

**REMEDICATION UPDATE REPORT  
FOR  
AUGUST 2006 - FEBRUARY 2007**

**INVISTA S.à.r.l.  
NORTH TERMINAL – PARAXYLENE FACILITY  
3325 RIVER ROAD  
WILMINGTON, NORTH CAROLINA**

**MAY 15, 2007**

**PREPARED ON BEHALF OF:  
FLINT HILLS RESOURCES, LP  
CATLIN PROJECT NO. 201-125**

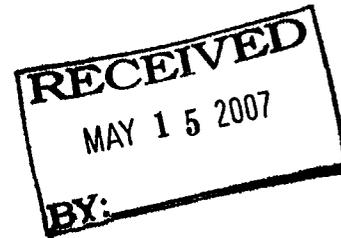
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May 15, 2007

North Carolina Department of Environment  
and Natural Resources  
Division of Waste Management  
Attn: Genevieve M. Henderson, P.G.  
127 Cardinal Drive Extension  
Wilmington, North Carolina 28405-3845



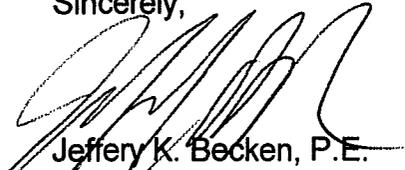
Re: Remediation Update Report for August 2006 to February 2007  
INVISTA S.à.r.l. - North Terminal – Paraxylene Facility  
Wilmington, North Carolina  
CATLIN Project No. 201-125

Dear Ms. Henderson:

On behalf of Flint Hills Resources, LP, attached is the Remediation Update Report concerning the above-referenced site and time period.

Upon your review of this report, please contact Ms. Elizabeth Page at (817) 685-3424 or myself at (910) 452-5861 if you should have any questions concerning this project.

Sincerely,

  
Jeffery K. Becken, P.E.  
Project Manager

  
Steven A. Tyler  
Project Scientist

Enclosure

cc: Mrs. Elizabeth Page, P.G. - Reiss Remediation, LLC (w/ encl.)  
Ms. Nicole Cory – Flint Hills Resources, LP (w/ encl.)  
Ms. Donna Lazzari – Invista S.à.r.l. (w/ encl.)  
Mr. H. Layton Bedsole, Jr. – North Carolina State Ports Authority (w/ encl.)  
Ms. Catherine Warner – Groundwater & Environmental Service of North Carolina, Inc. (w/ encl.)  
Mr. Dan Shine – Sunoco (w/ encl.)

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**REMEDIATION UPDATE REPORT  
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**INVISTA S.à.r.l.  
NORTH TERMINAL – PARAXYLENE FACILITY  
3325 RIVER ROAD  
WILMINGTON, NORTH CAROLINA**

**MAY 15, 2007**

**1.0 INTRODUCTION**

**1.1 PURPOSE**

CATLIN Engineers and Scientists (CATLIN) is submitting this Remediation Update Report on behalf of Flint Hills Resources, LP (FHR) for the North Terminal - Paraxylene (PX) Facility at 3325 River Road, Wilmington, North Carolina (see Figure 1). FHR sold the operations to an affiliate company, INVISTA S.à.r.l. (Invista), on June 1, 2006. Therefore, the PX facility project site will be referred to as the Invista North Terminal – PX Facility.

The purpose of this report is to update the status of the subsurface soil and groundwater remediation activities and to present environmental findings for the period August 2006 through February 2007 at the PX Facility site.

Current remediation activities at the PX Facility are in accordance with the activities presented within the June 2005 Revised Remedial Action Plan. Titles of applicable remedial action documents have been listed in the table below.

<b>Document</b>	<b>Date</b>	<b>Author</b>	<b>Comments</b>
Corrective Action Plan Addendum (CAPA)	August 9, 2002	FHR	Document updates remediation plans for the subsurface soils and groundwater remediation at two areas of concern (PX Facility and Loading Rack Area)
Statement of General Agreement	October 2002	NCDENR APS	Regulatory agreement with August 2002 plan
Revised Remedial Actions for FHR North Site (Letter only)	March 5, 2004	FHR	Revised to include chemical oxidation
Revised Remedial Action Plan	June 2, 2005	FHR	Provided details for chemical oxidation application
Approval of June 2005 Revised Remedial Action Plan	June 7, 2005	NCDENR APS	Regulatory agreement with revised remedial actions
Semi-Annual Remediation Update Reports	Various	FHR	Minor modifications to the active remedial system layout and monitoring schedule are typically included within these reports with regulatory response accordingly

NCDENR APS – North Carolina Department of Environment and Natural Resources Aquifer Protection Section

In accordance with a memorandum dated March 14, 2007 from Mr. Alan W. Klimek, P.E. of the North Carolina Department of Natural Resources (NCDENR), Division of Water Quality (DWQ) an agreement effective February 20, 2007 has been reached between the DWQ and the Division of Waste Management (DWM) which consolidates responsibilities for managing soil and groundwater contamination incidents. The DWQ and the DWM have agreed to changes in responsibilities for each division. As a result of this action, the PX Facility has transferred from a non-petroleum non-UST site that was formerly monitored under the Aquifer Protection Section (APS), to being handled by the Inactive Hazardous Waste Section. As a result, the Inactive Hazardous Waste Guidelines and Rules will be applicable for the PX Facility and the site will be treated as a separate entity from the remaining portion of the Invista North Terminal.

## **1.2 SITE INFORMATION**

The North Terminal project site is a bulk chemical storage and transfer facility, which occupies an area of approximately 37 acres. Thirty-three of the 37 acres are located on the east side of River Road (owned by Invista) and the remaining four acres are located west of River Road (owned by FHR). Refer to Figure 1 for site vicinity location. The North Terminal is subdivided into four areas of environmental concern. These areas of concern are identified as the PX Facility, the Gasoline/#2 Fuel Oil Facility, the Loading Rack Area and the Water Treatment Plant (WTP) Area. Figure 2 illustrates the location of each area of environmental concern. However, due to previous referenced division of responsibilities at NCDENR, this report only covers activities within the PX Facility of the North Terminal.

The PX Facility has seven aboveground storage tanks (ASTs) and associated pipelines for the storage and transfer of PX. In addition, there is an inactive PX truck loading rack and an active railcar loading rack area. This facility was active during the reporting period addressed in this report.

## **2.0 PARAXYLENE FACILITY**

### **2.1 PARAXYLENE FACILITY BACKGROUND**

#### **2.1.1 Brief Incident History**

Since Phillips Petroleum constructed the North Terminal facility in 1954/1955, it has been utilized to handle PX. Since 1954/1955, there have been several product releases at the subject site. Former and ongoing assessment, remediation and monitoring activities for product releases since 1980 have been well documented and are on file at the NCDENR Wilmington Regional Office (WiRO). Off-site areas of concern due to product releases

by previous site owners/operators are being addressed by others. This report focuses on the current PX remediation efforts within the PX Facility from August 2006 through February 2007.

### **2.1.2 Contaminants of Concern**

The primary contaminant of concern (as agreed upon by NCDENR) at the PX Facility is dissolved PX, one of three xylene isomers (ortho, meta, and para). Currently, analytical laboratories do not have the technology to accurately distinguish between metaxylenes and PX compounds. Since the source is known to be PX, all soil and groundwater samples are analyzed for meta/para (M/P) xylenes and the resulting concentration is assumed to be PX.

The goal for groundwater remediation is to reduce dissolved M/P xylenes concentrations to the 15A NCAC 2L.0202 North Carolina Groundwater Quality Standard (2L GWQS) of 530 micrograms per Liter ( $\mu\text{g/L}$ ) or for PX remediation data (graphical representation) to reach an asymptotic trend. PX Facility groundwater samples are analyzed by an independent analytical laboratory for M/P xylenes concentration in  $\mu\text{g/L}$  per EPA Method 8260B to monitor the dissolved PX concentrations.

## **2.2 ADDITIONAL ASSESSMENT ACTIVITIES**

Other than the scheduled monitoring activities, no additional assessment activities were conducted at the PX Facility Site during the current reporting period.

## **2.3 PARAXYLENE FACILITY MONITORING PLAN**

### **Monthly**

The following monthly activities were completed:

- Check and maintain operation of the air sparge wells.
- Manually recover free-phase product, if present.

### **Semi-Annual (February and August)**

The following semi-annual activities were completed in addition to the tasks performed on a monthly basis:

- Obtained representative groundwater samples from selected site monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-28, MW-32, MW-33, MW-34, MW-35, MW-36, MW-37, 101, 102, 105, 106, 107, 108, 113, 117, and 119) for M/P

- xylenes and MTBE analysis per EPA Method 8260B. Monitoring wells are selected to provide data concerning PX plume boundary and historical concentration high conditions.
- In order to monitor the effectiveness of the air sparge system, dissolved oxygen concentrations were obtained from groundwater of selected monitoring wells (MW-12, MW-14, MW-16, MW-17, MW-18, MW-19, MW-20, MW-32, MW-33, 105, 108, 113 and 117).
  - Submit a semi-annual Remediation Update Report.

## **2.4 PARAXYLENE FACILITY UPDATE**

### **2.4.1 Soil**

A SVE system to remove remnant PX from subsurface soils west of AST 301 was operated from March 21, 1995 through January 2003. After an equipment failure, a decision was made to discontinue operation of the soil vent unit because of the minimal M/P xylene concentrations of the SVE exhaust at that time and the other planned remediation activities. A description of this SVE approach and the remedial progress prior to shut down has been documented in previous Remediation Update Reports.

### **2.4.2 Groundwater**

#### **2.4.2.1 Groundwater Remedial Approach**

The remedial approach implemented within the PX Facility during the time period from August 2006 through February 2007 included the use of air sparge techniques.

The air sparge system consisted of four networks (Networks A, B, C and Pulse) as illustrated on the attached Figure 3. Networks A, B and C were operated as a continuous system during the time period of this report. The Pulse network consists of three pulse air sparge wells. The Pulse network has been partially operational since March 2006 and fully operational since July 2006.

The air sparge system was operational 95% (assuming 5% off time for general maintenance and upgrade activities) of the time referenced within this report.

Prior to this reporting period, chemical oxidation activities were completed in July 2006. These activities consisted of the application of a Fenton's reagent with a water chaser via a series of trenches located throughout the PX Facility. The locations of these trenches were in areas that had

recently experienced M/P-Xylene concentrations above 100,000 ppb. The benefits of the chemical oxidation activities appear to continue to be observed during the time period referenced within this Report. Evaluations continue regarding the effectiveness of possible additional chemical oxidation treatments in the future.

#### **2.4.2.2 Groundwater Recovery Data**

The pumps in the six recovery wells illustrated on Figure 3 (KRW-3, KRW-4, KRW-5, KRW-6, KRW-7 and KRW-8) were turned off in February of 2005. Due to necessary modifications (capacity limitations to handle water from PX Facility) to the existing FHR WTP and the changes in property ownership, the contaminant plume within the PX Facility will be addressed with a remedial approach that does not involve pumping groundwater and therefore the recovery wells were converted to monitoring wells in November 2006. The use of recovery wells is also no longer necessary to address free-phase product because free-phase product has not been observed since December 2004.

#### **2.4.2.3 Groundwater Table Data**

On February 5, 2007 selected monitoring wells were gauged for depth to water and potential free-phase product. The monitoring wells selected for the measurement of groundwater table elevations were based on the recommendations of the previous Remediation Update Report dated December 26, 2006. Table 1 lists a summary of the water table data and interpolated water table isocontour elevations have been illustrated on Figure 4. The interpolated groundwater migration trend within the PX Facility is predominantly to the west-northwest. This migration trend is consistent with historical site groundwater data.

#### **2.4.2.4 Dissolved Oxygen Data**

The goal of an air sparge system is to remediate organic constituents from impacted groundwater by volatilization and biodegradation from indigenous aerobic microbes. Groundwater aerobic conditions are assessed by monitoring the dissolved oxygen (DO) levels within site monitoring wells. Aerobic conditions are generally

indicated by groundwater with DO levels greater than one (1) mg/L.

The latest (February 2007) groundwater DO concentration data has been summarized in Table 2 and illustrated on Figure 5. This data was obtained through the use of an YSI multi-parameter meter. The monitoring wells selected for the measurement of DO were based on the recommendations of the previous Remediation Update Report dated December 26, 2006.

Dissolved oxygen concentrations of monitoring wells associated with the monitoring of the air sparge networks have been summarized as follows:

<b>Network</b>	<b>Monitoring Wells</b>	<b>DO Range (mg/L)</b>
A	MW-17, MW-18, MW-20	4.70 to 8.58
B	MW-14	0.30
C	MW-32, MW-33	4.07 to 8.17
Pulse	MW-19	3.65
Background wells	105, 108, 113, 117, MW-16 and MW-12	0.15 to 0.80

Active remediation efforts are maintaining groundwater DO concentrations favorable for volatilization and aerobic biodegradation in all applicable areas except in the vicinity of MW-14. The low DO in the background wells in comparison to the much higher DO in the applicable monitoring wells is further indication that the remediation system is performing as designed.

#### **2.4.2.5 Dissolved COC Concentration Data**

CATLIN personnel obtained the latest representative groundwater samples from selected monitoring wells on February 8 and 9, 2007. Prior to obtaining a groundwater sample, each monitoring well was first developed a minimum of three volumes utilizing a disposable bailer. The selected monitoring wells were based on the recommendations of the previous Remediation Update Report dated December 26, 2006. All groundwater samples from the February 2007 sample event were submitted to Severn Trent Laboratory (STL) in Savannah, Georgia for analysis of dissolved M/P xylenes and MTBE concentrations per EPA Method 8260B. A copy of the laboratory report has been provided in Appendix A.

Results of the latest, as well as a portion of the historical, M/P xylenes concentration data have been summarized on Table 3. Table 4 summarizes the MTBE historical concentration data. The current interpolated horizontal extent of dissolved M/P xylenes within the site groundwater has been illustrated on Figure 6.

Historically, active remedial efforts along the down gradient property boundary have been favorable. The occasional area of concern has been the area near monitoring well MW-19. FHR voluntarily implemented a sampling program of MW-19 between March 2006 and May 2006 to evaluate the efficiency of the Pulse Air Sparge System and the chemical oxidation activities. Following the August 2006 semi-annual monitoring event, FHR voluntarily implemented a monthly sampling program to continue to monitor the M/P xylenes trend in this area. The laboratory data collected for MW-19 during the February 2007 sampling event is included within this report and illustrates a decrease of M/P xylenes from 120,000 µg/L in the February 2006 sampling event to 720 µg/L in the February 2007 event. The monthly sampling program is recommended to continue for the time being to ensure significant rebound does not occur in the down gradient boundary. The pulse sparge system has been expanded in the vicinity of MW-19 in order to maintain a low concentration buffer along the down gradient property boundary. Although there have been some fluctuations, the overall trend is decreasing. Please note that this PAS system will be expanded in the near future to have a greater impact on reducing concentrations in this area.

Following the reporting of the August 2006 sampling event, CATLIN conducted contaminant transport modeling to simulate the transport of dissolved total xylenes (assuming the PX concentrations are representative of the total xylene concentrations) over time if a buffer area with groundwater PX concentrations below the current 2L GWQS (530 ug/l) was established on the downgradient side of the property and the upgradient portion was remediated by natural attenuation. The model utilized the August 2006 total xylene concentrations to represent the current groundwater conditions. The model indicated that via natural attenuation the total xylene concentrations would stabilize within 8 to 10 years and not leave the North Terminal – PX Facility project site if the groundwater PX concentrations in

the area downgradient of the approximate location of KRW-5 were below 2L GWQS. Our knowledge of the project site leads us to believe that this time period is most likely underestimated. However, model simulations indicate if groundwater contamination is remediated down gradient of monitoring well KRW-5, migration of total xylene concentrations above 2L GWQS off-site is unlikely. Additional model simulations are recommended in the future to allow for additional calibration of the accuracy of the model. A detailed description of the modeling and results are provided in the attached Appendix B.

Based on the modeling referenced above and on FHR's desire to ensure contamination does not migrate off-site, the PAS network will be expanded in the near future. The layout of the PAS expansion is provided in the attached Figure 7. It is anticipated that this expansion will be completed prior to the August 2007 sampling event.

#### **2.4.3 Free-Phase PX Data**

Free-phase product was last detected at a PX Facility monitoring or recovery well on December 8, 2004.

### **3.0 FUTURE ACTIVITIES AND RECOMMENDATIONS**

- Monitoring and operating of air sparge system as follows:
  - 1) Networks A, B and C continue to operate as a continuous air sparge system.
  - 2) Pulse Networks continue to operate as a pulse sparge system with expansion to continue to reduce the concentration of M/P xylenes along the down gradient portion of the contaminant plume. Please refer to the attached Figure 7 for details of the proposed expansion of the PAS.
- Based on the data presented within this report, the effectiveness of future chemical oxidation events will continue to be evaluated as a possible remedial approach in the future. At this time, chemical oxidation activities have been discontinued.
- Based on the data presented within this report, dissolved groundwater contamination within monitoring well MW-19 of M/P xylenes has significantly decreased from the February 2006 to the February 2007 sampling event. The monthly sampling program will continue for the time being to ensure rebound does not occur at the down gradient boundary.

- A Groundwater Monitoring Report prepared by Groundwater & Environmental Services, Inc. (GES) dated January 29, 2007 on behalf of Sunoco Inc., indicated that the sole source of the xylene present at the North Carolina State Port Authority property is from the PX Facility. The NCDENR – DWQ submitted a response letter dated February 1, 2007 that stated, “In addition, the DWQ does not concur that the sole source of the xylene present at the site is from the FHR property to the east. More definitive evidence will need to be provided before this scenario is accepted by DWQ.” Subsequently, GES prepared a letter dated March 8, 2007 that responded to the DWQ letter and recommended additional subsurface investigation to further investigate the contaminant plume and potential migration from the PX Facility. It is our assumption that these activities are underway or will be in the near future. The data presented within this Remediation Update Report continue to support that the majority of the contamination currently present on the North Carolina State Port Authority property is a remnant of Sunoco Inc.’s historical product releases combined with a lack of subsequent aggressive remedial action at that facility, not migration from the PX Facility as suggested by GES.
- An expansion of the PAS network is being implemented to further aid in decreasing the contaminant level present at the PX Facility. Zone one will be modified with additional air sparge wells SP-04 through SP-07 continuing south, parallel to the fence line in the North West corner of the property. Zone two will expand from the northern boundary towards the south with air sparge wells SP-08 through SP-17, near the present Network B continuous air sparge wells and down gradient of monitoring well KRW-5. Refer to Figure 7 for further details.
- Conduct contaminant transport modeling following the August sampling event. Future modeling should be considered following all future August sampling events.

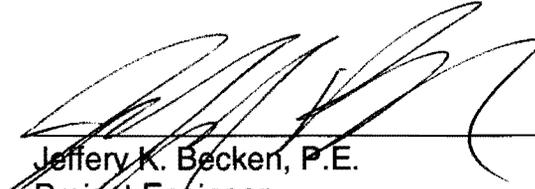
The following monitoring wells will be sampled during the next semi-annual sampling event in August 2007:

MW-1, MW-2, MW-3, MW-5, MW-8, MW-10, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-28, MW-32, MW-33, MW-34, MW-35, MW-36, MW-37, 101, 102, 105, 106, 107, 108, 113, 117, and 119 for M/P xylenes and MTBE analysis per EPA Method 8260B. Monitoring wells are selected to provide data concerning PX plume boundary and historical high concentration conditions.

Groundwater at the following monitoring wells will be field gauged for DO:  
MW-2, MW-3, MW-12, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-32, MW-33, MW-35, MW-36, 101, 102, 105, 106, 107, 108, 113 and 117.

*Maria Bosh for:*

\_\_\_\_\_  
Stephen A. Tyler  
Project Scientist

  
\_\_\_\_\_  
Jeffery K. Becken, P.E.  
Project Engineer

## TABLES

**TABLE 1**  
**SUMMARY OF GROUNDWATER ELEVATIONS AT SELECTED**  
**MONITORING WELLS – AUGUST 2, 2006 THROUGH FEBRUARY 5, 2007**

**PARAXYLENE FACILITY**  
**INVISTA, NORTH TERMINAL**  
**WILMINGTON, NORTH CAROLINA**

DATA POINT	DATE DATA COLLECTED	TOP OF CASING ELEVATION (in feet)	DEPTH TO WATER (in feet)	FREE PHASE PRODUCT THICKNESS (in feet)	SPECIFIC GRAVITY ADJUSTMENT	WATER TABLE ELEVATION (in feet)
<b>TYPE II MONITORING WELLS</b>						
MW-1	8/2/2006	39.45	8.80	NMT	NA	30.65
	2/5/2007		6.75	NMT	NA	32.70
MW-2	8/2/2006	29.11	3.80	NMT	NA	25.31
	2/5/2007		2.25	NMT	NA	26.86
MW-3	8/2/2006	37.84	8.61	NMT	NA	29.23
	2/5/2007		6.76	NMT	NA	31.08
MW-4	8/2/2006	33.84	8.21	NMT	NA	25.63
	2/5/2007		6.65	NMT	NA	27.19
MW-5	8/2/2006	39.56	8.30	NMT	NA	31.26
	2/5/2007		6.15	NMT	NA	33.41
MW-6	NA	38.92	NM			
MW-7	NA	38.71	ABANDONED			
MW-8	8/2/2006	39.85	10.20	NMT	NA	29.65
	2/5/2007		6.64	NMT	NA	33.21
MW-9	NA	36.88	NM			
MW-10	8/2/2006	35.45	5.40	NMT	NA	30.05
	2/5/2007		3.39	NMT	NA	32.06
MW-11	8/2/2006	37.37	7.76	NMT	NA	29.61
	2/5/2007		5.90	NMT	NA	31.47
MW-12	8/2/2006	35.23	7.29	NMT	NA	27.94
	2/5/2007		5.41	NMT	NA	29.82
MW-13	8/2/2006	33.90	7.50	NMT	NA	26.40
	2/5/2007		5.83	NMT	NA	28.07
MW-14	8/2/2006	29.39	4.87	NMT	NA	24.52
	2/5/2007		3.53	NMT	NA	25.86
MW-15	8/2/2006	28.82	5.83	NMT	NA	22.99
	2/5/2007		4.47	NMT	NA	24.35

**TABLE 1**  
**SUMMARY OF GROUNDWATER ELEVATIONS AT SELECTED**  
**MONITORING WELLS – AUGUST 2, 2006 THROUGH FEBRUARY 5, 2007**

**PARAXYLENE FACILITY**  
**INVISTA, NORTH TERMINAL**  
**WILMINGTON, NORTH CAROLINA**

DATA POINT	DATE DATA COLLECTED	TOP OF CASING ELEVATION (in feet)	DEPTH TO WATER (in feet)	FREE PHASE PRODUCT THICKNESS (in feet)	SPECIFIC GRAVITY ADJUSTMENT	WATER TABLE ELEVATION (in feet)
MW-16	8/2/2006	28.21	5.61	NMT	NA	22.60
	2/5/2007		4.31	NMT	NA	23.90
MW-17	8/2/2006	25.57	3.35	NMT	NA	22.22
	2/5/2007		1.41	NMT	NA	24.16
MW-18	8/2/2006	26.92	8.60	NMT	NA	18.32
	2/5/2007		6.50	NMT	NA	20.42
MW-19	8/2/2006	27.59	7.95	NMT	NA	19.64
	2/5/2007		8.70	NMT	NA	18.89
MW-20	8/2/2006	29.29	10.51	NMT	NA	18.78
	2/5/2007		8.62	NMT	NA	20.67
MW-28	8/2/2006	36.41	6.63	NMT	NA	29.78
	2/5/2007		4.38	NMT	NA	32.03
MW-30	NA	35.20	NOT LOCATED			
MW-32	8/2/2006	33.69	7.78	NMT	NA	25.91
	2/5/2007		6.16	NMT	NA	27.53
MW-33	8/2/2006	35.16	9.41	NMT	NA	25.75
	2/5/2007		5.51	NMT	NA	29.65
MW-34	8/2/2006	33.89	6.64	NMT	NA	27.25
	2/5/2007		4.97	NMT	NA	28.92
MW-35	8/2/2006	28.41	2.70	NMT	NA	25.71
	2/5/2007		1.75	NMT	NA	26.66
MW-36	8/2/2006	35.46	7.90	NMT	NA	27.56
	2/5/2007		4.35	NMT	NA	31.11
MW-37	8/2/2006	36.26	7.10	NMT	NA	29.16
	2/5/2007		3.87	NMT	NA	32.39
101	8/2/2006	28.88	3.55	NMT	NA	25.33
	2/5/2007		2.25	NMT	NA	26.63
102	8/2/2006	29.88	4.39	NMT	NA	25.49
	2/5/2007		2.90	NMT	NA	26.98

**TABLE 1**  
**SUMMARY OF GROUNDWATER ELEVATIONS AT SELECTED**  
**MONITORING WELLS – AUGUST 2, 2006 THROUGH FEBRUARY 5, 2007**

**PARAXYLENE FACILITY**  
**INVISTA, NORTH TERMINAL**  
**WILMINGTON, NORTH CAROLINA**

DATA POINT	DATE DATA COLLECTED	TOP OF CASING ELEVATION (In feet)	DEPTH TO WATER (In feet)	FREE PHASE PRODUCT THICKNESS (In feet)	SPECIFIC GRAVITY ADJUSTMENT	WATER TABLE ELEVATION (In feet)
104	NA	28.10			NM	
105	8/2/2006	29.51	7.12	NMT	NA	22.39
	2/5/2007		2.81	NMT	NA	26.70
106	8/2/2006	26.51	1.35	NMT	NA	25.16
	2/5/2007		0.15	NMT	NA	26.36
107	8/2/2006	31.33	5.05	NMT	NA	26.28
	2/5/2007		3.78	NMT	NA	27.55
108	8/2/2006	31.50	6.85	NMT	NA	24.65
	2/5/2007		5.08	NMT	NA	26.42
113	8/2/2006	33.90	9.10	NMT	NA	24.80
	2/5/2007		7.51	NMT	NA	26.39
114	NA	34.74			NM	
116	NA	28.76			NM	
117	8/2/2006	31.33	9.10	NMT	NA	22.23
	2/5/2007		7.65	NMT	NA	23.68
119	8/2/2006	26.68	4.71	NMT	NA	21.97
	2/5/2007		3.10	NMT	NA	23.58
121	NA	29.20			NM	
PTW-1	NA	36.67			NM	
PTW-2	NA	36.68			NM	
PTW-3	NA	36.68			NM	
PTW-4	NA	36.41			NM	
PTW-5	NA	36.57			NM	
PTW-6	NA	36.42			NM	
PTW-7	NA	36.73			NM	
PTW-8	NA	36.72			NM	
PTW-9	NA	36.90			NM	

**TABLE 1**  
**SUMMARY OF GROUNDWATER ELEVATIONS AT SELECTED**  
**MONITORING WELLS – AUGUST 2, 2006 THROUGH FEBRUARY 5, 2007**

**PARAXYLENE FACILITY**  
**INVISTA, NORTH TERMINAL**  
**WILMINGTON, NORTH CAROLINA**

DATA POINT	DATE DATA COLLECTED	TOP OF CASING ELEVATION (in feet)	DEPTH TO WATER (in feet)	FREE PHASE PRODUCT THICKNESS (in feet)	SPECIFIC GRAVITY ADJUSTMENT	WATER TABLE ELEVATION (in feet)
<b>TYPE III MONITORING WELLS</b>						
TMW-1	NA	30.43				NM
TMW-2	NA	35.40				NM
<b>FORMER RECOVERY WELLS CONVERTED TO MONITORING WELLS</b>						
RW-2	NA	36.18				ABANDONED
KRW-3	NA	29.07				NM
KRW-4	NA	27.82				NM
KRW-5	NA	32.58				NM
KRW-6	NA	30.90				NM
KRW-7	NA	29.47				NM
KRW-8	NA	38.01				NM

## Notes:

Specific gravity adjustment for paraxylene is 0.86

NMT = No Measurable Thickness

NM = Not Measured

NA = Not Applicable

TABLE 2

**SUMMARY OF DISSOLVED OXYGEN MEASUREMENTS FROM  
SELECTED MONITORING WELLS - AUGUST 8, 2006 THROUGH FEBRUARY 8, 2007**

**PARAXYLENE FACILITY  
INVISTA, NORTH TERMINAL  
WILMINGTON, NORTH CAROLINA**

WELL I.D.	DATE	DISSOLVED OXYGEN (mg/L)
105	8/8/2006	0.85
	2/8/2007	0.80
108	8/8/2006	3.90
	2/8/2007	0.37
113	8/8/2006	1.01
	2/8/2007	0.15
117	8/8/2006	1.22
	2/8/2007	0.32
MW-12	8/8/2006	0.53
	2/8/2007	0.40
MW-14	8/8/2006	0.49
	2/8/2007	0.30
MW-16	8/8/2006	1.04
	2/8/2007	0.35
MW-17	8/8/2006	8.80
	2/8/2007	8.58
MW-18	8/8/2006	1.00
	2/8/2007	7.44
MW-19	8/8/2006	1.91
	2/8/2007	3.65
MW-20	8/8/2006	0.85
	2/8/2007	4.70
MW-32	8/8/2006	2.50
	2/8/2007	4.07
MW-33	8/8/2006	8.80
	2/8/2007	8.17

TABLE 3		
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	M/P XYLENE (ug/L)
<b>TYPE II MONITORING WELLS</b>		
MW-1	12/8/1995	29,000
	2/13/1996	11,000
	6/24/1996	9,400
	1/28/1997	340
	12/4/1997	4,000
	6/13/1998	360
	1/19/1999	250
	7/14/1999	26
	2/29/2000	<1.0
	6/13/2000	470
	2/21/2001	<1.0
	7/31/2001	2.3
	4/1/2002	260
	7/31/2002	4,200
	2/24/2003	<1.0
	8/20/2003	<1.0
	2/20/2004	<1.0
	8/4/2004	<1.0
	2/22/2005	950
	8/25/2005	<0.31
2/9/2006	<1.3	
8/9/2006	<1.3	
2/9/2007	1.9 J	
MW-2	2/20/2004	140,000
	8/4/2004	360,000
	2/21/2005	130,000
	8/25/2005	69,000
	2/9/2006	150,000
	8/9/2006	140,000
2/8/2007	100,000	
MW-3	12/8/1995	180,000
	6/24/1996	28,000
	1/28/1997	53,000
	12/4/1997	100,000
	6/13/1998	35,000
	1/19/1999	49,000
	7/14/1999	20,000
	2/29/2000	37,000
	6/13/2000	63,000
	2/21/2001	120,000
	7/31/2001	110,000
	4/1/2002	81,000
	7/31/2002	96,000
	2/24/2003	120,000
	8/19/2003	96,000
	2/20/2004	110,000
	8/4/2004	89,000
	2/22/2005	130,000
	8/25/2005	27,000
	2/9/2006	16,000
8/8/2006	110,000	
2/8/2007	10,000	

TABLE 3		
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	M/P XYLENE (ug/L)
MW-4	12/8/1995	1,600,000
	2/13/1996	140,000
	6/24/1996	140,000
	1/28/1997	190,000
	12/4/1997	220,000
	6/13/1998	180,000
	1/19/1999	190,000
	7/14/1999	300,000
	2/29/2000	100,000
	6/13/2000	45,000
	2/20/2004	66,000
	8/4/2004	80,000
	2/21/2005	36,000
	8/25/2005	25,000
2/9/2006	24,000	
8/9/2006	75,000	
2/8/2007	52,000	
MW-5	2/13/1996	9,800
	6/24/1996	2,500
	1/28/1997	1,400
	12/4/1997	790
	6/13/1998	7,800
	1/19/1999	2,400
	7/14/1999	4,900
	2/29/2000	2,100
	6/13/2000	2,800
	7/31/2001	12,000
	4/1/2002	2,000
	7/31/2002	<5.0
	2/24/2003	1,200
	8/20/2003	630
	2/20/2004	1,400
	8/4/2004	390
	2/22/2005	34
8/25/2005	<0.31	
2/9/2006	1,400	
8/9/2006	1,900	
2/8/2007	390	
MW-7	10/15/1999	150,000
	2/29/2000	130,000
	2/21/2001	150,000
	7/31/2001	120,000
	4/2/2002	140,000
	2/24/2003	400,000
	8/20/2003	2,200,000
	2/20/2004	570,000 D
	8/4/2004	3,100,000
	8/6/2004	110,000
2/22/2005	120,000	
WELL HAS BEEN PERMANENTLY ABANDONED		

TABLE 3		
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	M/P XYLENE (ug/L)
MW-8	10/5/1999	4,400
	2/29/2000	12,000
	2/21/2001	5,500
	7/31/2001	8,500
	4/2/2002	17,000
	2/24/2003	15,000
	8/20/2003	16,000
	2/20/2004	6,800
	8/4/2004	5,800
	2/22/2005	20,000
	8/25/2005	38,000
	2/9/2006	21,000
	8/9/2006	95
2/8/2007	6,400	
MW-9	2/29/2000	<1
	2/24/2003	<1.0
	8/20/2003	<1.0
	2/20/2004	<1.0
MW-10	2/29/2000	96,000
	2/21/2001	89,000
	7/31/2001	110,000
	8/25/2005	150,000
	2/9/2006	150,000
	8/9/2006	150,000
MW-11	2/9/2007	75,000
	2/29/2000	110,000
	7/31/2001	100,000
	4/1/2002	63,000
	2/24/2003	130,000
	8/20/2003	110,000
	2/20/2004	53,000
	8/4/2004	53,000
	2/22/2005	79,000
	8/25/2005	56,000
	2/9/2006	3,300
8/9/2006	57,000	
2/8/2007	30,000	
MW-12	2/29/2000	56,000
	2/21/2001	170,000
	7/31/2001	140,000
	7/31/2002	140,000
	2/24/2003	86,000
	8/20/2003	17,000
	2/20/2004	92,000
	8/4/2004	35,000
	2/22/2005	100,000
	8/24/2005	22,000
	2/9/2006	59,000
	8/8/2006	110,000
	2/8/2007	37,000

TABLE 3		
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	M/P XYLENE (ug/L)
MW-13	2/29/2000	85,000
	2/21/2001	43,000
	7/31/2001	41,000
	4/1/2002	76,000
	7/31/2002	30,000
	2/24/2003	99
	8/19/2003	7,900
	2/20/2004	6,000
	8/4/2004	13,000
	2/22/2005	54,000
	8/25/2005	110,000
	2/9/2006	51,000
8/9/2006	80,000	
2/8/2007	98,000	
MW-14	2/29/2000	270,000
	7/31/2001	110,000
	4/1/2002	160,000
	7/31/2002	180,000
	2/24/2003	240,000
	8/19/2003	140,000
	2/20/2004	180000 D
	8/4/2004	190,000
	8/24/2005	29,000
	2/10/2006	170,000
	8/9/2006	130,000
2/8/2007	140,000	
MW-15	2/29/2000	49,000
	6/13/2000	57,000
	2/21/2001	80,000
	7/31/2001	23,000
	7/30/2002	97,000
	2/24/2003	130,000
	8/19/2003	76,000
	2/20/2004	75,000 D
	8/4/2004	110,000
	2/23/2005	86,000
	8/25/2005	98,000
	2/9/2006	71,000
8/9/2006	84,000	
2/8/2007	48,000	
MW-16	2/29/2000	79,000
	6/13/2000	62,000
	2/21/2001	47,000
	7/31/2001	21,000
	4/1/2002	8,700
	7/30/2002	4,300
	2/25/2003	17,000
	8/19/2003	30,000
	2/20/2004	27,000
	8/9/2006	29,000
2/8/2007	42,000	

<b>TABLE 3</b> <b>SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS -</b> <b>GROUNDWATER</b>  <b>PARAXYLENE FACILITY</b> <b>INVISTA, NORTH TERMINAL</b> <b>WILMINGTON, NORTH CAROLINA</b>		
WELL I.D.	DATE	M/P XYLENE (ug/L)
MW-17	2/29/2000	24,000
	6/13/2000	2,400
	2/21/2001	3,100
	8/1/2001	290
	4/1/2002	170
	7/30/2002	2,600
	2/24/2003	<1.0
	8/19/2003	3.7
	2/20/2004	4,600
	8/4/2004	2,100
	2/21/2005	160
	8/24/2005	92
	2/9/2006	7,800
	3/2/2006	2,800 D
8/9/2006	4.9	
2/8/2007	<1.3	
MW-18	2/29/2000	13,000
	6/13/2000	21
	2/21/2001	29,000
	7/31/2001	6,400
	4/1/2002	510
	7/30/2002	<10
	2/25/2003	670
	8/19/2003	110
	2/20/2004	<1.0
	2/23/2005	1,300
	8/24/2005	160
	2/9/2006	11,000
	3/2/2006	170
	8/9/2006	5,300
2/8/2007	200	
MW-19	2/29/2000	1,400
	6/13/2000	430
	2/21/2001	1,000
	7/31/2001	260
	4/1/2002	11,000
	7/30/2002	5,700
	2/25/2003	27,000
	8/19/2003	9,700
	2/20/2004	5,800
	2/23/2005	1,600
	8/24/2005	42,000
	2/9/2006	120,000
	3/24/2006	162,000
	4/27/2006	26,000
	5/30/2006	16,000
	8/8/2006	54,000
	10/5/2006	83,000
	10/31/2006	36,000
	11/28/2006	15,000
	12/29/2006	6,700
1/26/2007	12,000	
2/8/2007	720	

<b>TABLE 3</b> <b>SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS -</b> <b>GROUNDWATER</b>  <b>PARAXYLENE FACILITY</b> <b>INVISTA, NORTH TERMINAL</b> <b>WILMINGTON, NORTH CAROLINA</b>		
<b>WELL I.D.</b>	<b>DATE</b>	<b>M/P XYLENE (ug/L)</b>
MW-20	2/29/2000	7,900
	6/13/2000	110,000
	2/21/2001	47,000
	7/31/2001	70,000
	4/2/2002	7,900
	7/31/2002	15,000
	2/25/2003	5,000
	8/19/2003	2,600
	2/20/2004	14,000
	8/3/2004	3,200
	2/18/2005	50,000
	8/24/2005	870
	2/10/2006	15,000
	3/2/2006	26
8/8/2006	150	
2/8/2007	<1.3	
MW-28	4/94	2,240
	2/13/1996	370
	6/24/1996	740
	1/28/1997	14
	12/4/1997	2,300
	6/13/1998	59
	7/14/1999	<1
	3/1/2000	<1
	6/13/2000	<1
	2/21/2001	4
	7/31/2001	<1.0
	2/25/2003	22
	8/20/2003	<1.0
	2/20/2004	530
	8/3/2004	30
	2/18/2005	<0.31
	8/24/2005	12,000
2/10/2006	<1.3	
8/8/2006	<1.3	
2/8/2007	<1.3	
MW-30	1/19/1999	<1
	7/14/1999	<1
	3/1/2000	<1
	6/13/2000	<1
	2/21/2001	<1
MW-32	4/1/2002	110,000
	7/31/2002	89,000
	2/25/2003	110,000
	8/19/2003	1,700
	2/20/2004	5,700
	8/4/2004	14,000
	2/22/2005	570
	8/24/2005	430
	2/10/2006	84
	8/8/2006	2,400
2/8/2007	3,300	

TABLE 3		
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	M/P XYLENE (ug/L)
MW-33	4/1/2002	15,000
	7/31/2002	21,000
	2/25/2003	22,000
	8/19/2003	22,000
	2/20/2004	3,600
	8/4/2004	13,000
	2/22/2005	2,500
	8/24/2005	17,000
	2/9/2006	33,000
8/8/2006	<1.3	
2/8/2007	<1.3	
MW-34	2/22/2005	63,000
	8/25/2005	21,000
	2/9/2006	31,000
	8/8/2006	65,000
2/8/2007	16,000	
MW-35	2/21/2005	1,400
	8/25/2005	900
	2/9/2006	1,200
	8/9/2006	1,800
2/8/2007	1,800	
MW-36	2/22/2005	130,000
	8/25/2005	52,000
	2/9/2006	100,000
	8/9/2006	140,000
2/8/2007	140,000	
MW-37	2/22/2005	1,900
	8/25/2005	35,000
	2/9/2006	4,500
	8/9/2006	970
2/9/2007	160	
PTW-1	8/6/2004	2,800
PTW-2	8/6/2004	7,400
PTW-3	8/6/2004	660
PTW-4	8/6/2004	22,000
PTW-5	8/6/2004	46,000
PTW-6	8/6/2004	4,800
PTW-7	8/6/2004	1,200
PTW-8	8/6/2004	40,000
PTW-9	8/6/2004	45,000
101	2/24/2003	1,300
	8/19/2003	3,900
	2/20/2004	12,000
	8/4/2004	2,200
	2/21/2005	7,700
	8/25/2005	370
	2/10/2006	15
	8/9/2006	130
2/8/2007	54	

TABLE 3		
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	M/P XYLENE (ug/L)
102	12/8/1995	800
	6/24/1996	200
	1/28/1997	1,100
	12/4/1997	26
	6/13/1998	270
	1/19/1999	49
	7/14/1999	760
	2/29/2000	1,300
	6/13/2000	230
	2/21/2001	100
	8/1/2001	9.1
	4/2/2002	<5.0
	7/30/2002	<10
	2/24/2003	21
	8/19/2003	5.3
	2/20/2004	150
	8/4/2004	35
	2/21/2005	34
8/25/2005	99	
2/10/2006	600	
8/9/2006	740	
2/8/2007	470	
104	7/30/2002	<50
	2/20/2004	860
105	7/30/2002	<50
	8/4/2004	26
	2/21/2005	5.1
	8/25/2005	1.9
	2/10/2006	67
	8/9/2006	6.8
2/8/2007	7.8	
106	12/8/1995	350,000
	6/24/1996	<10
	1/28/1997	120,000
	6/13/1998	No Data
	1/19/1999	140,000
	7/14/1999	29,000
	3/1/2000	130,000
	6/13/2000	87,000
	2/21/2001	97,000
	8/1/2001	35,000
	8/19/2003	180,000
	2/20/2004	87,000
	8/4/2004	46,000
	2/21/2005	120,000
	8/24/2005	100,000
2/9/2006	120,000	
8/8/2006	110,000	
2/8/2007	100,000	

TABLE 3		
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	M/P XYLENE (ug/L)
107	6/13/2000	96,000
	7/31/2002	240,000
	8/19/2003	160,000
	2/20/2004	88,000
	8/4/2004	66,000
	2/21/2005	120,000
	8/25/2005	7,600
	2/9/2006	51,000
	8/9/2006	66,000
2/8/2007	2,400	
108	4/1/2002	130,000
	2/24/2003	150,000
	8/19/2003	97,000
	2/20/2004	120,000
	8/4/2004	120,000
	2/21/2005	140,000
	8/24/2005	48,000
	2/9/2006	110,000
	8/8/2006	14,000
2/8/2007	6,500	
113	1/19/1999	11
	7/14/1999	BQL
	2/29/2000	370
	6/13/2000	460
	2/21/2001	<1
	7/31/2001	71
	4/1/2002	3.5
	7/31/2002	<1.0
	2/25/2003	2.2
	8/19/2003	1.6
	2/20/2004	<1.0
	8/4/2004	<1.0
	2/22/2005	0.85
	8/24/2005	<0.31
	2/9/2006	1.8 J
8/8/2006	<1.3	
2/8/2007	1.9 J	
114	6/13/1998	42

TABLE 3		
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	M/P XYLENE (ug/L)
117	12/8/1995	86,000
	6/24/1996	59,000
	1/28/1997	80,000
	12/4/1997	46,000
	6/13/1998	130,000
	1/19/1999	120,000
	7/14/1999	140,000
	2/29/2000	78,000
	6/13/2000	100,000
	2/21/2001	81,000
	7/31/2001	45,000
	4/1/2002	39,000
	7/30/2002	16,000
	2/25/2003	55,000
	8/19/2003	7,100
	2/20/2004	110,000 D
	8/4/2004	57,000
	2/23/2005	34,000
	8/24/2005	480
2/9/2006	<1.3	
8/8/2006	80,000	
2/8/2007	79,000	
119	6/24/1996	<2
	1/28/1997	1,500
	12/4/1997	15
	6/13/1998	3,000
	1/19/1999	390
	7/14/1999	420
	2/29/2000	4,900
	6/13/2000	1,300
	2/21/2001	37
	7/31/2001	1,800
	4/1/2002	320
	7/30/2002	<100
	2/24/2003	9,000
	8/19/2003	<100
	2/20/2004	48
	8/4/2004	590
	2/23/2005	2,300
8/25/2005	<0.31	
2/9/2006	3.7	
8/9/2006	190	
2/8/2007	1.7 J	

TABLE 3			
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER			
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA			
WELL I.D.	DATE	M/P XYLENE (ug/L)	
120	12/8/1995	1,600	
	6/24/1996	600	
	1/28/1997	4,300	
	12/4/1997	1,500	
	6/13/1998	1,500	
	1/19/1999	1,000	
	7/14/1999	400	
	WELL WAS DAMAGED		
	6/13/2000	800	
	2/21/2001	1,200	
	8/1/2001	2,300	
4/1/2002	33,000		
121	12/8/1995	300,000	
	6/24/1996	100,000	
	1/28/1997	100,000	
	12/4/1997	140,000	
	6/13/1998	160,000	
	1/19/1999	110,000	
	7/14/1999	140,000	
	3/1/2000	190,000	
	2/24/2003	140,000	
D-O	12/8/1995	160,000	
	6/24/1996	62,000	
	1/28/1997	3,400	
	WELL HAS BEEN PERMANENTLY ABANDONED		
<b>TYPE III MONITORING WELLS</b>			
TMW-1	12/8/1995	220	
	2/29/2000	300	
TMW-2	2/29/2000	4.2	
<b>RECOVERY WELLS</b>			
RW-2	12/4/1997	8,100	
	6/13/1998	14,000	
	1/19/1999	8,200	
	7/14/1999	9,200	
	3/1/2000	26,000	
	4/1/2002	17,000	
	7/31/2002	13,000	
WELL HAS BEEN PERMANENTLY ABANDONED			

<b>TABLE 3</b> <b>SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS -</b> <b>GROUNDWATER</b>  <b>PARAXYLENE FACILITY</b> <b>INVISTA, NORTH TERMINAL</b> <b>WILMINGTON, NORTH CAROLINA</b>		
<b>WELL I.D.</b>	<b>DATE</b>	<b>M/P XYLENE (ug/L)</b>
KRW-3	12/4/1997	87,000
	6/13/1998	120,000
	1/19/1999	67,000
	7/14/1999	86,000
	2/29/2000	17,000
	6/13/2000	85,000
	2/21/2001	100,000
	7/31/2001	140,000
	4/1/2002	47,000
	7/31/2002	57,000
	2/25/2003	45,000
	8/19/2003	93,000
	2/20/2004	53,000 D
8/4/2004	58,000	
8/24/2005	16,000	
KRW-4	12/4/1997	27,000
	6/13/1998	60,000
	1/19/1999	18,000
	7/14/1999	86,000
	2/29/2000	61,000
	6/13/2000	29,000
	2/21/2001	15,000
	8/1/2001	13,000
	4/1/2002	11,000
	7/31/2002	16,000
	2/24/2003	11,000
	8/19/2003	15,000
	2/20/2004	18,000
8/4/2004	13,000	
2/23/2005	2,400	
8/24/2005	73,000	
KRW-5	12/4/1997	180,000
	6/13/1998	130,000
	1/19/1999	84,000
	7/14/1999	390,000
	2/29/2000	150,000
	6/13/2000	100,000
	2/21/2001	FP
	7/31/2001	79,000
	4/1/2002	170,000
	7/31/2002	60,000
	2/24/2003	66,000
	8/19/2003	210,000
	2/20/2004	77,000
8/4/2004	180,000	
2/22/2005	77,000	
8/24/2005	58,000	

TABLE 3		
SUMMARY OF EPA METHOD 8260 (M/P XYLENES) LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL ID.	DATE	M/P XYLENE (ug/L)
KRW-6	2/21/2001	64,000
	7/31/2001	95,000
	4/1/2002	93,000
	7/31/2002	53,000
	2/25/2003	60,000
	8/19/2003	72,000
	2/20/2004	120,000
	8/4/2004	92,000
	2/23/2005	69,000
8/24/2005	54,000	
KRW-7	8/21/2003	21,000
	8/4/2004	63,000
	2/23/2005	31,000
	8/24/2005	9,000
KRW-8	8/21/2003	100,000
	8/4/2004	14,000
	2/22/2005	72,000
	8/24/2005	55,000
TEMPORARY MONITORING WELLS *		
HP-1	4/94	11,900
HP-2	4/94	11,500
303TW-1	3/28/03	480
303TW-2	3/28/2003	1
303TW-3	3/28/2003	2,200
303TW-4	3/28/2003	31,000
ND = Not Determined FP = Free Product * Temporary wells have been permanently abandoned D - The reported result is from a secondary dilution. J - The result is less than the reporting limit, but greater than or equal to the method detection limit and the concentration is an approximate value.		

TABLE 4		
SUMMARY OF MTBE LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY INVISTA, NORTH TERMINAL WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	MTBE Concentration (ug/L)
TYPE II MONITORING WELLS		
MW-1	6/1/1998	<20
	2/4/2004	<10
	8/4/2004	<10
	2/5/2005	<21
	8/5/2005	3.2J
	2/6/2006	<0.45
	8/9/2006	<0.45
	2/9/2007	<0.45
MW-2	2/4/2004	<40,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<4.2
	2/6/2006	<4.5
	8/9/2006	<230
	2/8/2007	<0.45
MW-3	6/1/1998	<2,000
	2/4/2004	<40,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<2.1
	2/6/2006	<4.5
	8/8/2006	<230
	2/8/2007	<0.45
MW-4	6/1/1998	<10,000
	2/4/2004	<10,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<2.1
	2/6/2006	<4.5
	8/9/2006	<90
	2/8/2007	<23
MW-5	6/1/1998	<1,000
	2/4/2004	<500
	8/4/2004	<200
	2/5/2005	<0.42
	8/5/2005	<0.42
	2/6/2006	<4.5
	8/9/2006	2.5 J
	2/8/2007	<0.45
MW-7	2/4/2004	<25,000
	8/4/2004	<200
	2/5/2005	<84
MW-8	2/4/2004	<1,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<4.2
	2/6/2006	<4.5
	8/9/2006	<0.45
	2/8/2007	<9.0
MW-9	2/4/2004	<10
MW-10	8/5/2005	<8.4
	2/6/2006	<4.5
	8/9/2006	<230
	2/9/2007	<9.0
MW-11	2/4/2004	<10,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<4.2
	2/6/2006	<2.3
	8/9/2006	<90
	2/8/2007	<45

TABLE 4		
SUMMARY OF MTBE LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY		
INVISTA, NORTH TERMINAL		
WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	MTBE Concentration (ug/L)
MW-12	2/4/2004	<10,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<8.4
	2/6/2006	<11
	8/8/2006	<230
	2/8/2007	<45
MW-13	2/4/2004	<1,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	4.2J
	2/6/2006	<11
	8/9/2006	<90
	2/8/2007	<45
MW-14	2/4/2004	<10,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<8.4
	2/6/2006	<45
	8/9/2006	<230
	2/8/2007	<45
MW-15	2/4/2004	<5,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<8.4
	2/6/2006	<11
	8/9/2006	<230
	2/8/2007	<90
MW-16	7/2/2003	1,100
	8/3/2003	<500
	2/4/2004	<5,000
	8/9/2006	<45
	2/8/2007	<110
MW-17	7/2/2003	2,100
	8/3/2003	5.9
	2/4/2004	<1,200
	8/4/2004	<200
	2/5/2005	<4.2
	8/5/2005	5.4J
	2/6/2006	8.8 J
	8/9/2006	<0.45
	2/8/2007	<0.45
MW-18	2/4/2004	<10
	2/5/2005	<21
	8/5/2005	0.73J
	2/6/2006	<4.5
	8/9/2006	<9.0
	2/8/2007	<0.45
MW-19	2/4/2004	<1,000
	2/5/2005	<21
	8/5/2005	<4.2
	2/6/2006	<11
	8/8/2006	<230
	2/8/2007	<2.3
MW-20	2/4/2004	<5,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<0.42
	2/6/2006	<4.5
	8/8/2006	<0.45
	2/8/2007	<0.45

TABLE 4		
SUMMARY OF MTBE LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY		
INVISTA, NORTH TERMINAL		
WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	MTBE Concentration (ug/L)
MW-28	6/1/1998	<2
	2/4/2004	<100
	8/4/2004	<50
	2/5/2005	<0.42
	8/5/2005	<0.42
	2/6/2006	<0.45
	8/8/2006	<0.45
2/8/2007	<0.45	
MW-30	6/1/1998	<1
MW-32	2/4/2004	<1,000
	8/4/2004	<200
	2/5/2005	<10
	8/5/2005	<0.42
	2/6/2006	<0.45
	8/8/2006	<9.0
	2/8/2007	<9.0
MW-33	2/4/2004	<1,000
	8/4/2004	<200
	2/5/2005	<42
	8/5/2005	<4.2
	2/6/2006	<4.5
	8/8/2006	<0.45
	2/8/2007	<0.45
MW-34	2/5/2005	<84
	8/5/2005	<0.42
	2/6/2006	<4.5
	8/8/2006	<90
	2/8/2007	<23
MW-35	2/5/2005	250
	8/5/2005	310J
	2/6/2006	57
	8/9/2006	42 J
	2/8/2007	22 J
MW-36	2/5/2005	<84
	8/5/2005	<4.2
	2/6/2006	<2.3
	8/9/2006	<230
	2/8/2007	<90
MW-37	2/5/2005	<42
	8/5/2005	<0.42
	2/6/2006	<23
	8/9/2006	<0.45
	2/9/2007	<0.45
101	7/2/2003	<100
	8/3/2003	<50
	2/4/2004	8,500
	8/4/2004	920
	2/5/2005	3,300
	8/5/2005	240
	2/6/2006	370
	8/9/2006	660
2/8/2007	560	

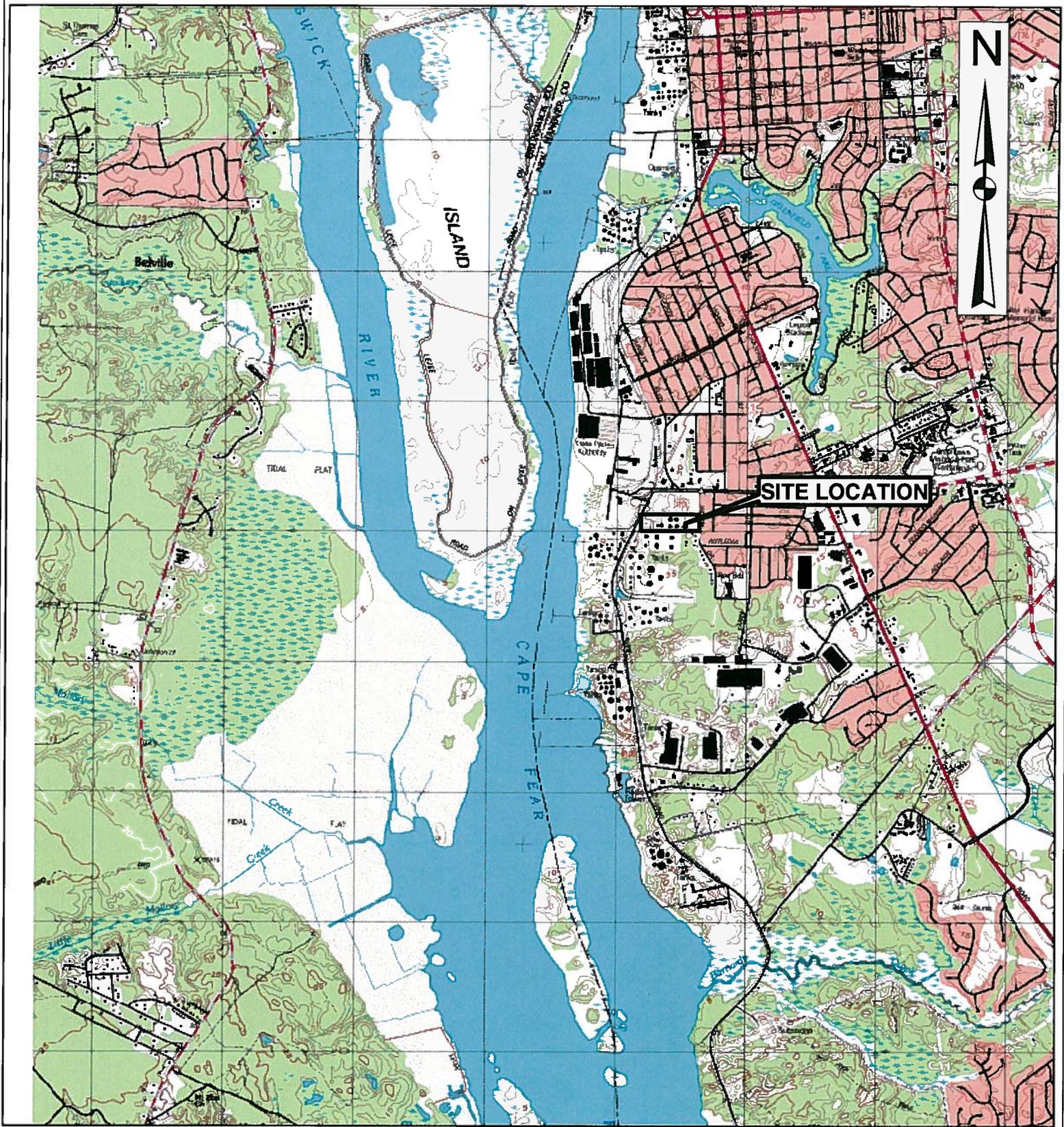
TABLE 4		
SUMMARY OF MTBE LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY		
INVISTA, NORTH TERMINAL		
WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	MTBE Concentration (ug/L)
102	6/1/1996	1,100
	6/1/1998	420
	1/1/1999	150
	7/2/2003	310
	8/3/2003	200
	2/4/2004	290
	8/4/2004	<100
	2/5/2005	830
	8/5/2005	130
	2/6/2006	71
8/9/2006	52	
2/8/2007	48	
104	7/1/2002	5,100
	2/4/2004	<500
105	8/1/2002	390
	8/4/2004	20
	2/5/2005	19
	8/5/2005	<0.42
	2/6/2006	10
	8/9/2006	<0.45
2/8/2007	<0.45	
106	6/1/1996	420
	8/1/2002	1,000
	8/19/2003	<5,000
	2/4/2004	<25000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<8.4
	2/6/2006	<45
8/8/2006	<230	
2/8/2007	<0.45	
107	7/1/2002	<500
	8/1/2002	<500
	8/1/2003	<5,000
	2/4/2004	<10000
	8/4/2004	<200
	2/5/2005	<110
	8/5/2005	<0.42
	2/6/2006	<11
8/9/2006	<90	
2/8/2007	<23	
108	8/1/2003	<5,000
	2/4/2004	<40000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<8.4
	2/6/2006	<23
8/8/2006	<23	
2/8/2007	<23	
113	1/1/1999	<2
	2/4/2004	<10
	8/4/2004	<10
	2/5/2005	0.42
	8/5/2005	<0.42
	2/6/2006	<0.45
	8/8/2006	<0.45
2/8/2007	<0.45	

TABLE 4		
SUMMARY OF MTBE LABORATORY RESULTS - GROUNDWATER		
PARAXYLENE FACILITY		
INVISTA, NORTH TERMINAL		
WILMINGTON, NORTH CAROLINA		
WELL I.D.	DATE	MTBE Concentration (ug/L)
114	6/1/1998	18
117	7/1/1996	<5,000
	6/1/1998	<20,000
	2/4/2004	<10,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<0.42
	2/6/2006	<0.45
	8/8/2006	<90
2/8/2007	<0.45	
119	6/1/1996	14
	6/1/1998	<100
	4/1/2002	2,900
	7/1/2002	6,400
	8/1/2003	2,200
	2/4/2004	990
	8/4/2004	280
	2/5/2005	<42
	8/5/2005	5.3J
	2/6/2006	99
	8/9/2006	30
2/8/2007	6.4 J	
120	6/1/1996	38
	6/1/1998	160
	1/1/1999	210
	4/1/2002	1,300
121	6/1/1996	<1,000
	6/1/1998	<10,000
TEMPORARY WELLS		
M-1	8/1/2002	1,500
M-2	8/1/2002	<50
RECOVERY WELLS		
RW-2	6/1/1998	<1,000
	4/1/2002	<500
	7/1/2002	<500
KRW-3	2/4/2004	<5,000
	8/4/2004	<200
	8/5/2005	<4.2
KRW-4	6/1/1998	<4,000
	4/1/2002	5,900
	7/1/2002	2,900
	8/1/2003	2,700
	2/4/2004	<5,000
	8/4/2004	670
	2/5/2005	<42
8/5/2005	55J	
KRW-5	2/4/2004	<10,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<4.2
KRW-6	2/4/2004	<10,000
	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<4.2

<p style="text-align: center;"><b>TABLE 4</b></p> <p style="text-align: center;"><b>SUMMARY OF MTBE LABORATORY RESULTS - GROUNDWATER</b></p> <p style="text-align: center;"><b>PARAXYLENE FACILITY</b>  <b>INVISTA, NORTH TERMINAL</b>  <b>WILMINGTON, NORTH CAROLINA</b></p>		
WELL I.D.	DATE	MTBE Concentration (ug/L)
KRW-7	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	0.47J
KRW-8	8/4/2004	<200
	2/5/2005	<84
	8/5/2005	<4.2

J = The result is less than the reporting limit but greater than the method detection limit and the concentration is an approximate value.

## FIGURES



SCALE

Data Source: USGS Topographic Quadrangle, Havelock, NC 1949 (Photorevised 1983).

	PROJECT INVISTA S.a.r.l. NORTH TERMINAL PARAXYLENE FACILITY RIVER ROAD WILMINGTON, N.C.	TITLE GENERAL LOCATION USGS TOPOGRAPHIC QUADRANGLE	FIGURE <b>1</b>	
	JOB NO. 201-125	DATE APR 2007	SCALE 1"=1000'	DRAWN BY BKW

**LEGEND**

EXISTING	DESCRIPTION
	BUILDING
	PROPERTY LINE
	TOP OF CONTAINMENT BERM
	RAILROAD TRACKS
	AST
	ABOVE GROUND STORAGE TANK



NC STATE PORTS AUTHORITY  
EAST EQUIPMENT  
STORAGE YARD

NC STATE PORTS AUTHORITY  
PROPERTY

FLINT HILLS RESOURCES, LP  
WATER TREATMENT  
PLANT AREA

PARAXYLENE FACILITY

TANK 801 TANK 801  
TANK 301 TANK 401 TANK 501 TANK 402 TANK 1101

GASOLINE/#2 FUEL OIL FACILITY

INVISTA S.à.r.l, LP  
NORTH TERMINAL

LOADING RACK  
AREA

PETROLEUM FUEL PROPERTY



- NOTE:  
 1. MAP PROVIDED BY ROBERT H. GOSLEE & ASSOCIATES, P.A. JULY 2004.  
 2. PROPERTY LINES NOT SURVEYED.  
 3. PETROLEUM FUEL PROPERTY BASED ON AERIAL PHOTOGRAPHS.

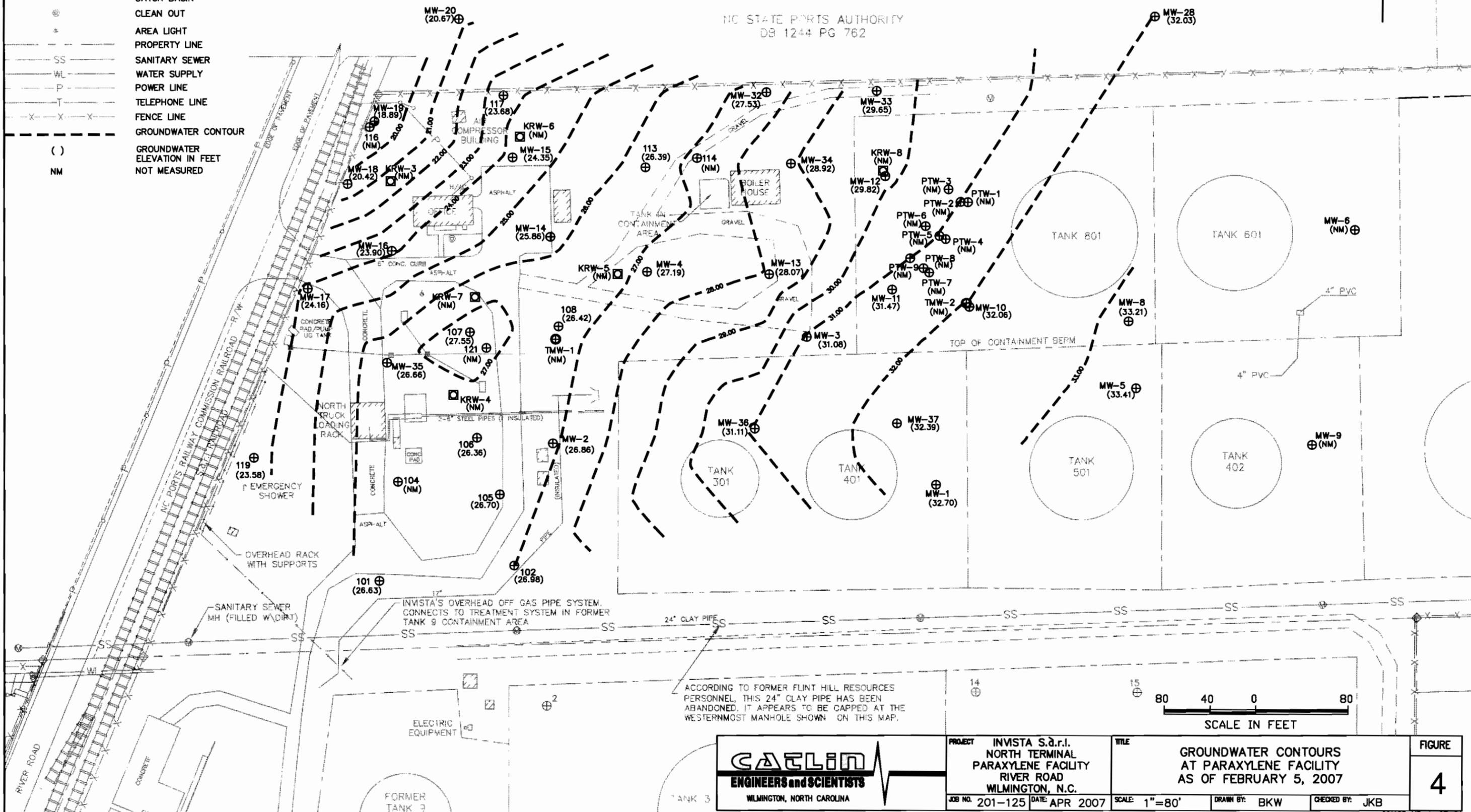
 <b>ENGINEERS and SCIENTISTS</b> WILMINGTON, NORTH CAROLINA	PROJECT INVISTA S.à.r.l. NORTH TERMINAL PARAXYLENE FACILITY RIVER ROAD WILMINGTON, N.C.	TITLE	FIGURE
	JOB NO. 201-125 DATE: APR 2007	SCALE: 1"=200' DRAWN BY: BKW CHECKED BY: JKB	SITE MAP 2



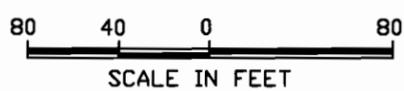
# LEGEND

EXISTING	NEW	DESCRIPTION
		BUILDING
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		FORMER RECOVERY WELL CONVERTED TO MONITORING WELL
		MANHOLE
		CATCH BASIN
		CLEAN OUT
		AREA LIGHT
		PROPERTY LINE
		SANITARY SEWER
		WATER SUPPLY
		POWER LINE
		TELEPHONE LINE
		FENCE LINE
		GROUNDWATER CONTOUR
		GROUNDWATER ELEVATION IN FEET
		NOT MEASURED

NOTE:  
 1. MAP PROVIDED BY ROBERT H. GOSLEE & ASSOCIATES, P.A. JULY 2004.  
 2. PROPERTY LINES NOT SURVEYED.  
 3. TYPE III MONITORING WELLS NOT CONSIDERED FOR CONTOURING.



NC STATE PORTS AUTHORITY  
 DB 1244 PG 762



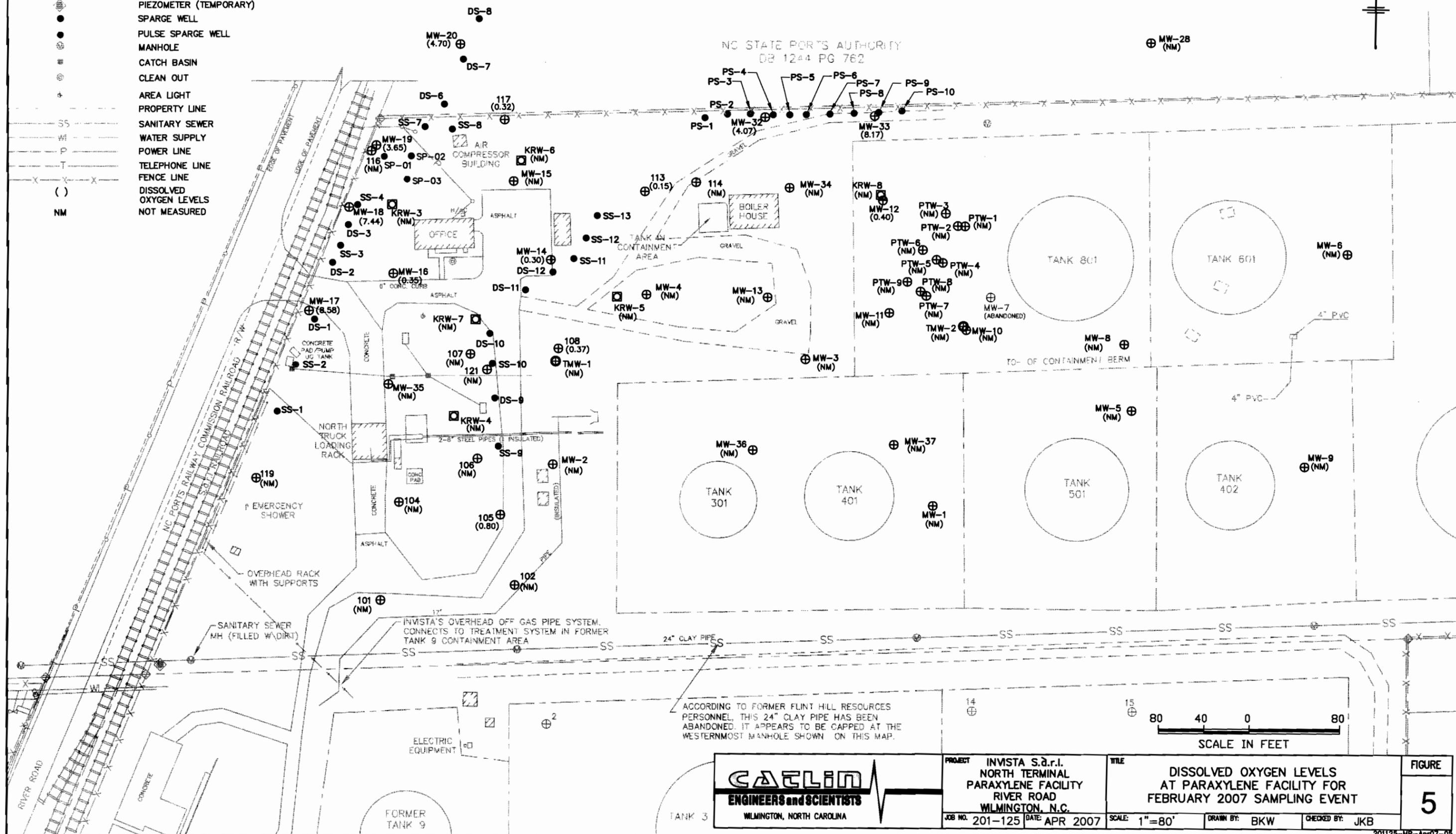
ACCORDING TO FORMER FLINT HILL RESOURCES PERSONNEL, THIS 24" CLAY PIPE HAS BEEN ABANDONED. IT APPEARS TO BE CAPPED AT THE WESTERNMOST MANHOLE SHOWN ON THIS MAP.

<p><b>CAELIN</b>          ENGINEERS and SCIENTISTS          WILMINGTON, NORTH CAROLINA</p>	PROJECT: INVSTA S.a.r.l. NORTH TERMINAL PARAXYLENE FACILITY RIVER ROAD WILMINGTON, N.C.	TITLE: GROUNDWATER CONTOURS AT PARAXYLENE FACILITY AS OF FEBRUARY 5, 2007	FIGURE: 4
	JOB NO: 201-125	DATE: APR 2007	SCALE: 1"=80'

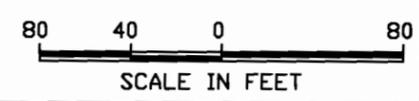
**LEGEND**

- | EXISTING | NEW | DESCRIPTION                                       |
|----------|-----|---|
|          |     | BUILDING  |
|          |     | TYPE II MONITORING WELL                           |
|          |     | TYPE III MONITORING WELL                          |
|          |     | FORMER RECOVERY WELL CONVERTED TO MONITORING WELL |
|          |     | PIEZOMETER (TEMPORARY)                            |
|          |     | SPARGE WELL                                       |
|          |     | PULSE SPARGE WELL                                 |
|          |     | MANHOLE   |
|          |     | CATCH BASIN                                       |
|          |     | CLEAN OUT   |
|          |     | AREA LIGHT  |
|          |     | PROPERTY LINE                                     |
|          |     | SANITARY SEWER                                    |
|          |     | WATER SUPPLY                                      |
|          |     | POWER LINE  |
|          |     | TELEPHONE LINE                                    |
|          |     | FENCE LINE  |
|          |     | DISSOLVED OXYGEN LEVELS                           |
|          |     | NOT MEASURED                                      |

NOTE:  
 1. MAP PROVIDED BY ROBERT H. GOSLEE & ASSOCIATES, P.A. JULY 2004.  
 2. PROPERTY LINES NOT SURVEYED.  
 3. ALL RESULTS IN mg/L.



ACCORDING TO FORMER FLINT HILL RESOURCES PERSONNEL, THIS 24" CLAY PIPE HAS BEEN ABANDONED. IT APPEARS TO BE CAPPED AT THE WESTERMOST MANHOLE SHOWN ON THIS MAP.

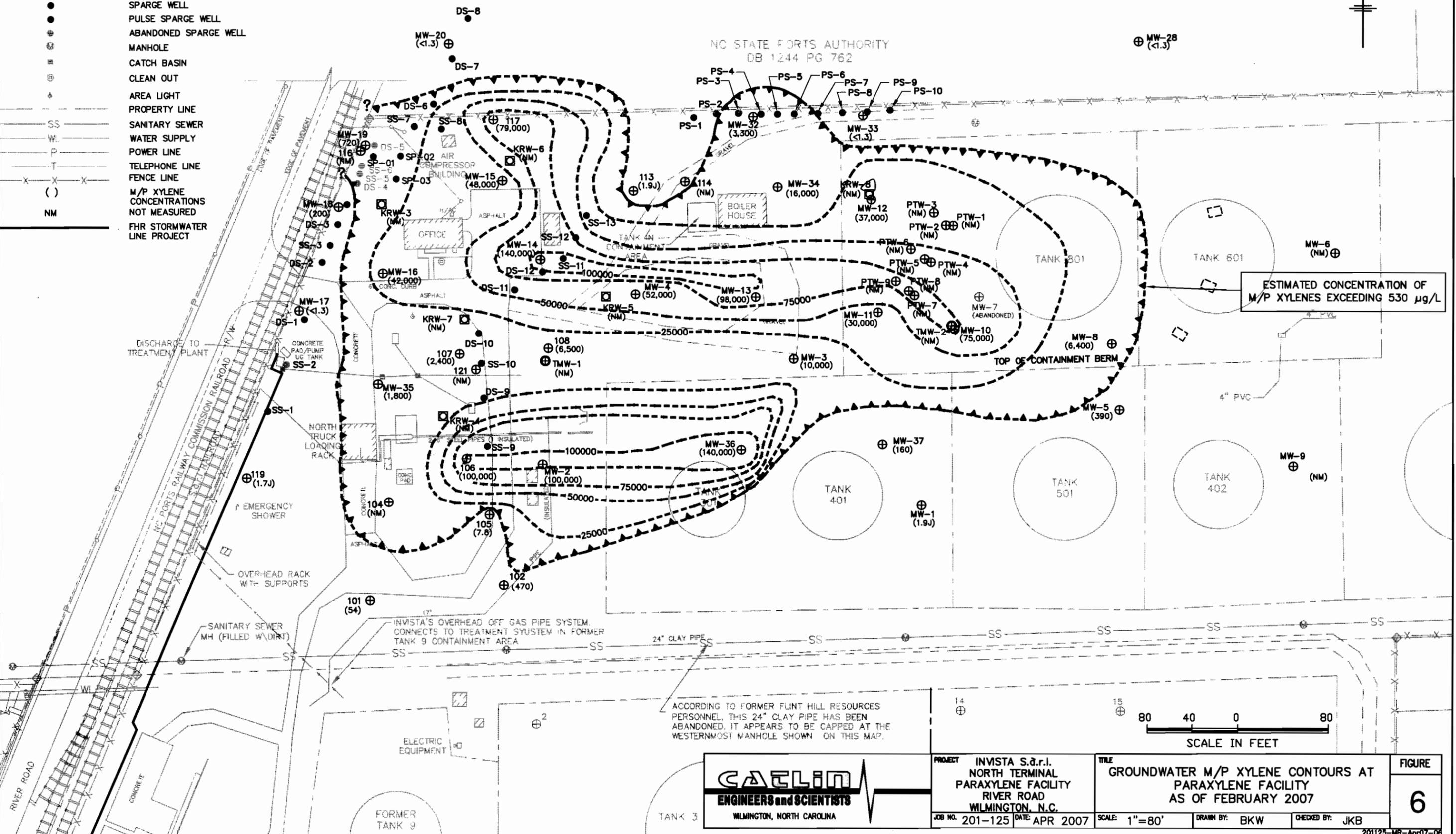


 WILMINGTON, NORTH CAROLINA	PROJECT INVSTA S.d.r.l. NORTH TERMINAL PARAXYLENE FACILITY RIVER ROAD WILMINGTON, N.C.	TITLE DISSOLVED OXYGEN LEVELS AT PARAXYLENE FACILITY FOR FEBRUARY 2007 SAMPLING EVENT	FIGURE 5
	JOB NO. 201-125 DATE APR 2007	SCALE: 1"=80'	DRAWN BY: BKW CHECKED BY: JKB

**LEGEND**

EXISTING	NEW	DESCRIPTION
		BUILDING
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		FORMER RECOVERY WELL CONVERTED TO MONITORING WELL
		SPARGE WELL
		PULSE SPARGE WELL
		ABANDONED SPARGE WELL
		MANHOLE
		CATCH BASIN
		CLEAN OUT
		AREA LIGHT
		PROPERTY LINE
		SANITARY SEWER
		WATER SUPPLY
		POWER LINE
		TELEPHONE LINE
		FENCE LINE
		M/P XYLENE CONCENTRATIONS NOT MEASURED
		FHR STORMWATER LINE PROJECT

**NOTE:**  
 1. MAP PROVIDED BY ROBERT H. GOSLEE & ASSOCIATES, P.A. JULY 2004.  
 2. PROPERTY LINES NOT SURVEYED.  
 3. ALL RESULTS IN  $\mu\text{g/L}$ .  
 4. CONTOURING BASED ON MOST RECENT DATA ILLUSTRATED FOR EACH MONITORING WELL.



ESTIMATED CONCENTRATION OF M/P XYLENES EXCEEDING 530  $\mu\text{g/L}$

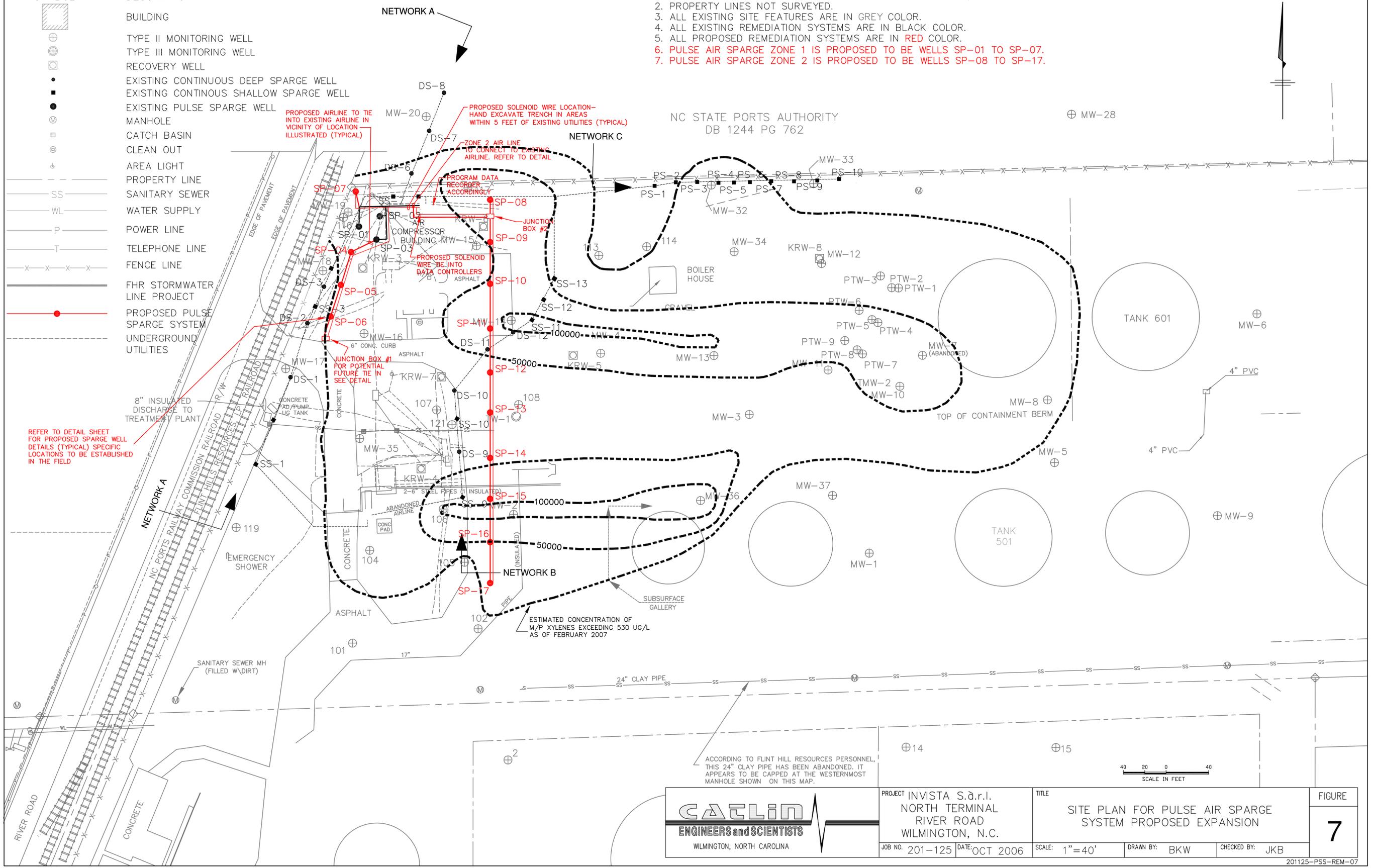
ACCORDING TO FORMER FLINT HILL RESOURCES PERSONNEL, THIS 24" CLAY PIPE HAS BEEN ABANDONED. IT APPEARS TO BE CAPPED AT THE WESTERMOST MANHOLE SHOWN ON THIS MAP.

<p><b>CAELIN</b>          ENGINEERS and SCIENTISTS          WILMINGTON, NORTH CAROLINA</p>	PROJECT INVISTA S.d.r.l. NORTH TERMINAL PARAXYLENE FACILITY RIVER ROAD WILMINGTON, N.C.	TITLE GROUNDWATER M/P XYLENE CONTOURS AT PARAXYLENE FACILITY AS OF FEBRUARY 2007	FIGURE 6
	JOB NO. 201-125 DATE APR 2007	SCALE: 1"=80'	DRAWN BY: BKW CHECKED BY: JKB

LEGEND

SYMBOL	DESCRIPTION
[Square]	BUILDING
⊕	TYPE II MONITORING WELL
⊕	TYPE III MONITORING WELL
⊕	RECOVERY WELL
•	EXISTING CONTINUOUS DEEP SPARGE WELL
■	EXISTING CONTINUOUS SHALLOW SPARGE WELL
●	EXISTING PULSE SPARGE WELL
⊙	MANHOLE
⊕	CATCH BASIN
⊙	CLEAN OUT
⊕	AREA LIGHT
---	PROPERTY LINE
SS	SANITARY SEWER
WL	WATER SUPPLY
P	POWER LINE
T	TELEPHONE LINE
-x-x-x-	FENCE LINE
---	FHR STORMWATER LINE PROJECT
---	PROPOSED PULSE SPARGE SYSTEM
---	UNDERGROUND UTILITIES

- NOTE:
1. BASE MAP PROVIDED BY ROBERT H. GOSLEE & ASSOCIATES, P.A. JULY 2004.
  2. PROPERTY LINES NOT SURVEYED.
  3. ALL EXISTING SITE FEATURES ARE IN GREY COLOR.
  4. ALL EXISTING REMEDIATION SYSTEMS ARE IN BLACK COLOR.
  5. ALL PROPOSED REMEDIATION SYSTEMS ARE IN RED COLOR.
  6. PULSE AIR SPARGE ZONE 1 IS PROPOSED TO BE WELLS SP-01 TO SP-07.
  7. PULSE AIR SPARGE ZONE 2 IS PROPOSED TO BE WELLS SP-08 TO SP-17.



**CAELIN**  
ENGINEERS and SCIENTISTS  
WILMINGTON, NORTH CAROLINA

PROJECT INVISTA S.d.r.l.  
NORTH TERMINAL  
RIVER ROAD  
WILMINGTON, N.C.

TITLE  
SITE PLAN FOR PULSE AIR SPARGE  
SYSTEM PROPOSED EXPANSION

SCALE: 1" = 40'  
DRAWN BY: BKW  
CHECKED BY: JKB

FIGURE  
**7**

## **APPENDICES**

**APPENDIX A**

**GROUNDWATER ANALYTICAL LABORATORY REPORTS AND CHAIN OF  
CUSTODY RECORDS**



# STL

## ANALYTICAL REPORT

Job Number: 680-24237-1

Job Description: Invista North PX Terminal (201-125)

For:  
Catlin Engineers and Scientists  
220 Old Dairy Road  
Wilmington, NC 28405

Attention: Mr. Jeff Becken

---

Kathryn Smith  
Project Manager I  
kesmith@stl-inc.com  
02/27/2007

Project Manager: Kathryn Smith

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

**Severn Trent Laboratories, Inc.**

STL Savannah 5102 LaRoche Avenue, Savannah, GA 31404  
Tel (912) 354-7858 Fax (912) 351-3673 www.stl-inc.com



## METHOD SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Description	Lab Location	Method	Preparation Method
<b>Matrix:</b> Water			
Volatile Organic Compounds by GC/MS	STL SAV	SW846 8260B	
Purge-and-Trap	STL SAV		SW846 5030B

### LAB REFERENCES:

STL SAV = STL Savannah

### METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986  
And Its Updates.

## SAMPLE SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-24237-1	101	Water	02/08/2007 1520	02/13/2007 1000
680-24237-2	102	Water	02/08/2007 1600	02/13/2007 1000
680-24237-3	105	Water	02/08/2007 0830	02/13/2007 1000
680-24237-4	106	Water	02/08/2007 1615	02/13/2007 1000
680-24237-5	107	Water	02/08/2007 1500	02/13/2007 1000
680-24237-6	108	Water	02/08/2007 1100	02/13/2007 1000
680-24237-7	113	Water	02/08/2007 1115	02/13/2007 1000
680-24237-8	117	Water	02/08/2007 1015	02/13/2007 1000
680-24237-9	119	Water	02/08/2007 1320	02/13/2007 1000
680-24237-10	MW-1	Water	02/09/2007 1020	02/13/2007 1000
680-24237-11	MW-2	Water	02/08/2007 1400	02/13/2007 1000
680-24237-12	MW-3	Water	02/08/2007 1010	02/13/2007 1000
680-24237-13	MW-4	Water	02/08/2007 1115	02/13/2007 1000
680-24237-14	MW-5	Water	02/08/2007 0915	02/13/2007 1000
680-24237-15	MW-8	Water	02/08/2007 0845	02/13/2007 1000
680-24237-16	MW-10	Water	02/09/2007 1015	02/13/2007 1000
680-24237-17	MW-11	Water	02/08/2007 1000	02/13/2007 1000
680-24237-18	MW-12	Water	02/08/2007 1315	02/13/2007 1000
680-24237-19	MW-13	Water	02/08/2007 1030	02/13/2007 1000
680-24237-20	MW-14	Water	02/08/2007 1030	02/13/2007 1000
680-24237-21	MW-15	Water	02/08/2007 1430	02/13/2007 1000
680-24237-22	MW-16	Water	02/08/2007 0930	02/13/2007 1000
680-24237-23	MW-17	Water	02/08/2007 0900	02/13/2007 1000
680-24237-24	MW-18	Water	02/08/2007 0945	02/13/2007 1000
680-24237-25	MW-19	Water	02/08/2007 1000	02/13/2007 1000
680-24237-26	MW-20	Water	02/08/2007 1330	02/13/2007 1000
680-24237-27	MW-28	Water	02/08/2007 1400	02/13/2007 1000
680-24237-28	MW-32	Water	02/08/2007 1230	02/13/2007 1000
680-24237-29	MW-33	Water	02/08/2007 1245	02/13/2007 1000
680-24237-30	MW-34	Water	02/08/2007 1045	02/13/2007 1000
680-24237-31	MW-35	Water	02/08/2007 1345	02/13/2007 1000
680-24237-32	MW-36	Water	02/08/2007 1530	02/13/2007 1000
680-24237-33	MW-37	Water	02/09/2007 1000	02/13/2007 1000
680-24237-34TB	Trip Blank	Water	02/09/2007 0000	02/13/2007 1000

### Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 101

Lab Sample ID: 680-24237-1

Client Matrix: Water

Date Sampled: 02/08/2007 1520

Date Received: 02/13/2007 1000

---

#### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2245.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 1832

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 1832

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	54		1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	94		77 - 120	
Dibromofluoromethane	97		75 - 123	
Toluene-d8 (Surr)	96		79 - 122	

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 101

Lab Sample ID: 680-24237-1

Client Matrix: Water

Date Sampled: 02/08/2007 1520

Date Received: 02/13/2007 1000

---

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2269.d

Dilution: 5.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1336

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1336

---

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	560		2.3	50

---

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 102

Lab Sample ID: 680-24237-2

Client Matrix: Water

Date Sampled: 02/08/2007 1600

Date Received: 02/13/2007 1000

---

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2270.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1356

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1356

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	48		0.45	10
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	93		77 - 120	
Dibromofluoromethane	91		75 - 123	
Toluene-d8 (Surr)	95		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 102

Lab Sample ID: 680-24237-2

Client Matrix: Water

Date Sampled: 02/08/2007 1600

Date Received: 02/13/2007 1000

---

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68083

Instrument ID: GC/MS Volatiles - O C2

Preparation: 5030B

Lab File ID: o5009.d

Dilution: 2.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1636

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1636

---

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	470		2.6	4.0

---

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 105

Lab Sample ID: 680-24237-3

Client Matrix: Water

Date Sampled: 02/08/2007 0830

Date Received: 02/13/2007 1000

---

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68083

Instrument ID: GC/MS Volatiles - O C2

Preparation: 5030B

Lab File ID: o5007.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1607

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1607

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	7.8		1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	103		77 - 120	
Dibromofluoromethane	114		75 - 123	
Toluene-d8 (Surr)	90		79 - 122	

# Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 106

Lab Sample ID: 680-24237-4

Client Matrix: Water

Date Sampled: 02/08/2007 1615

Date Received: 02/13/2007 1000

## 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2248.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 1931

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 1931

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	106		77 - 120	
Dibromofluoromethane	94		75 - 123	
Toluene-d8 (Surr)	96		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 106

Lab Sample ID: 680-24237-4

Client Matrix: Water

Date Sampled: 02/08/2007 1615

Date Received: 02/13/2007 1000

---

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2272.d

Dilution: 5000

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1435

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1435

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	100000		6500	10000

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 107

Lab Sample ID: 680-24237-5

Client Matrix: Water

Date Sampled: 02/08/2007 1500

Date Received: 02/13/2007 1000

---

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2249.d

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 1951

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 1951

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	23	U	23	500
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	98		77 - 120	
Dibromofluoromethane	94		75 - 123	
Toluene-d8 (Surr)	95		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 107

Lab Sample ID: 680-24237-5

Client Matrix: Water

Date Sampled: 02/08/2007 1500

Date Received: 02/13/2007 1000

---

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2273.d

Dilution: 200

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1455

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1455

---

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	2400		260	400

---

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 108

Lab Sample ID: 680-24237-6

Client Matrix: Water

Date Sampled: 02/08/2007 1100

Date Received: 02/13/2007 1000

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2250.d

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 2010

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 2010

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	23	U	23	500
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	97		77 - 120	
Dibromofluoromethane	94		75 - 123	
Toluene-d8 (Surr)	96		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 108

Lab Sample ID: 680-24237-6

Client Matrix: Water

Date Sampled: 02/08/2007 1100

Date Received: 02/13/2007 1000

---

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2274.d

Dilution: 250

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1514

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1514

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	6500		330	500

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 113

Lab Sample ID: 680-24237-7

Date Sampled: 02/08/2007 1115

Client Matrix: Water

Date Received: 02/13/2007 1000

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2275.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1534

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1534

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.9	J	1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	97		77 - 120	
Dibromofluoromethane	87		75 - 123	
Toluene-d8 (Surr)	100		79 - 122	

# Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 117

Lab Sample ID: 680-24237-8

Client Matrix: Water

Date Sampled: 02/08/2007 1015

Date Received: 02/13/2007 1000

## 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2252.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 2049

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 2049

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
Surrogate	%Rec			Acceptance Limits
4-Bromofluorobenzene	103			77 - 120
Dibromofluoromethane	94			75 - 123
Toluene-d8 (Surr)	95			79 - 122

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 117

Lab Sample ID: 680-24237-8

Client Matrix: Water

Date Sampled: 02/08/2007 1015

Date Received: 02/13/2007 1000

---

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2276.d

Dilution: 5000

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1553

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1553

---

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	79000		6500	10000

---

### Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: 119

Lab Sample ID: 680-24237-9

Date Sampled: 02/08/2007 1320

Client Matrix: Water

Date Received: 02/13/2007 1000

---

#### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2277.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1613

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1613

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	6.4	J	0.45	10
m-Xylene & p-Xylene	1.7	J	1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	97		77 - 120	
Dibromofluoromethane	88		75 - 123	
Toluene-d8 (Surr)	97		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-1

Lab Sample ID: 680-24237-10

Client Matrix: Water

Date Sampled: 02/09/2007 1020

Date Received: 02/13/2007 1000

---

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2268.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1316

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1316

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.9	J	1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	91		77 - 120	
Dibromofluoromethane	94		75 - 123	
Toluene-d8 (Surr)	96		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-2

Lab Sample ID: 680-24237-11

Client Matrix: Water

Date Sampled: 02/08/2007 1400

Date Received: 02/13/2007 1000

---

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2255.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 2148

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 2148

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	102		77 - 120	
Dibromofluoromethane	96		75 - 123	
Toluene-d8 (Surr)	96		79 - 122	

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-2

Lab Sample ID: 680-24237-11

Client Matrix: Water

Date Sampled: 02/08/2007 1400

Date Received: 02/13/2007 1000

---

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2278.d

Dilution: 5000

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1633

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1633

---

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	100000		6500	10000

---

### Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-3

Lab Sample ID: 680-24237-12

Client Matrix: Water

Date Sampled: 02/08/2007 1010

Date Received: 02/13/2007 1000

---

#### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2256.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 2208

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 2208

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	97		77 - 120	
Dibromofluoromethane	97		75 - 123	
Toluene-d8 (Surr)	95		79 - 122	

### Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-3

Lab Sample ID: 680-24237-12

Date Sampled: 02/08/2007 1010

Client Matrix: Water

Date Received: 02/13/2007 1000

---

#### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2279.d

Dilution: 500

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1652

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1652

---

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	10000		650	1000

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-4

Lab Sample ID: 680-24237-13

Date Sampled: 02/08/2007 1115

Client Matrix: Water

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2257.d

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 2228

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 2228

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	23	U	23	500
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	97		77 - 120	
Dibromofluoromethane	94		75 - 123	
Toluene-d8 (Surr)	97		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-4

Lab Sample ID: 680-24237-13

Client Matrix: Water

Date Sampled: 02/08/2007 1115

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68079

Instrument ID: GC/MS Volatiles - O

Preparation: 5030B

Lab File ID: o5002.d

Dilution: 200

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1449

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1449

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Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	52000		260	400

---

# Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-5

Lab Sample ID: 680-24237-14

Client Matrix: Water

Date Sampled: 02/08/2007 0915

Date Received: 02/13/2007 1000

## 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2281.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1732

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1732

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	390		1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	98		77 - 120	
Dibromofluoromethane	87		75 - 123	
Toluene-d8 (Surr)	99		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-8

Lab Sample ID: 680-24237-15

Date Sampled: 02/08/2007 0845

Client Matrix: Water

Date Received: 02/13/2007 1000

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2259.d

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 2307

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 2307

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	9.0	U	9.0	200
m-Xylene & p-Xylene	6400		26	40
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	92		77 - 120	
Dibromofluoromethane	90		75 - 123	
Toluene-d8 (Surr)	97		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-10

Lab Sample ID: 680-24237-16

Client Matrix: Water

Date Sampled: 02/09/2007 1015

Date Received: 02/13/2007 1000

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2260.d

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 02/20/2007 2326

Final Weight/Volume: 5 mL

Date Prepared: 02/20/2007 2326

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	9.0	U	9.0	200
Surrogate	%Rec			Acceptance Limits
4-Bromofluorobenzene	95			77 - 120
Dibromofluoromethane	94			75 - 123
Toluene-d8 (Surr)	96			79 - 122

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-10

Lab Sample ID: 680-24237-16

Date Sampled: 02/09/2007 1015

Client Matrix: Water

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2282.d

Dilution: 250

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1751

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1751

---

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	75000		330	500

---

# Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-11

Lab Sample ID: 680-24237-17

Client Matrix: Water

Date Sampled: 02/08/2007 1000

Date Received: 02/13/2007 1000

## 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2283.d

Dilution: 100

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1811

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1811

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	45	U	45	1000
m-Xylene & p-Xylene	30000		130	200
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	98		77 - 120	
Dibromofluoromethane	87		75 - 123	
Toluene-d8 (Surr)	98		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-12

Lab Sample ID: 680-24237-18

Client Matrix: Water

Date Sampled: 02/08/2007 1315

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2262.d

Dilution: 100

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 0006

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 0006

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	45	U	45	1000
m-Xylene & p-Xylene	37000		130	200
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	95		77 - 120	
Dibromofluoromethane	91		75 - 123	
Toluene-d8 (Surr)	97		79 - 122	

# Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-13

Lab Sample ID: 680-24237-19

Client Matrix: Water

Date Sampled: 02/08/2007 1030

Date Received: 02/13/2007 1000

## 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2263.d

Dilution: 100

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 0025

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 0025

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	45	U	45	1000
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	95		77 - 120	
Dibromofluoromethane	92		75 - 123	
Toluene-d8 (Surr)	97		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-13

Lab Sample ID: 680-24237-19

Client Matrix: Water

Date Sampled: 02/08/2007 1030

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2284.d

Dilution: 500

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1831

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1831

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Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	98000		650	1000

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## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-14

Lab Sample ID: 680-24237-20

Client Matrix: Water

Date Sampled: 02/08/2007 1030

Date Received: 02/13/2007 1000

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-67998

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2264.d

Dilution: 100

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 0045

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 0045

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	45	U	45	1000
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	97		77 - 120	
Dibromofluoromethane	92		75 - 123	
Toluene-d8 (Surr)	95		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-14

Lab Sample ID: 680-24237-20

Client Matrix: Water

Date Sampled: 02/08/2007 1030

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2285.d

Dilution: 1000

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1850

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1850

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Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	140000		1300	2000

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**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-15

Lab Sample ID: 680-24237-21

Client Matrix: Water

Date Sampled: 02/08/2007 1430

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2286.d

Dilution: 200

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1910

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1910

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	90	U	90	2000
m-Xylene & p-Xylene	48000		260	400
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	97		77 - 120	
Dibromofluoromethane	87		75 - 123	
Toluene-d8 (Surr)	98		79 - 122	

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-16

Lab Sample ID: 680-24237-22

Date Sampled: 02/08/2007 0930

Client Matrix: Water

Date Received: 02/13/2007 1000

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### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2287.d

Dilution: 250

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1930

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1930

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	110	U	110	2500
m-Xylene & p-Xylene	42000		330	500
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	96		77 - 120	
Dibromofluoromethane	90		75 - 123	
Toluene-d8 (Surr)	99		79 - 122	

### Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-17

Lab Sample ID: 680-24237-23

Date Sampled: 02/08/2007 0900

Client Matrix: Water

Date Received: 02/13/2007 1000

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#### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68078

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2288.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1949

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1949

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	95		77 - 120	
Dibromofluoromethane	89		75 - 123	
Toluene-d8 (Surr)	99		79 - 122	

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-18

Lab Sample ID: 680-24237-24

Client Matrix: Water

Date Sampled: 02/08/2007 0945

Date Received: 02/13/2007 1000

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68083

Instrument ID: GC/MS Volatiles - O C2

Preparation: 5030B

Lab File ID: o4994.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1308

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1308

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	200		1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	105		77 - 120	
Dibromofluoromethane	112		75 - 123	
Toluene-d8 (Surr)	94		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-19

Lab Sample ID: 680-24237-25

Date Sampled: 02/08/2007 1000

Client Matrix: Water

Date Received: 02/13/2007 1000

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68083

Instrument ID: GC/MS Volatiles - O C2

Preparation: 5030B

Lab File ID: o4996.d

Dilution: 5.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1337

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1337

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	2.3	U	2.3	50
m-Xylene & p-Xylene	720		6.5	10
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	105		77 - 120	
Dibromofluoromethane	112		75 - 123	
Toluene-d8 (Surr)	94		79 - 122	

# Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-20

Lab Sample ID: 680-24237-26

Client Matrix: Water

Date Sampled: 02/08/2007 1330

Date Received: 02/13/2007 1000

## 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68079

Instrument ID: GC/MS Volatiles - O

Preparation: 5030B

Lab File ID: o4991.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1225

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1225

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	105		77 - 120	
Dibromofluoromethane	113		75 - 123	
Toluene-d8 (Surr)	94		79 - 122	

### Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-28

Lab Sample ID: 680-24237-27

Client Matrix: Water

Date Sampled: 02/08/2007 1400

Date Received: 02/13/2007 1000

#### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68079

Instrument ID: GC/MS Volatiles - O

Preparation: 5030B

Lab File ID: o4993.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1254

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1254

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	107		77 - 120	
Dibromofluoromethane	113		75 - 123	
Toluene-d8 (Surr)	93		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-32

Lab Sample ID: 680-24237-28

Date Sampled: 02/08/2007 1230

Client Matrix: Water

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68079

Instrument ID: GC/MS Volatiles - O

Preparation: 5030B

Lab File ID: o4995.d

Dilution: 20

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1323

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1323

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	9.0	U	9.0	200
m-Xylene & p-Xylene	3300		26	40
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	104		77 - 120	
Dibromofluoromethane	110		75 - 123	
Toluene-d8 (Surr)	95		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-33

Lab Sample ID: 680-24237-29

Date Sampled: 02/08/2007 1245

Client Matrix: Water

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68083

Instrument ID: GC/MS Volatiles - O C2

Preparation: 5030B

Lab File ID: o4990.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1211

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1211

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	104		77 - 120	
Dibromofluoromethane	113		75 - 123	
Toluene-d8 (Surr)	91		79 - 122	

### Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-34

Lab Sample ID: 680-24237-30

Client Matrix: Water

Date Sampled: 02/08/2007 1045

Date Received: 02/13/2007 1000

#### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68079

Instrument ID: GC/MS Volatiles - O

Preparation: 5030B

Lab File ID: o4997.d

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1351

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1351

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	23	U	23	500
m-Xylene & p-Xylene	16000		65	100
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	107		77 - 120	
Dibromofluoromethane	111		75 - 123	
Toluene-d8 (Surr)	94		79 - 122	

# Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-35

Lab Sample ID: 680-24237-31

Date Sampled: 02/08/2007 1345

Client Matrix: Water

Date Received: 02/13/2007 1000

## 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68083

Instrument ID: GC/MS Volatiles - O C2

Preparation: 5030B

Lab File ID: o4999.d

Dilution: 10

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1406

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1406

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	22	J	4.5	100
m-Xylene & p-Xylene	1800		13	20
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	102		77 - 120	
Dibromofluoromethane	111		75 - 123	
Toluene-d8 (Surr)	92		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-36

Lab Sample ID: 680-24237-32

Client Matrix: Water

Date Sampled: 02/08/2007 1530

Date Received: 02/13/2007 1000

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-67988

Instrument ID: GC/MS Volatiles - O

Preparation: 5030B

Lab File ID: o4979.d

Dilution: 200

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1731

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1731

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	90	U	90	2000
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	108		77 - 120	
Dibromofluoromethane	108		75 - 123	
Toluene-d8 (Surr)	95		79 - 122	

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-36

Lab Sample ID: 680-24237-32

Client Matrix: Water

Date Sampled: 02/08/2007 1530

Date Received: 02/13/2007 1000

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**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-68079

Instrument ID: GC/MS Volatiles - O

Preparation: 5030B

Lab File ID: o5000.d

Dilution: 400

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1420

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1420

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Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	140000		520	800

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## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: MW-37

Lab Sample ID: 680-24237-33

Date Sampled: 02/09/2007 1000

Client Matrix: Water

Date Received: 02/13/2007 1000

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-68083

Instrument ID: GC/MS Volatiles - O C2

Preparation: 5030B

Lab File ID: o4992.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/22/2007 1239

Final Weight/Volume: 5 mL

Date Prepared: 02/22/2007 1239

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	160		1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	103		77 - 120	
Dibromofluoromethane	112		75 - 123	
Toluene-d8 (Surr)	95		79 - 122	

### Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Client Sample ID: Trip Blank

Lab Sample ID: 680-24237-34TB

Date Sampled: 02/09/2007 0000

Client Matrix: Water

Date Received: 02/13/2007 1000

#### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-67988

Instrument ID: GC/MS Volatiles - O

Preparation: 5030B

Lab File ID: o4985.d

Dilution: 1.0

Initial Weight/Volume: 5 mL

Date Analyzed: 02/21/2007 1857

Final Weight/Volume: 5 mL

Date Prepared: 02/21/2007 1857

Analyte	Result (ug/L)	Qualifier	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	106		77 - 120	
Dibromofluoromethane	115		75 - 123	
Toluene-d8 (Surr)	93		79 - 122	

## DATA REPORTING QUALIFIERS

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

**Method Blank - Batch: 680-67988**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: MB 680-67988/11  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/21/2007 1102  
Date Prepared: 02/21/2007 1102

Analysis Batch: 680-67988  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - O  
Lab File ID: oq411.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	111	77 - 120
Dibromofluoromethane	110	75 - 123
Toluene-d8 (Surr)	92	79 - 122

**Lab Control Spike - Batch: 680-67988**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: LCS 680-67988/8  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/21/2007 0918  
Date Prepared: 02/21/2007 0918

Analysis Batch: 680-67988  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - O  
Lab File ID: oq405.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Methyl tert-butyl ether	100	105	105	70 - 130	
m-Xylene & p-Xylene	100	108	108	74 - 123	

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	101	77 - 120
Dibromofluoromethane	118	75 - 123
Toluene-d8 (Surr)	96	79 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.

**Quality Control Results**

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

**Method Blank - Batch: 680-67998**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: MB 680-67998/7  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/20/2007 1812  
Date Prepared: 02/20/2007 1812

Analysis Batch: 680-67998  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq790.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	95	77 - 120
Dibromofluoromethane	96	75 - 123
Toluene-d8 (Surr)	95	79 - 122

**Lab Control Spike - Batch: 680-67998**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: LCS 680-67998/5  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/20/2007 1612  
Date Prepared: 02/20/2007 1612

Analysis Batch: 680-67998  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq788.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Methyl tert-butyl ether	100	101	101	70 - 130	
m-Xylene & p-Xylene	100	101	101	74 - 123	

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	95	77 - 120
Dibromofluoromethane	96	75 - 123
Toluene-d8 (Surr)	95	79 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

**Method Blank - Batch: 680-68078**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: MB 680-68078/10  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/21/2007 1244  
Date Prepared: 02/21/2007 1244

Analysis Batch: 680-68078  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq799.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	95	77 - 120
Dibromofluoromethane	94	75 - 123
Toluene-d8 (Surr)	97	79 - 122

**Lab Control Spike - Batch: 680-68078**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: LCS 680-68078/9  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/21/2007 1013  
Date Prepared: 02/21/2007 1013

Analysis Batch: 680-68078  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq793.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Methyl tert-butyl ether	100	103	103	70 - 130	
m-Xylene & p-Xylene	100	100	100	74 - 123	

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	91	77 - 120
Dibromofluoromethane	93	75 - 123
Toluene-d8 (Surr)	97	79 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

**Method Blank - Batch: 680-68079**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: MB 680-68079/9  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/22/2007 1109  
Date Prepared: 02/22/2007 1109

Analysis Batch: 680-68079  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - O  
Lab File ID: oq421.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	109	77 - 120
Dibromofluoromethane	113	75 - 123
Toluene-d8 (Surr)	95	79 - 122

**Lab Control Spike - Batch: 680-68079**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: LCS 680-68079/6  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/22/2007 0930  
Date Prepared: 02/22/2007 0930

Analysis Batch: 680-68079  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - O  
Lab File ID: oq415.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Methyl tert-butyl ether	100	106	106	70 - 130	
m-Xylene & p-Xylene	100	111	111	74 - 123	

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	107	77 - 120
Dibromofluoromethane	121	75 - 123
Toluene-d8 (Surr)	97	79 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-24237-1

**Method Blank - Batch: 680-68083**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: MB 680-68083/8  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/22/2007 1124  
Date Prepared: 02/22/2007 1124

Analysis Batch: 680-68083  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - O C2  
Lab File ID: oq422.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	107	77 - 120
Dibromofluoromethane	115	75 - 123
Toluene-d8 (Surr)	93	79 - 122

**Lab Control Spike - Batch: 680-68083**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: LCS 680-68083/5  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/22/2007 0945  
Date Prepared: 02/22/2007 0945

Analysis Batch: 680-68083  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - O C2  
Lab File ID: oq416.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Methyl tert-butyl ether	100	104	104	70 - 130	
m-Xylene & p-Xylene	100	110	110	74 - 123	

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	103	77 - 120
Dibromofluoromethane	117	75 - 123
Toluene-d8 (Surr)	98	79 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.



ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

**SEVERN  
TRENT** **STL**

**STL Savannah**  
5102 LaRoche Avenue  
Savannah, GA 31404

Website: www.st-inc.com  
Phone: (912) 354-7858  
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:  
Fax:

PROJECT REFERENCE <i>Lanista - Pa. Ability</i>	PROJECT NO. <i>201-125</i>	PROJECT LOCATION (STATE) <i>NC</i>	MATRIX TYPE	REQUIRED ANALYSIS	PAGE <i>2</i> OF <i>3</i>		
STL (LAB) PROJECT MANAGER <i>Kathy Smith</i>	P.O. NUMBER	CONTRACT NO.	COMPOSITE (C) OR GRAB (G) INDICATE AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (OIL, SOLVENT, ...) <i>NC pp xylenes &amp; MTBE per 82603</i>	STANDARD REPORT DELIVERY <input checked="" type="checkbox"/>	DATE DUE		
CLIENT (SITE) PM <i>Jeff Becken</i>	CLIENT PHONE <i>910 452 5861</i>	CLIENT FAX <i>910 452 7563</i>				EXPEDITED REPORT DELIVERY (SURCHARGE) <input type="checkbox"/>	DATE DUE
CLIENT NAME <i>Catlin Eng. &amp; Sci.</i>	CLIENT E-MAIL <i>j.becken@catlinusa.com</i>					NUMBER OF COOLERS SUBMITTED PER SHIPMENT:	
CLIENT ADDRESS <i>200 Old Dairy Rd. Wilmington NC 28409</i>							
COMPANY CONTRACTING THIS WORK (if applicable) <i>Reiss Remediations</i>							

SAMPLE		SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED												REMARKS
DATE	TIME							1	2	3	4	5	6	7	8	9	10	11	12	
<i>2/8/07</i>	<i>1115</i>	<i>MW-4</i>	<input checked="" type="checkbox"/>																	
	<i>915</i>	<i>MW-5</i>	<input checked="" type="checkbox"/>																	<i>* See Kathy Smith for COC</i>
	<i>845</i>	<i>MW-8</i>	<input checked="" type="checkbox"/>																	
<i>2/9/07</i>	<i>1015</i>	<i>MW-10</i>	<input checked="" type="checkbox"/>																	
<i>2/8/07</i>	<i>1000</i>	<i>MW-11</i>	<input checked="" type="checkbox"/>																	
	<i>1315</i>	<i>MW-12</i>	<input checked="" type="checkbox"/>																	
	<i>1030</i>	<i>MW-13</i>	<input checked="" type="checkbox"/>																	
	<i>1030</i>	<i>MW-14</i>	<input checked="" type="checkbox"/>																	
	<i>1430</i>	<i>MW-15</i>	<input checked="" type="checkbox"/>																	
	<i>930</i>	<i>MW-16</i>	<input checked="" type="checkbox"/>																	
	<i>900</i>	<i>MW-17</i>	<input checked="" type="checkbox"/>																	
	<i>945</i>	<i>MW-18</i>	<input checked="" type="checkbox"/>																	

TEMP.: *0.6*

RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>[Signature]</i>	DATE <i>2/13/07</i>	TIME <i>10:00</i>	CUSTODY INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	CUSTODY SEAL NO. <i>60-21237</i>	STL SAVANNAH LOG NO.	LABORATORY REMARKS
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A.W. GREENWOOD ASSOCIATES (215) 441-4224

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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

**SEVERN  
TRENT** **STL**

**STL Savannah**  
5102 LaRoche Avenue  
Savannah, GA 31404

Website: www.stl-inc.com  
Phone: (912) 354-7858  
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:  
Fax:

PROJECT REFERENCE <i>Lariste - Pe facility</i>	PROJECT NO. <i>701-125</i>	PROJECT LOCATION (STATE) <i>NC</i>	MATRIX TYPE	REQUIRED ANALYSIS	PAGE <i>3</i> OF <i>3</i>
STL (LAB) PROJECT MANAGER <i>Kathy Smith</i>	P.O. NUMBER	CONTRACT NO.	COMPOSITE (C) OR GRAB (G) INDICATE AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	ALL <i>mp systems +</i> <i>mp BE per 5260B</i>	STANDARD REPORT DELIVERY <input checked="" type="checkbox"/>
CLIENT (SITE) PM <i>Jeff Becker</i>	CLIENT PHONE <i>9104525861</i>	CLIENT FAX <i>7104527563</i>			DATE DUE _____
CLIENT NAME <i>Cablin Eng. &amp; Sci</i>	CLIENT E-MAIL <i>j.becker@cathusa.com</i>				EXPEDITED REPORT DELIVERY (SURCHARGE) <input type="checkbox"/>
CLIENT ADDRESS <i>220 Old Dairy Rd Wilmington NC 28409</i>					DATE DUE _____
COMPANY CONTRACTING THIS WORK (if applicable) <i>Keiss Remediation</i>					NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE		SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED				REMARKS
DATE	TIME							1	2	3	4	
<i>2/8/07</i>	<i>1000</i>	<i>MW-19</i>	<input checked="" type="checkbox"/>					<i>3</i>				
	<i>1330</i>	<i>MW-20</i>	<input checked="" type="checkbox"/>									
	<i>1400</i>	<i>MW-28</i>	<input checked="" type="checkbox"/>									
	<i>1230</i>	<i>MW-32</i>	<input checked="" type="checkbox"/>									
	<i>1245</i>	<i>MW-33</i>	<input checked="" type="checkbox"/>									
	<i>1045</i>	<i>MW-34</i>	<input checked="" type="checkbox"/>									
	<i>1345</i>	<i>MW-35</i>	<input checked="" type="checkbox"/>									
	<i>1530</i>	<i>MW-36</i>	<input checked="" type="checkbox"/>									
<i>2/9/07</i>	<i>1000</i>	<i>MW-37</i>	<input checked="" type="checkbox"/>									
		<i>Trip Blank</i>	<input checked="" type="checkbox"/>					<i>3</i>				

*\* See Kathy Smith for COC's*

TEMP.: *1.6*

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RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>[Signature]</i>	DATE <i>2/13/07</i>	TIME <i>10:00</i>	CUSTODY INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	CUSTODY SEAL NO.	STL SAVANNAH LOG NO. <i>68-24237</i>	LABORATORY REMARKS
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**ANALYTICAL REPORT**

Job Number: 680-23190-1

Job Description: Invista North PX Terminal (201-125)

For:  
Catlin Engineers and Scientists  
220 Old Dairy Road  
Wilmington, NC 28405

Attention: Mr. Jeff Becken

*Kathryn Smith*

---

Kathryn Smith  
Project Manager I  
kesmith@stl-inc.com  
01/11/2007

Project Manager: Kathryn Smith

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.



## METHOD SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-23190-1

Description	Lab Location	Method	Preparation Method
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**Matrix:** Water

Volatile Organic Compounds by GC/MS	STL SAV	SW846 8260B	
Purge-and-Trap	STL SAV		SW846 5030B

### LAB REFERENCES:

STL SAV = STL Savannah

### METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986  
And Its Updates.

## SAMPLE SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-23190-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
680-23190-1	MW-19	Water	12/29/2006 1230	01/03/2007 1012

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-23190-1

Client Sample ID: MW-19

Lab Sample ID: 680-23190-1

Client Matrix: Water

Date Sampled: 12/29/2006 1230

Date Received: 01/03/2007 1012

---

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-64422

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p1663.d

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 01/09/2007 1545

Final Weight/Volume: 5 mL

Date Prepared: 01/09/2007 1545

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	6700		65	100
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	100		77 - 120	
Dibromofluoromethane	103		75 - 123	
Toluene-d8 (Surr)	103		79 - 122	

## DATA REPORTING QUALIFIERS

Client: Catlin Engineers and Scientists

Job Number: 680-23190-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
GC/MS VOA	U	Indicates the analyte was analyzed for but not detected.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-23190-1

### Surrogate Recovery Report

#### 8260B Volatile Organic Compounds by GC/MS

Client Matrix: Water

<u>Lab Sample ID</u>	<u>Client Sample</u>	<u>(BFB) (%Rec)</u>	<u>(DBFM) (%Rec)</u>	<u>(TOL) (%Rec)</u>
680-23190-1MS	MW-19	108	100	107
680-23190-1MSD	MW-19	106	102	108
LCS 680-64422/3		101	101	107
MB 680-64422/6		98	102	103
680-23190-1	MW-19	100	103	103

<u>Surrogate</u>	<u>Acceptance Limits</u>	
(BFB)	4-Bromofluorobenzene	77 - 120
(DBFM)	Dibromofluoromethane	75 - 123
(TOL)	Toluene-d8 (Surr)	79 - 122

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-23190-1

### Method Blank - Batch: 680-64422

Lab Sample ID: MB 680-64422/6  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 01/09/2007 1258  
 Date Prepared: 01/09/2007 1258

Analysis Batch: 680-64422  
 Prep Batch: N/A  
 Units: ug/L

### Method: 8260B Preparation: 5030B

Instrument ID: GC/MS Volatiles - P  
 Lab File ID: pq329.d  
 Initial Weight/Volume: 5 mL  
 Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
m-Xylene & p-Xylene	1.3	U	1.3	2.0
Surrogate	% Rec		Acceptance Limits	
4-Bromofluorobenzene	98		77 - 120	
Dibromofluoromethane	102		75 - 123	
Toluene-d8 (Surr)	103		79 - 122	

### Lab Control Spike - Batch: 680-64422

Lab Sample ID: LCS 680-64422/3  
 Client Matrix: Water  
 Dilution: 1.0  
 Date Analyzed: 01/09/2007 1151  
 Date Prepared: 01/09/2007 1151

Analysis Batch: 680-64422  
 Prep Batch: N/A  
 Units: ug/L

### Method: 8260B Preparation: 5030B

Instrument ID: GC/MS Volatiles - P  
 Lab File ID: pq327.d  
 Initial Weight/Volume: 5 mL  
 Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
m-Xylene & p-Xylene	100	99.4	99	74 - 123	
Surrogate		% Rec		Acceptance Limits	
4-Bromofluorobenzene		101		77 - 120	
Dibromofluoromethane		101		75 - 123	
Toluene-d8 (Surr)		107		79 - 122	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-23190-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 680-64422**

**Method: 8260B  
Preparation: 5030B**

MS Lab Sample ID: 680-23190-1  
Client Matrix: Water  
Dilution: 50  
Date Analyzed: 01/09/2007 1736  
Date Prepared: 01/09/2007 1736

Analysis Batch: 680-64422  
Prep Batch: N/A

Instrument ID: GC/MS Volatiles - P  
Lab File ID: p1667.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

MSD Lab Sample ID: 680-23190-1  
Client Matrix: Water  
Dilution: 50  
Date Analyzed: 01/09/2007 1804  
Date Prepared: 01/09/2007 1804

Analysis Batch: 680-64422  
Prep Batch: N/A

Instrument ID: GC/MS Volatiles - P  
Lab File ID: p1668.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
m-Xylene & p-Xylene	96	100	74 - 123	2	30		
Surrogate		MS % Rec	MSD % Rec		Acceptance Limits		
4-Bromofluorobenzene		108	106		77 - 120		
Dibromofluoromethane		100	102		75 - 123		
Toluene-d8 (Surr)		107	108		79 - 122		

Calculations are performed before rounding to avoid round-off errors in calculated results.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

**SEVERN**  
**TRENT** **STL**

**STL Savannah**  
5102 LaRoche Avenue  
Savannah, GA 31404  
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Phone:  
Fax:

PROJECT REFERENCE <b>NORTH TERMINAL</b>	PROJECT NO. <b>241-125</b>	PROJECT LOCATION (STATE) <b>NC</b>	MATRIX TYPE	REQUIRED ANALYSIS	PAGE <b>1</b>	OF <b>1</b>
STL (LAB) PROJECT MANAGER <b>KATHY SMITH</b>	P.O. NUMBER	CONTRACT NO.	COMPOSITE (C) OR GRAB (G) INDICATE AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (OIL, SOLVENT, ...) <b>MIP XVENGS</b> <b>HCL PER 826P</b>	STANDARD REPORT DELIVERY <input checked="" type="checkbox"/> DATE DUE _____ EXPEDITED REPORT DELIVERY (SURCHARGE) <input type="checkbox"/> DATE DUE _____ NUMBER OF COOLERS SUBMITTED PER SHIPMENT: <b>1</b>		
CLIENT (SITE) PM <b>JEFF BECKEN</b>	CLIENT PHONE <b>910-452-5861</b>	CLIENT FAX <b>910-452-7563</b>				
CLIENT NAME <b>CATLIN ENGINEERS &amp; SCI.</b>	CLIENT E-MAIL <b>jeff.becken@catlinusa.com</b>					
CLIENT ADDRESS <b>226 OLD DAIRY RD, WILMINGTON, NC 28405</b>						
COMPANY CONTRACTING THIS WORK (if applicable) <b>REISS REMEDIATION, LLC</b>						

SAMPLE		SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	REQUIRED ANALYSIS												REMARKS
DATE	TIME							NUMBER OF CONTAINERS SUBMITTED												
<b>29 DEC 07</b>	<b>1230</b>	<b>MW-19</b>	<b>GX</b>				<b>A</b>													
<b>TEMP.: 4.8</b>																				

RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RECEIVED BY: (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY								
RECEIVED FOR LABORATORY BY (SIGNATURE) <i>[Signature]</i>	DATE	TIME	CUSTODY INTACT YES <input type="radio"/> NO <input type="radio"/>	CUSTODY SEAL NO.	STL SAVANNAH LOG NO. <b>670-23190</b>	LABORATORY REMARKS		



# STL

## ANALYTICAL REPORT

Job Number: 680-20975-1

Job Description: FHR/Invista North Terminal (201-125)

For:  
Catlin Engineers and Scientists  
220 Old Dairy Road  
Wilmington, NC 28405

Attention: Mr. Jeff Becken

---

Kathryn Smith  
Project Manager I  
kesmith@stl-inc.com  
10/20/2006

Project Manager: Kathryn Smith

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

**Severn Trent Laboratories, Inc.**

STL Savannah 5102 LaRoche Avenue, Savannah, GA 31404  
Tel (912) 354-7858 Fax (912) 351-3673 www.stl-inc.com



## METHOD SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-20975-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Volatile Organic Compounds by GC/MS	STL SAV	SW846 8260B	
Purge-and-Trap	STL SAV		SW846 5030B

### LAB REFERENCES:

STL SAV = STL Savannah

### METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986  
And Its Updates.

## SAMPLE SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-20975-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Client Matrix</u>	<u>Date/Time Sampled</u>	<u>Date/Time Received</u>
680-20975-1	MW-19	Water	10/05/2006 1035	10/10/2006 1030

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-20975-1

Client Sample ID: MW-19

Lab Sample ID: 680-20975-1

Client Matrix: Water

Date Sampled: 10/05/2006 1035

Date Received: 10/10/2006 1030

---

### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-57776

Instrument ID: GC/MS Volatiles - O

Preparation: 5030B

Lab File ID: o1537.d

Dilution: 250

Initial Weight/Volume: 5 mL

Date Analyzed: 10/19/2006 0331

Final Weight/Volume: 5 mL

Date Prepared: 10/19/2006 0331

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	83000		330	500
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	96		77 - 120	
Dibromofluoromethane	83		75 - 123	
Toluene-d8 (Surr)	99		79 - 122	

## DATA REPORTING QUALIFIERS

Client: Catlin Engineers and Scientists

Job Number: 680-20975-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
GC/MS VOA	U	Indicates the analyte was analyzed for but not detected.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-20975-1

### Surrogate Recovery Report

#### 8260B Volatile Organic Compounds by GC/MS

Client Matrix: Water

<u>Lab Sample ID</u>	<u>Client Sample</u>	(BFB) (%Rec)	(DBFM) (%Rec)	(TOL) (%Rec)
LCS 680-57776/6		92	90	98
MB 680-57776/7		97	89	99
680-20975-1	MW-19	96	83	99

<u>Surrogate</u>	<u>Acceptance Limits</u>
(BFB) 4-Bromofluorobenzene	77 - 120
(DBFM) Dibromofluoromethane	75 - 123
(TOL) Toluene-d8 (Surr)	79 - 122

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-20975-1

### Method Blank - Batch: 680-57776

Method: 8260B  
Preparation: 5030B

Lab Sample ID: MB 680-57776/7  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/19/2006 0204  
Date Prepared: 10/19/2006 0204

Analysis Batch: 680-57776  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - O  
Lab File ID: oq609.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
m-Xylene & p-Xylene	1.3	U	1.3	2.0
Surrogate	% Rec		Acceptance Limits	
4-Bromofluorobenzene	97		77 - 120	
Dibromofluoromethane	89		75 - 123	
Toluene-d8 (Surr)	99		79 - 122	

### Lab Control Spike - Batch: 680-57776

Method: 8260B  
Preparation: 5030B

Lab Sample ID: LCS 680-57776/8  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 10/19/2006 0107  
Date Prepared: 10/19/2006 0107

Analysis Batch: 680-57776  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - O  
Lab File ID: oq607.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
m-Xylene & p-Xylene	100	91.8	92	74 - 123	
Surrogate		% Rec		Acceptance Limits	
4-Bromofluorobenzene		92		77 - 120	
Dibromofluoromethane		90		75 - 123	
Toluene-d8 (Surr)		98		79 - 122	

Calculations are performed before rounding to avoid round-off errors in calculated results.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN  
TRENT

STL

STL Savannah  
5102 LaRoche Avenue  
Savannah, GA 31404

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Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:  
Fax:

PROJECT REFERENCE <i>FAIR/INVESTA NORTH TERMINAL</i>		PROJECT NO. <i>201-125</i>	PROJECT LOCATION (STATE) <i>NC</i>	REQUIRED ANALYSIS										PAGE <i>1</i>	OF <i>1</i>	
STL (LAB) PROJECT MANAGER <i>KATHY SMITH</i>		P.O. NUMBER	CONTRACT NO.	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	<i>MP X-MONES PER 8260</i>	<i>HCL</i>	<i>PRESERVATIVE</i>	STANDARD REPORT DELIVERY <input checked="" type="checkbox"/>		DATE DUE		
CLIENT (SITE) PM <i>JEFF BECKEN</i>		CLIENT PHONE <i>910-452-5861</i>	CLIENT FAX <i>910-452-7563</i>									EXPEDITED REPORT DELIVERY (SURCHARGE) <input type="checkbox"/>		DATE DUE		
CLIENT NAME <i>CATLIN ENG. &amp; SCI.</i>		CLIENT E-MAIL <i>jeff.becken@catlinusa.com</i>										NUMBER OF COOLERS SUBMITTED PER SHIPMENT: <i>1</i>		REMARKS		
CLIENT ADDRESS <i>220 OLD DAIRY RD. WILMINGTON, NC 28405</i>		COMPANY CONTRACTING THIS WORK (if applicable) <i>REISS REMEDIATION, LLC</i>										NUMBER OF CONTAINERS SUBMITTED				
SAMPLE		SAMPLE IDENTIFICATION														
DATE	TIME															
<i>05OCT06</i>	<i>1035</i>	<i>MW-19</i>		<i>G</i>	<i>X</i>											
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
<i>[Signature]</i>				<i>[Signature]</i>		<i>10-9-06</i>	<i>1500</i>	<i>[Signature]</i>				<i>[Signature]</i>				
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	
<i>[Signature]</i>				<i>[Signature]</i>				<i>[Signature]</i>				<i>[Signature]</i>				

TEMP.: *6.0*

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY (SIGNATURE) <i>[Signature]</i>	DATE <i>10/09/06</i>	TIME <i>10:30</i>	CUSTODY INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	CUSTODY SEAL NO.	STL SAVANNAH LOG NO. <i>1070-20975</i>	LABORATORY REMARKS
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STL

## ANALYTICAL REPORT

Job Number: 680-21609-1

Job Description: Invista North PX Terminal (201-125)

For:  
Catlin Engineers and Scientists  
220 Old Dairy Road  
Wilmington, NC 28405

Attention: Mr. Jeff Becken

*Kathryn Smith*

---

Kathryn Smith  
Project Manager I  
kesmith@stl-inc.com  
11/13/2006

Project Manager: Kathryn Smith

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

**Severn Trent Laboratories, Inc.**

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Tel (912) 354-7858 Fax (912) 351-3673 www.stl-inc.com



## METHOD SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-21609-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Volatile Organic Compounds by GC/MS	STL SAV	SW846 8260B	
Purge-and-Trap	STL SAV		SW846 5030B

### LAB REFERENCES:

STL SAV = STL Savannah

### METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986  
And Its Updates.

## SAMPLE SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-21609-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
680-21609-1	MW-19	Water	10/31/2006 1335	11/02/2006 0930



## DATA REPORTING QUALIFIERS

Client: Catlin Engineers and Scientists

Job Number: 680-21609-1

<u>Lab Section</u>	<u>Qualifier</u>	<u>Description</u>
GC/MS VOA	U	Indicates the analyte was analyzed for but not detected.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-21609-1

### Surrogate Recovery Report

#### 8260B Volatile Organic Compounds by GC/MS

##### Client Matrix: Water

<u>Lab Sample ID</u>	<u>Client Sample</u>	(BFB) (%Rec)	(DBFM) (%Rec)	(TOL) (%Rec)
LCS 680-59529/3		104	108	104
MB 680-59529/6		103	115	108
680-21609-1	MW-19	101	111	109

<u>Surrogate</u>		<u>Acceptance Limits</u>
(BFB)	4-Bromofluorobenzene	77 - 120
(DBFM)	Dibromofluoromethane	75 - 123
(TOL)	Toluene-d8 (Surr)	79 - 122

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-21609-1

### Method Blank - Batch: 680-59529

Method: 8260B  
Preparation: 5030B

Lab Sample ID: MB 680-59529/6  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 11/09/2006 1102  
Date Prepared: 11/09/2006 1102

Analysis Batch: 680-59529  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq455.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
m-Xylene & p-Xylene	1.3	U	1.3	2.0
Surrogate	% Rec		Acceptance Limits	
4-Bromofluorobenzene	103		77 - 120	
Dibromofluoromethane	115		75 - 123	
Toluene-d8 (Surr)	108		79 - 122	

### Lab Control Spike - Batch: 680-59529

Method: 8260B  
Preparation: 5030B

Lab Sample ID: LCS 680-59529/3  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 11/09/2006 0906  
Date Prepared: 11/09/2006 0906

Analysis Batch: 680-59529  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq449.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
m-Xylene & p-Xylene	100	104	104	74 - 123	
Surrogate		% Rec		Acceptance Limits	
4-Bromofluorobenzene		104		77 - 120	
Dibromofluoromethane		108		75 - 123	
Toluene-d8 (Surr)		104		79 - 122	

Calculations are performed before rounding to avoid round-off errors in calculated results.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

**SEVERN  
TRENT**

**STL**

**STL Savannah**  
5102 LaRoche Avenue  
Savannah, GA 31404

Website: www.stl-inc.com  
Phone: (912) 354-7858  
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:  
Fax:

PROJECT REFERENCE <i>FAIR NORTH TERMINAL</i>		PROJECT NO. <i>201-125</i>	PROJECT LOCATION (STATE) <i>NC</i>	MATRIX TYPE	REQUIRED ANALYSIS										PAGE <i>1</i>	OF <i>1</i>			
STL (LAB) PROJECT MANAGER <i>KATHY SMITH</i>		P.O. NUMBER	CONTRACT NO.	COMPOSITE (C) OR GRAB (G) INDICATE AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (OIL, SOLVENT,...) <i>MIP XYLENES PER 8260</i>	HCL	<i>PERMETHYL</i>												STANDARD REPORT DELIVERY <input checked="" type="checkbox"/>	DATE DUE _____
CLIENT (SITE) PM <i>JEFF BECKEN</i>		CLIENT PHONE <i>910-452-5861</i>	CLIENT FAX <i>910-452-7563</i>															EXPEDITED REPORT DELIVERY (SURCHARGE) <input type="checkbox"/>	DATE DUE _____
CLIENT NAME <i>CATLIN</i>		CLIENT E-MAIL <i>jeff.becken@catlinusa.com</i>																NUMBER OF COOLERS SUBMITTED PER SHIPMENT: <i>1</i>	REMARKS
CLIENT ADDRESS <i>220 OLD DAIRY ROAD, WILMINGTON, NC 28405</i>		COMPANY CONTRACTING THIS WORK (if applicable) <i>RASS REMEDIATION, LLC</i>																NUMBER OF CONTAINERS SUBMITTED	
SAMPLE		SAMPLE IDENTIFICATION																	
DATE	TIME																		
<i>31 OCT 06</i>	<i>1335</i>	<i>MIN-19</i>																	
RELINQUISHED BY: (SIGNATURE) <i>EMPTY CONTAINERS</i>		DATE	TIME	RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME
RECEIVED BY: (SIGNATURE) <i>EMPTY CONTAINERS</i>		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME

RECEIVED FOR LABORATORY BY: <i>[Signature]</i>		DATE	TIME	CUSTODY INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	CUSTODY SEAL NO.	STL SAVANNAH LOG NO. <i>080-21608</i>	LABORATORY REMARKS <b>TEMP: 5.8°C</b>
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STL

## ANALYTICAL REPORT

Job Number: 680-22354-1

Job Description: Invista North PX Terminal (201-125)

For:  
Catlin Engineers and Scientists  
220 Old Dairy Road  
Wilmington, NC 28405

Attention: Mr. Jeff Becken

*Kathryn Smith*

---

Kathryn Smith  
Project Manager I  
kesmith@stl-inc.com  
12/14/2006

Project Manager: Kathryn Smith

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**Severn Trent Laboratories, Inc.**

STL Savannah 5102 LaRoche Avenue, Savannah, GA 31404  
Tel (912) 354-7858 Fax (912) 351-3673 www.stl-inc.com



## METHOD SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-22354-1

Description	Lab Location	Method	Preparation Method
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<b>Matrix:</b> Water			
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Volatile Organic Compounds by GC/MS	STL SAV	SW846 8260B	
Purge-and-Trap	STL SAV		SW846 5030B

### LAB REFERENCES:

STL SAV = STL Savannah

### METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986  
And Its Updates.

## SAMPLE SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-22354-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
680-22354-1	MW-19	Water	11/28/2006 1145	12/01/2006 0945

**Analytical Data**

Client: Catlin Engineers and Scientists

Job Number: 680-22354-1

Client Sample ID: **MW-19**

Lab Sample ID: 680-22354-1

Date Sampled: 11/28/2006 1145

Client Matrix: Water

Date Received: 12/01/2006 0945

---

**8260B Volatile Organic Compounds by GC/MS**

Method: 8260B

Analysis Batch: 680-62157

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p1370.d

Dilution: 100

Initial Weight/Volume: 5 mL

Date Analyzed: 12/12/2006 0641

Final Weight/Volume: 5 mL

Date Prepared: 12/12/2006 0641

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	15000		130	200
Surrogate	%Rec		Acceptance Limits	
4-Bromofluorobenzene	95		77 - 120	
Dibromofluoromethane	99		75 - 123	
Toluene-d8 (Surr)	93		79 - 122	

## DATA REPORTING QUALIFIERS

Client: Catlin Engineers and Scientists

Job Number: 680-22354-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
GC/MS VOA	U	Indicates the analyte was analyzed for but not detected.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-22354-1

### Surrogate Recovery Report

#### 8260B Volatile Organic Compounds by GC/MS

Client Matrix: Water

<u>Lab Sample ID</u>	<u>Client Sample</u>	(BFB) (%Rec)	(DBFM) (%Rec)	(TOL) (%Rec)
LCS 680-62157/4		102	105	99
MB 680-62157/6		92	104	91
680-22354-1	MW-19	95	99	93

<u>Surrogate</u>		<u>Acceptance Limits</u>
(BFB)	4-Bromofluorobenzene	77 - 120
(DBFM)	Dibromofluoromethane	75 - 123
(TOL)	Toluene-d8 (Surr)	79 - 122

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-22354-1

### Method Blank - Batch: 680-62157

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: MB 680-62157/6  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/12/2006 0116  
Date Prepared: 12/12/2006 0116

Analysis Batch: 680-62157  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq898.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Methyl tert-butyl ether	0.45	U	0.45	10
m-Xylene & p-Xylene	1.3	U	1.3	2.0

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	92	77 - 120
Dibromofluoromethane	104	75 - 123
Toluene-d8 (Surr)	91	79 - 122

### Lab Control Spike - Batch: 680-62157

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: LCS 680-62157/4  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/12/2006 0016  
Date Prepared: 12/12/2006 0016

Analysis Batch: 680-62157  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq894.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Methyl tert-butyl ether	100	89.7	90	70 - 130	
m-Xylene & p-Xylene	100	111	111	74 - 123	

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	102	77 - 120
Dibromofluoromethane	105	75 - 123
Toluene-d8 (Surr)	99	79 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

**SEVERN**  
**TRENT** **STL**

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Savannah, GA 31404  
Website: www.stl-inc.com  
Phone: (912) 354-7858  
Fax: (912) 352-0165

Alternate Laboratory Name/Location  
Phone:  
Fax:

PROJECT REFERENCE <b>INVESTA NORTH TERMINAL</b>	PROJECT NO. <b>201-125</b>	PROJECT LOCATION (STATE) <b>NC</b>	MATRIX TYPE	REQUIRED ANALYSIS										PAGE <b>1</b>	OF <b>1</b>
STL (LAB) PROJECT MANAGER <b>KATHY SMITH</b>	P.O. NUMBER	CONTRACT NO.	COMPOSITE (C) OR GRAB (G) INDICATE AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (OIL, SOLVENT,...) <b>MVP Xylene's PER 8200</b>	<b>HCL PRESERVATIVE</b>										STANDARD REPORT DELIVERY <input checked="" type="checkbox"/>	
CLIENT (SITE) PM <b>JEFF BECKEN</b>	CLIENT PHONE <b>910-452-5861</b>	CLIENT FAX <b>910-452-7563</b>												DATE DUE _____	
CLIENT NAME <b>CATLIN</b>	CLIENT E-MAIL <b>jeff.becken@catlinusa.com</b>													EXPEDITED REPORT DELIVERY (SURCHARGE) <input type="checkbox"/>	
CLIENT ADDRESS <b>220 OLD DAIRY RD, WILMINGTON, NC 28405</b>														DATE DUE _____	
COMPANY CONTRACTING THIS WORK (if applicable) <b>REISS REMEDIATION, LLC</b>														NUMBER OF COOLERS SUBMITTED PER SHIPMENT:	

SAMPLE		SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	NUMBER OF CONTAINERS SUBMITTED										REMARKS	
DATE	TIME							1	2	3	4	5	6	7	8	9	10		11
<b>28 NOV 06</b>	<b>1145</b>	<b>MW-19</b>	<b>GX</b>					<b>4</b>											

**TEMP.: 20.2**

RELINQUISHED BY: (SIGNATURE) <b>EMPTY CONTAINERS</b>	DATE	TIME	RELINQUISHED BY: (SIGNATURE) <b>CLW</b>	DATE <b>11-29-06</b>	TIME <b>1500</b>	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <b>EMPTY CONTAINERS</b>	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY (SIGNATURE) <b>KL</b>	DATE/TIME <b>12/1/06 12:15</b>	CUSTODY CONTACT	LABORATORY USE ONLY	LABORATORY SEAL NO.	STL SAVANNAH JUDGE NO.	LABORATORY REMARKS
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Page 8 of 8

For Report



STL

## ANALYTICAL REPORT

Job Number: 680-23861-1

Job Description: Invista North PX Terminal (201-125)

For:  
Catlin Engineers and Scientists  
220 Old Dairy Road  
Wilmington, NC 28405

Attention: Mr. Jeff Becken

A handwritten signature in black ink, appearing to read "Bernard Kirkland".

---

Bernard Kirkland  
Project Manager I  
bkirkland@stl-inc.com  
02/12/2007

Project Manager: Kathryn Smith

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

**Severn Trent Laboratories, Inc.**

STL Savannah 5102 LaRoche Avenue, Savannah, GA 31404  
Tel (912) 354-7858 Fax (912) 351-3673 www.stl-inc.com



## EXECUTIVE SUMMARY - Detections

Client: Catlin Engineers and Scientists

Job Number: 680-23861-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
680-23861-1 m-Xylene & p-Xylene	MW-19	12000	100	ug/L	8260B

## METHOD SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-23861-1

Description	Lab Location	Method	Preparation Method
<b>Matrix:</b> Water			
Volatile Organic Compounds by GC/MS	STL SAV	SW846 8260B	
Purge-and-Trap	STL SAV		SW846 5030B

### LAB REFERENCES:

STL SAV = STL Savannah

### METHOD REFERENCES:

SW846 - "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986  
And Its Updates.

## SAMPLE SUMMARY

Client: Catlin Engineers and Scientists

Job Number: 680-23861-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
680-23861-1	MW-19	Water	01/26/2007 1045	01/30/2007 1015

## Analytical Data

Client: Catlin Engineers and Scientists

Job Number: 680-23861-1

Client Sample ID: MW-19

Lab Sample ID: 680-23861-1

Client Matrix: Water

Date Sampled: 01/26/2007 1045

Date Received: 01/30/2007 1015

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### 8260B Volatile Organic Compounds by GC/MS

Method: 8260B

Analysis Batch: 680-66914

Instrument ID: GC/MS Volatiles - P

Preparation: 5030B

Lab File ID: p2154.d

Dilution: 50

Initial Weight/Volume: 5 mL

Date Analyzed: 02/08/2007 1836

Final Weight/Volume: 5 mL

Date Prepared: 02/08/2007 1836

Analyte	Result (ug/L)	Qualifier	MDL	RL
m-Xylene & p-Xylene	12000		65	100
Surrogate	%Rec			Acceptance Limits
4-Bromofluorobenzene	101			77 - 120
Dibromofluoromethane	99			75 - 123
Toluene-d8 (Surr)	104			79 - 122

## DATA REPORTING QUALIFIERS

Client: Catlin Engineers and Scientists

Job Number: 680-23861-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
GC/MS VOA	U	Indicates the analyte was analyzed for but not detected.

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-23861-1

### Surrogate Recovery Report

#### 8260B Volatile Organic Compounds by GC/MS

##### Client Matrix: Water

<u>Lab Sample ID</u>	<u>Client Sample</u>	<u>(BFB) (%Rec)</u>	<u>(DBFM) (%Rec)</u>	<u>(TOL) (%Rec)</u>
LCS 680-66914/3		98	96	101
MB 680-66914/5		97	99	104
680-23861-1	MW-19	101	99	104

<u>Surrogate</u>	<u>Acceptance Limits</u>
(BFB) 4-Bromofluorobenzene	77 - 120
(DBFM) Dibromofluoromethane	75 - 123
(TOL) Toluene-d8 (Surr)	79 - 122

## Quality Control Results

Client: Catlin Engineers and Scientists

Job Number: 680-23861-1

**Method Blank - Batch: 680-66914**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: MB 680-66914/5  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/08/2007 1113  
Date Prepared: 02/08/2007 1113

Analysis Batch: 680-66914  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq723.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
m-Xylene & p-Xylene	1.3	U	1.3	2.0
<b>Surrogate</b>	<b>% Rec</b>		<b>Acceptance Limits</b>	
4-Bromofluorobenzene	97		77 - 120	
Dibromofluoromethane	99		75 - 123	
Toluene-d8 (Surr)	104		79 - 122	

**Lab Control Spike - Batch: 680-66914**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: LCS 680-66914/3  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/08/2007 1004  
Date Prepared: 02/08/2007 1004

Analysis Batch: 680-66914  
Prep Batch: N/A  
Units: ug/L

Instrument ID: GC/MS Volatiles - P  
Lab File ID: pq719.d  
Initial Weight/Volume: 5 mL  
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
m-Xylene & p-Xylene	100	99.5	100	74 - 123	
<b>Surrogate</b>		<b>% Rec</b>		<b>Acceptance Limits</b>	
4-Bromofluorobenzene		98		77 - 120	
Dibromofluoromethane		96		75 - 123	
Toluene-d8 (Surr)		101		79 - 122	

Calculations are performed before rounding to avoid round-off errors in calculated results.

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

STL Savannah  
5102 LaRoche Avenue  
Savannah, GA 31404

Website: www.stl-inc.com  
Phone: (912) 354-7858  
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:  
Fax:

**SEVERN**  
**TRENT** **STL**

PROJECT REFERENCE <b>201-125</b> <b>INVISTA NORTH TERMINAL</b>		PROJECT NO. <b>201-125</b>	PROJECT LOCATION (STATE) <b>NC</b>	MATRIX TYPE	REQUIRED ANALYSIS										PAGE <b>1</b>	OF <b>1</b>	
STL (LAB) PROJECT MANAGER <b>KATY SMITH</b>		P.O. NUMBER	CONTRACT NO.	COMPOSITE (C) OR GRAB (G) INDICATE AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (OIL, SOLVENT...) <b>HCL</b>	<b>MP X HUGHES</b> <b>PER 8/2/07</b>											STANDARD REPORT DELIVERY <input checked="" type="checkbox"/>	DATE DUE _____
CLIENT (SITE) PM <b>JEFF BECKEN</b>		CLIENT PHONE <b>910-452-5861</b>	CLIENT FAX <b>910-452-7563</b>													EXPEDITED REPORT DELIVERY (SURCHARGE) <input type="checkbox"/>	DATE DUE _____
CLIENT NAME <b>CATLIN</b>		CLIENT E-MAIL <b>jeff.becken@catlinusa.com</b>														NUMBER OF COOLERS SUBMITTED PER SHIPMENT: <b>1</b>	
CLIENT ADDRESS <b>220 OLD DAIRY RD, WILMINGTON, NC 28405</b>		COMPANY CONTRACTING THIS WORK (if applicable) <b>REISS REMEDIATION, LLC</b>															
SAMPLE		SAMPLE IDENTIFICATION			NUMBER OF CONTAINERS SUBMITTED										REMARKS		
DATE	TIME																
<b>26 JAN 07</b>	<b>1045</b>	<b>MW-19</b>			<b>4</b>												
<b>TEMP: 2.2</b>																	
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME		
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME		

RECEIVED FOR LABORATORY BY: (SIGNATURE) <b>J. Hughes</b>		DATE <b>1/30/07</b>	TIME <b>10:15</b>	CUSTODY INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	CUSTODY SEAL NO.	STL SAVANNAH LOG NO. <b>68-23862</b>	LABORATORY REMARKS
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680-23861 vs 1/30/07

**APPENDIX B**  
**CONTAMINATED TRANSPORT MODELING AT PARAXYLENE FACILITY**

# CONTAMINANT TRANSPORT MODELING

Flint Hills Resources, LP  
North Terminal - Paraxylene Facility  
River Road  
Wilmington, NC

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## GENERAL MODEL DESCRIPTION

Visual MODFLOW 4.2 (MODFLOW) is a three dimensional analytical transport model based on finite-difference analysis. MODFLOW can be used for a variety of applications including water supply evaluation, contaminant remediation and many other applications. MODFLOW supports several different contaminant transport modeling programs (MT3D, MT3DMS, RT3D, PHT3D) for simulating single species, multiple species or reactive multiple species transport. For the purposes of modeling the dissolved Total Xylene concentrations at the Paraxylene Facility within the Invista North Terminal, herein known as the Paraxylene Facility, the MT3D numerical transport model was utilized.

MT3D is a transport model that simulates advection, dispersion, and chemical reactions of contaminants in groundwater flow systems. MT3D solves the transport equation after the flow solution has been obtained from the groundwater flow system, MODFLOW. Like MODFLOW, MT3D utilizes finite-difference solutions for modeling contaminant transport.

## MODEL ASSUMPTIONS

The assumptions for the Visual MODFLOW model included:

1. Steady-state groundwater flow conditions.
2. Saturated flow simulation with constant density.
3. Irreversible soil sorption with first-order contaminant decay.
4. The aquifer flow fields are homogenous and isotropic (sandy soil).
5. Irreversible first order decay of dissolved contaminants concentrations.
6. Input values for Total Xylene concentrations are from August 2006 sampling event. However, for modeling natural attenuation of existing portions of the North Terminal, the portion of the project site between River Rd. and monitoring well KRW-5 was considered clean. Please refer to the Figure titled *Initial Modeling Conditions*.

## **MODEL SIMULATION**

The objective of modeling the groundwater conditions at the Paraxylene Facility was to simulate the transport of dissolved Total Xylenes over time if the area of contamination is only located east of monitoring well KRW-5.

In order to effectively model the Paraxylene Facility, multiple input parameters were required to be incorporated into the MODFLOW program. These input parameters included topographic elevation data, groundwater elevations (August 2006, Total Xylene concentrations (August 2006) at select monitoring wells, soil characteristic data and other parameters indicated in the Table titled *MODFLOW Input Parameters*. Input parameter values were determined from previous sampling/gauging events, topographic survey data, well construction documents, published research documents and the Comprehensive Site Assessment dated August 7, 2000 for this area of interest.

Once input parameters were integrated into the model, the model was calibrated to insure the correct input parameters were incorporated into the model. Generally, model calibrations are conducted by comparing contaminant concentrations across the entire project site for specific time periods. It is important to note that due to air sparging and chemical oxidation implementation, it was difficult to utilize calibration techniques for the entire project site. Therefore, model calibrations were limited to select point locations throughout the project site. Point locations used for model calibration were monitoring wells MW-17, MW-18 and MW-19 and other monitoring wells located in the containment berm with the above ground storage tank 801.

## **RESULTS**

The model was executed for 1-year, 5-year and 10-year run simulations. Each run simulation was evaluated and concentrations compared to the Total Xylenes NCAC T15A:02L Groundwater Quality Standards (2L GWQS) of 530 µg/L.

According to the model based on the stated assumptions, the dissolved Total Xylene concentrations should stabilize within approximately 8-10 years in the event that only natural attenuation was utilized within the area up gradient of monitoring well KRW-5. Please refer to the attached Figures for each of the model run simulations. Please note that our knowledge of the project site leads us to believe this time period is most likely underestimated. However, model simulations indicate if groundwater contamination is remediated down gradient of monitoring well KRW-5, migration of Total Xylenes concentrations above 2L GWQS is unlikely. It is recommended that model simulations be performed on an annual basis to allow for improved calibration of the model.

**MODFLOW INPUT PARAMETERS**

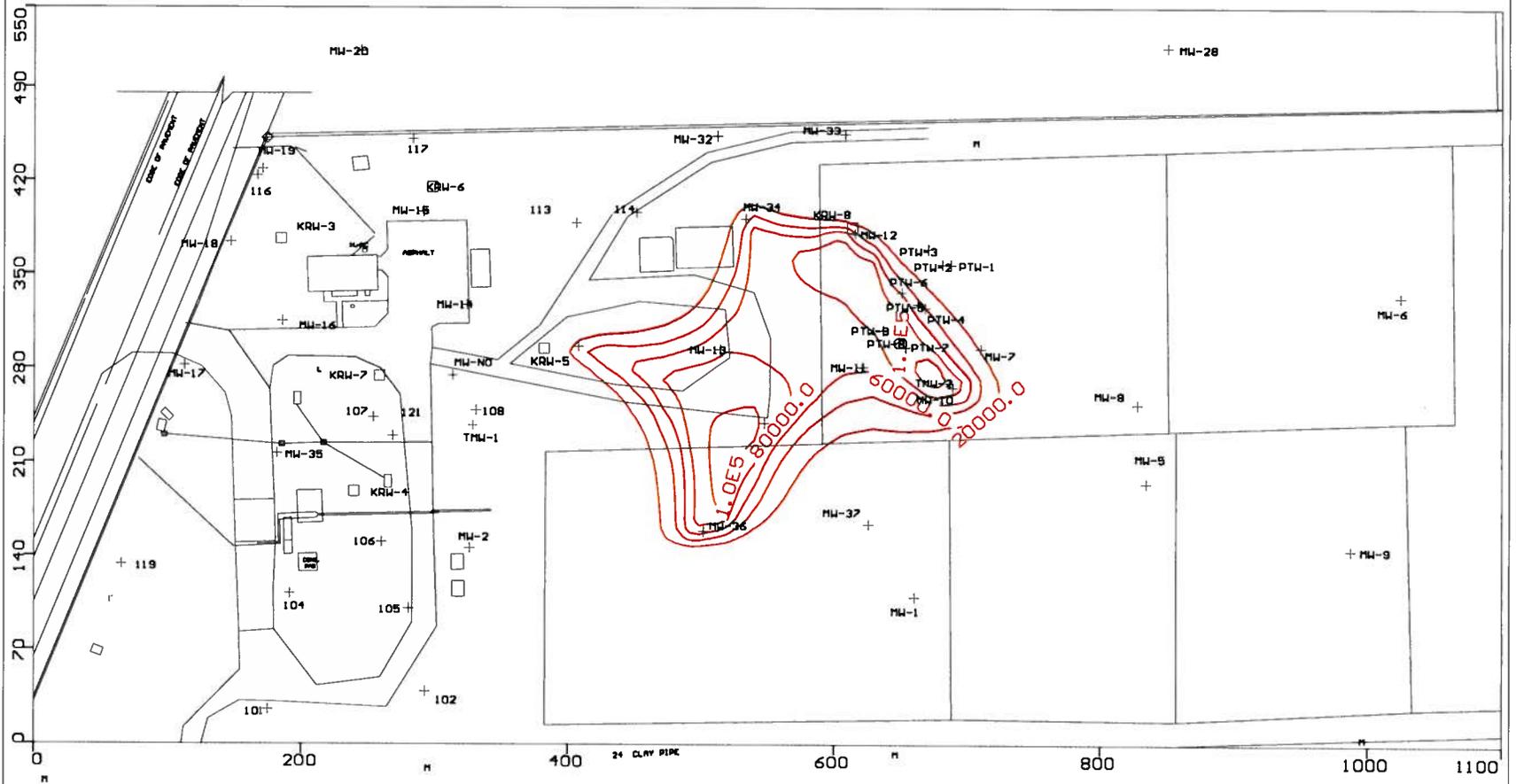
Paraxylene Facility  
River Road  
Wilmington, NC

<b>PARAMETER</b>	<b>VALUE</b>	<b>COMMENTS</b>
<i>HYDROGEOLOGY</i>		
Hydraulic Conductivity (K)	11.62 ft/d	Value presented in CSA
Effective Porosity ( $n_{eff}$ )	0.39	Value presented in CSA
Total Porosity ( $n_{tot}$ )	0.43	Assumed value based on literature based on soil type
Specific Storage ( $S_s$ )	$3.04 \times 10^{-6}$ 1/ft	Assumed value based on literature based on soil type
Specific Yield ( $S_y$ )	0.2	Assumed value based on literature based on soil type
Soil Bulk Density	1.47 g/cm <sup>3</sup>	Assumed value based on literature based on soil type
<i>DISPERSION</i>		
Longitudinal Dispersivity	32.8 ft.	Calculated based on plume dimensions
Dispersion Coefficient	$6.21 \times 10^{-6}$ cm <sup>2</sup> /s	Assumed value based on EPA literature
<i>BOUNDARY CONDITIONS</i>		
Evapotranspiration Rate	1.14 mm/d	Assumed value based on USGS literature
Recharge Rate	8.14 in/yr	Assumed value based on USGS literature

CSA - Comprehensive Site Assessment

EPA - Environmental Protection Agency

USGS - United States Geological Survey



SCALE IN FEET

PROJECT TITLE

FIGURE



# INITIAL MODEL CONDITIONS

