVERY (surcharge)

Date Due: _____

MATRIX TYPE: SURFACE WATER, GROUND WATER, WASTEWATER, DRINKING WATER, SOIL/SOLID/SEDIMENT, NONAQUEOUS LIQUID (oil, solvent, etc.), AIR, SLUDGE, OTHER

REQUIRED ANALYSIS: NC AP1 METALS; 8260-AP1-NC

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

STATION	SAMPLE DATE	SAMPLE TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID	AIR	SLUDGE	OTHER	NC AP1 METALS	8260-AP1-NC	REMARKS
1	1/25/05	10:00	X		MW-24D		X								1	3	
2		10:35			MW-24S												
3		11:00			MW-23												
4		11:35			MW-22												
5		12:05			MW-10R												
6		12:40			MW-9RR												
7		1:25			MW-9R												
8		2:10			MW-12												
9		2:45			MW-6A												
10		3:30			MW-6B												
11		3:55			MW-8												
12		4:30			MW-7												
13		5:00			MW-4B												
14		5:25			MW-4A												

SAMPLE KIT PREPARED BY: ☐JACKSONVILLE ☐ORLANDO ☒CARY	DATE 1/11/05	TIME 14:00	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	DATE 1/31/05	TIME 11:35	RECEIVED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE 1/31/05	TIME 1135

RECEIVED FOR LABORATORY BY: (SIGNATURE) ☐ Jacksonville ☒ Orlando	DATE 1/31/05	TIME 13:07	CUSTODY INTACT ☒YES ☐NO	ENCO LOG NO. CRY7347	REMARKS

QSARF # P1 2035

ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
Ph. (904) 296-3007 • Fax (904) 296-6210

10207 General Drive
Orlando, Florida 32824-8529
Ph. (407) 826-5314 • Fax (407) 850-6945

1015 Passport Way
Cary, North Carolina 27513
Ph. (919) 677-1669 • Fax (919) 677-9846

ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: IRDEL CO. SUB. D LF, PH 1&2
PROJECT NO.: G05013.0
P.O. NUMBER:
PROJECT LOC. (State): NC
SAMPLER(s) NAME: J. Pfohl
PHONE: (919)-772-5393
FAX: (919)-772-1176
CLIENT NAME: Municipal Engineering Services
CLIENT PROJECT MANAGER: Mr. Jonathan Pfohl
CLIENT ADDRESS (CITY, STATE, ZIP): 1140 Benson Road Garner, NC 27529

PAGE 2 OF 3

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:

MATRIX TYPE / REQUIRED ANALYSIS / PRESERVATIVE / NUMBER OF CONTAINERS SUBMITTED

STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID (oil, solvent, etc.)	AIR	SLUDGE	OTHER	NC API METALS	EPA-API-NC	REMARKS
1	1/26/05	9:30	X		MW-1C		X								1	3	
2		10:00			MW-1A												
3		10:40			MW-16												
4		11:00			SW-3	X											
5		2:00			MW-3B		X										
6		2:30			MW-3A												
7		3:05			MW-2												
8		3:10			SW-1	X											
9		3:55			MW-14B		X										
10		4:25			MW-14A												
11		4:55			MW-13A												
12		5:25			MW-13B (MS/MSD)												
13	1/27/05	8:00			MW-11												
14		8:25			SW-4	X											

SAMPLE KIT PREPARED BY:	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
☐ JACKSONVILLE ☐ ORLANDO ☒ CARY	1/11/05	14:00	[signature]					
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
			[signature]	1/31/05	1130	[signature]	1/31/05	1130

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS
☐ Jacksonville ☒ CARY ☐ Orlando [signature]	1/31/05	13:09	☒ YES ☐ NO	CRY17347	

QSARF # P1 26 36

ENVIRONMENTAL CONSERVATION LABORATORIES

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1015 Passport Way
Cary, North Carolina 27513
Ph. (919) 677-1669 • Fax (919) 677-9846

P1 26 36

ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: IRDEL CO. SUB. D LF, PH 1&2
PROJECT NO.: G05013.0
P.O. NUMBER:
PAGE 3 OF 3

PROJECT LOC. (State): NC
SAMPLER(s) NAME: J. Pfohl
PHONE: (919)-772-5393
FAX: (919)-772-1176

CLIENT NAME: Municipal Engineering Services
CLIENT PROJECT MANAGER: Mr. Jonathan Pfohl
CLIENT ADDRESS (CITY, STATE, ZIP): 1140 Benson Road Garner, NC 27529

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:

MATRIX TYPE: SURFACE WATER, GROUND WATER, WASTEWATER, DRINKING WATER, SOIL/SOLID/SEDIMENT, NONAQUEOUS LIQUID (oil, solvent, etc.), AIR, SLUDGE, OTHER

REQUIRED ANALYSIS: NC APPI METALS, 8260 API-NC

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID	AIR	SLUDGE	OTHER	NC APPI METALS	8260 API-NC							REMARKS
1	1/27/05	8:40			SW-2	X	X								1	3							
2							X																
3							X																
4							X																
5							X																
6							X																
7							X																
8							X																
9							X																
10							X																
11							X																
12							X																
13																							
14																							

SAMPLE KIT PREPARED BY:	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
☐ JACKSONVILLE ☐ ORLANDO ☒ CARY	1/11/05	15:20	Amy Anne Pierce					
RELINQUISHED BY: (SIGNATURE) [signature]	1/31/05	11:35	RECEIVED BY: (SIGNATURE)			RELINQUISHED BY: (SIGNATURE)		
RECEIVED BY (SIGNATURE)			RELINQUISHED BY: (SIGNATURE)			RECEIVED BY: (SIGNATURE) Amy Anne Pierce	1/31/05	11:35

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS
☐ Jacksonville ☒ CARY ☐ Orlando [signature]	1/31/05	13:07	☒ YES ☐ NO	CRY17347	

Environmental Conservation Laboratories, Inc.
1015 Passport Way
Cary, North Carolina 27513-2042
919 / 677-1669
Fax 919 / 677-9846
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Municipal Engineering Services
ADDRESS: 1140 Benson Road
Garner, NC 27529

REPORT # : CRY17347
DATE SUBMITTED: January 31, 2005
DATE REPORTED : February 11, 2005

ATTENTION: Mr. Jonathan Pfohl

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: G05013.0

IRDELL CO. SUB. D LF, PH 1&2

CRY17347-1	: MW-24D	@ 10:00	(01/25/05)
CRY17347-2	: MW-24S	@ 10:35	(01/25/05)
CRY17347-3	: MW-23	@ 11:00	(01/25/05)
CRY17347-4	: MW-22	@ 11:35	(01/25/05)
CRY17347-5	: MW-10R	@ 12:05	(01/25/05)
CRY17347-6	: MW-9RR	@ 12:44	(01/25/05)
CRY17347-7	: MW-9R	@ 13:25	(01/25/05)
CRY17347-8	: MW-12	@ 14:10	(01/25/05)
CRY17347-9	: MW-6A	@ 14:45	(01/25/05)
CRY17347-10	: MW-6B	@ 13:20	(01/25/05)
CRY17347-11	: MW-8	@ 15:55	(01/25/05)
CRY17347-12	: MW-7	@ 16:30	(01/25/05)

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DHRS Certification No. E82277

CLIENT : Municipal Engineering Services
ADDRESS: 1140 Benson Road
Garner, NC 27529

REPORT # : CRY17347
DATE SUBMITTED: January 31, 2005
DATE REPORTED : February 11, 2005

ATTENTION: Mr. Jonathan Pfohl

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: G05013.0

IRDELL CO. SUB. D LF, PH 1&2

CRY17347-13	: MW-4B	@ 17:00 (01/25/05)
CRY17347-14	: MW-4A	@ 17:25 (01/25/05)
CRY17347-15	: MW-1C	@ 09:30 (01/26/05)
CRY17347-16	: MW-1A	@ 10:00 (01/26/05)
CRY17347-17	: MW-16	@ 10:40 (01/26/05)
CRY17347-18	: SW-3	@ 11:00 (01/26/05)
CRY17347-19	: MW-3B	@ 14:00 (01/26/05)
CRY17347-20	: MW-3A	@ 14:30 (01/26/05)
CRY17347-21	: MW-2	@ 15:05 (01/26/05)
CRY17347-22	: SW-1	@ 15:10 (01/26/05)
CRY17347-23	: MW-14B	@ 15:55 (01/26/05)
CRY17347-24	: MW-14A	@ 16:25 (01/26/05)

Environmental Conservation Laboratories, Inc.
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www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Municipal Engineering Services
ADDRESS: 1140 Benson Road
Garner, NC 27529

REPORT # : CRY17347
DATE SUBMITTED: January 31, 2005
DATE REPORTED : February 11, 2005

ATTENTION: Mr. Jonathan Pfohl

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: G05013.0

IRDELL CO. SUB. D LF, PH 1&2

CRY17347-25	: MW-13A	@ 16:55	(01/26/05)
CRY17347-26	: MW-13B(MS/MSD)	@ 17:25	(01/26/05)
CRY17347-27	: MW-11	@ 08:00	(01/27/05)
CRY17347-28	: SW-4	@ 08:25	(01/27/05)
CRY17347-29	: SW-2	@ 08:40	(01/27/05)

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 2002). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

PROJECT MANAGER _____
Chuck Smith

ENCO LABORATORIES
REPORT # : CRY17347
DATE REPORTED: February 11, 2005
REFERENCE : G05013.0
PROJECT NAME : IRDELL CO. SUB. D LF, PH 1&2

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-24D	MW-24S	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-24D	MW-24S	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	81	81	73-138
D8-Toluene	95	98	77-118
Bromofluorobenzene	94	89	70-130
Date Analyzed	02/03/05 00:25	02/03/05 00:52	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-24D	MW-24S	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-24D	MW-24S	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 13:05	02/10/05 13:12	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-23	MW-22	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) -

VOLATILE ORGANICS	MW-23	MW-22	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	80	84	73-138
D8-Toluene	96	100	77-118
Bromofluorobenzene	88	88	70-130
Date Analyzed	02/03/05 01:18	02/03/05 01:45	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-23	MW-22	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Cadmium	6010	0.0010 U	**0.0015**	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-23	MW-22	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 13:19	02/10/05 13:26	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-10R	MW-9RR	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	**25**	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-10R	MW-9RR	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	83	79	73-138
D8-Toluene	97	98	77-118
Bromofluorobenzene	92	89	70-130
Date Analyzed	02/03/05 02:11	02/03/05 02:37	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-10R	MW-9RR	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-10R	MW-9RR	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 13:33	02/10/05 13:53	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-9R	MW-12	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	**20**	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) -

VOLATILE ORGANICS	MW-9R	MW-12	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	**5.0**	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	78	82	73-138
D8-Toluene	100	98	77-118
Bromofluorobenzene	87	95	70-130
Date Analyzed	02/03/05 03:02	02/03/05 03:28	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : CRY17347
DATE REPORTED: February 11, 2005
REFERENCE : G05013.0
PROJECT NAME : IRDELL CO. SUB. D LF, PH 1&2

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-9R	MW-12	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Barium	6010	**1.0**	0.50 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Cadmium	6010	**0.0023**	0.0010 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Cobalt	6010	**0.028**	**0.045**	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Lead	6010	**0.015**	0.010 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-9R	MW-12	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Vanadium	6010	**0.058**	0.040 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	
Zinc	6010	**0.058**	0.050 U	mg/L
Date Analyzed		02/10/05 14:00	02/10/05 14:07	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-6A	MW-6B	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-6A	MW-6B	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	83	81	73-138
D8-Toluene	99	100	77-118
Bromofluorobenzene	89	92	70-130
Date Analyzed	02/03/05 03:54	02/03/05 04:20	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-6A	MW-6B	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-6A	MW-6B	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 14:14	02/10/05 14:21	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-8	MW-7	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) -

VOLATILE ORGANICS	MW-8	MW-7	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	83	84	73-138
D8-Toluene	97	104	77-118
Bromofluorobenzene	87	91	70-130
Date Analyzed	02/03/05 04:46	02/03/05 05:11	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-8	MW-7	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Barium	6010	**0.92**	0.50 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Chromium	6010	**0.025**	0.010 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Cobalt	6010	**0.047**	0.010 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Lead	6010	**0.011**	**0.010**	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-8	MW-7	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	
Zinc	6010	**0.12**	0.050 U	mg/L
Date Analyzed		02/10/05 14:28	02/10/05 14:35	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-4B	MW-4A	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) -

VOLATILE ORGANICS	MW-4B	MW-4A	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	84	80	73-138
D8-Toluene	100	97	77-118
Bromofluorobenzene	95	87	70-130
Date Analyzed	02/03/05 05:37	02/03/05 06:04	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-4B	MW-4A	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Cadmium	6010	0.0010 U	**0.0068**	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Cobalt	6010	**0.012**	**0.017**	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Nickel	6010	0.050 U	**0.15**	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-4B	MW-4A	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	
Zinc	6010	0.050 U	**0.084**	mg/L
Date Analyzed		02/10/05 14:42	02/10/05 14:49	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-1C	MW-1A	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-1C	MW-1A	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	81	80	73-138
D8-Toluene	97	99	77-118
Bromofluorobenzene	88	89	70-130
Date Analyzed	02/03/05 06:30	02/03/05 06:56	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-1C	MW-1A	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Cadmium	6010	0.0010 U	**0.0011**	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-1C	MW-1A	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 14:56	02/10/05 15:17	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-16	SW-3	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-16	SW-3	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	97	98	73-138
D8-Toluene	95	95	77-118
Bromofluorobenzene	87	89	70-130
Date Analyzed	02/08/05 02:14	02/08/05 02:40	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-16	SW-3	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Cobalt	6010	0.010 U	**0.012**	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-16	SW-3	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	
Zinc	6010	0.050 U	**0.13**	mg/L
Date Analyzed		02/10/05 15:24	02/10/05 15:31	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-3B	MW-3A	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-3B	MW-3A	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	97	98	73-138
D8-Toluene	101	98	77-118
Bromofluorobenzene	94	94	70-130
Date Analyzed	02/08/05 03:06	02/08/05 03:33	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-3B	MW-3A	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-3B	MW-3A	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 15:38	02/10/05 15:45	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-2	SW-1	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) -

VOLATILE ORGANICS	MW-2	SW-1	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	96	101	73-138
D8-Toluene	98	96	77-118
Bromofluorobenzene	93	89	70-130
Date Analyzed	02/08/05 03:59	02/08/05 04:25	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-2	SW-1	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Beryllium	6010	**0.0026**	0.0020 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Cadmium	6010	**0.0027**	0.0010 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Cobalt	6010	**0.013**	0.010 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Lead	6010	**0.016**	0.010 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-2	SW-1	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Vanadium	6010	**0.043**	0.040 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 16:44	02/10/05 16:51	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-14B	MW-14A	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-14B	MW-14A	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	95	96	73-138
D8-Toluene	96	97	77-118
Bromofluorobenzene	89	88	70-130
Date Analyzed	02/08/05 04:52	02/08/05 05:19	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-14B	MW-14A	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-14B	MW-14A	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 16:58	02/10/05 17:05	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-13A	MW-13B(MS/MSD)	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	**10**	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	**62**	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	**5.0**	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	**16**	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-13A	MW-13B(MS/MSD)	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	**9.0**	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	98	100	73-138
D8-Toluene	100	98	77-118
Bromofluorobenzene	90	93	70-130
Date Analyzed	02/08/05 05:45	02/02/05 23:59	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-13A	MW-13B(MS/MSD)	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Barium	6010	0.50 U	**0.55**	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Beryllium	6010	0.0020 U	**0.0020**	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Cadmium	6010	**0.0057**	0.0010 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Chromium	6010	**0.012**	0.010 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-13A	MW-13B(MS/MSD)	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 17:12	02/10/05 16:08	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-11	SW-4	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-11	SW-4	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	99	99	73-138
D8-Toluene	97	94	77-118
Bromofluorobenzene	89	88	70-130
Date Analyzed	02/08/05 06:11	02/08/05 06:37	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-11	SW-4	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-11	SW-4	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 17:19	02/10/05 17:26	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	SW-2	LAB BLANK	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	SW-2	LAB BLANK	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	95	80	73-138
D8-Toluene	95	98	77-118
Bromofluorobenzene	85	94	70-130
Date Analyzed	02/08/05 07:04	02/02/05 21:48	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	SW-2	LAB BLANK	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	SW-2	LAB BLANK	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/10/05 17:33	02/10/05 12:30	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	LAB BLANK	LAB BLANK	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	LAB BLANK	LAB BLANK	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	80	80	73-138
D8-Toluene	98	98	77-118
Bromofluorobenzene	94	94	70-130
Date Analyzed	02/02/05 21:48	02/02/05 21:48	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	LAB BLANK	LAB BLANK	Units
Antimony	6010	0.030 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Arsenic	6010	0.010 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Barium	6010	0.50 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Beryllium	6010	0.0020 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Cadmium	6010	0.0010 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Chromium	6010	0.010 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Cobalt	6010	0.010 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Copper	6010	0.20 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Lead	6010	0.010 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Nickel	6010	0.050 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Selenium	6010	0.020 U	NR	mg/L
Date Analyzed		02/10/05 15:54		

NR = Analysis not requested for this sample.
U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	LAB BLANK	LAB BLANK	Units
Silver	6010	0.010 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Thallium	6010	0.010 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Vanadium	6010	0.040 U	NR	mg/L
Date Analyzed		02/10/05 15:54		
Zinc	6010	0.050 U	NR	mg/L
Date Analyzed		02/10/05 15:54		

NR = Analysis not requested for this sample.
U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	LAB BLANK	Units
Chloromethane	10 U	ug/L
Vinyl Chloride	10 U	ug/L
Bromomethane	10 U	ug/L
Chloroethane	10 U	ug/L
Trichlorofluoromethane	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	ug/L
Acetone	100 U	ug/L
Iodomethane	10 U	ug/L
Carbon Disulfide	100 U	ug/L
Methylene Chloride	10 U	ug/L
Acrylonitrile	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	ug/L
Vinyl Acetate	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	ug/L
2-Butanone	100 U	ug/L
Bromochloromethane	5.0 U	ug/L
Chloroform	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	ug/L
Carbon tetrachloride	10 U	ug/L
1,2-Dichloroethane	5.0 U	ug/L
Benzene	5.0 U	ug/L
Trichloroethene	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	LAB BLANK	Units
Dibromomethane	10 U	ug/L
Bromodichloromethane	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	ug/L
4-Methyl-2-Pentanone	100 U	ug/L
Toluene	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	ug/L
Tetrachloroethene	5.0 U	ug/L
2-Hexanone	50 U	ug/L
Dibromochloromethane	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	ug/L
Chlorobenzene	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	ug/L
Ethylbenzene	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	ug/L
o-Xylene	5.0 U	ug/L
Styrene	10 U	ug/L
Bromoform	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	ug/L

Surrogate:	% RECOV	LIMITS
Dibromofluoromethane	93	73-138
D8-Toluene	97	77-118
Bromofluorobenzene	88	70-130
Date Analyzed	02/08/05 00:56	

U = Compound was analyzed for but not detected to the level shown.

LABORATORY CERTIFICATIONS

Laboratory Certification: NCDENR:591

All analyses reported with this project were analyzed by the facility indicated unless identified below.

QUALITY CONTROL DATA

Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS
EPA Method APPENDIX I,8260					
1,1-Dichloroethene	112/117/115	64-139	36-177	2	30
Benzene	104/105/106	69-115	53-150	<1	23
Trichloroethene	89/ 91/ 91	74-118	64-124	<1	25
Toluene	94/ 96/ 91	77-117	40-161	5	23
Chlorobenzene	92/ 96/ 95	76-118	44-128	1	22
EPA Method APPENDIX I,8260					
1,1-Dichloroethene	110/119/114	64-139	36-177	4	30
Benzene	108/115/113	69-115	53-150	2	23
Trichloroethene	89/ 95/ 95	74-118	64-124	<1	25
Toluene	98/101/ 99	77-117	40-161	2	23
Chlorobenzene	98/101/100	76-118	44-128	<1	22
EPA Method APPENDIX I,8260					
1,1-Dichloroethene	114/116/119	64-139	36-177	2	30
Benzene	110/105/107	69-115	53-150	2	23
Trichloroethene	93/ 83/ 86	74-118	64-124	4	25
Toluene	94/ 97/ 92	77-117	40-161	5	23
Chlorobenzene	98/100/ 98	76-118	44-128	2	22
TOTAL METALS					
Antimony, 6010	109/106/106	82-119	38-138	<1	30
Antimony, 6010	109/106/107	82-119	38-138	<1	30
Arsenic, 6010	110/107/107	82-117	64-126	<1	12
Arsenic, 6010	110/108/108	82-117	64-126	<1	12

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

QUALITY CONTROL DATA

Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS
Barium, 6010	104/ 99/ 98	72-125	74-119	1	11
Barium, 6010	104/ 99/ 99	72-125	74-119	<1	11
Beryllium, 6010	107/104/104	75-121	70-131	<1	21
Beryllium, 6010	108/105/106	75-121	70-131	<1	21
Cadmium, 6010	107/104/104	72-120	68-121	<1	12
Cadmium, 6010	108/105/105	72-120	68-121	<1	12
Chromium, 6010	102/ 99/ 99	78-119	73-120	<1	17
Chromium, 6010	104/101/101	78-119	73-120	<1	17
Cobalt, 6010	102/ 99/100	76-117	76-120	1	17
Cobalt, 6010	104/101/101	76-117	76-120	<1	17
Copper, 6010	105/103/103	80-117	75-123	<1	16
Copper, 6010	104/103/103	80-117	75-123	<1	16
Lead, 6010	106/103/103	72-121	68-126	<1	19
Lead, 6010	107/105/104	72-121	68-126	<1	19
Nickel, 6010	106/103/103	78-116	64-126	<1	12
Nickel, 6010	106/103/103	78-116	64-126	<1	12
Selenium, 6010	116/113/112	82-127	65-129	<1	10
Selenium, 6010	116/114/113	82-127	65-129	<1	10
Silver, 6010	101/ 98/ 98	80-128	69-121	<1	12
Silver, 6010	102/ 99/ 99	80-128	69-121	<1	12
Thallium, 6010	108/104/104	79-118	67-135	<1	13
Thallium, 6010	108/105/104	79-118	67-135	<1	13
Vanadium, 6010	103/100/100	78-117	71-130	<1	16
Vanadium, 6010	104/101/101	78-117	71-130	<1	16
Zinc, 6010	105/101/102	80-120	63-131	<1	24
Zinc, 6010	108/103/103	80-120	63-131	<1	24

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

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ENCO Laboratories

DHRS Certification No. E83182

CLIENT : Municipal Engineering Services
ADDRESS: 1140 Benson Road
Garner, NC 27529

REPORT # : ORL35458
DATE SUBMITTED: January 28, 2005
DATE REPORTED : February 4, 2005

ATTENTION: Mr. Jonathan Pfohl

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: G05013.0

IRDEL CO. SUB. D LF, PH 1&2

01/27/05

ORL35458-1 : FORCEMAIN @ 15:45
ORL35458-2 : LAGOON @ 15:30

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 2002). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

PROJECT MANAGER Jody Goostree
Jody Goostree

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 - APPENDIX I VOLATILE COMPOUNDS	FORCEMAIN	LAGOON	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	**110**	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L
Dibromomethane	10 U	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 (cont.) - APPENDIX I VOLATILE COMPOUNDS	FORCEMAIN	LAGOON	Units
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	**20**	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	**9.0**	5.0 U	ug/L
m-Xylene & p-Xylene	**14**	5.0 U	ug/L
o-Xylene	**5.0**	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L

Surrogate:	% RECOV	% RECOV	LIMITS
Dibromofluoromethane	93	90	52-149
D8-Toluene	100	112	70-132
Bromofluorobenzene	113	106	60-135
Date Analyzed	01/31/05 16:06	01/31/05 16:38	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL35458
DATE REPORTED: February 4, 2005
REFERENCE : G05013.0
PROJECT NAME : IRDEL CO. SUB. D LF, PH 1&2

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	FORCEMAIN	LAGOON	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Barium	6010	**0.70**	0.50 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Cobalt	6010	**0.026**	**0.037**	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL35458
DATE REPORTED: February 4, 2005
REFERENCE : G05013.0
PROJECT NAME : IRDEL CO. SUB. D LF, PH 1&2

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	FORCEMAIN	LAGOON	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Zinc	6010	**0.11**	0.050 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	

EPA METHOD 300 - Anions by IC	FORCEMAIN	LAGOON	Units
Nitrate-N	**0.27**	**4.5**	mg/L
Sulfate	2.0 U	**27**	mg/L
Date Analyzed	01/28/05 23:26	01/28/05 23:49	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	FORCEMAIN	LAGOON	Units
BOD	405.1	**35** *	**22** *	mg/L
Date Prepared		01/29/05 07:00	01/29/05 07:00	
Date Analyzed		02/03/05 12:37	02/03/05 12:37	
COD	410.4	**380**	**370**	mg/L
Date Analyzed		02/01/05 11:00	02/01/05 11:00	
pH	150.1	**6.7** Q	**7.8** Q	S.U.
Date Analyzed		01/31/05 11:45	01/31/05 11:45	
Phosphorus, Total	365.4	**0.42**	**0.27**	mg/L
Date Analyzed		02/01/05 12:21	02/01/05 12:22	
Total Susp. Solids	160.2	**140**	**28**	mg/L
Date Prepared		01/31/05 15:00	01/31/05 15:00	
Date Analyzed		02/01/05 09:30	02/01/05 09:30	

* = Seeded blank value outside method-specified range.
Q = Analysis performed outside of method-specified holding time.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 - APPENDIX I VOLATILE COMPOUNDS	LAB BLANK	Units
Chloromethane	10 U	ug/L
Vinyl Chloride	10 U	ug/L
Bromomethane	10 U	ug/L
Chloroethane	10 U	ug/L
Trichlorofluoromethane	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	ug/L
Acetone	100 U	ug/L
Iodomethane	10 U	ug/L
Carbon Disulfide	100 U	ug/L
Methylene Chloride	10 U	ug/L
Acrylonitrile	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	ug/L
Vinyl Acetate	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	ug/L
2-Butanone	100 U	ug/L
Bromochloromethane	5.0 U	ug/L
Chloroform	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	ug/L
Carbon tetrachloride	10 U	ug/L
Benzene	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	ug/L
Trichloroethene	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	ug/L
Dibromomethane	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 (cont.) - APPENDIX I VOLATILE COMPOUNDS	LAB BLANK	Units
Bromodichloromethane	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	ug/L
4-Methyl-2-Pentanone	100 U	ug/L
Toluene	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	ug/L
Tetrachloroethene	5.0 U	ug/L
2-Hexanone	50 U	ug/L
Dibromochloromethane	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	ug/L
Chlorobenzene	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	ug/L
Ethylbenzene	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	ug/L
o-Xylene	5.0 U	ug/L
Styrene	10 U	ug/L
Bromoform	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	ug/L

Surrogate:	% RECOV	LIMITS
Dibromofluoromethane	107	52-149
D8-Toluene	103	70-132
Bromofluorobenzene	109	60-135
Date Analyzed	01/31/05 10:55	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	LAB BLANK	Units
Antimony	6010	0.030 U	mg/L
Date Analyzed		02/04/05 12:45	
Arsenic	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Barium	6010	0.50 U	mg/L
Date Analyzed		02/04/05 12:45	
Beryllium	6010	0.0020 U	mg/L
Date Analyzed		02/04/05 12:45	
Cadmium	6010	0.0010 U	mg/L
Date Analyzed		02/04/05 12:45	
Chromium	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Cobalt	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Copper	6010	0.20 U	mg/L
Date Analyzed		02/04/05 12:45	
Lead	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Nickel	6010	0.050 U	mg/L
Date Analyzed		02/04/05 12:45	
Selenium	6010	0.020 U	mg/L
Date Analyzed		02/04/05 12:45	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	LAB BLANK	Units
Silver	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Thallium	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Vanadium	6010	0.040 U	mg/L
Date Analyzed		02/04/05 12:45	
Zinc	6010	0.050 U	mg/L
Date Analyzed		02/04/05 12:45	

EPA METHOD 300 - Anions by IC	LAB BLANK	Units
Nitrate-N	0.10 U	mg/L
Sulfate	2.0 U	mg/L
Date Analyzed	01/28/05 14:31	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL35458
DATE REPORTED: February 4, 2005
REFERENCE : G05013.0
PROJECT NAME : IRDEL CO. SUB. D LF, PH 1&2

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	LAB BLANK	Units
BOD	405.1	2.0 U	mg/L
Date Prepared		01/29/05 07:00	
Date Analyzed		02/03/05 12:37	
COD	410.4	10 U	mg/L
Date Analyzed		02/01/05 11:00	
Phosphorus, Total	365.4	0.030 U	mg/L
Date Analyzed		02/01/05 12:02	
Total Susp. Solids	160.2	2.0 U	mg/L
Date Prepared		01/31/05 15:00	
Date Analyzed		02/01/05 09:30	

U = Compound was analyzed for but not detected to the level shown.

LABORATORY CERTIFICATIONS

Laboratory Certification: NCDENR:424

All analyses reported with this project were analyzed by the facility indicated unless identified below.

PARAMETER	LAB CERT #'s
Silver,	NCDENR:591
Arsenic,	NCDENR:591
Barium,	NCDENR:591
Beryllium,	NCDENR:591
Cadmium,	NCDENR:591
Cobalt,	NCDENR:591
Chromium, Total,	NCDENR:591
Copper,	NCDENR:591
Nickel,	NCDENR:591
Lead,	NCDENR:591
Antimony,	NCDENR:591
Selenium,	NCDENR:591
Thallium,	NCDENR:591
Vanadium,	NCDENR:591
Zinc,	NCDENR:591

QUALITY CONTROL DATA

Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS
EPA Method APPENDIX I, 8260					
1,1-Dichloroethene	73/ 88/ 85	49-156	36-185	3	34
Benzene	80/ 84/ 82	64-132	65-143	2	25
Trichloroethene	101/116/109	66-130	51-152	6	28
Toluene	89/ 95/ 95	58-132	62-144	<1	24
Chlorobenzene	99/109/110	68-135	64-140	<1	23
TOTAL METALS					
Antimony, 6010	106/107/109	82-119	38-138	2	30
Arsenic, 6010	105/109/110	82-117	64-126	<1	12
Barium, 6010	102/ 98/ 98	72-125	74-119	<1	11
Beryllium, 6010	103/ 99/100	75-121	70-131	1	21
Cadmium, 6010	103/102/103	72-120	68-121	<1	12
Chromium, 6010	99/ 95/ 96	78-119	73-120	1	17
Cobalt, 6010	99/ 98/ 99	76-117	76-120	1	17
Copper, 6010	102/105/104	80-117	75-123	<1	16
Lead, 6010	102/103/104	72-121	68-126	<1	19
Nickel, 6010	104/101/102	78-116	64-126	<1	12
Selenium, 6010	111/114/115	82-127	65-129	<1	10
Silver, 6010	97/100/100	80-128	69-121	<1	12
Thallium, 6010	103/105/100	79-118	67-135	5	13
Vanadium, 6010	100/ 92/ 93	78-117	71-130	1	16
Zinc, 6010	100/ 99/101	80-120	63-131	2	24

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

QUALITY CONTROL DATA

Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS
EPA Method 300					
Nitrate-N	98/ 96/ 94	90-110	40-152	2	23
Sulfate	97/ 90/ 89	90-110	47-148	1	25
MISCELLANEOUS					
BOD, 405.1	94/ NA/ NA	85-115	NA	NA	NA
COD, 410.4	102/ 95/ 98	90-110	90-110	3	20
pH, 150.1	101/ NA/ NA	99-101	NA	NA	NA
Phosphorus, Total, 365.4	99/ 98/101	87-114	74-121	3	11
Total Susp. Solids, 160.2	106/ NA/ NA	82-119	NA	NA	NA

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not applicable
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

QSARF #_____

ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
Ph. (904) 296-3007 • Fax (904) 296-6210

10207 General Drive
Orlando, Florida 32824-8529
Ph. (407) 826-5314 • Fax (407) 850-6945

1015 Passport Way
Cary, North Carolina 27513
Ph. (919) 677-1669 • Fax (919) 677-9846

ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: Iredell Co. Sub. DLF, phase 3
PROJECT NO.: G05013.0(B)
P.O. NUMBER:
PAGE 1 OF
PROJECT LOC. (State): NC
SAMPLER(s) NAME: J. Pfohl
PHONE: (919) 772-5343
FAX: (919) 772-1176
CLIENT NAME: Municipal Engineering Services
CLIENT PROJECT MANAGER: Jonathan Pfohl
CLIENT ADDRESS (CITY, STATE, ZIP): 1140 Benson Rd Garner, NC 27529

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:_____

MATRIX TYPE: SURFACE WATER, GROUND WATER, WASTEWATER, DRINKING WATER, SOIL/SOLID/SEDIMENT, NONAQUEOUS LIQUID (oil, solvent, etc.), AIR, SLUDGE, OTHER

REQUIRED ANALYSIS: NC App I Metals; 8260-App I NC

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

STATION	SAMPLE DATE	SAMPLE TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID	AIR	SLUDGE	OTHER	NC App I Metals	8260-App I NC							REMARKS
1	1/26/05	11:30	X		MW-19S		X								1	3							
2	↓	12:00	↓		MW-19D		X								↓	↓							
3	↓	3:30	↓		SW-5	X									↓	↓							
4	1/27/05	9:10	↓		MW-20		X								↓	↓							
5	↓	9:45	↓		MW-18		↓								↓	↓							
6	↓	10:20	↓		MW-17		↓								↓	↓							
7	↓	11:00	↓		MW-21S		↓								↓	↓							
8	↓	11:50	↓		MW-21D		↓								↓	↓							
9																							
10																							
11																							
12																							
13																							
14																							

SAMPLE KIT PREPARED BY: ☐JACKSONVILLE ☐ORLANDO ☒ CARY	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE) [signature]	DATE 1/31/05	TIME 11:30	RECEIVED BY: (SIGNATURE) [signature]	DATE 1/31/05	TIME 1130

RECEIVED FOR LABORATORY BY: (SIGNATURE) ☐ Jacksonville ☒ CARY ☐ Orlando [signature]	DATE 1/31/05	TIME 13:30	CUSTODY INTACT ☒ YES ☐ NO	ENCO LOG NO. CRY17349	REMARKS

Environmental Conservation Laboratories, Inc.
1015 Passport Way
Cary, North Carolina 27513-2042
919 / 677-1669
Fax 919 / 677-9846
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Municipal Engineering Services
ADDRESS: 1140 Benson Road
Garner, NC 27529

REPORT # : CRY17349
DATE SUBMITTED: January 31, 2005
DATE REPORTED : February 10, 2005

ATTENTION: Mr. Jonathan Pfol

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: G05013.0(B)

Irdell Co. Subtitle D LF, Phase 3

CRY17349-1	: MW-19S	@ 11:30	(01/26/05)
CRY17349-2	: MW-19D	@ 12:00	(01/26/05)
CRY17349-3	: SW-5	@ 15:30	(01/26/05)
CRY17349-4	: MW-20	@ 09:10	(01/27/05)
CRY17349-5	: MW-18	@ 09:45	(01/27/05)
CRY17349-6	: MW-17	@ 10:20	(01/27/05)
CRY17349-7	: MW-21S	@ 11:00	(01/27/05)
CRY17349-8	: MW-21D(MS/MSD)	@ 11:50	(01/27/05)

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 2002). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

PROJECT MANAGER _____
Chuck Smith

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-19S	MW-19D	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-19S	MW-19D	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	111	110	73-138
D8-Toluene	95	95	77-118
Bromofluorobenzene	98	97	70-130
Date Analyzed	02/09/05 04:49	02/09/05 05:15	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-19S	MW-19D	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Cobalt	6010	**0.050**	0.010 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-19S	MW-19D	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/09/05 12:16	02/09/05 12:23	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	SW-5	MW-20	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	SW-5	MW-20	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	110	106	73-138
D8-Toluene	96	95	77-118
Bromofluorobenzene	97	97	70-130
Date Analyzed	02/09/05 05:41	02/09/05 06:06	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	SW-5	MW-20	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	SW-5	MW-20	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/09/05 12:30	02/09/05 12:52	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-18	MW-17	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) -

VOLATILE ORGANICS	MW-18	MW-17	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	108	108	73-138
D8-Toluene	98	96	77-118
Bromofluorobenzene	98	96	70-130
Date Analyzed	02/09/05 06:32	02/09/05 06:58	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-18	MW-17	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-18	MW-17	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/09/05 12:59	02/09/05 13:06	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	MW-21S	MW-21D(MS/MSD)	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	MW-21S	MW-21D(MS/MSD)	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	104	110	73-138
D8-Toluene	96	96	77-118
Bromofluorobenzene	94	99	70-130
Date Analyzed	02/09/05 07:25	02/09/05 03:56	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-21S	MW-21D(MS/MSD)	Units
Antimony	6010	0.030 U	0.030 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Arsenic	6010	0.010 U	**0.011**	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Beryllium	6010	0.0020 U	0.0020 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Cadmium	6010	**0.0051**	0.0010 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Chromium	6010	**0.011**	0.010 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Cobalt	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Copper	6010	0.20 U	0.20 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Nickel	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-21S	MW-21D(MS/MSD)	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	
Zinc	6010	0.050 U	0.050 U	mg/L
Date Analyzed		02/09/05 13:13	02/09/05 11:55	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	LAB BLANK	Units
Chloromethane	10 U	ug/L
Vinyl Chloride	10 U	ug/L
Bromomethane	10 U	ug/L
Chloroethane	10 U	ug/L
Trichlorofluoromethane	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	ug/L
Acetone	100 U	ug/L
Iodomethane	10 U	ug/L
Carbon Disulfide	100 U	ug/L
Methylene Chloride	10 U	ug/L
Acrylonitrile	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	ug/L
Vinyl Acetate	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	ug/L
2-Butanone	100 U	ug/L
Bromochloromethane	5.0 U	ug/L
Chloroform	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	ug/L
Carbon tetrachloride	10 U	ug/L
1,2-Dichloroethane	5.0 U	ug/L
Benzene	5.0 U	ug/L
Trichloroethene	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) - VOLATILE ORGANICS	LAB BLANK	Units
Dibromomethane	10 U	ug/L
Bromodichloromethane	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	ug/L
4-Methyl-2-Pentanone	100 U	ug/L
Toluene	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	ug/L
Tetrachloroethene	5.0 U	ug/L
2-Hexanone	50 U	ug/L
Dibromochloromethane	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	ug/L
Chlorobenzene	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	ug/L
Ethylbenzene	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	ug/L
o-Xylene	5.0 U	ug/L
Styrene	10 U	ug/L
Bromoform	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	ug/L

Surrogate:	% RECOV	LIMITS
Dibromofluoromethane	94	73-138
D8-Toluene	97	77-118
Bromofluorobenzene	86	70-130
Date Analyzed	02/08/05 21:51	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	LAB BLANK	Units
Antimony	6010	0.030 U	mg/L
Date Analyzed		02/09/05 11:41	
Arsenic	6010	0.010 U	mg/L
Date Analyzed		02/09/05 11:41	
Barium	6010	0.50 U	mg/L
Date Analyzed		02/09/05 11:41	
Beryllium	6010	0.0020 U	mg/L
Date Analyzed		02/09/05 11:41	
Cadmium	6010	0.0010 U	mg/L
Date Analyzed		02/09/05 11:41	
Chromium	6010	0.010 U	mg/L
Date Analyzed		02/09/05 11:41	
Cobalt	6010	0.010 U	mg/L
Date Analyzed		02/09/05 11:41	
Copper	6010	0.20 U	mg/L
Date Analyzed		02/09/05 11:41	
Lead	6010	0.010 U	mg/L
Date Analyzed		02/09/05 11:41	
Nickel	6010	0.050 U	mg/L
Date Analyzed		02/09/05 11:41	
Selenium	6010	0.020 U	mg/L
Date Analyzed		02/09/05 11:41	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	LAB BLANK	Units
Silver	6010	0.010 U	mg/L
Date Analyzed		02/09/05 11:41	
Thallium	6010	0.010 U	mg/L
Date Analyzed		02/09/05 11:41	
Vanadium	6010	0.040 U	mg/L
Date Analyzed		02/09/05 11:41	
Zinc	6010	0.050 U	mg/L
Date Analyzed		02/09/05 11:41	

U = Compound was analyzed for but not detected to the level shown.

LABORATORY CERTIFICATIONS

Laboratory Certification: NCDENR:591

All analyses reported with this project were analyzed by the facility indicated unless identified below.

QUALITY CONTROL DATA

Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS
EPA Method APPENDIX I,8260					
1,1-Dichloroethene	131/135/135	64-139	36-177	<1	30
Benzene	112/116/115	69-115	53-150	<1	23
Trichloroethene	95/100/ 95	74-118	64-124	5	25
Toluene	102/103/102	77-117	40-161	<1	23
Chlorobenzene	98/101/100	76-118	44-128	<1	22
TOTAL METALS					
Antimony, 6010	108/107/111	82-119	38-138	4	30
Arsenic, 6010	109/108/110	82-117	64-126	2	12
Barium, 6010	103/100/103	72-125	74-119	3	11
Beryllium, 6010	106/103/106	75-121	70-131	3	21
Cadmium, 6010	108/105/108	72-120	68-121	3	12
Chromium, 6010	101/ 98/101	78-119	73-120	3	17
Cobalt, 6010	101/ 99/102	76-117	76-120	3	17
Copper, 6010	102/101/104	80-117	75-123	3	16
Lead, 6010	104/102/105	72-121	68-126	3	19
Nickel, 6010	107/105/108	78-116	64-126	3	12
Selenium, 6010	114/ 97/101	82-127	65-129	4	10
Silver, 6010	102/100/103	80-128	69-121	3	12
Thallium, 6010	107/104/108	79-118	67-135	4	13
Vanadium, 6010	101/ 99/102	78-117	71-130	3	16
Zinc, 6010	105/103/105	80-120	63-131	2	24

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

QSARF # 1

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Ph. (407) 826-5314 • Fax (407) 850-6945

1015 Passport Way
Cary, North Carolina 27513
Ph. (919) 677-1669 • Fax (919) 677-9846

ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: IRDEL CO. SUB. D LF, PH 1&2
PROJECT NO.: G05013.0
P.O. NUMBER:
PAGE 1 OF 1

PROJECT LOC. (State): NC
SAMPLER(s) NAME: J. Pfohl
PHONE: (919)-772-5393
FAX: (919)-772-1176

CLIENT NAME: Municipal Engineering Services
CLIENT PROJECT MANAGER: Mr. Jonathan Pfohl

CLIENT ADDRESS (CITY, STATE, ZIP): 1140 Benson Road Garner, NC 27529

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:

MATRIX TYPE / REQUIRED ANALYSIS / PRESERVATIVE / NUMBER OF CONTAINERS SUBMITTED

STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID (oil, solvent, etc.)	AIR	SLUDGE	OTHER	Leachate	App I 8260 VOCs	App I Metals	COD	BOD	Phosphorus	Nitrate sulfate			REMARKS
1	1/27/05	3:45	X		FORCEMAIN									X		X	X	X	X	X	X			
2	1/27/05	3:30	X		LAGOON									X		X	X	X	X	X	X			
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								

SAMPLE KIT PREPARED BY:	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
☐ JACKSONVILLE ☐ ORLANDO ☒ CARY	1/11/05	14:00	[signature]					
RELINQUISHED BY: (SIGNATURE) [signature] (Fedex)	1/27/05	5:15PM	RECEIVED BY: (SIGNATURE)			RELINQUISHED BY: (SIGNATURE)		
RECEIVED BY: (SIGNATURE)			RELINQUISHED BY: (SIGNATURE)			RECEIVED BY: (SIGNATURE)		

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS
[signature] ☐ Jacksonville ☒ Orlando	1/28/05	11:00	☒ YES ☐ NO	ORL35458	

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
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www.encolabs.com

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DHRS Certification No. E83182

CLIENT : Municipal Engineering Services
ADDRESS: 1140 Benson Road
Garner, NC 27529

REPORT # : ORL35458
DATE SUBMITTED: January 28, 2005
DATE REPORTED : February 4, 2005

ATTENTION: Mr. Jonathan Pfohl

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: G05013.0

IRDEL CO. SUB. D LF, PH 1&2

01/27/05

ORL35458-1 : FORCEMAIN @ 15:45
ORL35458-2 : LAGOON @ 15:30

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 2002). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

PROJECT MANAGER Jody Goostree
Jody Goostree

ENCO LABORATORIES
REPORT # : ORL35458
DATE REPORTED: February 4, 2005
REFERENCE : G05013.0
PROJECT NAME : IRDEL CO. SUB. D LF, PH 1&2

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 (cont.) -

APPENDIX I VOLATILE COMPOUNDS	FORCEMAIN	LAGOON	Units
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	**20**	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	**9.0**	5.0 U	ug/L
m-Xylene & p-Xylene	**14**	5.0 U	ug/L
o-Xylene	**5.0**	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	93	90	52-149
D8-Toluene	100	112	70-132
Bromofluorobenzene	113	106	60-135
Date Analyzed	01/31/05 16:06	01/31/05 16:38	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL35458
DATE REPORTED: February 4, 2005
REFERENCE : G05013.0
PROJECT NAME : IRDEL CO. SUB. D LF, PH 1&2

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	FORCEMAIN	LAGOON	Units
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Thallium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Vanadium	6010	0.040 U	0.040 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	
Zinc	6010	**0.11**	0.050 U	mg/L
Date Analyzed		02/04/05 12:59	02/04/05 13:46	

EPA METHOD 300 - Anions by IC	FORCEMAIN	LAGOON	Units
Nitrate-N	**0.27**	**4.5**	mg/L
Sulfate	2.0 U	**27**	mg/L
Date Analyzed	01/28/05 23:26	01/28/05 23:49	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 - APPENDIX I VOLATILE COMPOUNDS	LAB BLANK	Units
Chloromethane	10 U	ug/L
Vinyl Chloride	10 U	ug/L
Bromomethane	10 U	ug/L
Chloroethane	10 U	ug/L
Trichlorofluoromethane	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	ug/L
Acetone	100 U	ug/L
Iodomethane	10 U	ug/L
Carbon Disulfide	100 U	ug/L
Methylene Chloride	10 U	ug/L
Acrylonitrile	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	ug/L
Vinyl Acetate	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	ug/L
2-Butanone	100 U	ug/L
Bromochloromethane	5.0 U	ug/L
Chloroform	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	ug/L
Carbon tetrachloride	10 U	ug/L
Benzene	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	ug/L
Trichloroethene	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	ug/L
Dibromomethane	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	LAB BLANK	Units
Antimony	6010	0.030 U	mg/L
Date Analyzed		02/04/05 12:45	
Arsenic	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Barium	6010	0.50 U	mg/L
Date Analyzed		02/04/05 12:45	
Beryllium	6010	0.0020 U	mg/L
Date Analyzed		02/04/05 12:45	
Cadmium	6010	0.0010 U	mg/L
Date Analyzed		02/04/05 12:45	
Chromium	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Cobalt	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Copper	6010	0.20 U	mg/L
Date Analyzed		02/04/05 12:45	
Lead	6010	0.010 U	mg/L
Date Analyzed		02/04/05 12:45	
Nickel	6010	0.050 U	mg/L
Date Analyzed		02/04/05 12:45	
Selenium	6010	0.020 U	mg/L
Date Analyzed		02/04/05 12:45	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

MISCELLANEOUS	METHOD	LAB BLANK	Units
BOD	405.1	2.0 U	mg/L
Date Prepared		01/29/05 07:00	
Date Analyzed		02/03/05 12:37	
COD	410.4	10 U	mg/L
Date Analyzed		02/01/05 11:00	
Phosphorus, Total	365.4	0.030 U	mg/L
Date Analyzed		02/01/05 12:02	
Total Susp. Solids	160.2	2.0 U	mg/L
Date Prepared		01/31/05 15:00	
Date Analyzed		02/01/05 09:30	

U = Compound was analyzed for but not detected to the level shown.

QUALITY CONTROL DATA

Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS
EPA Method APPENDIX I, 8260					
1,1-Dichloroethene	73/ 88/ 85	49-156	36-185	3	34
Benzene	80/ 84/ 82	64-132	65-143	2	25
Trichloroethene	101/116/109	66-130	51-152	6	28
Toluene	89/ 95/ 95	58-132	62-144	<1	24
Chlorobenzene	99/109/110	68-135	64-140	<1	23
TOTAL METALS					
Antimony, 6010	106/107/109	82-119	38-138	2	30
Arsenic, 6010	105/109/110	82-117	64-126	<1	12
Barium, 6010	102/ 98/ 98	72-125	74-119	<1	11
Beryllium, 6010	103/ 99/100	75-121	70-131	1	21
Cadmium, 6010	103/102/103	72-120	68-121	<1	12
Chromium, 6010	99/ 95/ 96	78-119	73-120	1	17
Cobalt, 6010	99/ 98/ 99	76-117	76-120	1	17
Copper, 6010	102/105/104	80-117	75-123	<1	16
Lead, 6010	102/103/104	72-121	68-126	<1	19
Nickel, 6010	104/101/102	78-116	64-126	<1	12
Selenium, 6010	111/114/115	82-127	65-129	<1	10
Silver, 6010	97/100/100	80-128	69-121	<1	12
Thallium, 6010	103/105/100	79-118	67-135	5	13
Vanadium, 6010	100/ 92/ 93	78-117	71-130	1	16
Zinc, 6010	100/ 99/101	80-120	63-131	2	24

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

QSARF # P12037

ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
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1015 Passport Way
Cary, North Carolina 27513
Ph. (919) 677-1669 • Fax (919) 677-9846

ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: ~~IRDEL CO. SUB. D LF PH 1&2~~ Iredell Co. Landfills

PROJECT NO.: G05013.0 (A)

P.O. NUMBER:

PROJECT LOC. (State): NC

SAMPLER(s) NAME: J. Pfohl

PHONE: (919)-772-5393

FAX: (919)-772-1176

CLIENT NAME: Municipal Engineering Services

CLIENT PROJECT MANAGER: Mr. Jonathan Pfohl

CLIENT ADDRESS (CITY, STATE, ZIP): 1140 Benson Road Garner, NC 27529

PAGE 1 OF 1

☒ STANDARD REPORT DELIVERY

☐ EXPEDITED REPORT DELIVERY (surcharge)

Date Due:

MATRIX TYPE: SURFACE WATER, GROUND WATER, WASTEWATER, DRINKING WATER, SOIL/SOLID/SEDIMENT, NONAQUEOUS LIQUID (oil, solvent, etc.), AIR, SLUDGE, OTHER ENCO DI Water

REQUIRED ANALYSIS: 8260-AP1-NC

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

STATION	SAMPLE DATE	SAMPLE TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID	AIR	SLUDGE	OTHER ENCO DI Water	8260-AP1-NC							REMARKS
1	1/27/05	7:50			EB		X							X	3							
2	↓	7:55			FB		X							X	3							
3	Enco	Filled			TB		X							X	3							
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						

SAMPLE KIT PREPARED BY:	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
☐ JACKSONVILLE ☐ ORLANDO [signature]	1/11/05	15:20	[signature]					
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
			[signature]	1/31/05	11:30	[signature]	1/31/05	1130

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS
☐ Jacksonville ☐ Orlando [signature]	1/31/05	13:41	☒ YES ☐ NO	CRY17350	EB is Stainless Steel Bailer

Environmental Conservation Laboratories, Inc.
1015 Passport Way
Cary, North Carolina 27513-2042
919 / 677-1669
Fax 919 / 677-9846
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Municipal Engineering Services
ADDRESS: 1140 Benson Road
Garner, NC 27529

REPORT # : CRY17350
DATE SUBMITTED: January 31, 2005
DATE REPORTED : February 10, 2005

ATTENTION: Mr. Jonathan Pfol

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: G05013.0(A)

Irdell Co. Landfills

01/27/05

CRY17350-1 : EB @ 07:50
CRY17350-2 : FB @ 07:55
CRY17350-3 : TB @ 00:00

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 2002). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

PROJECT MANAGER _____
Chuck Smith

ENCO LABORATORIES
REPORT # : CRY17350
DATE REPORTED: February 10, 2005
REFERENCE : G05013.0(A)
PROJECT NAME : Irdell Co. Landfills

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	EB	FB	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : CRY17350
DATE REPORTED: February 10, 2005
REFERENCE : G05013.0(A)
PROJECT NAME : Irdell Co. Landfills

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) -

VOLATILE ORGANICS	EB	FB	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	111	104	73-138
D8-Toluene	96	95	77-118
Bromofluorobenzene	95	94	70-130
Date Analyzed	02/09/05 16:40	02/09/05 17:07	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : CRY17350
DATE REPORTED: February 10, 2005
REFERENCE : G05013.0(A)
PROJECT NAME : Irdell Co. Landfills

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 - VOLATILE ORGANICS	TB	LAB BLANK	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : CRY17350
DATE REPORTED: February 10, 2005
REFERENCE : G05013.0(A)
PROJECT NAME : Irdell Co. Landfills

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I,8260 (cont.) -

VOLATILE ORGANICS	TB	LAB BLANK	Units
Dibromomethane	10 U	10 U	ug/L
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L

Surrogate:	% RECOV	% RECOV	LIMITS
Dibromofluoromethane	112	108	73-138
D8-Toluene	99	94	77-118
Bromofluorobenzene	99	94	70-130
Date Analyzed	02/09/05 17:32	02/09/05 09:42	

U = Compound was analyzed for but not detected to the level shown.

LABORATORY CERTIFICATIONS

Laboratory Certification: NCDENR:591

All analyses reported with this project were analyzed by the facility indicated unless identified below.

QUALITY CONTROL DATA

Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS
EPA Method APPENDIX I,8260					
1,1-Dichloroethene	114/116/119	64-139	36-177	2	30
Benzene	110/105/107	69-115	53-150	2	23
Trichloroethene	93/ 83/ 86	74-118	64-124	4	25
Toluene	94/ 97/ 92	77-117	40-161	5	23
Chlorobenzene	98/100/ 98	76-118	44-128	2	22

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference