

Technical Memorandum
Supplemental TRE Investigations
and
West Well / Parking Lot Site Remediation Review

West Well / Parking Area Site
NYSDEC Site #413010

January 2017

Amphenol Corporation
Sidney, New York

Table of Contents

Introduction	1
Background	1
West Well / Parking Area Groundwater Remedial Program	1
Supplemental TRE Investigations and West Well / Parking Lot Site Remediation Review	2
<u>Present contaminant distribution</u>	3
<u>West Well Capture Area Assessment at Lower Yields</u>	4
West Well Overflow Elimination Approach	7
<u>Proposed future West Well operation schedule and discharge rates</u>	7
<u>Proposed on-demand process water delivery system</u>	7

Tables

- 1 - West Well / Parking Area Site - TRE Program - Groundwater Chemistry Summary
- 2 - West Well and Parking Area Site - Annual Sampling Event VOC Summary

Figures

- 1 - Outfall #001 and #002 Location Map
- 2 - Groundwater Monitoring Well Location Map
- 3 - Total VOC Historical Comparison – Shallow Overburden
- 4 - Total VOC Historical Comparison – Deep Overburden
- 5 - Deep Overburden Potentiometric Surface – Static Conditions
- 6 - Deep Overburden Potentiometric Surface – Equilibrium at 90 GPM
- 7 - Deep Overburden Potentiometric Surface – Equilibrium at 162 GPM
- 8 - On Demand Process Water Delivery System Conceptual Design

Data Plots

- 1 - Aquifer Response Test - Groundwater Elevations for 90 and 162 GPM Discharges

Appendices

- 1 - Groundwater Analyses Laboratory Reports
- 2 - Aquifer Response Testing Groundwater Elevation Data
- 3 - Transmissivity Calculations

Exhibits

- A - Remediation Review and Enhancement Work Plan and NYSDEC Approval
- B - Historic Investigation Reports by ERM; April 1986 and June 1987

Introduction

This Technical Memorandum summarizes the results of supplemental investigations completed as part a Toxicity Reduction Evaluation (TRE) for outfall #002 at the Amphenol-Aerospace facility (Amphenol) located in Sidney, NY. The purpose and scope of these investigations, which are described in the *West Well / Parking Area Site, New York State Department of Environmental Conservation (NYSDEC) Site #413010, Remediation Review and Enhancement Work Plan, March 2016*, are to:

- assess the current distribution of selected metals and VOCs in the site area
- evaluate if pumping the West Well at a volume that meets the minimum process flow demand would sufficiently control groundwater contaminant migration while continuing to meet the intent of the AOC
- develop a conceptual design for an on-demand process water delivery system that would eliminate the overflow of any West Well discharge to outfall #002.

The work plan was approved by NYSDEC in correspondence from Mr. Walter Wintsch dated April 19, 2016. The work plan and approval letter are provided in Exhibit A.

Background

The Amphenol facility has six industrial discharges permitted under the New York State Process Discharge Elimination System (SPDES #0003824). In March 2015, Amphenol was advised by NYSDEC that routine monitoring data indicated that the discharge at outfall #002 exceeded the chronic Whole Effluent Toxicity (WET) limits prescribed in the facility's permit. This outfall receives storm water and effluent discharge from groundwater collection and treatment systems operating at two, separate NYSDEC listed inactive hazardous waste sites: the West Well / Parking Area (site #413010) and the Boiler Room Area (site #413013). The Department concluded that the chronic WET exceedance was likely caused by naturally occurring inorganic compounds in the groundwater discharged from the remedial systems. The Department further directed Amphenol to undertake a TRE to identify solutions to bring the outfall #002 discharge into compliance.

As requested, a work plan for the TRE was submitted and approved May 11, 2015 following NYSDEC review. The report submitted upon completion of the work plan concluded that the preferred approach to mitigate the WET exceedances was to eliminate the portion of the flow to outfall #002 contributed by the West Well / Parking Area remedial system by reducing West Well pumping. The report also concluded that the Boiler Room remedial system effluent could be redirected to outfall #001 if necessary. Figure 1 illustrates the location of outfalls #001 and #002.

West Well / Parking Area Groundwater Remedial Program

The West Well has historically been used as an industrial supply well for the facility's process water demands. Concentrations of the volatile organic compounds (VOCs) trichloroethylene and its degradation species were discovered in the West Well discharge in 1984 at levels exceeding the New York State Class GA standards. Several environmental studies were completed following this discovery which concluded that the primary source of VOCs was a former solvent

storage area with a secondary minor source area beneath the West Parking lot (*Hydrogeologic and Soils Investigations at the West Well and West Parking Lot; ERM; April 1986*). These investigations also included an evaluation of the local groundwater hydrology and the West Well capture area by aquifer performance testing (refer to the referenced ERM report in Exhibit B for the details of these investigations). A follow up feasibility study (*Alternatives for Remediation – West Well and Parking Lot Area; ERM; June 1987*), also provided in Exhibit B, concluded that continuing to pump the West Well and treating its discharge using air stripping technology, would effectively remediate VOC contamination observed in both the shallow and deep overburden groundwater. Subsequently, a plan to remediate the contaminants in the groundwater by continuing to pump the West Well and treating the discharge with air stripping technology was approved by the Department and implemented in March 1988.

Amphenol and the NYSDEC executed an Administrative Order on Consent (AOC) for the West Well / Parking Lot site in November 1989. The AOC calls for Amphenol to address “on-site and off-site contamination” using means that are “technology and economically feasible and will most effectively identify and mitigate to the extent practicable any present or potential future threat to the environment posed by the past disposal of hazardous and industrial wastes” at the site. For the purposes of addressing the VOCs in the West Well, Amphenol proposed and NYSDEC agreed that the AOC goal was best met by continuing to pump the West Well providing treatment of the discharge and also satisfying the facility’s process water needs.

The well is equipped with an uncontrolled, direct drive line-shaft turbine pump that feeds recovered groundwater at a rate of approximately 320 gallons per minute directly to a packed column air-stripper for the removal of VOCs. Routine monitoring of the remedial effort includes recording total monthly flow, monthly sampling and analyses of the treatment system influent and effluent for VOCs and quarterly groundwater sampling and analyses of selected groundwater monitoring wells for VOCs, cadmium, chromium, nickel, zinc and cyanide.

Following treatment, effluent from the air-stripper is directed to a holding tank for distribution and use by the on-site plating processes. Any flow in excess of the minimum process demands of approximately 90 gallons per minute (GPM), as much as 230 GPM, is directed as overflow to the storm drain that discharges at outfall #002.

Since implementation, the West Well pump and treat operation has met the goals established in the AOC.

Supplemental TRE Investigations and West Well / Parking Lot Site Remediation Review

Supplemental investigation work tasks were completed to assess if pumping the West Well at the minimum process demand of approximately 90 GPM would meet the conditions of the AOC. These included:

- assessing the present distribution of contaminants
- evaluation of the West Well capture area at controlled pumping rates similar to process demands.

If the assessment of the distribution of remaining contaminants and the West Well capture area indicated that a withdrawal rate near that required by process demands could meet the remedial

objectives of the AOC, a conceptual design of an on-demand process water delivery system would also be developed.

Present contaminant distribution

Figure 2 illustrates the locations of West Well / Parking Area site groundwater monitoring wells. To assess the present distribution of the metals of interest (USEPA method 200.7) and VOCs (USEPA method 8260), groundwater samples were collected from all the available monitoring wells and analyzed on two separate occasions; March 2016 and September 2016. The laboratory data reports from these events are provided in Appendix A. Additionally, the previous eleven years of VOC groundwater monitoring data from wells located along the perimeter of the site that are sampled annually as part of the routine monitoring, were reviewed.

Table 1 provides a summary the concentrations of metals of interest and detected VOCs for each sampling event. Table 2 summarizes the VOC results from the annually sampled perimeter wells since 2006. Metals or VOCs that were reported above the NYS Class GA Maximum Concentration Limit (MCL) are highlighted.

Although concentrations of chromium and nickel slightly above the MCL were reported at WW-1, a deep overburden well, for the March 2016 sampling event, it is likely these findings represent the natural groundwater chemistry. Similarly, the cadmium concentration reported for WW-6 (also a deep overburden well) for the September 2016 sampling event is also believed to be naturally occurring.

Regarding VOCs, review of Table 1 indicates that MW-7, MW-8, MW-11 and MW-13 contain concentrations of VOCs above the MCL. The highest concentrations were reported at MW-11 where 250 ppb of trichloroethene (TCE), 12 ppb of chloroform and 24 ppb of tetrachloroethene (PCE) were observed during the March 2016 sampling event (286 ppb of total VOCs). MW-11 is sampled and analyzed quarterly as part of the routine site monitoring program. This well typically has exhibited wide variability in TCE concentration and over the last seventeen quarters has ranged from 15 ppb to the 250 ppb observed for the March 2016 event. The mean concentration of TCE and total VOCs since June 2012 is 61 ppb and 89 ppb, respectively. At the other locations where VOCs were detected, the MCL was exceeded by less than 3 ppb except at MW-8 during the September 2016 sampling event where 11 ppb of TCE was reported.

Monitoring wells WW-1 through WW-6, WP-1 and WP-4 are sampled and analyzed for VOCs annually as part of the West Well / Parking Area groundwater monitoring program. There are two nested monitoring well pairs in this group (WW-1 & WW-2 and WW-3 & WW-6) which include a shallow and deep monitoring well (Figure 2). Data reported between June 2006 and June 2016 for the compounds of concern are summarized in Table 2. From these data it is apparent that there have been very few occasions where VOCs above the MCL have been observed in the last eleven years. Furthermore, when VOCs above the MCL were reported, primarily 1,2 DCE at deep overburden well WW-1, the exceedance was nominal, averaging less than 3 ppb greater than the MCL.

Of note, all the wells that contained VOCs above the MCLs are installed in the shallow overburden, less than 10 feet below the surface of the water table. Additionally, they are within the foot print of the plating building except MW-7. Importantly, perimeter shallow monitoring wells including MW-1 through MW-4, WP-1 and WW-2 through WW-4 were below the MCLs.

Figure 3 and Figure 4 provide a comparison between the total VOCs detected during the two 2016 sampling events and those values observed during the initial hydrogeologic investigations in the mid-1980s for the wells screened in the shallow and deep overburden, respectively.

In the shallow overburden, the greatest reduction in total VOCs has occurred nearest the former solvent storage area, the primary source of contaminants identified in the early investigations (Exhibit B). At WW-2 and WW-3 (Figure 3), the total VOC concentrations reported for samples collected in July 1984 were 205 ppb and 4,550 ppb, respectively. They are now both less than 5 ppb. Additionally, at WP-1, where one of the highest total VOC concentrations in the shallow overburden near the western parking area had been reported during the initial investigations (127 ppb), the concentration is now less than 5 ppb. Furthermore, and importantly, a reduction in total VOCs from 17 ppb in February 1985 to less than 1 ppb in September 2016 at off-site well WW-4 has also been observed.

The reduction in VOCs in deep overburden wells is also substantial. As illustrated on Figure 4, the concentration of total VOCs at wells WW-1 and WW-6, the wells nearest the former solvent storage area, have been reduced from 980 ppb (July 1984) and 448 ppb (March 1986) to 6.4 ppb and less than 1 ppb, respectively. Referring to Table 1, the total VOCs of 6.4 ppb reported for the September 2016 event represents the sum of 1,2 DCE (3.1 ppb), TCE (2.2 ppb) and PCE (1.1 ppb) all of which were below their respective MCL of 5 ppb. At the western end of the site, WP-4 has been reduced from 10 ppb total VOCs to less than 1 ppb.

As noted earlier, the West Well discharge (treatment system influent) is sampled and analyzed monthly for VOCs. These data are reported to NYSDEC quarterly. The historical comparison values depicted for the West Well on Figure 4 are consistent with that routine monitoring; the mean influent total VOCs since June 2006 is 74 ppb. These relatively low concentrations of VOCs suggest that small amounts of residual contaminants persist in close proximity to the West Well.

West Well Capture Area Assessment at Lower Yields

Prior to testing the aquifer's response to lower pumping rates, some electrical and instrumentation / control modifications to the West Well were necessary such that the discharge rate could be adjusted and monitored. More specifically, the following components were added:

- variable frequency drive to control motor speed
- in-line flow meter prior to the treatment system
- West Well level indicator

- data logging unit

After the control modifications were completed and in coordination with the Village of Sidney to furnish supplemental water to meet Amphenol's manufacturing process needs, the aquifer response testing was initiated.

The aquifer response testing included three steps:

- cessation of West Well pumping to allow the full recovery of aquifer hydraulic heads to static (non-pumping) conditions
- re-start of the West Well at the minimum process demand of approximately 90 gallons per minute (GPM)
- following stabilization of the aquifer hydraulic heads at the 90 GPM withdrawal rate, West Well discharge was increased to 162 GPM, the approximate maximum process demand, until aquifer stabilization was again observed.

During the aquifer responses testing, groundwater elevations were monitored continuously using programmable pressure transducers in deep overburden wells WW-1, WW-5, WW-6 and WP-1. Additionally, a bedrock monitoring well directly adjacent to the West Well was also monitored via pressure transducer. This well allowed monitoring of the hydraulic head directly adjacent to the groundwater extraction point without the turbulence interferences that typically occur inside a pumping well equipped with a line-shaft turbine pump. Groundwater elevations at shallow overburden wells were only occasionally monitored since it has been established during the historic studies and routine monitoring that the shallow wells do not respond to West Well pumping. All groundwater elevation data are provided in Appendix B.

The ERM report (Exhibit B) notes that WW-1 yields groundwater elevation data that is inconsistent with the other deep overburden monitoring wells. This was also apparent during the recent aquifer response testing as evidenced by the groundwater water elevation at WW-1 actually increasing during the 90 GPM pumping portion of the test while WW-5, WW-6 and WP-4 groundwater elevations, as expected, decreased in response to pumping. Although the specific cause for the anomalous groundwater levels observed at this well is not known, it is suspected that leakage may be occurring in the annular space between the borehole wall and well casing. Therefore, data collected from WW-1 was not used for this evaluation.

The aquifer performance test completed by ERM as part of the initial evaluations (Exhibit B) was completed at a much higher pumping rate (438 GPM) than the present process water demand pumping rates. From these earlier data, ERM estimated transmissivity, T, a measure of the intrinsic transmission capability of an aquifer (Theis; USGS; 1935) of the deep overburden to be 4,680 gallons per day per foot (gal/day/ft) using the curve matching calculation method described by Fetter (*Applied Hydrogeology; 1980*) to solve the Theis non-equilibrium flow equation for the drawdown data they observed at well WP-4. Using the estimated value for T, ERM calculated the hydraulic conductivity, K, of the overburden materials to be approximately 25 ft/day. This is consistent with the K typically determined for glaciofluvial sands like those observed at the site.

Estimations of T were also calculated to compare the recent collected aquifer response testing data to the aquifer performance test completed earlier by ERM. Using the Cooper-Jacobs straight line method (an approximation for the Theis equation also described by Fetter) to calculate T, the recently collected drawdown data from WP-4 during the 90 GPM portion of the test is estimated to be 6,491 gal/day/ft. Estimating T for the WW-6 drawdown data results in 5,045 gal/day/ft. Furthermore, applying the Cooper-Jacobs approach to derive T for the higher discharge rate data collected by ERM at WP-4 produces a value of 7,638 gal/day/ft. The T values derived from the two separate tests and two different calculation methods compare well and indicate relatively uniform aquifer response for variable withdrawal rates. Calculations using the recently collected, lower pumping rate data are provided in Appendix C.

Data plot 1 illustrates the groundwater elevations recorded for the final 11 hours of the recovery period and the subsequent 90 GPM and 162 GPM pumping periods. Figures 5, 6 and 7 were constructed using these data to illustrate the deep overburden static (fully recovered) potentiometric surface and the capture areas generated by the 90 GPM and 162 GPM pumping rates, respectively.

Figure 5 illustrates the deep overburden potentiometric surface following 38 hours of recovery after shut-down of the West Well. Static groundwater flow is generally to the northwest with a hydraulic gradient of 0.006. This is similar to the ERM's interpretation of non-pumping conditions (Exhibit B) and consistent with the regional hydrogeology described by Heisig (USGS Scientific Investigations Report 2012-5282). Using this static gradient, a K value of 25 ft/day and porosity of 0.3 (30% for fine sand), the average liner groundwater flow velocity is 0.5 ft/day under fully recovered, static conditions.

The equilibrium potentiometric surface that resulted from 90 GPM discharge rate is depicted in Figure 6. Equilibrium was observed after about 24 hours of pumping. Pumping was continued for another 7 hours to confirm that no noteworthy additional drawdown was occurring and that the observed equilibrium was not the result of delayed vertical drainage from aquifer de-watering. The resulting area of influence, and the West Well capture area, extends approximately 250 feet hydraulically down gradient, off-site to the northwest. At this location, pumping of the West Well reverses the natural, static direction of groundwater flow to the northwest, back to the southeast toward the extraction point. Furthermore, the 90 GPM pumping rate creates a hydraulic gradient of 0.013, twice the static gradient and therefore twice the groundwater flow velocity, from the downgradient limit back toward the West Well.

Figure 7 illustrates the equilibrium potentiometric surface that was created by a discharge rate of 162 GPM, the approximate maximum process demand. The aerial configuration of the capture area is similar to that created by the 90 GPM West Well yield. However, the hydraulic gradient from the off-site, down-gradient direction doubled from 0.013 to 0.027. This flow direction reversal gradient is four times that of the static gradient and groundwater flow velocity, back to the southeast direction and to the West Well. Although the capture area downgradient extent, or stagnation point, cannot be specifically defined from the available data, given the relatively steep gradient, it no doubt extends beyond that created by the 90 GPM discharge rate.

Operation of the West Well at its full discharge capacity has successfully remediated contaminants in the shallow and deep overburden in the West Well / Parking Area site. Based on the aquifer response evaluation, the capture areas generated by both the 90 and 162 GPM discharge are sufficient to control the remaining groundwater contaminants at the West Well site.

West Well Overflow Elimination Approach

As stated in AOC, the goal of the remedial program is to “to abate and mitigate, in a cost effective manner and to the extent practicable, any significant threat to human health and the environment.” The data collected from the contaminant distribution review and capture area assessment indicate that:

- there has been a reduction of contaminant concentrations in both the shallow and deep overburden to levels near or below MCLs
- at reduced pumping rates consistent with plant operational needs, migration of residual contamination continues to be controlled effectively

It is proposed that the West Well be operated only during production hours and at a discharge rate which meets the minimum manufacturing process demands. Reducing the pumping of the West Well provides environmental benefits by eliminating excessive and unnecessary exploitation of groundwater resources and discontinuing the overflow of unused groundwater resources to outfall #002 thereby reducing or eliminating WET exceedances.

Proposed future West Well operation schedule and discharge rates

Amphenol typically operates their plating operation and requires process water delivery an average of six days per week throughout the year. This schedule creates an 18 hour period when process water is not required (between the end of the Saturday third shift at 7 AM on Sunday morning until 11 PM Sunday night when flow to the plating baths is restarted, 8 hours in advance of the first shift arriving at 7AM Monday). The day and afternoon shifts (first and second shifts) both consume process water at a rate of about 160 GPM; third shift uses about 90 GPM. Therefore, the potentiometric surface and resulting capture area generated by the 162 GPM West Well discharge occurs most frequently. It is expected that this production will be maintained.

Periodic production shut-downs occur for holidays and maintenance for both the West Well and the plating operation’s wastewater treatment system. The maintenance shut-downs typically last one week and occur around the Independence Day holiday. Holiday and maintenance shut-downs will continue. Groundwater quality monitoring data collected since the remedial effort began have not indicated that these periodic shut-downs have adversely affected continued contaminant capture. The regular and routine groundwater monitoring program will continue.

Proposed on-demand process water delivery system

To accommodate the proposed operation and discharge rate modifications, the design and construction of an on-demand process water delivery system will be completed. Figure 8

illustrates the conceptual design of the proposed on-demand process water delivery system.

The system will include:

- submersible well pump capable of delivering between 50 and 200 GPM
- variable frequency drive (VFD) to control pump speed
- hydro-pneumatic pressure tank to regulate process flows
- meters to monitor flow from the well and to the process water conveyance system
- programmable logic controller (PLC) to regulate system operations

TABLES

Table 1
Amphenol Corporation
West Well / Parking Area Site
Groundwater Chemistry Summary
March and September 2016 Sampling Events

Parameter - MCL	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		MW-7		MW-8		MW-9		MW-11		MW-12	
	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16
<u>Field Measurements</u>																						
pH (su)	6.3	6.8	6.4	6.7	6.7	7.0	6.8	6.7	6.3	6.6	6.4	6.4	7.0	6.8	6.0	5.3	6.0	5.5	3.2	3.1	6.4	6.2
Temperature (degrees C)	10	18	10	13	10	16	11	15	10	15	10	15	11	17	14	17	14	15	15	17	14	15
Specific Conductance (umhos/cm)	541	402	680	597	973	735	833	783	689	985	978	1167	941	726	1167	3285	658	720	3217	2175	631	645
Turbidity (ntu)	20	207	5	773	7	>999	10	31	4	25	5	10	4	10	1	5	7	14	7	22	5	13
<u>Metals (parts per million)</u>																						
Cadmium - 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.013	0.010	0.016	<0.005	<0.005	0.043	0.043	0.036	0.033	0.410	0.679	0.012	0.020	1.030	0.457	0.039	0.038
Chromium - 0.050	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	0.008	0.030	<0.005	<0.005	<0.005	<0.005	0.007	0.034	<0.005	<0.005	<0.005	<0.005	0.359	0.396	0.008	<0.005
Nickle - 0.100	<0.020	0.073	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.090	0.249	<0.020	<0.020	4.600	1.790	0.062	0.129
Zinc - 2	<0.010	0.049	<0.010	0.269	0.014	1.30	<0.010	0.035	<0.010	0.026	0.044	0.190	0.050	0.050	0.381	0.737	<0.010	<0.010	1.460	0.600	0.040	0.020
<u>Volatile Organics (parts per billion)</u>																						
Vinyl chloride - 2	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<20	<2	<10	<1
Total 1,2 Dichloroethene - 5	<5	<1	<5	1.5	<5	2.0	<5	1.6	<5	1.6	<5	1.6	<5	<1	<5	3.2	<5	1.8	<10	5.3	<5	2.2
Chloroform - 7	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	5.5	<5	<1	12.0	5.9	<5	<1
Trichloroethene - 5	<5	<1	<5	1.3	<5	1.2	<5	2.6	<5	1.3	<5	1.2	5.5	6.6	6.8	11.0	<5	2.6	250.0	130.0	<5	1.4
Tetrachloroethene - 5	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	1.0	24.0	20.0	<5	2.4
Total Method 8260 Parameters	0.0	0.0	0.0	2.8	0.0	3.2	0.0	4.2	0.0	2.9	0.0	2.8	5.5	6.6	6.8	19.7	0.0	5.4	286.0	161.2	0.0	6.0
Cyanide, Total (ppb) - 200	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	37.0	14.0	<10	<10

Notes:

1. Values of 0.0 for Total Method 8260 Parameters indicates no detection of those analytes

2. All well installed in shallow overburden except WW-1, WW-5, WW-6 and WP-4

Table 1
Amphenol Corporation
West Well / Parking Area Site
Groundwater Chemistry Summary
March and September 2016 Sampling Events

Parameter - MCL	MW-13		MW-14		WW-1		WW-2		WW-3		WW-4		WW-5		WW-6		WP-1		WP-4	
	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16	Mar-16	Sep-16
<u>Field Measurements</u>																				
pH (su)	6.4	6.1	6.3	6.1	6.5	6.0	5.1	6.3	6.1	7.5	5.4	7.0	7.3	6.9	8.4	8.5	6.2	6.8	6.4	6.5
Temperature (degrees C)	15	16	14	16	15	17	11	17	11	18	8	17	11	14	12	17	10	17	12	13
Specific Conductance (umhos/cm)	888	832	688	679	645	578	684	649	1076	515	901	476	452	387	646	336	626	713	712	713
Turbidity (ntu)	4	10	7	8	260	651	10	356	40	>999	1	685	91	168	405	148	101	946	210	117
<u>Metals (parts per million)</u>																				
Cadmium - 0.005	0.214	0.169	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.021	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium - 0.050	<0.005	<0.005	<0.005	<0.005	<0.005	0.062	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.009	<0.005	<0.005	0.009	<0.005	<0.005
Nickle - 0.100	1.160	0.646	<0.020	<0.020	<0.020	0.142	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.025	<0.020	<0.020
Zinc - 2	0.212	0.123	<0.010	<0.010	<0.010	0.069	<0.010	0.021	0.015	0.028	<0.010	<0.010	<0.010	0.280	0.092	0.169	<0.010	0.053	0.022	0.330
<u>Volatile Organics (parts per billion)</u>																				
Vinyl chloride - 2	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1	<10	<1
Total 1,2 Dichloroethene - 5	<5	1.6	<5	1.4	<5	3.1	<5	1.7	<5	1.1	<5	<1	<5	<1	<5	<1	<5	1.5	<5	<1
Chloroform - 7	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1
Trichloroethene - 5	<5	2.4	<5	1.1	<5	2.2	<5	<1	<5	1.6	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1
Tetrachloroethene - 5	7.9	7.6	<5	<1	<5	1.1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1	<5	<1
Total Method 8260 Parameters	7.9	11.6	0.0	2.5	0.0	6.4	0.0	1.7	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0
Cyanide, Total (ppb) - 200	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<10

Notes:

1. Values of 0.0 for Total Method 8260 Parameters indicates no detection of those analytes

2. All well installed in shallow overburden except WW-1, WW-5, WW-6 and WP-4

Table 2
Amphenol Corporation
West Well and Parking Area Site
Annual Sampling Event VOC Summary

Parameter (MCL) - ppb / Well ID	Jun-06	Jun-07	Jun-08	Jun-09	Jun-10	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	Jun-16
<i>Vinyl Chloride - 2 ppb</i>											
WW-1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WP-1	<1	4.4	<1	1.1	1.5	1.1	<1	<1	<1	<1	<1
WP-4	<1	2.9	<1	<1	<1	<1	<1	<1	<1	<1	<1
<i>Total 1,2 Dichloroethene - 5 ppb</i>											
WW-1	3.7	7.4	8.5	6.5	7.2	9.6	5.5	3.6	2.8	5.3	3.2
WW-2	2.0	5.2	3.9	<1	<1	3.9	1.0	1.2	<1	<1	<1
WW-3	1.7	9.2	3.3	5.0	3.9	5.4	2.6	<1	2.5	2.3	1.8
WW-4	<1	<1	<1	<1	<1	<1	<1	3.8	<1	<1	<1
WW-5	<1	<1	<1	<1	<1	<1	<1	1.8	<1	<1	<1
WW-6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WP-1	1.3	4.3	2.9	<1	<1	<1	<1	1.1	<1	<1	<1
WP-4	1.5	4.8	1.5	4.4	1.8	<1	<1	<1	<1	<1	<1
<i>Trichloroethene - 5 ppb</i>											
WW-1	3.6	6.2	7.9	<1	<1	<1	<1	<1	<1	<1	<1
WW-2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-3	7.9	4.9	3.6	<1	<1	<1	<1	<1	<1	<1	<1
WW-4	<1	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WP-1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WP-4	<1	1.1	1.1	<1	<1	<1	<1	<1	<1	<1	<1
<i>Tetrachloroethene - 5 ppb</i>											
WW-1	1.9	5.0	3.6	3.7	4.2	3.1	2.5	1.8	2.8	2.7	1.5
WW-2	<1	<1	<1	<1	<1	<1	1.0	<1	<1	<1	<1
WW-3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WW-6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WP-1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WP-4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
<i>Total VOCs</i>											
WW-1	9.2	18.6	20.0	10.2	11.4	12.7	8.0	5.4	5.6	8.0	4.7
WW-2	2.0	5.2	3.9	<1	<1	3.9	2.0	1.2	<1	<1	<1
WW-3	9.6	14.1	6.9	5.0	3.9	5.4	2.6	<1	2.5	2.3	1.8
WW-4	<1	1.1	<1	<1	<1	<1	<1	3.8	<1	<1	<1
WW-5	<1	<1	<1	<1	<1	<1	<1	1.8	<1	<1	<1
WW-6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
WP-1	1.3	8.7	2.9	1.1	1.5	1.1	<1	1.1	<1	<1	<1
WP-4	1.5	8.8	2.6	4.4	1.8	<1	<1	<1	<1	<1	<1

FIGURES

FIGURE 1
AMPHENOL CORPORATION
WEST WELL
PLATING BUILDING
SIDNEY, NEW YORK

EXISTING OUTFALL
001 AND 002
LOCATION PLAN

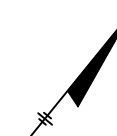
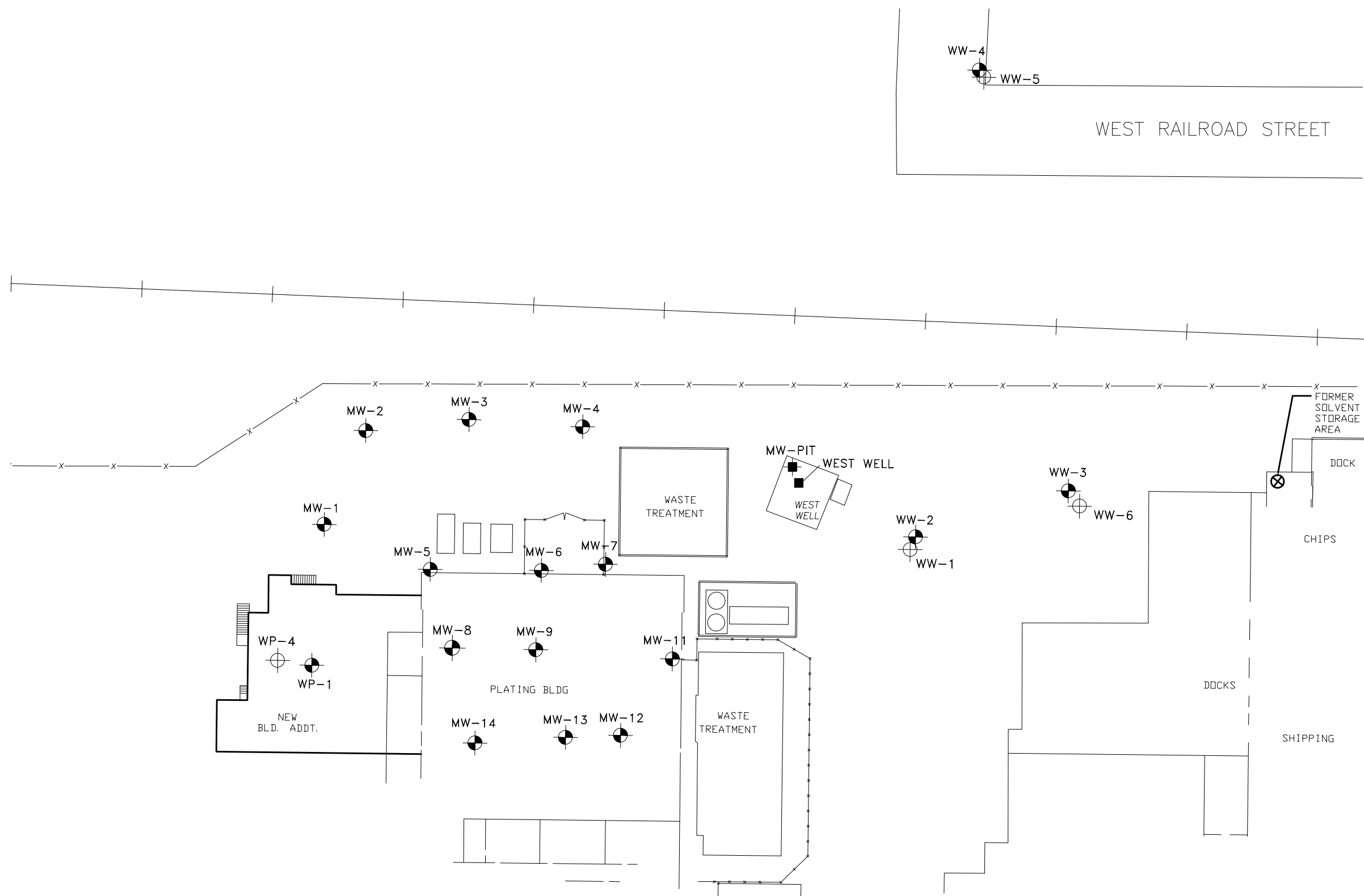


NOT TO SCALE

FILE NO. 001.001-148

FIGURE 2
AMPHENOL CORPORATION
WEST WELL
PLATING BUILDING
SIDNEY, NEW YORK

GROUNDWATER
MONITORING WELL
LOCATIONS



LEGEND

- x—x— FENCE LINE
- +—+— RAILROAD
- SUPPLY WELL LOCATION
- + BEDROCK MONITORING WELL LOCATION
- ⊕ DEEP OVERBURDEN MONITORING WELL
- SHALLOW OVERBURDEN MONITORING WELL

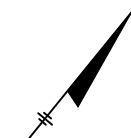
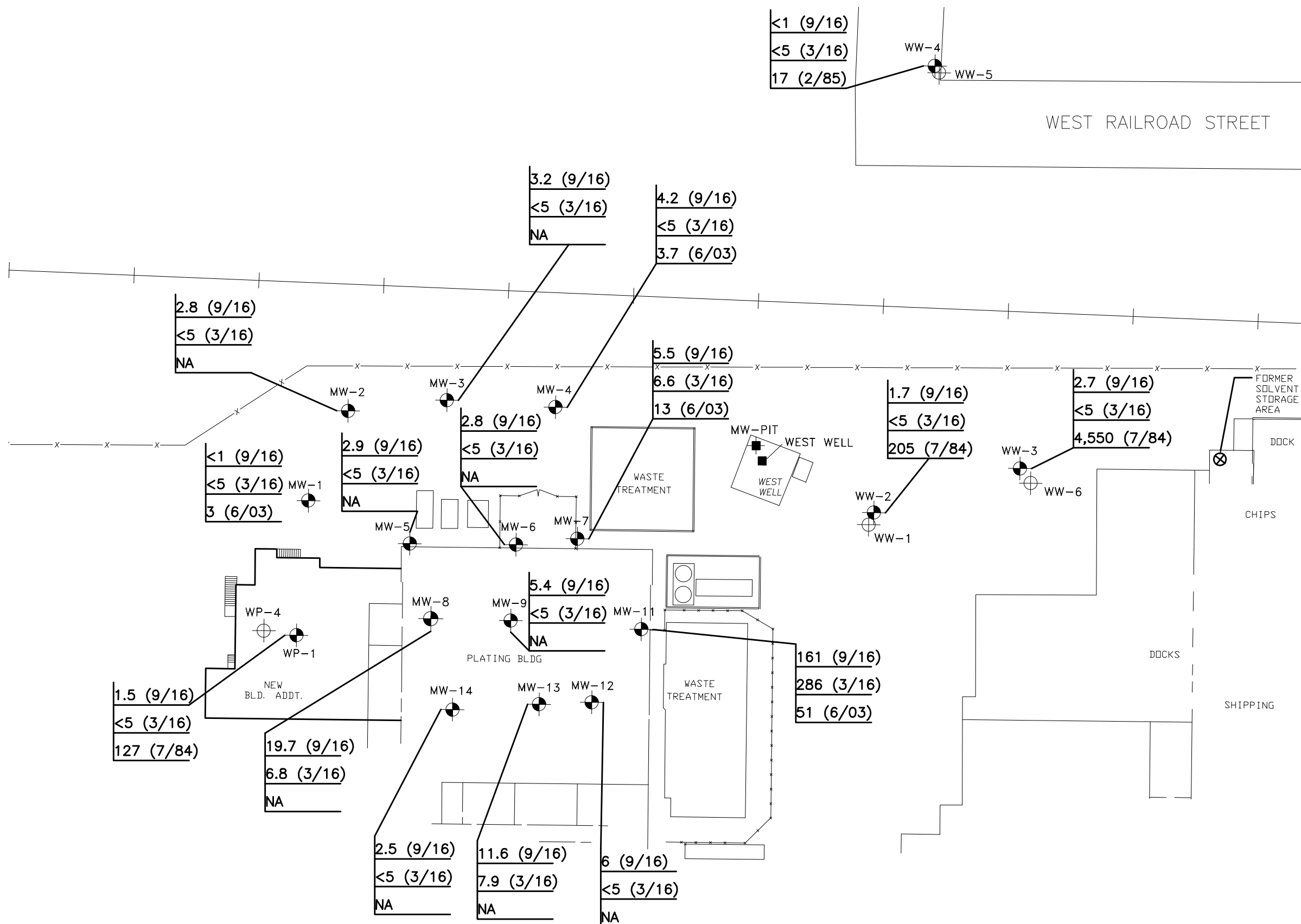


Adapted from Lawson Surveying and Mapping, copyright 2016, all rights reserved/ adapted from Lawson drawing 5748-1.

FILE NO. 001.001-148

FIGURE 3
AMPHENOL CORPORATION
WEST WELL
PLATING BUILDING
SIDNEY, NEW YORK

TOTAL VOC CONCENTRATION (ppb)
HISTORICAL COMPARISON
SHALLOW OVERBURDEN WELLS

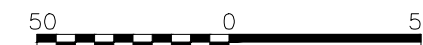


LEGEND

- FENCE LINE
- RAILROAD
- SUPPLY WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- DEEP OVERBURDEN MONITORING WELL
- SHALLOW OVERBURDEN MONITORING WELL

WELL DATA SAMPLING
EVENTS ppb/(DATE)
NA = HISTORICAL DATA
NOT AVAILABLE

2.7 (9/16)
<5 (3/16)
4,550 (7/84)



Adapted from Lawson Surveying and Mapping, copyright 2016, all rights reserved/ adapted from Lawson drawing 5748-1.

FILE NO. 001.001-150

FIGURE 4

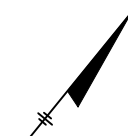
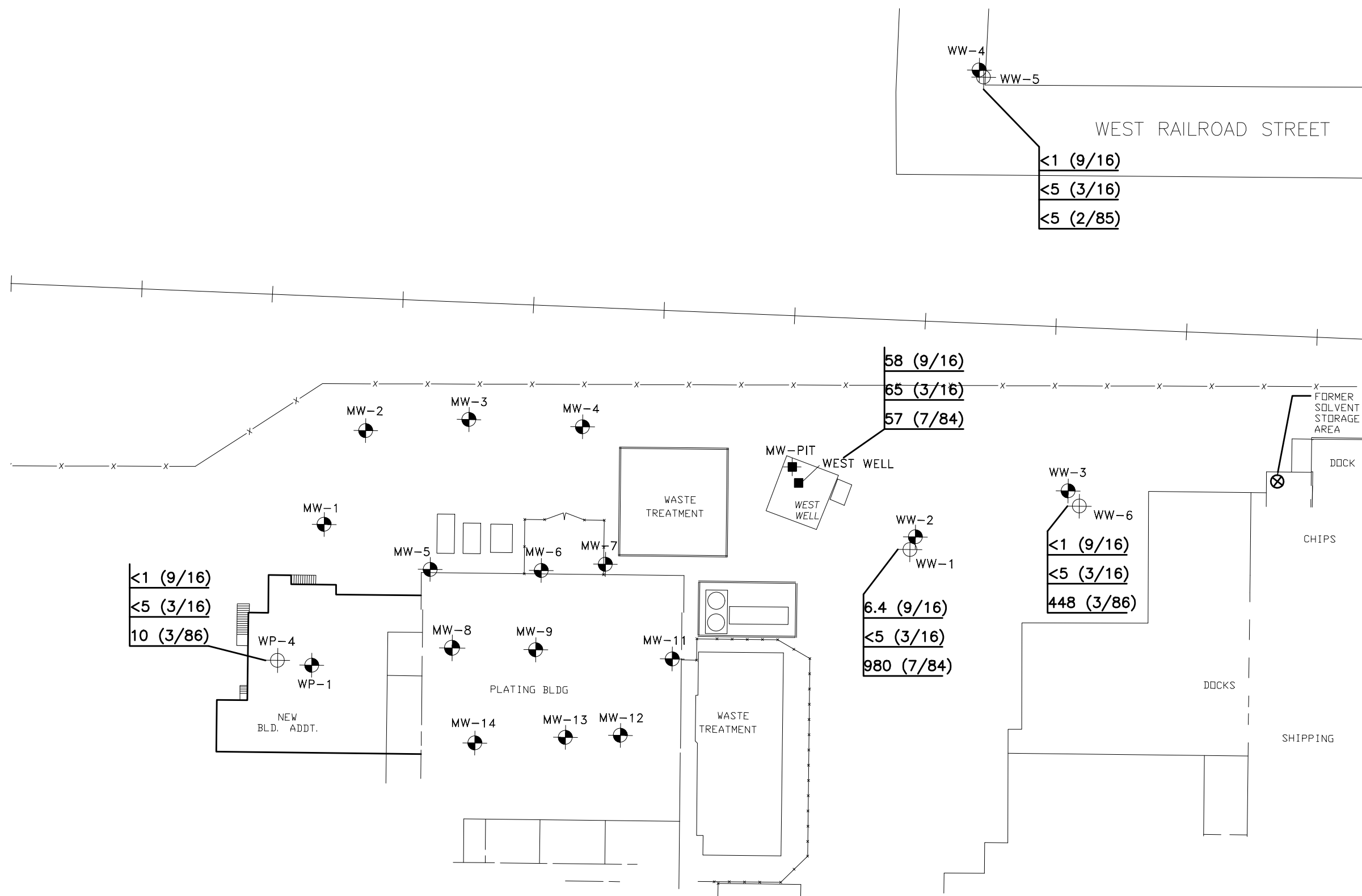
AMPHENOL CORPORATION

WEST WELL

PLATING BUILDING

SIDNEY, NEW YORK

TOTAL VOC CONCENTRATION (ppb)
HISTORICAL COMPARISON
DEEP OVERBURDEN WELLS



LEGEND

- x — x — FENCE LINE
 - + — + — RAILROAD
 - SUPPLY WELL LOCATION
 - + BEDROCK MONITORING WELL LOCATION
 - ⊕ DEEP OVERBURDEN MONITORING WELL
 - ⊙ SHALLOW OVERBURDEN MONITORING WELL
- WELL DATA SAMPLING
EVENTS ppb/(DATE)

<1 9/16)

<5 (3/16)

448 (3/86)



Adapted from Lawson Surveying and Mapping, copyright 2016, all rights reserved/ adapted from Lawson drawing 5748-1.

FILE NO. 001.001-148

DWG PATH: C:\DWGS\JTM-ASSOCIATES\AMPHENOL\WEST_WELL_SITE\10TR98\153.DWG SF 11

PLOT DATE: 12/18/2016

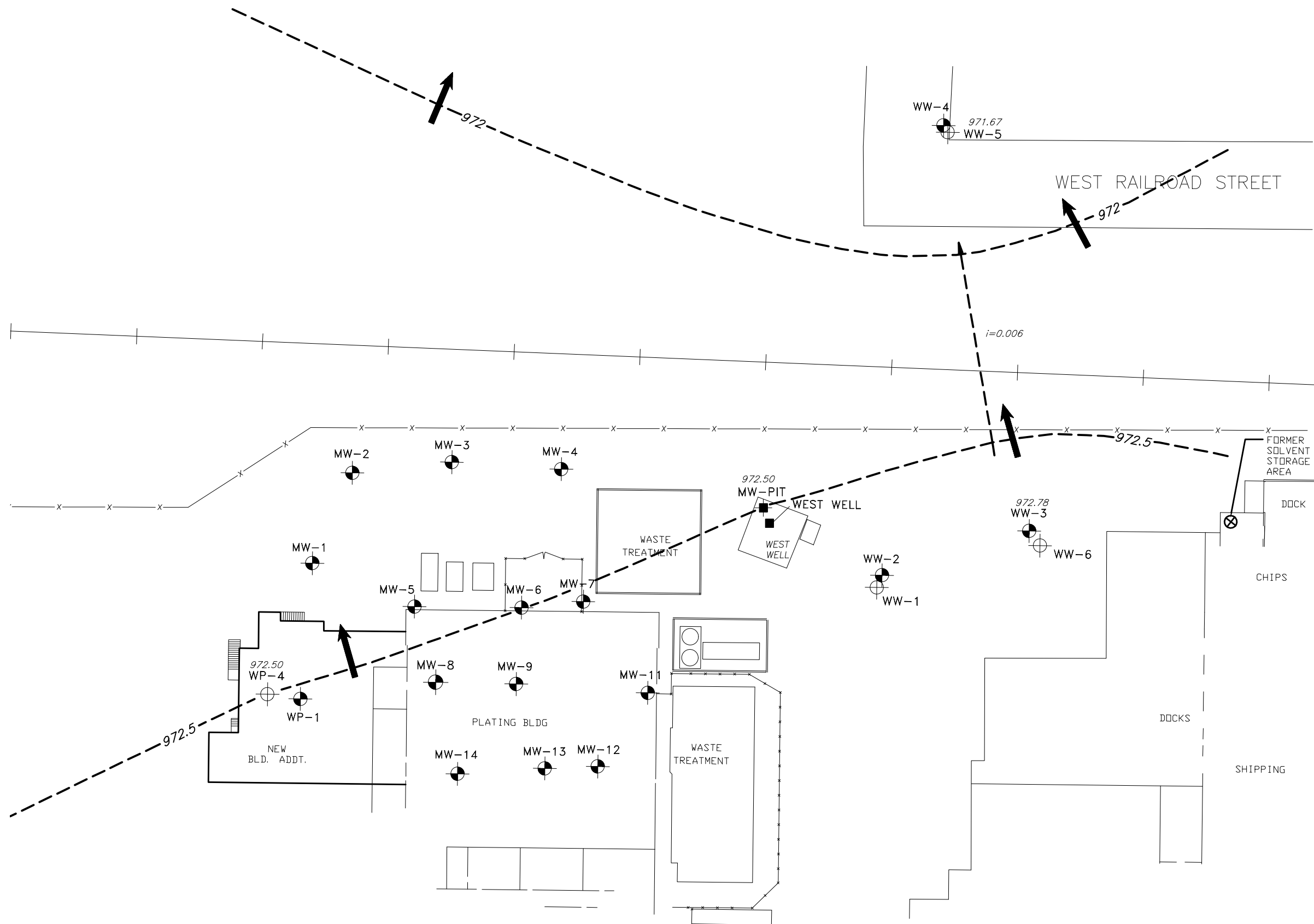
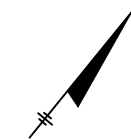


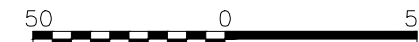
FIGURE 5
AMPHENOL CORPORATION
WEST WELL
PLATING BUILDING
SIDNEY, NEW YORK

DEEP OVERBURDEN
POTENTIOMETRIC SURFACE
STATIC CONDITIONS
FOLLOWING 46HRS RECOVERY



LEGEND

- x — x — FENCE LINE
- + — + — RAILROAD
- SUPPLY WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- ⊕ DEEP OVERBURDEN MONITORING WELL
- SHALLOW OVERBURDEN MONITORING WELL
- - - 972 GROUND WATER TABLE CONTOUR (DASHED WHERE INFERRED)
- 972.78 GROUND WATER ELEVATION (Feet)



Adapted from Lawson Surveying and Mapping, copyright 2016, all rights reserved/ adapted from Lawson drawing 5748-1.

FILE NO. 001.001-153

DWG PATH: C:\DWGS\JTM-ASSOCIATES\AMPHENOL\WEST_WELL_SITE\10TR98\151.DWG SF 11

PLOT DATE: 12/18/2016

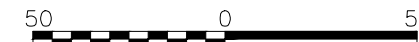
FIGURE 6
AMPHENOL CORPORATION
WEST WELL
PLATING BUILDING
SIDNEY, NEW YORK

DEEP OVERBURDEN
POTENTIOMETRIC SURFACE
EQUILIBRIUM AT
90 GPM



LEGEND

- x—x— FENCE LINE
- +—+— RAILROAD
- SUPPLY WELL LOCATION
- + BEDROCK MONITORING WELL LOCATION
- ⊕ DEEP OVERBURDEN MONITORING WELL
- SHALLOW OVERBURDEN MONITORING WELL
- - - 964 GROUND WATER TABLE CONTOUR (DASHED WHERE INFERRED)
- 965.38 GROUND WATER ELEVATION (Feet)



FILE NO. 001.001-151



Adapted from Lawson Surveying and Mapping, copyright 2016, all rights reserved/ adapted from Lawson drawing 5748-1.

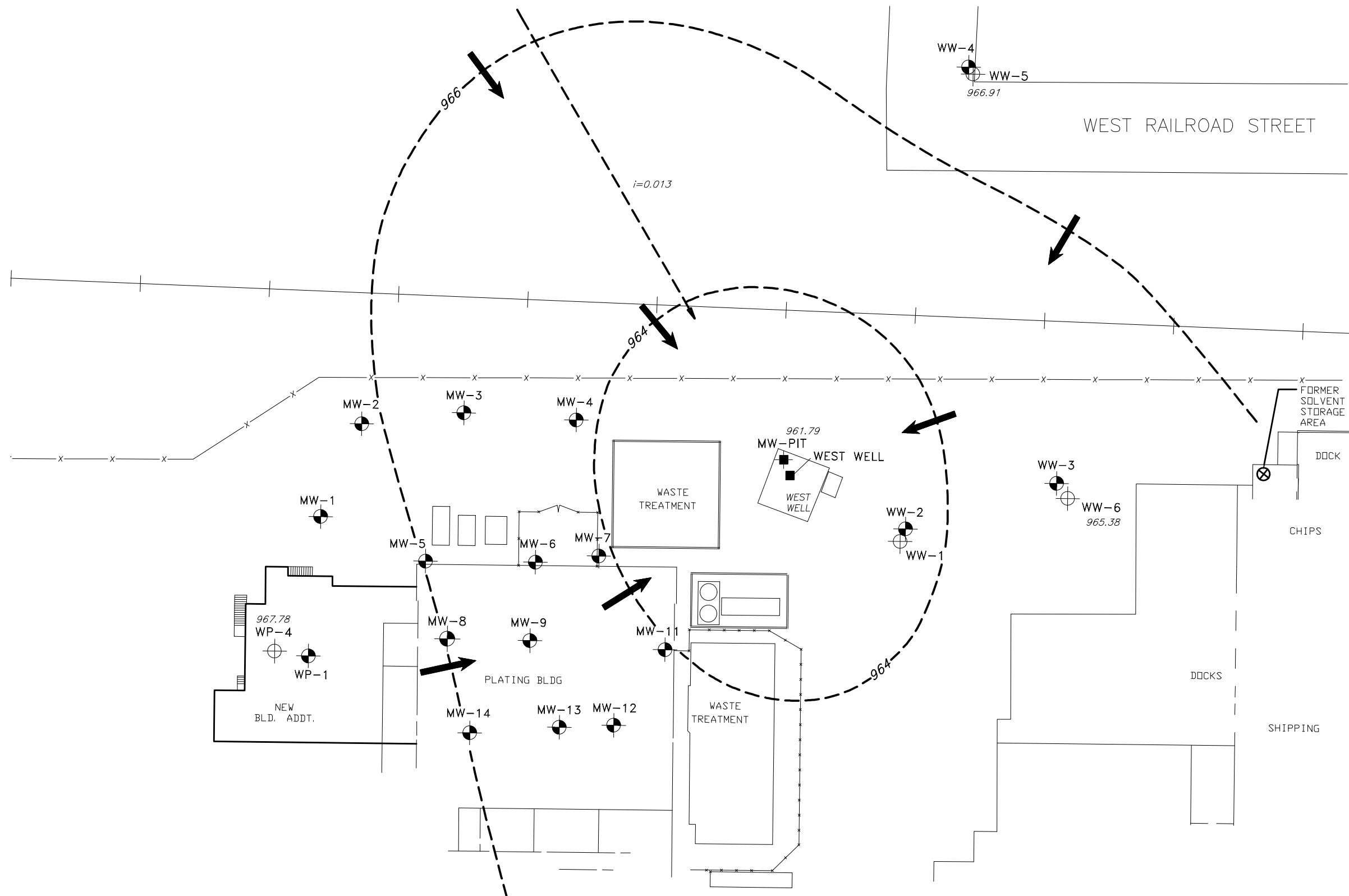
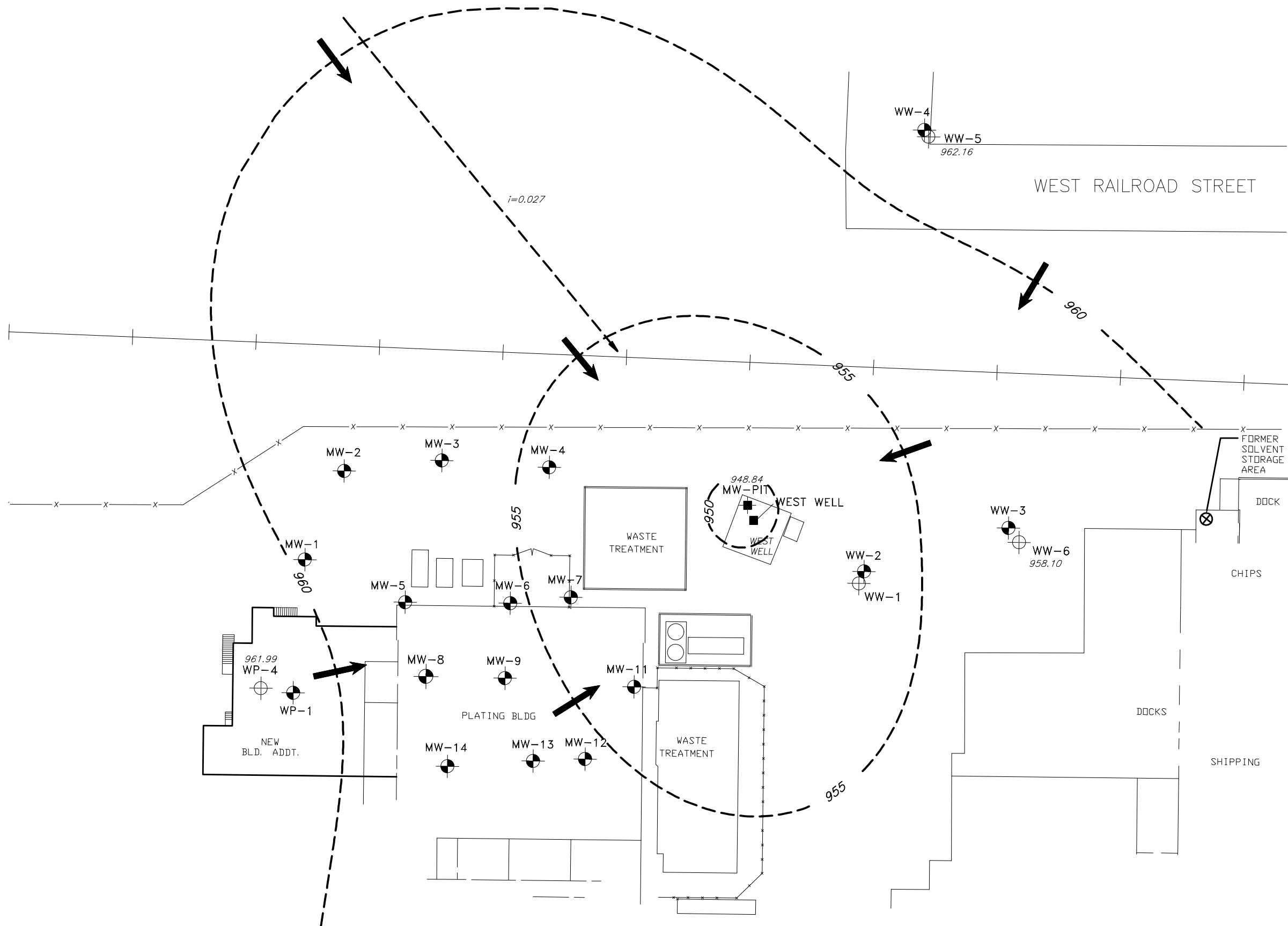


FIGURE 7
AMPHENOL CORPORATION
WEST WELL
PLATING BUILDING
SIDNEY, NEW YORK

DEEP OVERBURDEN
POTENTIOMETRIC SURFACE
EQUILIBRIUM AT
162 GPM



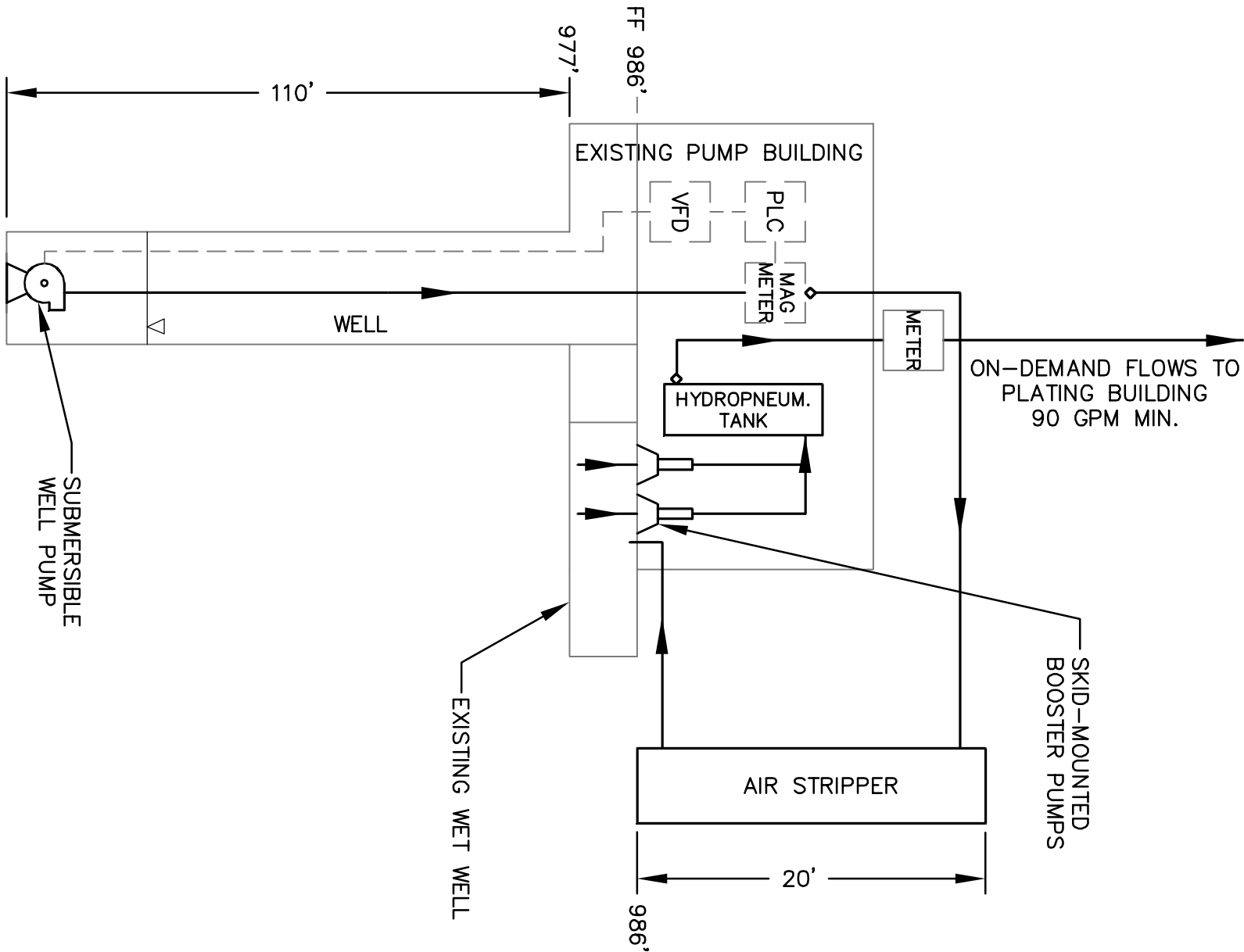
LEGEND

- x — x — FENCE LINE
- + — + — RAILROAD
- SUPPLY WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- ⊕ DEEP OVERBURDEN MONITORING WELL
- ⊙ SHALLOW OVERBURDEN MONITORING WELL
- - - 955 GROUND WATER TABLE CONTOUR (DASHED WHERE INFERRED)
- 958.10 GROUND WATER ELEVATION (Feet)

Adapted from Lawson Surveying and Mapping, copyright 2016, all rights reserved/ adapted from Lawson drawing 5748-1.

FILE NO. 001.001-152

Figure 8



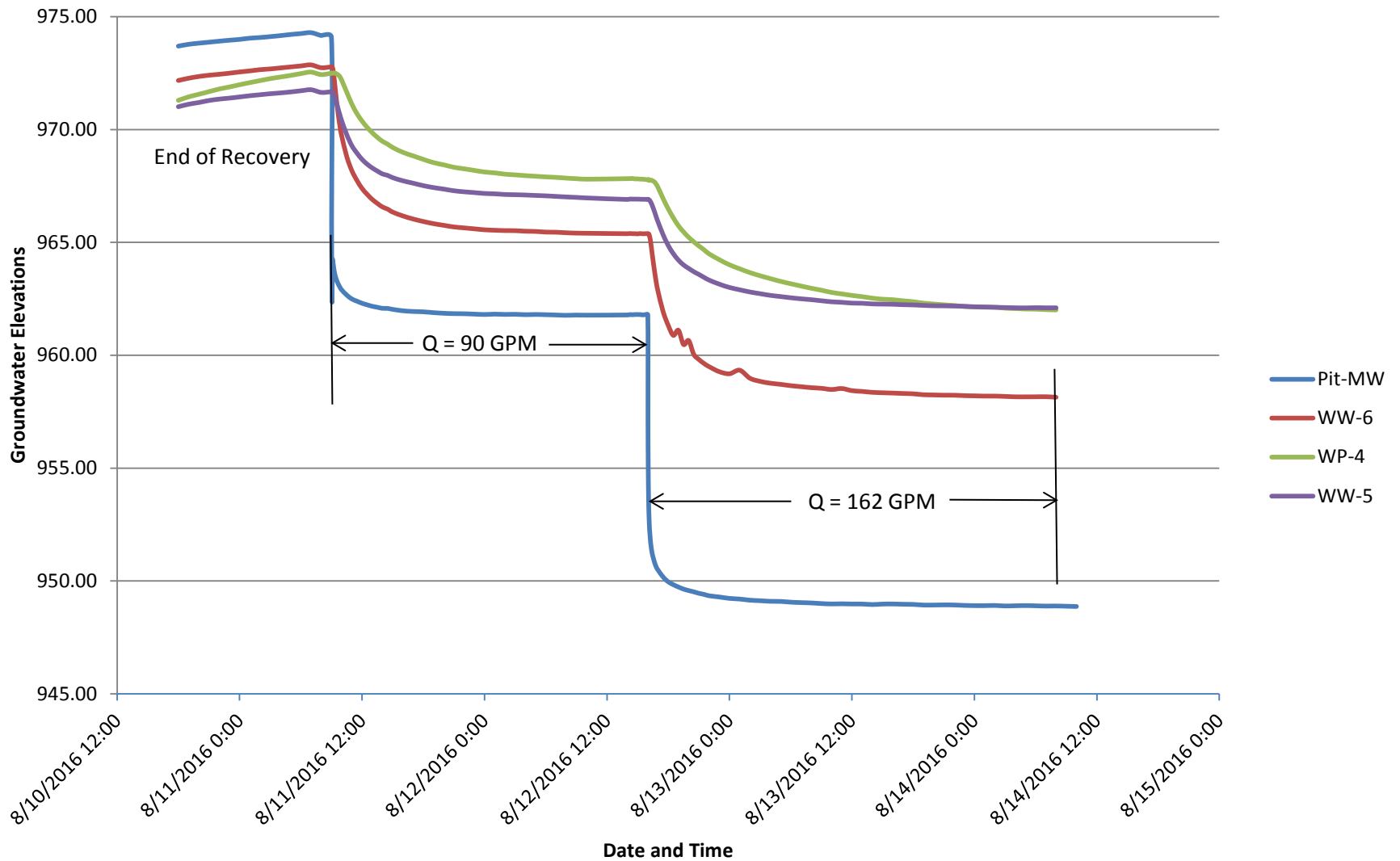
—	EXISTING
- - -	PROPOSED I&C
—	PROPOSED

DATA TREND PLOTS

Data Plot 1

West Well Capture Evaluation

Groundwater Elevations



APPENDICES

APPENDIX 1
Groundwater Analyses Laboratory Reports



Experience is the solution

314 North Pearl Street ♦ Albany, New York 12207
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

April 13, 2016

Jim Mickam
JTM Associates
PO Box 359
Bridgeport, NY 13030

Work Order No: 160401018

TEL: (315) 641-1216

FAX: (315) 461-4713

RE: West Well Site
Quarterly

Dear Jim Mickam:

Adirondack Environmental Services, Inc received 23 samples on 4/1/2016 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Tara Daniels
Laboratory Manager

ELAP#: 10709

Adirondack Environmental Services, Inc

CASE NARRATIVE

CLIENT: JTM Associates

Date: 13-Apr-16

Project: West Well Site

Lab Order: 160401018

The sampling was performed in accordance with the AES field sampling procedures and/or the client specified sampling procedures. Sample containers were supplied by Adirondack Environmental Services.

Qualifiers:

ND - Not Detected at reporting limit

J - Analyte detected below quantitation limit

B - Analyte detected in Blank

X - Exceeds maximum contamination limit

H - Hold time exceeded

C - Details are above in Case Narrative

S - LCS Spike recovery outside acceptable limits(+ is over - is under)

R - Duplication outside acceptable limits

T - Tentatively Identified Compound-Estimated

E -Above quantitation range-Estimated

M - Matrix Spike outside acceptable limits(+ is over - is under)

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-1
 Collection Date: 3/30/2016
 Lab Sample ID: 160401018-001
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	541	1.0		umhos/cm		3/30/2016
Elevation	974.87			ft		3/30/2016
pH	6.3			S.U.		3/30/2016
Static Water Level	6.47			ft		3/30/2016
Temperature	10			deg C		3/30/2016
Turbidity	20	1.0		NTU		3/30/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 5:36:55 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 5:36:55 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 5:36:55 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 5:36:55 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Carbon tetrachloride	< 5.0	5.0	M-	µg/L	1	4/4/2016 4:06:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-1
 Collection Date: 3/30/2016
 Lab Sample ID: 160401018-001
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
Methyl Acetate	< 5.0	5.0	M-	µg/L	1	4/4/2016 4:06:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 4:06:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:06:00 PM
Surr: 1,2-Dichloroethane-d4	114	80.3-122		%REC	1	4/4/2016 4:06:00 PM
Surr: 4-Bromofluorobenzene	89.3	74.1-124		%REC	1	4/4/2016 4:06:00 PM
Surr: Toluene-d8	94.8	79.6-110		%REC	1	4/4/2016 4:06:00 PM

CYANIDE, TOTAL - EPA 335.4 REV 1.0
 (Prep: 9010C - 4/4/2016)

Analyst: KB

Cyanide	< 0.010	0.010		mg/L	1	4/5/2016 2:21:00 PM
---------	---------	-------	--	------	---	---------------------

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-2
Collection Date: 3/30/2016
Lab Sample ID: 160401018-002
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	680	1.0		umhos/cm		3/30/2016
Elevation	975.08			ft		3/30/2016
pH	6.4			S.U.		3/30/2016
Static Water Level	6.45			ft		3/30/2016
Temperature	10			deg C		3/30/2016
Turbidity	5	1.0		NTU		3/30/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 5:52:33 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 5:52:33 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 5:52:33 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 5:52:33 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
Bromomethane	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
Chloroethane	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Acetone	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
2-Butanone	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-2
Collection Date: 3/30/2016
Lab Sample ID: 160401018-002
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
2-Hexanone	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/5/2016 2:49:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 2:49:00 PM
Surr: 1,2-Dichloroethane-d4	122	80.3-122		%REC	1	4/5/2016 2:49:00 PM
Surr: 4-Bromofluorobenzene	91.6	74.1-124		%REC	1	4/5/2016 2:49:00 PM
Surr: Toluene-d8	94.4	79.6-110		%REC	1	4/5/2016 2:49:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/4/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/5/2016 2:24:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-3
Collection Date: 3/30/2016
Lab Sample ID: 160401018-003
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	973	1.0		umhos/cm		3/30/2016
Elevation	975.04			ft		3/30/2016
pH	6.7			S.U.		3/30/2016
Static Water Level	7.74			ft		3/30/2016
Temperature	10			deg C		3/30/2016
Turbidity	7	1.0		NTU		3/30/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 6:08:23 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 6:08:23 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 6:08:23 PM
Zinc	0.014	0.010		mg/L	1	4/7/2016 6:08:23 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
Bromomethane	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
Chloroethane	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Acetone	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
2-Butanone	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-3
 Collection Date: 3/30/2016
 Lab Sample ID: 160401018-003
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
2-Hexanone	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/5/2016 3:10:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:10:00 PM
Surr: 1,2-Dichloroethane-d4	120	80.3-122		%REC	1	4/5/2016 3:10:00 PM
Surr: 4-Bromofluorobenzene	88.7	74.1-124		%REC	1	4/5/2016 3:10:00 PM
Surr: Toluene-d8	96.0	79.6-110		%REC	1	4/5/2016 3:10:00 PM

CYANIDE, TOTAL - EPA 335.4 REV 1.0 (Prep: 9010C - 4/4/2016)

Analyst: KB

Cyanide	< 0.010	0.010		mg/L	1	4/5/2016 2:30:00 PM
---------	---------	-------	--	------	---	---------------------

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-4
 Collection Date: 3/30/2016
 Lab Sample ID: 160401018-004
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE						Analyst: FLD
Conductivity	833	1.0		umhos/cm		3/30/2016
Elevation	975.01			ft		3/30/2016
pH	6.8			S.U.		3/30/2016
Static Water Level	9.36			ft		3/30/2016
Temperature	11			deg C		3/30/2016
Turbidity	10	1.0		NTU		3/30/2016
ICP METALS - EPA 200.7 REV 4.4 (Prep: SW3010A - 4/4/2016)						Analyst: SM
Cadmium	0.010	0.005		mg/L	1	4/7/2016 6:13:41 PM
Chromium	0.008	0.005		mg/L	1	4/7/2016 6:13:41 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 6:13:41 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 6:13:41 PM
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Chloromethane	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-4
Collection Date: 3/30/2016
Lab Sample ID: 160401018-004
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 4:28:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:28:00 PM
Surr: 1,2-Dichloroethane-d4	118	80.3-122		%REC	1	4/4/2016 4:28:00 PM
Surr: 4-Bromofluorobenzene	94.0	74.1-124		%REC	1	4/4/2016 4:28:00 PM
Surr: Toluene-d8	92.2	79.6-110		%REC	1	4/4/2016 4:28:00 PM

CYANIDE, TOTAL - EPA 335.4 REV 1.0
 (Prep: 9010C - 4/5/2016)

Analyst: KB

Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:17:00 PM
---------	---------	-------	--	------	---	----------------------

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-4 Duplicate
Collection Date: 3/30/2016
Lab Sample ID: 160401018-005
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	833	1.0		umhos/cm		3/30/2016
Elevation	975.01			ft		3/30/2016
pH	6.8			S.U.		3/30/2016
Static Water Level	9.36			ft		3/30/2016
Temperature	11			deg C		3/30/2016
Turbidity	10	1.0		NTU		3/30/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	0.014	0.005		mg/L	1	4/7/2016 6:18:59 PM
Chromium	0.024	0.005		mg/L	1	4/7/2016 6:18:59 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 6:18:59 PM
Zinc	0.013	0.010		mg/L	1	4/7/2016 6:18:59 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-4 Duplicate
Collection Date: 3/30/2016
Lab Sample ID: 160401018-005
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 4:49:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 4:49:00 PM
Surr: 1,2-Dichloroethane-d4	128	80.3-122	S	%REC	1	4/4/2016 4:49:00 PM
Surr: 4-Bromofluorobenzene	92.3	74.1-124		%REC	1	4/4/2016 4:49:00 PM
Surr: Toluene-d8	89.7	79.6-110		%REC	1	4/4/2016 4:49:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/5/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:21:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-5
 Collection Date: 3/30/2016
 Lab Sample ID: 160401018-006
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE						Analyst: FLD
Conductivity	689	1.0		umhos/cm		3/30/2016
Elevation	974.91			ft		3/30/2016
pH	6.3			S.U.		3/30/2016
Static Water Level	8.47			ft		3/30/2016
Temperature	10			deg C		3/30/2016
Turbidity	4	1.0		NTU		3/30/2016
ICP METALS - EPA 200.7 REV 4.4 (Prep: SW3010A - 4/4/2016)						Analyst: SM
Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 6:24:18 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 6:24:18 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 6:24:18 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 6:24:18 PM
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Chloromethane	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
Bromomethane	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
Chloroethane	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Acetone	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
2-Butanone	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-5
Collection Date: 3/30/2016
Lab Sample ID: 160401018-006
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
2-Hexanone	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/5/2016 3:32:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:32:00 PM
Surr: 1,2-Dichloroethane-d4	124	80.3-122	S	%REC	1	4/5/2016 3:32:00 PM
Surr: 4-Bromofluorobenzene	91.3	74.1-124		%REC	1	4/5/2016 3:32:00 PM
Surr: Toluene-d8	106	79.6-110		%REC	1	4/5/2016 3:32:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/5/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:23:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-6
 Collection Date: 3/30/2016
 Lab Sample ID: 160401018-007
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	978	1.0		umhos/cm		3/30/2016
Elevation	974.77			ft		3/30/2016
pH	6.4			S.U.		3/30/2016
Static Water Level	9.50			ft		3/30/2016
Temperature	10			deg C		3/30/2016
Turbidity	5	1.0		NTU		3/30/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	0.043	0.005		mg/L	1	4/7/2016 6:29:30 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 6:29:30 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 6:29:30 PM
Zinc	0.244	0.010		mg/L	1	4/7/2016 6:29:30 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-6
Collection Date: 3/30/2016
Lab Sample ID: 160401018-007
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 7:40:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 7:40:00 PM
Surr: 1,2-Dichloroethane-d4	116	80.3-122		%REC	1	4/4/2016 7:40:00 PM
Surr: 4-Bromofluorobenzene	95.8	74.1-124		%REC	1	4/4/2016 7:40:00 PM
Surr: Toluene-d8	97.7	79.6-110		%REC	1	4/4/2016 7:40:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/5/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:25:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-7
Collection Date: 3/31/2016
Lab Sample ID: 160401018-008
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	941	1.0		umhos/cm		3/31/2016
Elevation	978.40			ft		3/31/2016
pH	7.0			S.U.		3/31/2016
Static Water Level	7.90			ft		3/31/2016
Temperature	11			deg C		3/31/2016
Turbidity	4	1.0		NTU		3/31/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	0.036	0.005		mg/L	1	4/7/2016 6:34:55 PM
Chromium	0.007	0.005		mg/L	1	4/7/2016 6:34:55 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 6:34:55 PM
Zinc	0.050	0.010		mg/L	1	4/7/2016 6:34:55 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Trichloroethene	5.5	5.0		µg/L	1	4/4/2016 5:53:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-7
Collection Date: 3/31/2016
Lab Sample ID: 160401018-008
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 5:53:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:53:00 PM
Surr: 1,2-Dichloroethane-d4	119	80.3-122		%REC	1	4/4/2016 5:53:00 PM
Surr: 4-Bromofluorobenzene	93.1	74.1-124		%REC	1	4/4/2016 5:53:00 PM
Surr: Toluene-d8	97.3	79.6-110		%REC	1	4/4/2016 5:53:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/5/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:32:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-8
 Collection Date: 3/31/2016
 Lab Sample ID: 160401018-009
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	1167	1.0		umhos/cm		3/31/2016
Elevation	975.09			ft		3/31/2016
pH	6.0			S.U.		3/31/2016
Static Water Level	9.29			ft		3/31/2016
Temperature	14			deg C		3/31/2016
Turbidity	1	1.0		NTU		3/31/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	0.410	0.005		mg/L	1	4/7/2016 6:40:14 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 6:40:14 PM
Nickel	0.090	0.020		mg/L	1	4/7/2016 6:40:14 PM
Zinc	0.381	0.010		mg/L	1	4/7/2016 6:40:14 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Trichloroethene	6.8	5.0		µg/L	1	4/4/2016 8:01:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-8
Collection Date: 3/31/2016
Lab Sample ID: 160401018-009
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 8:01:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:01:00 PM
Surr: 1,2-Dichloroethane-d4	115	80.3-122		%REC	1	4/4/2016 8:01:00 PM
Surr: 4-Bromofluorobenzene	85.0	74.1-124		%REC	1	4/4/2016 8:01:00 PM
Surr: Toluene-d8	94.3	79.6-110		%REC	1	4/4/2016 8:01:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/5/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:34:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-9
Collection Date: 3/31/2016
Lab Sample ID: 160401018-010
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	658	1.0		umhos/cm		3/31/2016
Elevation	974.95			ft		3/31/2016
pH	6.0			S.U.		3/31/2016
Static Water Level	9.46			ft		3/31/2016
Temperature	14			deg C		3/31/2016
Turbidity	7	1.0		NTU		3/31/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	0.012	0.005		mg/L	1	4/7/2016 6:45:38 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 6:45:38 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 6:45:38 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 6:45:38 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/5/2016 3:53:00 PM
Bromomethane	< 10	10		µg/L	1	4/5/2016 3:53:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/5/2016 3:53:00 PM
Chloroethane	< 10	10		µg/L	1	4/5/2016 3:53:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Acetone	11	10		µg/L	1	4/5/2016 3:53:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
2-Butanone	< 10	10		µg/L	1	4/5/2016 3:53:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-9
Collection Date: 3/31/2016
Lab Sample ID: 160401018-010
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/5/2016 3:53:00 PM
2-Hexanone	< 10	10		µg/L	1	4/5/2016 3:53:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/5/2016 3:53:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/5/2016 3:53:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/5/2016 3:53:00 PM
Surr: 1,2-Dichloroethane-d4	135	80.3-122	S	%REC	1	4/5/2016 3:53:00 PM
Surr: 4-Bromofluorobenzene	98.3	74.1-124		%REC	1	4/5/2016 3:53:00 PM
Surr: Toluene-d8	90.6	79.6-110		%REC	1	4/5/2016 3:53:00 PM

CYANIDE, TOTAL - EPA 335.4 REV 1.0
(Prep: 9010C - 4/6/2016)

Analyst: KB

Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 3:27:00 PM
---------	---------	-------	--	------	---	---------------------

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-11
 Collection Date: 3/31/2016
 Lab Sample ID: 160401018-011
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	3217	1.0		umhos/cm		3/31/2016
Elevation	977.85			ft		3/31/2016
pH	3.2			S.U.		3/31/2016
Static Water Level	6.60			ft		3/31/2016
Temperature	15			deg C		3/31/2016
Turbidity	7	1.0		NTU		3/31/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	1.03	0.005		mg/L	1	4/7/2016 6:50:55 PM
Chromium	0.359	0.005		mg/L	1	4/7/2016 6:50:55 PM
Nickel	4.60	0.020		mg/L	1	4/7/2016 6:50:55 PM
Zinc	1.46	0.010		mg/L	1	4/7/2016 6:50:55 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 20	20		µg/L	2	4/5/2016 5:00:00 PM
Bromomethane	< 20	20		µg/L	2	4/5/2016 5:00:00 PM
Vinyl chloride	< 20	20		µg/L	2	4/5/2016 5:00:00 PM
Chloroethane	< 20	20		µg/L	2	4/5/2016 5:00:00 PM
Methylene chloride	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Acetone	24	20		µg/L	2	4/5/2016 5:00:00 PM
Carbon disulfide	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,1-Dichloroethene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,1-Dichloroethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
trans-1,2-Dichloroethene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
cis-1,2-Dichloroethene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Chloroform	12	10		µg/L	2	4/5/2016 5:00:00 PM
1,2-Dichloroethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
2-Butanone	< 20	20		µg/L	2	4/5/2016 5:00:00 PM
1,1,1-Trichloroethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Carbon tetrachloride	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Bromodichloromethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,2-Dichloropropane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
cis-1,3-Dichloropropene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Trichloroethene	250	10		µg/L	2	4/5/2016 5:00:00 PM
Dibromochloromethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,1,2-Trichloroethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Benzene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
trans-1,3-Dichloropropene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-11
Collection Date: 3/31/2016
Lab Sample ID: 160401018-011
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
4-Methyl-2-pentanone	< 20	20		µg/L	2	4/5/2016 5:00:00 PM
2-Hexanone	< 20	20		µg/L	2	4/5/2016 5:00:00 PM
Tetrachloroethene	24	10		µg/L	2	4/5/2016 5:00:00 PM
1,1,2,2-Tetrachloroethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Toluene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Chlorobenzene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Ethylbenzene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Styrene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
m,p-Xylene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
o-Xylene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Methyl tert-butyl ether	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Dichlorodifluoromethane	< 20	20		µg/L	2	4/5/2016 5:00:00 PM
Methyl Acetate	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Trichlorofluoromethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Cyclohexane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Methyl Cyclohexane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,2-Dibromoethane	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,3-Dichlorobenzene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Isopropylbenzene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,2-Dichlorobenzene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,4-Dichlorobenzene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
1,2-Dibromo-3-chloropropane	< 20	20		µg/L	2	4/5/2016 5:00:00 PM
1,2,4-Trichlorobenzene	< 10	10		µg/L	2	4/5/2016 5:00:00 PM
Surr: 1,2-Dichloroethane-d4	121	80.3-122		%REC	2	4/5/2016 5:00:00 PM
Surr: 4-Bromofluorobenzene	95.0	74.1-124		%REC	2	4/5/2016 5:00:00 PM
Surr: Toluene-d8	104	79.6-110		%REC	2	4/5/2016 5:00:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/6/2016)						
Cyanide	0.037	0.010		mg/L	1	4/7/2016 3:29:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-12
 Collection Date: 3/31/2016
 Lab Sample ID: 160401018-012
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	631	1.0		umhos/cm		3/31/2016
Elevation	974.94			ft		3/31/2016
pH	6.4			S.U.		3/31/2016
Static Water Level	9.51			ft		3/31/2016
Temperature	14			deg C		3/31/2016
Turbidity	5	1.0		NTU		3/31/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	0.039	0.005		mg/L	1	4/7/2016 6:56:09 PM
Chromium	0.008	0.005		mg/L	1	4/7/2016 6:56:09 PM
Nickel	0.062	0.020		mg/L	1	4/7/2016 6:56:09 PM
Zinc	0.040	0.010		mg/L	1	4/7/2016 6:56:09 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-12
Collection Date: 3/31/2016
Lab Sample ID: 160401018-012
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 8:44:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 8:44:00 PM
Surr: 1,2-Dichloroethane-d4	116	80.3-122		%REC	1	4/4/2016 8:44:00 PM
Surr: 4-Bromofluorobenzene	87.4	74.1-124		%REC	1	4/4/2016 8:44:00 PM
Surr: Toluene-d8	93.4	79.6-110		%REC	1	4/4/2016 8:44:00 PM

CYANIDE, TOTAL - EPA 335.4 REV 1.0 (Prep: 9010C - 4/6/2016)

Analyst: KB

Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 3:31:00 PM
---------	---------	-------	--	------	---	---------------------

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-13
 Collection Date: 3/31/2016
 Lab Sample ID: 160401018-013
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	888	1.0		umhos/cm		3/31/2016
Elevation	975.00			ft		3/31/2016
pH	6.4			S.U.		3/31/2016
Static Water Level	9.47			ft		3/31/2016
Temperature	15			deg C		3/31/2016
Turbidity	4	1.0		NTU		3/31/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	0.214	0.005		mg/L	1	4/7/2016 7:17:10 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 7:17:10 PM
Nickel	1.16	0.020		mg/L	1	4/7/2016 7:17:10 PM
Zinc	0.212	0.010		mg/L	1	4/7/2016 7:17:10 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: MW-13
 Collection Date: 3/31/2016
 Lab Sample ID: 160401018-013
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
Tetrachloroethene	7.9	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 9:05:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:05:00 PM
Surr: 1,2-Dichloroethane-d4	117	80.3-122		%REC	1	4/4/2016 9:05:00 PM
Surr: 4-Bromofluorobenzene	86.7	74.1-124		%REC	1	4/4/2016 9:05:00 PM
Surr: Toluene-d8	103	79.6-110		%REC	1	4/4/2016 9:05:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/7/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 3:35:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-14
Collection Date: 3/31/2016
Lab Sample ID: 160401018-014
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	688	1.0		umhos/cm		3/31/2016
Elevation	974.99			ft		3/31/2016
pH	6.3			S.U.		3/31/2016
Static Water Level	9.48			ft		3/31/2016
Temperature	14			deg C		3/31/2016
Turbidity	7	1.0		NTU		3/31/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 7:22:25 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 7:22:25 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 7:22:25 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 7:22:25 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: MW-14
Collection Date: 3/31/2016
Lab Sample ID: 160401018-014
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 9:26:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 9:26:00 PM
Surr: 1,2-Dichloroethane-d4	118	80.3-122		%REC	1	4/4/2016 9:26:00 PM
Surr: 4-Bromofluorobenzene	87.7	74.1-124		%REC	1	4/4/2016 9:26:00 PM
Surr: Toluene-d8	91.0	79.6-110		%REC	1	4/4/2016 9:26:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/7/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 3:42:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WW-1
Collection Date: 3/29/2016
Lab Sample ID: 160401018-015
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	645	1.0		umhos/cm		3/29/2016
Elevation	950.17			ft		3/29/2016
pH	6.5			S.U.		3/29/2016
Static Water Level	32.40			ft		3/29/2016
Temperature	15			deg C		3/29/2016
Turbidity	260	1.0		NTU		3/29/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 7:27:37 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 7:27:37 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 7:27:37 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 7:27:37 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
Bromomethane	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
Chloroethane	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Acetone	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
2-Butanone	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WW-1
Collection Date: 3/29/2016
Lab Sample ID: 160401018-015
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
2-Hexanone	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
Methyl Acetate	< 5.0	5.0	S-	µg/L	1	4/1/2016 8:30:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/1/2016 8:30:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:30:00 PM
Surr: 1,2-Dichloroethane-d4	117	80.3-122		%REC	1	4/1/2016 8:30:00 PM
Surr: 4-Bromofluorobenzene	90.4	74.1-124		%REC	1	4/1/2016 8:30:00 PM
Surr: Toluene-d8	98.4	79.6-110		%REC	1	4/1/2016 8:30:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/6/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:36:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WW-2
Collection Date: 3/29/2016
Lab Sample ID: 160401018-016
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	684	1.0		umhos/cm		3/29/2016
Elevation	974.51			ft		3/29/2016
pH	5.1			S.U.		3/29/2016
Static Water Level	7.80			ft		3/29/2016
Temperature	11			deg C		3/29/2016
Turbidity	10	1.0		NTU		3/29/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 7:32:54 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 7:32:54 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 7:32:54 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 7:32:54 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
Bromomethane	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
Chloroethane	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Acetone	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
2-Butanone	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: WW-2
 Collection Date: 3/29/2016
 Lab Sample ID: 160401018-016
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
2-Hexanone	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
Methyl Acetate	< 5.0	5.0	S-	µg/L	1	4/1/2016 6:22:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/1/2016 6:22:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:22:00 PM
Surr: 1,2-Dichloroethane-d4	118	80.3-122		%REC	1	4/1/2016 6:22:00 PM
Surr: 4-Bromofluorobenzene	90.0	74.1-124		%REC	1	4/1/2016 6:22:00 PM
Surr: Toluene-d8	95.1	79.6-110		%REC	1	4/1/2016 6:22:00 PM

CYANIDE, TOTAL - EPA 335.4 REV 1.0
 (Prep: 9010C - 4/6/2016)

Analyst: KB

Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:38:00 PM
---------	---------	-------	--	------	---	----------------------

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: WW-3
 Collection Date: 3/29/2016
 Lab Sample ID: 160401018-017
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	1076	1.0		umhos/cm		3/29/2016
Elevation	974.48			ft		3/29/2016
pH	6.1			S.U.		3/29/2016
Static Water Level	6.97			ft		3/29/2016
Temperature	11			deg C		3/29/2016
Turbidity	40	1.0		NTU		3/29/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 7:38:07 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 7:38:07 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 7:38:07 PM
Zinc	0.015	0.010		mg/L	1	4/7/2016 7:38:07 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
Bromomethane	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
Chloroethane	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Acetone	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
2-Butanone	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WW-3
Collection Date: 3/29/2016
Lab Sample ID: 160401018-017
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
2-Hexanone	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
Methyl Acetate	< 5.0	5.0	S-	µg/L	1	4/1/2016 8:51:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/1/2016 8:51:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 8:51:00 PM
Surr: 1,2-Dichloroethane-d4	116	80.3-122		%REC	1	4/1/2016 8:51:00 PM
Surr: 4-Bromofluorobenzene	88.4	74.1-124		%REC	1	4/1/2016 8:51:00 PM
Surr: Toluene-d8	94.6	79.6-110		%REC	1	4/1/2016 8:51:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/6/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:40:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: WW-4
 Collection Date: 3/29/2016
 Lab Sample ID: 160401018-018
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	901	1.0		umhos/cm		3/29/2016
Elevation	974.28			ft		3/29/2016
pH	5.4			S.U.		3/29/2016
Static Water Level	12.85			ft		3/29/2016
Temperature	8			deg C		3/29/2016
Turbidity	1	1.0		NTU		3/29/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 7:43:25 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 7:43:25 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 7:43:25 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 7:43:25 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
Bromomethane	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
Chloroethane	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Acetone	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
2-Butanone	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: WW-4
 Collection Date: 3/29/2016
 Lab Sample ID: 160401018-018
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
2-Hexanone	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
Methyl Acetate	< 5.0	5.0	S-	µg/L	1	4/1/2016 6:43:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/1/2016 6:43:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:43:00 PM
Surr: 1,2-Dichloroethane-d4	118	80.3-122		%REC	1	4/1/2016 6:43:00 PM
Surr: 4-Bromofluorobenzene	88.3	74.1-124		%REC	1	4/1/2016 6:43:00 PM
Surr: Toluene-d8	95.6	79.6-110		%REC	1	4/1/2016 6:43:00 PM

CYANIDE, TOTAL - EPA 335.4 REV 1.0
 (Prep: 9010C - 4/6/2016)

Analyst: KB

Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:42:00 PM
---------	---------	-------	--	------	---	----------------------

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WW-5
Collection Date: 3/29/2016
Lab Sample ID: 160401018-019
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	452	1.0		umhos/cm		3/29/2016
Elevation	939.13			ft		3/29/2016
pH	7.3			S.U.		3/29/2016
Static Water Level	48.05			ft		3/29/2016
Temperature	11			deg C		3/29/2016
Turbidity	91	1.0		NTU		3/29/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 7:48:39 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 7:48:39 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 7:48:39 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 7:48:39 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
Bromomethane	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
Chloroethane	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Acetone	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
2-Butanone	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WW-5
Collection Date: 3/29/2016
Lab Sample ID: 160401018-019
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
2-Hexanone	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
Methyl Acetate	< 5.0	5.0	S-	µg/L	1	4/1/2016 7:04:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/1/2016 7:04:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:04:00 PM
Surr: 1,2-Dichloroethane-d4	115	80.3-122		%REC	1	4/1/2016 7:04:00 PM
Surr: 4-Bromofluorobenzene	89.6	74.1-124		%REC	1	4/1/2016 7:04:00 PM
Surr: Toluene-d8	96.6	79.6-110		%REC	1	4/1/2016 7:04:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/6/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:44:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WW-6
Collection Date: 3/29/2016
Lab Sample ID: 160401018-020
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE						Analyst: FLD
Conductivity	646	1.0		umhos/cm		3/29/2016
Elevation	926.01			ft		3/29/2016
pH	8.4			S.U.		3/29/2016
Static Water Level	55.50			ft		3/29/2016
Temperature	12			deg C		3/29/2016
Turbidity	405	1.0		NTU		3/29/2016
ICP METALS - EPA 200.7 REV 4.4 (Prep: SW3010A - 4/4/2016)						Analyst: SM
Cadmium	0.021	0.005		mg/L	1	4/7/2016 7:53:58 PM
Chromium	0.009	0.005		mg/L	1	4/7/2016 7:53:58 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 7:53:58 PM
Zinc	0.092	0.010		mg/L	1	4/7/2016 7:53:58 PM
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Chloromethane	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
Bromomethane	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
Chloroethane	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Acetone	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
2-Butanone	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WW-6
Collection Date: 3/29/2016
Lab Sample ID: 160401018-020
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
2-Hexanone	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
Methyl Acetate	< 5.0	5.0	S-	µg/L	1	4/1/2016 7:26:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/1/2016 7:26:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 7:26:00 PM
Surr: 1,2-Dichloroethane-d4	119	80.3-122		%REC	1	4/1/2016 7:26:00 PM
Surr: 4-Bromofluorobenzene	91.9	74.1-124		%REC	1	4/1/2016 7:26:00 PM
Surr: Toluene-d8	92.0	79.6-110		%REC	1	4/1/2016 7:26:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/6/2016)						
Cyanide	0.011	0.010		mg/L	1	4/7/2016 12:46:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: WP-1
 Collection Date: 3/30/2016
 Lab Sample ID: 160401018-021
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	626	1.0		umhos/cm		3/30/2016
Elevation	NA			ft		3/30/2016
pH	6.2			S.U.		3/30/2016
Static Water Level	8.40			ft		3/30/2016
Temperature	10			deg C		3/30/2016
Turbidity	101	1.0		NTU		3/30/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 4/4/2016)

Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 7:59:17 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 7:59:17 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 7:59:17 PM
Zinc	< 0.010	0.010		mg/L	1	4/7/2016 7:59:17 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WP-1
Collection Date: 3/30/2016
Lab Sample ID: 160401018-021
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 5:10:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:10:00 PM
Surr: 1,2-Dichloroethane-d4	122	80.3-122		%REC	1	4/4/2016 5:10:00 PM
Surr: 4-Bromofluorobenzene	82.8	74.1-124		%REC	1	4/4/2016 5:10:00 PM
Surr: Toluene-d8	93.5	79.6-110		%REC	1	4/4/2016 5:10:00 PM

CYANIDE, TOTAL - EPA 335.4 REV 1.0
 (Prep: 9010C - 4/6/2016)

Analyst: KB

Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:49:00 PM
---------	---------	-------	--	------	---	----------------------

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
 Work Order: 160401018
 Reference: West Well Site / Quarterly
 PO#:

Client Sample ID: WP-4
 Collection Date: 3/30/2016
 Lab Sample ID: 160401018-022
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE						Analyst: FLD
Conductivity	712	1.0		umhos/cm		3/30/2016
Elevation	NA			ft		3/30/2016
pH	6.4			S.U.		3/30/2016
Static Water Level	49.01			ft		3/30/2016
Temperature	12			deg C		3/30/2016
Turbidity	210	1.0		NTU		3/30/2016
ICP METALS - EPA 200.7 REV 4.4 (Prep: SW3010A - 4/4/2016)						Analyst: SM
Cadmium	< 0.005	0.005		mg/L	1	4/7/2016 8:15:07 PM
Chromium	< 0.005	0.005		mg/L	1	4/7/2016 8:15:07 PM
Nickel	< 0.020	0.020		mg/L	1	4/7/2016 8:15:07 PM
Zinc	0.022	0.010		mg/L	1	4/7/2016 8:15:07 PM
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Chloromethane	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
Bromomethane	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
Chloroethane	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Acetone	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
2-Butanone	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: WP-4
Collection Date: 3/30/2016
Lab Sample ID: 160401018-022
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Bromoform	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
2-Hexanone	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
Methyl Acetate	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/4/2016 5:32:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/4/2016 5:32:00 PM
Surr: 1,2-Dichloroethane-d4	123	80.3-122	S	%REC	1	4/4/2016 5:32:00 PM
Surr: 4-Bromofluorobenzene	92.3	74.1-124		%REC	1	4/4/2016 5:32:00 PM
Surr: Toluene-d8	86.0	79.6-110		%REC	1	4/4/2016 5:32:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 4/6/2016)						
Cyanide	< 0.010	0.010		mg/L	1	4/7/2016 12:51:00 PM

Adirondack Environmental Services, Inc

Date: 13-Apr-16

CLIENT: JTM Associates
Work Order: 160401018
Reference: West Well Site / Quarterly
PO#:

Client Sample ID: Trip Blank Lot# VOA-F11.3
Collection Date: 3/29/2016
Lab Sample ID: 160401018-023
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Chloromethane	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
Bromomethane	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
Vinyl chloride	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
Chloroethane	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
Methylene chloride	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Acetone	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
Carbon disulfide	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,1-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,1-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
trans-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
cis-1,2-Dichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Chloroform	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,2-Dichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
2-Butanone	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
1,1,1-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Carbon tetrachloride	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Bromodichloromethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,2-Dichloropropane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
cis-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Trichloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Dibromochloromethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,1,2-Trichloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Benzene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
trans-1,3-Dichloropropene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Bromoform	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
4-Methyl-2-pentanone	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
2-Hexanone	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
Tetrachloroethene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,1,2,2-Tetrachloroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Toluene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Chlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Ethylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Styrene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
m,p-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
o-Xylene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Methyl tert-butyl ether	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Dichlorodifluoromethane	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
Methyl Acetate	< 5.0	5.0	S-	µg/L	1	4/1/2016 6:01:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Trichlorofluoromethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM

Adirondack Environmental Services, Inc**Date:** 13-Apr-16**CLIENT:** JTM Associates**Client Sample ID:** Trip Blank Lot# VOA-F11.3**Work Order:** 160401018**Collection Date:** 3/29/2016**Reference:** West Well Site / Quarterly**Lab Sample ID:** 160401018-023**PO#:****Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Methyl Cyclohexane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,2-Dibromoethane	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,3-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Isopropylbenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,2-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,4-Dichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
1,2-Dibromo-3-chloropropane	< 10	10		µg/L	1	4/1/2016 6:01:00 PM
1,2,4-Trichlorobenzene	< 5.0	5.0		µg/L	1	4/1/2016 6:01:00 PM
Surr: 1,2-Dichloroethane-d4	116	80.3-122		%REC	1	4/1/2016 6:01:00 PM
Surr: 4-Bromofluorobenzene	85.9	74.1-124		%REC	1	4/1/2016 6:01:00 PM
Surr: Toluene-d8	93.4	79.6-110		%REC	1	4/1/2016 6:01:00 PM



314 North Pearl Street
Albany, New York 12207
518-434-4546 ♦ Fax: 518-434-0891

CHAIN OF CUSTODY RECORD

AES Work Order#:

160401018

EXPERIENCE IS THE SOLUTION

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: JTM ASSOC.		Address:							
Send Report to: Jim Mickam		Project Name (Location): West Well Quarterly			Samplers Name: <i>Shawn Suran</i>				
Client Phone No:		PO #:			Samplers Signature: <i>[Signature]</i>				
Client Fax No:									
AES Sample ID	Client Sample ID:	Date Sampled	Time A=am P=pm	Sample Type			# of Cont's	Analysis	
				Matrix	C	G			
001	MW-1	3/30/16	3:20	A (P)	GW		G	4	T. Cyanide, Cd, Cr, Ni, Zn
				A					EPA 8260, (Field SWL, pH,
				P					Temp, S. Cond., Turb., elevations)
				A					
				P					
002	MW-2	3/30/16	2:40	A (P)	GW		G	4	"
003	MW-3	3/30/16	1:55	A (P)	GW		G	4	"
004	MW-4	3/30/16	1:00	A (P)	GW		G	4	"
005	MW-4 Duplicate	3/30/16	1:00	A (P)	GW		G	4	"
006	MW-5	3/30/16	3:50	A (P)	GW		G	4	"
007	MW-6	3/30/16	4:25	A (P)	GW		G	4	"
008	MW-7	3/31/16	11:10	A (P)	GW		G	4	"
009	MW-8	3/31/16	1:30	A (P)	GW		G	4	"
010	MW-9	3/31/16	12:45	A (P)	GW		G	4	"
Shipment Arrived Via: FedEx UPS Client <u>AES</u> Other: _____				Special Instructions/Remarks: Normal TAT Page 1 of 3					
Turnaround Time Requested: ☐ 1 Day ☐ 3 Day ☐ Normal ☐ 2-Day ☐ 5 Day									
Relinquished by: (Signature) <i>[Signature]</i>		Date 4/1/16	Time 9:45	Received by: (Signature)		Date	Time		
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time		
Relinquished by: (Signature)		Date	Time	Received for Laboratory by: <i>[Signature]</i>		Date 4/1/16	Time 10:36am		
Sample Temperature Ambient <u>Chilled</u> Chilling Process begun		Properly Preserved <u>Y</u> N			Received Within Holding Times <u>Y</u> N				
Notes: <u>4°C</u>		Notes: _____			Notes: _____				



314 North Pearl Street
Albany, New York 12207
518-434-4546 ♦ Fax: 518-434-0891

CHAIN OF CUSTODY RECORD

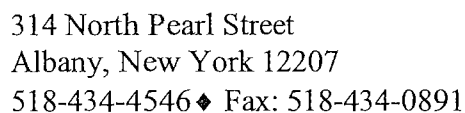
AES Work Order#:

16040018

EXPERIENCE IS THE SOLUTION

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: JTM ASSOC.		Address:					
Send Report to: Jim Mickam		Project Name (Location): West Well Quarterly			Samplers Name: <i>Shawn Surani</i>		
Client Phone No:		PO #:			Samplers Signature: <i>[Signature]</i>		
Client Fax No:							
AES Sample ID	Client Sample ID:	Date Sampled	Time A=am P=pm	Sample Type Matrix C G	# of Cont's	Analysis	
011	MW-11	3/31/16	12:10	A P A P GW	G	4	T. Cyanide, Cd,Cr,Ni,Zn
				A P A P GW	G		EPA 8260, (Field SWL,pH,
				A P A P GW	G		Temp,S.Cond., Turb., elevations)
012	MW-12	3/31/16	3:00	A P A P GW	G	4	"
013	MW-13	3/31/16	2:30	A P A P GW	G	4	"
014	MW-14	3/31/16	2:00	A P A P GW	G	4	"
015	WW-1	3/24/16	1:35	A P A P GW	G	4	"
016	WW-2	3/24/16	1:20	A P A P GW	G	4	"
017	WW-3	3/24/16	2:50	A P A P GW	G	4	"
018	WW-4	3/24/16	11:20	A P A P GW	G	4	"
019	WW-5	3/24/16	11:45	A P A P GW	G	4	"
020	WW-6	3/24/16	1:35	A P A P GW	G	4	"
Shipment Arrived Via: FedEx UPS Client AES Other: _____				Special Instructions/Remarks: Normal TAT Page 2 of 3			
Turnaround Time Requested: ☐ 1 Day ☐ 3 Day ☐ Normal ☐ 2 -Day ☐ 5 Day							
Relinquished by: (Signature) <i>[Signature]</i>		Date 4/1/16	Time 9:45	Received by: (Signature) <i>[Signature]</i>		Date	Time
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time
Relinquished by: (Signature)		Date	Time	Received for Laboratory by: <i>[Signature]</i>		Date 4/1/16	Time 10:36am
Sample Temperature Ambient Chilled Chilling Process begun		Properly Preserved Y N		Received Within Holding Times Y N			
Notes: <u>4°C</u>		Notes: _____		Notes: _____			

**AES Work Order#:**

1604 01018

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: JTM ASSOC.						Address:																	
Send Report to: Jim Mickam						Project Name (Location): West Well Quarterly						Samplers Name: Shaun Surani											
Client Phone No:						PO #:						Samplers Signature: <i>[Signature]</i>											
Client Fax No:																							
AES Sample ID	Client Sample ID:					Date Sampled	Time A=am P=pm	Sample Type Matrix C G			# of Cont's	Analysis											
021	WP-1					3/30/16	11:15	(A)P	GW				G	4	T. Cyanide, Cd,Cr,Ni,Zn EPA 8260, (Field SWL,pH, Temp,S.Cond., Turb., elevations)								
								A															
								P															
								A															
								P															
027	WP-4					3/30/16	12:15	(A)(P)	GW				G	4	"								
	Trip Blank Lot# VOA #113							A	GW				G	1	EPA 8260								
								P															
Shipment Arrived Via:						Special Instructions/Remarks:																	
FedEx UPS Client AES Other:						Normal TAT																	
Turnaround Time Requested:						Page 3 of 3																	
☐ 1 Day ☐ 3 Day ☒ Normal																							
☐ 2 -Day ☐ 5 Day																							
Relinquished by: (Signature) <i>[Signature]</i>					Date 4/1/16	Time 9:45	Received by: (Signature) <i>[Signature]</i>					Date					Time						
Relinquished by: (Signature)					Date	Time	Received by: (Signature)					Date					Time						
Relinquished by: (Signature)					Date	Time	Received for Laboratory by: <i>Carmel [Signature]</i>					Date 4/1/16					Time 10:36am						
Sample Temperature Ambient Chilled Chilling Process begun					Properly Preserved Y N					Received Within Holding Times Y N													
Notes: 4°C					Notes:					Notes:													



Experience is the solution

314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891

TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

- (a) Neither **Adirondack Environmental Services, Inc.**, nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.**'s performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.
- (b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.
- (c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.
- (d) In no event shall **Adirondack Environmental Services, Inc.**, its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.
- (e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**
- (f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.
- (g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.



Experience is the solution

314 North Pearl Street ♦ Albany, New York 12207
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

October 12, 2016

Jim Mickam
JTM Associates
PO Box 359
Bridgeport, NY 13030

Work Order No: 160921005

TEL: (315) 641-1216

FAX: (315) 461-4713

RE: West Well Site
Annual

Dear Jim Mickam:

Adirondack Environmental Services, Inc received 23 samples on 9/21/2016 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Tara Daniels
Laboratory Director

Adirondack Environmental Services, Inc

CASE NARRATIVE

CLIENT: JTM Associates

Date: 12-Oct-16

Project: West Well Site

Lab Order: 160921005

The sampling was performed in accordance with the AES field sampling procedures and/or the client specified sampling procedures. Sample containers were supplied by Adirondack Environmental Services.

Qualifiers:

ND - Not Detected at reporting limit

J - Analyte detected below quantitation limit

B - Analyte detected in Blank

X - Exceeds maximum contamination limit

H - Hold time exceeded

C - Details are above in Case Narrative

S - LCS Spike recovery outside acceptable limits(+ is over - is under)

R - Duplication outside acceptable limits

T - Tentatively Identified Compound-Estimated

E -Above quantitation range-Estimated

M - Matrix Spike outside acceptable limits(+ is over - is under)

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
 Work Order: 160921005
 Reference: West Well Site / Annual
 PO#:

Client Sample ID: MW-1
 Collection Date: 9/19/2016
 Lab Sample ID: 160921005-001
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	402	1.0		umhos/cm		9/19/2016
Elevation	973.69			ft		9/19/2016
pH	6.8			S.U.		9/19/2016
Static Water Level	7.65			ft		9/19/2016
Temperature	18			deg C		9/19/2016
Turbidity	207	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 4:38:50 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 4:38:50 PM
Nickel	0.073	0.020		mg/L	1	9/23/2016 4:38:50 PM
Zinc	0.049	0.010		mg/L	1	9/23/2016 4:38:50 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/27/2016 4:01:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Trichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/27/2016 4:01:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-1
Collection Date: 9/19/2016
Lab Sample ID: 160921005-001
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/27/2016 4:01:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:01:00 PM
Surr: 1,2-Dichloroethane-d4	103	80.3-122		%REC	1	9/27/2016 4:01:00 PM
Surr: 4-Bromofluorobenzene	103	74.1-124		%REC	1	9/27/2016 4:01:00 PM
Surr: Toluene-d8	92.2	79.6-110		%REC	1	9/27/2016 4:01:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/22/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 3:38:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-2
Collection Date: 9/19/2016
Lab Sample ID: 160921005-002
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	597	1.0		umhos/cm		9/19/2016
Elevation	973.91			ft		9/19/2016
pH	6.7			S.U.		9/19/2016
Static Water Level	7.62			ft		9/19/2016
Temperature	13			deg C		9/19/2016
Turbidity	773	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 4:44:07 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 4:44:07 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 4:44:07 PM
Zinc	0.269	0.010		mg/L	1	9/23/2016 4:44:07 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/27/2016 4:22:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
cis-1,2-Dichloroethene	1.5	1.0		µg/L	1	9/27/2016 4:22:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Trichloroethene	1.3	1.0		µg/L	1	9/27/2016 4:22:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/27/2016 4:22:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-2
Collection Date: 9/19/2016
Lab Sample ID: 160921005-002
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/27/2016 4:22:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:22:00 PM
Surr: 1,2-Dichloroethane-d4	103	80.3-122		%REC	1	9/27/2016 4:22:00 PM
Surr: 4-Bromofluorobenzene	102	74.1-124		%REC	1	9/27/2016 4:22:00 PM
Surr: Toluene-d8	91.7	79.6-110		%REC	1	9/27/2016 4:22:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/22/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 3:44:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-3
Collection Date: 9/19/2016
Lab Sample ID: 160921005-003
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	735	1.0		umhos/cm		9/19/2016
Elevation	973.84			ft		9/19/2016
pH	7.0			S.U.		9/19/2016
Static Water Level	8.94			ft		9/19/2016
Temperature	16			deg C		9/19/2016
Turbidity	> 999	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.013	0.005		mg/L	1	9/23/2016 5:05:04 PM
Chromium	0.006	0.005		mg/L	1	9/23/2016 5:05:04 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 5:05:04 PM
Zinc	1.30	0.010		mg/L	1	9/23/2016 5:05:04 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/27/2016 4:43:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
cis-1,2-Dichloroethene	2.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Trichloroethene	1.2	1.0		µg/L	1	9/27/2016 4:43:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/27/2016 4:43:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-3
Collection Date: 9/19/2016
Lab Sample ID: 160921005-003
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/27/2016 4:43:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 4:43:00 PM
Surr: 1,2-Dichloroethane-d4	99.5	80.3-122		%REC	1	9/27/2016 4:43:00 PM
Surr: 4-Bromofluorobenzene	102	74.1-124		%REC	1	9/27/2016 4:43:00 PM
Surr: Toluene-d8	94.5	79.6-110		%REC	1	9/27/2016 4:43:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 3:46:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
 Work Order: 160921005
 Reference: West Well Site / Annual
 PO#:

Client Sample ID: MW-4
 Collection Date: 9/19/2016
 Lab Sample ID: 160921005-004
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	783	1.0		umhos/cm		9/19/2016
Elevation	973.65			ft		9/19/2016
pH	6.7			S.U.		9/19/2016
Static Water Level	10.32			ft		9/19/2016
Temperature	15			deg C		9/19/2016
Turbidity	31	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.016	0.005		mg/L	1	9/23/2016 5:10:21 PM
Chromium	0.030	0.005		mg/L	1	9/23/2016 5:10:21 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 5:10:21 PM
Zinc	0.035	0.010		mg/L	1	9/23/2016 5:10:21 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/27/2016 3:39:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
cis-1,2-Dichloroethene	1.6	1.0		µg/L	1	9/27/2016 3:39:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Trichloroethene	2.6	1.0		µg/L	1	9/27/2016 3:39:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/27/2016 3:39:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-4
Collection Date: 9/19/2016
Lab Sample ID: 160921005-004
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/27/2016 3:39:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/27/2016 3:39:00 PM
Surr: 1,2-Dichloroethane-d4	101	80.3-122		%REC	1	9/27/2016 3:39:00 PM
Surr: 4-Bromofluorobenzene	103	74.1-124		%REC	1	9/27/2016 3:39:00 PM
Surr: Toluene-d8	94.1	79.6-110		%REC	1	9/27/2016 3:39:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 3:48:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-4 DUPLICATE
Collection Date: 9/19/2016
Lab Sample ID: 160921005-005
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	783	1.0		umhos/cm		9/19/2016
Elevation	973.65			ft		9/19/2016
pH	6.7			S.U.		9/19/2016
Static Water Level	10.32			ft		9/19/2016
Temperature	15			deg C		9/19/2016
Turbidity	31	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.015	0.005		mg/L	1	9/23/2016 5:15:38 PM
Chromium	0.030	0.005		mg/L	1	9/23/2016 5:15:38 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 5:15:38 PM
Zinc	0.022	0.010		mg/L	1	9/23/2016 5:15:38 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 7:56:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
cis-1,2-Dichloroethene	1.6	1.0		µg/L	1	9/29/2016 7:56:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Trichloroethene	2.3	1.0		µg/L	1	9/29/2016 7:56:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 7:56:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-4 DUPLICATE
Collection Date: 9/19/2016
Lab Sample ID: 160921005-005
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 7:56:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:56:00 PM
Surr: 1,2-Dichloroethane-d4	102	80.3-122		%REC	1	9/29/2016 7:56:00 PM
Surr: 4-Bromofluorobenzene	105	74.1-124		%REC	1	9/29/2016 7:56:00 PM
Surr: Toluene-d8	91.0	79.6-110		%REC	1	9/29/2016 7:56:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 3:50:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-5
Collection Date: 9/19/2016
Lab Sample ID: 160921005-006
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	985	1.0		umhos/cm		9/19/2016
Elevation	977.08			ft		9/19/2016
pH	6.6			S.U.		9/19/2016
Static Water Level	6.30			ft		9/19/2016
Temperature	15			deg C		9/19/2016
Turbidity	25	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 5:20:56 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 5:20:56 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 5:20:56 PM
Zinc	0.026	0.010		mg/L	1	9/23/2016 5:20:56 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 4:43:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
cis-1,2-Dichloroethene	1.6	1.0		µg/L	1	9/29/2016 4:43:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Trichloroethene	1.3	1.0		µg/L	1	9/29/2016 4:43:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 4:43:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-5
Collection Date: 9/19/2016
Lab Sample ID: 160921005-006
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 4:43:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:43:00 PM
Surr: 1,2-Dichloroethane-d4	99.9	80.3-122		%REC	1	9/29/2016 4:43:00 PM
Surr: 4-Bromofluorobenzene	102	74.1-124		%REC	1	9/29/2016 4:43:00 PM
Surr: Toluene-d8	91.5	79.6-110		%REC	1	9/29/2016 4:43:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 3:52:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
 Work Order: 160921005
 Reference: West Well Site / Annual
 PO#:

Client Sample ID: MW-6
 Collection Date: 9/19/2016
 Lab Sample ID: 160921005-007
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	1167	1.0		umhos/cm		9/19/2016
Elevation	976.94			ft		9/19/2016
pH	6.4			S.U.		9/19/2016
Static Water Level	7.33			ft		9/19/2016
Temperature	15			deg C		9/19/2016
Turbidity	10	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.043	0.005		mg/L	1	9/23/2016 5:26:09 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 5:26:09 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 5:26:09 PM
Zinc	0.190	0.010		mg/L	1	9/23/2016 5:26:09 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 5:05:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,1-Dichloroethane	1.1	1.0		µg/L	1	9/29/2016 5:05:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
cis-1,2-Dichloroethene	1.6	1.0		µg/L	1	9/29/2016 5:05:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Trichloroethene	1.2	1.0		µg/L	1	9/29/2016 5:05:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 5:05:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-6
Collection Date: 9/19/2016
Lab Sample ID: 160921005-007
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 5:05:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:05:00 PM
Surr: 1,2-Dichloroethane-d4	101	80.3-122		%REC	1	9/29/2016 5:05:00 PM
Surr: 4-Bromofluorobenzene	103	74.1-124		%REC	1	9/29/2016 5:05:00 PM
Surr: Toluene-d8	91.3	79.6-110		%REC	1	9/29/2016 5:05:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 3:54:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-7
Collection Date: 9/19/2016
Lab Sample ID: 160921005-008
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	726	1.0		umhos/cm		9/19/2016
Elevation	978.05			ft		9/19/2016
pH	6.8			S.U.		9/19/2016
Static Water Level	8.25			ft		9/19/2016
Temperature	17			deg C		9/19/2016
Turbidity	10	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.033	0.005		mg/L	1	9/23/2016 5:31:28 PM
Chromium	0.034	0.005		mg/L	1	9/23/2016 5:31:28 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 5:31:28 PM
Zinc	0.050	0.010		mg/L	1	9/23/2016 5:31:28 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 5:47:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Trichloroethene	6.6	1.0		µg/L	1	9/29/2016 5:47:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 5:47:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-7
Collection Date: 9/19/2016
Lab Sample ID: 160921005-008
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 5:47:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:47:00 PM
Surr: 1,2-Dichloroethane-d4	101	80.3-122		%REC	1	9/29/2016 5:47:00 PM
Surr: 4-Bromofluorobenzene	103	74.1-124		%REC	1	9/29/2016 5:47:00 PM
Surr: Toluene-d8	90.0	79.6-110		%REC	1	9/29/2016 5:47:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 3:57:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-8
Collection Date: 9/19/2016
Lab Sample ID: 160921005-009
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	3285	1.0		umhos/cm		9/19/2016
Elevation	973.75			ft		9/19/2016
pH	5.3			S.U.		9/19/2016
Static Water Level	10.63			ft		9/19/2016
Temperature	17			deg C		9/19/2016
Turbidity	5	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.679	0.005		mg/L	1	9/23/2016 5:36:47 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 5:36:47 PM
Nickel	0.249	0.020		mg/L	1	9/23/2016 5:36:47 PM
Zinc	0.737	0.010		mg/L	1	9/23/2016 5:36:47 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 6:09:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
cis-1,2-Dichloroethene	3.2	1.0		µg/L	1	9/29/2016 6:09:00 PM
Chloroform	5.5	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Trichloroethene	11	1.0		µg/L	1	9/29/2016 6:09:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 6:09:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-8
Collection Date: 9/19/2016
Lab Sample ID: 160921005-009
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 6:09:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:09:00 PM
Surr: 1,2-Dichloroethane-d4	98.3	80.3-122		%REC	1	9/29/2016 6:09:00 PM
Surr: 4-Bromofluorobenzene	104	74.1-124		%REC	1	9/29/2016 6:09:00 PM
Surr: Toluene-d8	90.8	79.6-110		%REC	1	9/29/2016 6:09:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 3:59:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-9
Collection Date: 9/19/2016
Lab Sample ID: 160921005-010
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	720	1.0		umhos/cm		9/19/2016
Elevation	974.03			ft		9/19/2016
pH	5.5			S.U.		9/19/2016
Static Water Level	10.38			ft		9/19/2016
Temperature	15			deg C		9/19/2016
Turbidity	14	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.020	0.005		mg/L	1	9/23/2016 5:42:11 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 5:42:11 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 5:42:11 PM
Zinc	< 0.010	0.010		mg/L	1	9/23/2016 5:42:11 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 6:30:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
cis-1,2-Dichloroethene	1.8	1.0		µg/L	1	9/29/2016 6:30:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Trichloroethene	2.6	1.0		µg/L	1	9/29/2016 6:30:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 6:30:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Tetrachloroethene	1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-9
Collection Date: 9/19/2016
Lab Sample ID: 160921005-010
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 6:30:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:30:00 PM
Surr: 1,2-Dichloroethane-d4	100	80.3-122		%REC	1	9/29/2016 6:30:00 PM
Surr: 4-Bromofluorobenzene	106	74.1-124		%REC	1	9/29/2016 6:30:00 PM
Surr: Toluene-d8	91.5	79.6-110		%REC	1	9/29/2016 6:30:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 4:01:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-11
Collection Date: 9/19/2016
Lab Sample ID: 160921005-011
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	2175	1.0		umhos/cm		9/19/2016
Elevation	973.58			ft		9/19/2016
pH	3.1			S.U.		9/19/2016
Static Water Level	10.87			ft		9/19/2016
Temperature	17			deg C		9/19/2016
Turbidity	22	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.457	0.005		mg/L	1	9/23/2016 5:47:25 PM
Chromium	0.396	0.005		mg/L	1	9/23/2016 5:47:25 PM
Nickel	1.79	0.020		mg/L	1	9/23/2016 5:47:25 PM
Zinc	0.600	0.010		mg/L	1	9/23/2016 5:47:25 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Bromomethane	< 2.0	2.0	S-	µg/L	2	9/29/2016 9:03:00 PM
Vinyl chloride	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Chloroethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Methylene chloride	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
1,1-Dichloroethene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
1,1-Dichloroethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
trans-1,2-Dichloroethene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
cis-1,2-Dichloroethene	5.3	2.0		µg/L	2	9/29/2016 9:03:00 PM
Chloroform	5.9	2.0	S+	µg/L	2	9/29/2016 9:03:00 PM
1,2-Dichloroethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
1,1,1-Trichloroethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Carbon tetrachloride	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Bromodichloromethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
1,2-Dichloropropane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
cis-1,3-Dichloropropene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Trichloroethene	130	2.0		µg/L	2	9/29/2016 9:03:00 PM
Dibromochloromethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
1,1,2-Trichloroethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Benzene	< 1.0	1.0		µg/L	2	9/29/2016 9:03:00 PM
trans-1,3-Dichloropropene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Bromoform	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Tetrachloroethene	20	2.0		µg/L	2	9/29/2016 9:03:00 PM
1,1,2,2-Tetrachloroethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-11
Collection Date: 9/19/2016
Lab Sample ID: 160921005-011
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Chlorobenzene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Ethylbenzene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
m,p-Xylene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
o-Xylene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Dichlorodifluoromethane	< 2.0	2.0	S-	µg/L	2	9/29/2016 9:03:00 PM
Trichlorofluoromethane	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
1,3-Dichlorobenzene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
1,2-Dichlorobenzene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
1,4-Dichlorobenzene	< 2.0	2.0		µg/L	2	9/29/2016 9:03:00 PM
Surr: 1,2-Dichloroethane-d4	99.7	80.3-122		%REC	2	9/29/2016 9:03:00 PM
Surr: 4-Bromofluorobenzene	105	74.1-124		%REC	2	9/29/2016 9:03:00 PM
Surr: Toluene-d8	90.7	79.6-110		%REC	2	9/29/2016 9:03:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	0.014	0.010		mg/L	1	9/23/2016 4:03:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-12
Collection Date: 9/19/2016
Lab Sample ID: 160921005-012
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	645	1.0		umhos/cm		9/19/2016
Elevation	973.61			ft		9/19/2016
pH	6.2			S.U.		9/19/2016
Static Water Level	10.84			ft		9/19/2016
Temperature	15			deg C		9/19/2016
Turbidity	13	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.038	0.005		mg/L	1	9/23/2016 5:52:39 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 5:52:39 PM
Nickel	0.129	0.020		mg/L	1	9/23/2016 5:52:39 PM
Zinc	0.020	0.010		mg/L	1	9/23/2016 5:52:39 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 5:26:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
cis-1,2-Dichloroethene	2.2	1.0		µg/L	1	9/29/2016 5:26:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Trichloroethene	1.4	1.0		µg/L	1	9/29/2016 5:26:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 5:26:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Tetrachloroethene	2.4	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-12
Collection Date: 9/19/2016
Lab Sample ID: 160921005-012
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 5:26:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 5:26:00 PM
Surr: 1,2-Dichloroethane-d4	101	80.3-122		%REC	1	9/29/2016 5:26:00 PM
Surr: 4-Bromofluorobenzene	103	74.1-124		%REC	1	9/29/2016 5:26:00 PM
Surr: Toluene-d8	91.6	79.6-110		%REC	1	9/29/2016 5:26:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/23/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/23/2016 4:09:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
 Work Order: 160921005
 Reference: West Well Site / Annual
 PO#:

Client Sample ID: MW-13
 Collection Date: 9/19/2016
 Lab Sample ID: 160921005-013
 Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	832	1.0		umhos/cm		9/19/2016
Elevation	973.65			ft		9/19/2016
pH	6.1			S.U.		9/19/2016
Static Water Level	10.82			ft		9/19/2016
Temperature	16			deg C		9/19/2016
Turbidity	10	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	0.169	0.005		mg/L	1	9/23/2016 6:19:02 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 6:19:02 PM
Nickel	0.646	0.020		mg/L	1	9/23/2016 6:19:02 PM
Zinc	0.123	0.010		mg/L	1	9/23/2016 6:19:02 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 6:52:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
cis-1,2-Dichloroethene	1.6	1.0		µg/L	1	9/29/2016 6:52:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Trichloroethene	2.4	1.0		µg/L	1	9/29/2016 6:52:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 6:52:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Tetrachloroethene	7.6	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-13
Collection Date: 9/19/2016
Lab Sample ID: 160921005-013
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 6:52:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 6:52:00 PM
Surr: 1,2-Dichloroethane-d4	101	80.3-122		%REC	1	9/29/2016 6:52:00 PM
Surr: 4-Bromofluorobenzene	105	74.1-124		%REC	1	9/29/2016 6:52:00 PM
Surr: Toluene-d8	90.7	79.6-110		%REC	1	9/29/2016 6:52:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:32:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-14
Collection Date: 9/19/2016
Lab Sample ID: 160921005-014
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	679	1.0		umhos/cm		9/19/2016
Elevation	973.75			ft		9/19/2016
pH	6.1			S.U.		9/19/2016
Static Water Level	10.72			ft		9/19/2016
Temperature	16			deg C		9/19/2016
Turbidity	8	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 6:24:19 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 6:24:19 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 6:24:19 PM
Zinc	< 0.010	0.010		mg/L	1	9/23/2016 6:24:19 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 7:13:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
cis-1,2-Dichloroethene	1.4	1.0		µg/L	1	9/29/2016 7:13:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Trichloroethene	1.1	1.0		µg/L	1	9/29/2016 7:13:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 7:13:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: MW-14
Collection Date: 9/19/2016
Lab Sample ID: 160921005-014
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 7:13:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:13:00 PM
Surr: 1,2-Dichloroethane-d4	99.8	80.3-122		%REC	1	9/29/2016 7:13:00 PM
Surr: 4-Bromofluorobenzene	103	74.1-124		%REC	1	9/29/2016 7:13:00 PM
Surr: Toluene-d8	90.9	79.6-110		%REC	1	9/29/2016 7:13:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:34:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-1
Collection Date: 9/19/2016
Lab Sample ID: 160921005-015
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	578	1.0		umhos/cm		9/19/2016
Elevation	956.96			ft		9/19/2016
pH	6.0			S.U.		9/19/2016
Static Water Level	25.61			ft		9/19/2016
Temperature	17			deg C		9/19/2016
Turbidity	651	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 6:29:31 PM
Chromium	0.062	0.005		mg/L	1	9/23/2016 6:29:31 PM
Nickel	0.142	0.020		mg/L	1	9/23/2016 6:29:31 PM
Zinc	0.069	0.010		mg/L	1	9/23/2016 6:29:31 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 7:34:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
cis-1,2-Dichloroethene	3.1	1.0		µg/L	1	9/29/2016 7:34:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Trichloroethene	2.2	1.0		µg/L	1	9/29/2016 7:34:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 7:34:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Tetrachloroethene	1.1	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-1
Collection Date: 9/19/2016
Lab Sample ID: 160921005-015
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 7:34:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 7:34:00 PM
Surr: 1,2-Dichloroethane-d4	99.7	80.3-122		%REC	1	9/29/2016 7:34:00 PM
Surr: 4-Bromofluorobenzene	105	74.1-124		%REC	1	9/29/2016 7:34:00 PM
Surr: Toluene-d8	90.6	79.6-110		%REC	1	9/29/2016 7:34:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:36:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-2
Collection Date: 9/19/2016
Lab Sample ID: 160921005-016
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	649	1.0		umhos/cm		9/19/2016
Elevation	973.33			ft		9/19/2016
pH	6.3			S.U.		9/19/2016
Static Water Level	8.98			ft		9/19/2016
Temperature	17			deg C		9/19/2016
Turbidity	356	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 6:34:43 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 6:34:43 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 6:34:43 PM
Zinc	0.021	0.010		mg/L	1	9/23/2016 6:34:43 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
Bromomethane	< 1.0	1.0	S-M-	µg/L	1	9/29/2016 1:52:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
Chloroethane	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
cis-1,2-Dichloroethene	1.7	1.0		µg/L	1	9/29/2016 1:52:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
Carbon tetrachloride	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
Bromodichloromethane	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
Trichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
Dibromochloromethane	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 1:52:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
Bromoform	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-2
Collection Date: 9/19/2016
Lab Sample ID: 160921005-016
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
Chlorobenzene	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
m,p-Xylene	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-M-	µg/L	1	9/29/2016 1:52:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 1:52:00 PM
1,3-Dichlorobenzene	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
1,2-Dichlorobenzene	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
1,4-Dichlorobenzene	< 1.0	1.0	M-	µg/L	1	9/29/2016 1:52:00 PM
Surr: 1,2-Dichloroethane-d4	99.0	80.3-122		%REC	1	9/29/2016 1:52:00 PM
Surr: 4-Bromofluorobenzene	103	74.1-124		%REC	1	9/29/2016 1:52:00 PM
Surr: Toluene-d8	91.4	79.6-110		%REC	1	9/29/2016 1:52:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:38:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-3
Collection Date: 9/19/2016
Lab Sample ID: 160921005-017
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	515	1.0		umhos/cm		9/19/2016
Elevation	945.68			ft		9/19/2016
pH	7.5			S.U.		9/19/2016
Static Water Level	8.22			ft		9/19/2016
Temperature	18			deg C		9/19/2016
Turbidity	> 999	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 6:39:55 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 6:39:55 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 6:39:55 PM
Zinc	0.028	0.010		mg/L	1	9/23/2016 6:39:55 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 2:13:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
cis-1,2-Dichloroethene	1.1	1.0		µg/L	1	9/29/2016 2:13:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Trichloroethene	1.6	1.0		µg/L	1	9/29/2016 2:13:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 2:13:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-3
Collection Date: 9/19/2016
Lab Sample ID: 160921005-017
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 2:13:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:13:00 PM
Surr: 1,2-Dichloroethane-d4	100	80.3-122		%REC	1	9/29/2016 2:13:00 PM
Surr: 4-Bromofluorobenzene	103	74.1-124		%REC	1	9/29/2016 2:13:00 PM
Surr: Toluene-d8	90.9	79.6-110		%REC	1	9/29/2016 2:13:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:40:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-4
Collection Date: 9/20/2016
Lab Sample ID: 160921005-018
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	476	1.0		umhos/cm		9/20/2016
Elevation	973.05			ft		9/20/2016
pH	7.0			S.U.		9/20/2016
Static Water Level	14.08			ft		9/20/2016
Temperature	17			deg C		9/20/2016
Turbidity	685	1.0		NTU		9/20/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 6:45:08 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 6:45:08 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 6:45:08 PM
Zinc	< 0.010	0.010		mg/L	1	9/23/2016 6:45:08 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 2:56:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Trichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 2:56:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-4
Collection Date: 9/20/2016
Lab Sample ID: 160921005-018
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 2:56:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:56:00 PM
Surr: 1,2-Dichloroethane-d4	100	80.3-122		%REC	1	9/29/2016 2:56:00 PM
Surr: 4-Bromofluorobenzene	104	74.1-124		%REC	1	9/29/2016 2:56:00 PM
Surr: Toluene-d8	90.9	79.6-110		%REC	1	9/29/2016 2:56:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:42:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-5
Collection Date: 9/20/2016
Lab Sample ID: 160921005-019
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	387	1.0		umhos/cm		9/20/2016
Elevation	945.68			ft		9/20/2016
pH	6.9			S.U.		9/20/2016
Static Water Level	41.50			ft		9/20/2016
Temperature	14			deg C		9/20/2016
Turbidity	168	1.0		NTU		9/20/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 6:50:20 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 6:50:20 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 6:50:20 PM
Zinc	0.280	0.010		mg/L	1	9/23/2016 6:50:20 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 3:18:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Trichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 3:18:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-5
Collection Date: 9/20/2016
Lab Sample ID: 160921005-019
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 3:18:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:18:00 PM
Surr: 1,2-Dichloroethane-d4	98.4	80.3-122		%REC	1	9/29/2016 3:18:00 PM
Surr: 4-Bromofluorobenzene	101	74.1-124		%REC	1	9/29/2016 3:18:00 PM
Surr: Toluene-d8	90.4	79.6-110		%REC	1	9/29/2016 3:18:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:48:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-6
Collection Date: 9/19/2016
Lab Sample ID: 160921005-020
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	336	1.0		umhos/cm		9/19/2016
Elevation	936.26			ft		9/19/2016
pH	8.5			S.U.		9/19/2016
Static Water Level	45.25			ft		9/19/2016
Temperature	17			deg C		9/19/2016
Turbidity	148	1.0		NTU		9/19/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 6:55:38 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 6:55:38 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 6:55:38 PM
Zinc	0.169	0.010		mg/L	1	9/23/2016 6:55:38 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 2:35:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Trichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 2:35:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WW-6
Collection Date: 9/19/2016
Lab Sample ID: 160921005-020
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 2:35:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 2:35:00 PM
Surr: 1,2-Dichloroethane-d4	101	80.3-122		%REC	1	9/29/2016 2:35:00 PM
Surr: 4-Bromofluorobenzene	103	74.1-124		%REC	1	9/29/2016 2:35:00 PM
Surr: Toluene-d8	90.5	79.6-110		%REC	1	9/29/2016 2:35:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:50:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WP-1
Collection Date: 9/20/2016
Lab Sample ID: 160921005-021
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	713	1.0		umhos/cm		9/20/2016
pH	6.8			S.U.		9/20/2016
Static Water Level	9.75			ft		9/20/2016
Temperature	17			deg C		9/20/2016
Turbidity	946	1.0		NTU		9/20/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 7:00:55 PM
Chromium	0.009	0.005		mg/L	1	9/23/2016 7:00:55 PM
Nickel	0.025	0.020		mg/L	1	9/23/2016 7:00:55 PM
Zinc	0.053	0.010		mg/L	1	9/23/2016 7:00:55 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 3:39:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
cis-1,2-Dichloroethene	1.5	1.0		µg/L	1	9/29/2016 3:39:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Trichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 3:39:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WP-1
Collection Date: 9/20/2016
Lab Sample ID: 160921005-021
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 3:39:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 3:39:00 PM
Surr: 1,2-Dichloroethane-d4	102	80.3-122		%REC	1	9/29/2016 3:39:00 PM
Surr: 4-Bromofluorobenzene	101	74.1-124		%REC	1	9/29/2016 3:39:00 PM
Surr: Toluene-d8	89.8	79.6-110		%REC	1	9/29/2016 3:39:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:53:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WP-4
Collection Date: 9/20/2016
Lab Sample ID: 160921005-022
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE

Analyst: FLD

Conductivity	713	1.0		umhos/cm		9/20/2016
pH	6.5			S.U.		9/20/2016
Static Water Level	40.43			ft		9/20/2016
Temperature	13			deg C		9/20/2016
Turbidity	117	1.0		NTU		9/20/2016

ICP METALS - EPA 200.7 REV 4.4

Analyst: SM

(Prep: SW3010A - 9/22/2016)

Cadmium	< 0.005	0.005		mg/L	1	9/23/2016 7:06:09 PM
Chromium	< 0.005	0.005		mg/L	1	9/23/2016 7:06:09 PM
Nickel	< 0.020	0.020		mg/L	1	9/23/2016 7:06:09 PM
Zinc	0.330	0.010		mg/L	1	9/23/2016 7:06:09 PM

VOLATILE ORGANICS EPA 8260C (SW5030C PREP)

Analyst: SMD

Chloromethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 4:00:00 PM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Chloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Methylene chloride	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Chloroform	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Carbon tetrachloride	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Trichloroethene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Benzene	< 0.5	0.5		µg/L	1	9/29/2016 4:00:00 PM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Bromoform	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Toluene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: WP-4
Collection Date: 9/20/2016
Lab Sample ID: 160921005-022
Matrix: GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 8260C (SW5030C PREP)						Analyst: SMD
Chlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
o-Xylene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/29/2016 4:00:00 PM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/29/2016 4:00:00 PM
Surr: 1,2-Dichloroethane-d4	102	80.3-122		%REC	1	9/29/2016 4:00:00 PM
Surr: 4-Bromofluorobenzene	102	74.1-124		%REC	1	9/29/2016 4:00:00 PM
Surr: Toluene-d8	90.2	79.6-110		%REC	1	9/29/2016 4:00:00 PM
CYANIDE, TOTAL - EPA 335.4 REV 1.0						Analyst: KB
(Prep: 9010C - 9/26/2016)						
Cyanide	< 0.010	0.010		mg/L	1	9/27/2016 1:55:00 PM

Adirondack Environmental Services, Inc

Date: 12-Oct-16

CLIENT: JTM Associates
Work Order: 160921005
Reference: West Well Site / Annual
PO#:

Client Sample ID: Trip Blank Lot # VOA-F17.1
Collection Date: 9/19/2016
Lab Sample ID: 160921005-023
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS - EPA 601/602						Analyst: SMD
Benzene	< 0.5	0.5		µg/L	1	9/28/2016 1:54:00 AM
Ethylbenzene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
m,p-Xylene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
o-Xylene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Toluene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Dichlorodifluoromethane	< 1.0	1.0	S-	µg/L	1	9/28/2016 1:54:00 AM
Chloromethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Vinyl chloride	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Bromomethane	< 1.0	1.0	S-	µg/L	1	9/28/2016 1:54:00 AM
Chloroethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Trichlorofluoromethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Methylene chloride	1.9	1.0		µg/L	1	9/28/2016 1:54:00 AM
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
1,1-Dichloroethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Chloroform	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Carbon tetrachloride	< 1.0	1.0	S-	µg/L	1	9/28/2016 1:54:00 AM
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Trichloroethene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Bromodichloromethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
cis-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
trans-1,3-Dichloropropene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Tetrachloroethene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Dibromochloromethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Chlorobenzene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Bromoform	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
1,1,2,2-Tetrachloroethane	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
1,3-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	9/28/2016 1:54:00 AM
Surr: 4-Bromofluorobenzene	104	78.4-123		%REC	1	9/28/2016 1:54:00 AM



314 North Pearl Street
Albany, New York 12207
518-434-4546 ♦ Fax: 518-434-0891

CHAIN OF CUSTODY RECORD

AES Work Order#:

160921005

EXPERIENCE IS THE SOLUTION

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: JTM ASSOC.		Address:							
Send Report to: Jim Mickam		Project Name (Location): West Well Annual				Samplers Name: <i>Paul Best</i>			
Client Phone No:		PO #:				Samplers Signature: <i>Paul Best</i>			
Client Fax No:									
AES Sample ID	Client Sample ID:	Date Sampled	Time A=am P=pm	Sample Type			# of Cont's	Analysis	
				Matrix	C	G			
001	MW-1	9/19/16	3:20	A P	GW		G	4	T. Cyanide, Cd, Cr, Ni, Zn EPA 8260, (Field SWL, pH, Temp, S. Cond., Turb., elevations)
002	MW-2	9/19/16	4:20	A P	GW		G	4	"
003	MW-3	9/19/16	4:00	A P	GW		G	4	"
004	MW-4	9/19/16	3:10	A P	GW		G	4	"
005	MW-4 Duplicate	9/19/16	3:10	A P	GW		G	4	"
006	MW-5	9/19/16	4:10	A P	GW		G	4	"
007	MW-6	9/19/16	4:40	A P	GW		G	4	"
008	MW-7	9/19/16	3:35	A P	GW		G	4	"
009	MW-8	9/19/16	1:25	A P	GW		G	4	"
010	MW-9	9/19/16	1:00	A P	GW		G	4	"
Shipment Arrived Via: FedEx UPS Client <u>AES</u> Other: _____				Special Instructions/Remarks: Normal TAT Page 1 of 3					
Turnaround Time Requested: ☐ 1 Day ☐ 3 Day ☐ Normal ☐ 2 -Day ☐ 5 Day									
Relinquished by: (Signature) <i>Paul Best</i>		Date 9/21/16	Time 8:55	Received by: (Signature)		Date	Time		
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time		
Relinquished by: (Signature)		Date	Time	Received for Laboratory by: <i>Candida Signer</i>		Date 9/21/16	Time 11:00		
Sample Temperature Ambient <u>Chilled</u> Chilling Process begun Notes: <u>4°C</u>		Properly Preserved <u>Y</u> N		Received Within Holding Times <u>Y</u> N Notes: _____					



160921005



314 North Pearl Street
Albany, New York 12207
518-434-4546 ♦ Fax: 518-434-0891

CHAIN OF CUSTODY RECORD

AES Work Order#:

160921005

EXPERIENCE IS THE SOLUTION

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: JTM ASSOC.		Address:							
Send Report to: Jim Mickam		Project Name (Location): West Well Annual				Samplers Name: <i>Paul Bist</i>			
Client Phone No:		PO #:				Samplers Signature: <i>Paul Bist</i>			
Client Fax No:									
AES Sample ID	Client Sample ID:	Date Sampled	Time A=am P=pm	Sample Type			# of Cont's	Analysis	
				Matrix	C	G			
011	MW-11	9/19/16	12:20	A P	GW		G	4	T. Cyanide, Cd,Cr,Ni,Zn
				A P					EPA 8260, (Field SWL,pH,
									Temp,S.Cond., Turb., elevations)
012	MW-12	9/19/16	2:55	A P	GW		G	4	"
013	MW-13	9/19/16	2:30	A P	GW		G	4	"
014	MW-14	9/19/16	2:10	A P	GW		G	4	"
015	WW-1	9/19/16	1:25	A P	GW		G	4	"
016	WW-2	9/19/16	1:15	A P	GW		G	4	"
017	WW-3	9/19/16	2:55	A P	GW		G	4	"
018	WW-4	9/20/16	11:20	A P	GW		G	4	"
019	WW-5	9/20/16	11:50	A P	GW		G	4	"
020	WW-6	9/19/16	2:45	A P	GW		G	4	"
Shipment Arrived Via: FedEx UPS Client <u>AES</u> Other: _____				Special Instructions/Remarks: Normal TAT Page 2 of 3					
Turnaround Time Requested: ☐ 1 Day ☐ 3 Day ☐ Normal ☐ 2 -Day ☐ 5 Day									
Relinquished by: (Signature) <i>Paul Bist</i>		Date 9/21/16	Time 8:55	Received by: (Signature)				Date	Time
Relinquished by: (Signature)		Date	Time	Received by: (Signature)				Date	Time
Relinquished by: (Signature)		Date	Time	Received for Laboratory by: <i>Corradyhman</i>				Date 9/21	Time 9:11am
Sample Temperature Ambient <u>Chilled</u> Chilling Process begun Notes: <u>4°C</u>		Properly Preserved <u>Y</u> N				Received Within Holding Times <u>Y</u> N			

Client Name: JTM ASSOC.		Address:									
Send Report to: Jim Mickam		Project Name (Location): West Well Annual					Samplers Name: <i>Paul Bist</i>				
Client Phone No:		PO #:					Samplers Signature: <i>Paul Bist</i>				
Client Fax No:											
AES Sample ID	Client Sample ID:	Date Sampled	Time A=am P=pm	Sample Type Matrix C G			# of Cont's	Analysis			
021	WP-1	9/20/16	12:45	A P	GW		G	4	T. Cyanide, Cd,Cr,Ni,Zn		
				A P					EPA 8260, (Field SWL,pH,		
				A P					Temp,S.Cond., Turb., elevations)		
022	WP-4	9/20/16	12:55	A P	GW		G	4	"		
	Trip Blank Lot# <u>17.1</u>	9/19/16	—	A	WA			1	EPA 8260		
				P							
				A							
				P							
				A							
				P							
				P							
Shipment Arrived Via: FedEx UPS Client <u>AES</u> Other: _____											
Turnaround Time Requested: ☐ 1 Day ☐ 3 Day ☐ Normal ☐ 2 -Day ☐ 5 Day											
Special Instructions/Remarks: Normal TAT Page 3 of 3											
Relinquished by: (Signature) <i>Paul Bist</i>		Date 9/21/16	Time 8:55	Received by: (Signature)				Date	Time		
Relinquished by: (Signature)		Date	Time	Received by: (Signature)				Date	Time		
Relinquished by: (Signature)		Date	Time	Received for Laboratory by: <i>Carly Signer</i>				Date 9/21/16	Time 11:00		
Sample Temperature Ambient <u>Chilled</u> Chilling Process begun Notes: <u>4°C</u>			Properly Preserved <u>Y</u> N					Received Within Holding Times <u>Y</u> N			



Experience is the solution

314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891

TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

- (a) Neither **Adirondack Environmental Services, Inc.**, nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.**'s performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.
- (b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.
- (c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.
- (d) In no event shall **Adirondack Environmental Services, Inc.**, its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.
- (e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**
- (f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.
- (g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

APPENDIX 2
Aquifer Response Testing Groundwater Elevation Data

West Well / Parking Area Site
 Aquifer Response Testing
 Groundwater Elevation and Drawdown Data

Date and Time	Pit - MW		WP - 4		WW - 5		WW - 6		WW - 1	
	Elevation	Drawdown	Elevation	Drawdown	Elevation	Drawdown	Elevation	Drawdown	Elevation	Drawdown
8/9/2016 18:00	970.66		963.09		967.50		966.49		971.23	
8/9/2016 19:00	970.95		963.79		967.69		967.21		971.38	
8/9/2016 20:00	971.24		964.46		967.98		967.83		971.55	
8/9/2016 21:00	971.45		965.05		968.19		968.32		971.66	
8/9/2016 22:00	971.65		965.60		968.41		968.73		971.78	
8/9/2016 23:00	971.83		966.12		968.60		969.09		971.87	
8/10/2016 0:00	972.00		966.61		968.83		969.39		971.95	
8/10/2016 1:00	972.17		967.04		969.04		969.66		972.03	
8/10/2016 2:00	972.31		967.45		969.21		969.90		972.10	
8/10/2016 3:00	972.45		967.84		969.37		970.12		972.18	
8/10/2016 4:00	972.55		968.18		969.50		970.32		972.23	
8/10/2016 5:00	972.65		968.49		969.64		970.48		972.29	
8/10/2016 6:00	972.75		968.80		969.76		970.65		979.65	
8/10/2016 7:00	972.89		969.07		969.93		971.26		979.65	
8/10/2016 8:00	972.99		969.34		970.03		971.52		979.65	
8/10/2016 9:00	973.04		969.56		970.11		971.49		979.64	
8/10/2016 10:00	973.12		969.79		970.19		971.49		976.88	
8/10/2016 11:00	973.19		970.00		970.30		971.54		975.25	
8/10/2016 12:00	973.25		970.20		970.39		971.55		974.25	
8/10/2016 13:00	973.31		970.38		970.48		971.62		973.60	
8/10/2016 14:00	973.38		970.56		970.55		971.69		973.21	
8/10/2016 15:00	973.46		970.70		970.62		971.75		972.98	
8/10/2016 16:00	973.53		970.85		970.70		971.84		972.89	
8/10/2016 18:00	973.70		971.29		971.01		972.17		973.01	
8/10/2016 19:00	973.78		971.45		971.12		972.27		973.05	
8/10/2016 20:00	973.83		971.56		971.20		972.35		973.07	
8/10/2016 21:00	973.87		971.68		971.29		972.41		973.10	
8/10/2016 22:00	973.91		971.79		971.35		972.45		973.12	
8/10/2016 23:00	973.96		971.89		971.39		972.50		973.14	
8/11/2016 0:00	973.99		971.99		971.44		972.55		973.18	
8/11/2016 1:00	974.05		972.08		971.50		972.60		973.20	
8/11/2016 2:00	974.08		972.17		971.54		972.65		973.23	
8/11/2016 3:00	974.12		972.26		971.59		972.69		973.27	
8/11/2016 4:00	974.16		972.33		971.62		972.73		973.29	
8/11/2016 5:00	974.21		972.40		971.67		972.77		973.32	
8/11/2016 6:00	974.25		972.48		971.72		972.82		973.35	
8/11/2016 7:00	974.29		972.54		971.76		972.86		973.39	
8/11/2016 8:00	974.16		972.43		971.64		972.74		973.25	

West Well / Parking Area Site
 Aquifer Response Testing
 Groundwater Elevation and Drawdown Data

Date and Time	Pit - MW		WP - 4		WW - 5		WW - 6		WW - 1		1st rate @ 90 GPM
	Elevation	Drawdown	Elevation	Drawdown	Elevation	Drawdown	Elevation	Drawdown	Elevation	Drawdown	
8/11/2016 9:00	974.09	0.00	972.50	0.00	971.67	0.00	972.78	0.00	973.28	0.00	
8/11/2016 9:01	965.94	8.16	972.49	0.01	971.67	0.00	972.78	0.00	972.64	0.642	
8/11/2016 9:02	963.81	10.28	972.50	0.00	971.68	0.00	972.78	0.00	972.08	1.20	
8/11/2016 9:03	963.05	11.04	972.50	0.00	971.68	0.00	972.78	0.00	971.81	1.47	
8/11/2016 9:04	962.35	11.74	972.50	0.00	971.67	0.00	972.78	0.00	971.62	1.66	
8/11/2016 9:05	964.00	10.09	972.50	0.00	971.67	0.00	972.77	0.01	971.51	1.77	
8/11/2016 9:06	964.24	9.85	972.50	0.00	971.66	0.01	972.75	0.03	971.45	1.83	
8/11/2016 9:07	964.25	9.84	972.50	0.00	971.65	0.02	972.73	0.05	971.40	1.88	
8/11/2016 9:08	964.21	9.88	972.50	0.00	971.65	0.02	972.70	0.08	971.34	1.94	
8/11/2016 9:09	964.14	9.95	972.50	0.00	971.63	0.04	972.67	0.11	971.31	1.97	
8/11/2016 9:10	964.07	10.02	972.50	0.00	971.62	0.05	972.62	0.16	971.26	2.02	
8/11/2016 9:15	963.80	10.30	972.51	-0.01	971.53	0.14	972.34	0.44	971.23	2.05	
8/11/2016 9:20	963.60	10.49	972.50	0.00	971.42	0.25	971.98	0.80	971.20	2.08	
8/11/2016 9:25	963.45	10.65	972.49	0.01	971.30	0.38	971.62	1.16	972.84	0.44	
8/11/2016 9:30	963.33	10.76	972.46	0.04	971.17	0.50	971.28	1.50	971.78	1.50	
8/11/2016 9:40	963.16	10.94	972.42	0.08	970.90	0.77	970.67	2.11	971.28	2.00	
8/11/2016 9:50	963.02	11.08	972.34	0.16	970.64	1.03	970.15	2.63	971.12	2.16	
8/11/2016 10:00	962.90	11.19	972.19	0.31	970.39	1.28	969.73	3.05	971.07	2.21	
8/11/2016 10:30	962.67	11.43	971.66	0.84	969.77	1.90	968.80	3.98	971.06	2.22	
8/11/2016 11:00	962.49	11.60	971.13	1.37	969.28	2.39	968.18	4.60	971.06	2.22	
8/11/2016 11:30	962.40	11.70	970.71	1.79	968.96	2.71	967.75	5.03	971.05	2.23	
8/11/2016 12:00	962.30	11.79	970.38	2.13	968.68	2.99	967.39	5.39	971.08	2.20	
8/11/2016 12:30	962.23	11.86	970.10	2.40	968.47	3.20	967.13	5.65	971.06	2.22	
8/11/2016 13:00	962.17	11.92	969.86	2.64	968.30	3.37	966.90	5.88	971.06	2.22	
8/11/2016 13:30	962.13	11.97	969.65	2.85	968.16	3.51	966.73	6.05	970.96	2.32	
8/11/2016 14:00	962.08	12.01	969.48	3.02	968.03	3.64	966.57	6.21	970.95	2.33	
8/11/2016 14:30	962.08	12.02	969.36	3.14	967.97	3.70	966.48	6.30	970.97	2.31	
8/11/2016 15:00	962.03	12.06	969.21	3.29	967.87	3.80	966.34	6.44	970.99	2.29	
8/11/2016 16:00	961.97	12.12	968.99	3.51	967.73	3.94	966.17	6.61	970.99	2.29	
8/11/2016 17:00	961.94	12.15	968.83	3.67	967.62	4.05	966.04	6.74	971.01	2.27	
8/11/2016 18:00	961.92	12.17	968.68	3.82	967.51	4.16	965.93	6.85	971.02	2.26	
8/11/2016 19:00	961.89	12.20	968.53	3.97	967.43	4.24	965.83	6.95	971.02	2.26	
8/11/2016 20:00	961.86	12.23	968.44	4.06	967.36	4.31	965.76	7.02	970.37	2.91	
8/11/2016 21:00	961.84	12.25	968.33	4.17	967.29	4.38	965.68	7.10	969.66	3.62	
8/11/2016 22:00	961.84	12.25	968.26	4.24	967.24	4.43	965.64	7.14	979.29	-6.01	
8/11/2016 23:00	961.82	12.27	968.19	4.31	967.21	4.46	965.60	7.18	972.14	1.14	
8/12/2016 0:00	961.81	12.29	968.12	4.38	967.17	4.50	965.56	7.22	968.40	4.88	
8/12/2016 1:00	961.82	12.27	968.08	4.42	967.15	4.52	965.54	7.24	967.78	5.50	
8/12/2016 2:00	961.81	12.28	968.02	4.48	967.12	4.55	965.52	7.26	967.84	5.44	
8/12/2016 3:00	961.81	12.28	967.99	4.51	967.11	4.56	965.52	7.26	968.07	5.21	
8/12/2016 4:00	961.80	12.29	967.96	4.54	967.10	4.57	965.49	7.29	975.52	-2.24	
8/12/2016 5:00	961.81	12.28	967.93	4.57	967.08	4.59	965.49	7.29	969.64	3.64	
8/12/2016 6:00	961.80	12.29	967.90	4.60	967.06	4.61	965.46	7.32	968.59	4.69	
8/12/2016 7:00	961.78	12.31	967.88	4.62	967.04	4.63	965.45	7.33	968.45	4.83	
8/12/2016 8:00	961.77	12.32	967.85	4.65	967.01	4.66	965.43	7.35	968.47	4.81	
8/12/2016 9:00	961.78	12.31	967.82	4.68	966.99	4.68	965.41	7.37	968.50	4.78	
8/12/2016 10:00	961.78	12.32	967.80	4.70	966.97	4.70	965.41	7.38	968.53	4.75	
8/12/2016 14:00	961.78	12.31	967.82	4.68	966.90	4.77	965.38	7.40	968.56	4.72	
8/12/2016 14:15	961.80	12.29	967.82	4.68	966.92	4.75	965.39	7.39	968.58	4.70	
8/12/2016 14:30	961.79	12.30	967.83	4.67	966.92	4.75	965.39	7.39	968.60	4.68	
8/12/2016 14:45	961.80	12.29	967.81	4.69	966.92	4.75	965.39	7.39	968.64	4.64	
8/12/2016 15:00	961.80	12.29	967.81	4.69	966.92	4.76	965.38	7.40	968.66	4.62	
8/12/2016 15:15	961.80	12.29	967.80	4.70	966.91	4.76	965.39	7.39	968.68	4.60	
8/12/2016 15:30	961.79	12.30	967.80	4.70	966.91	4.76	965.38	7.40	968.70	4.58	
8/12/2016 15:45	961.80	12.29	967.79	4.71	966.91	4.76	965.39	7.39	968.73	4.55	

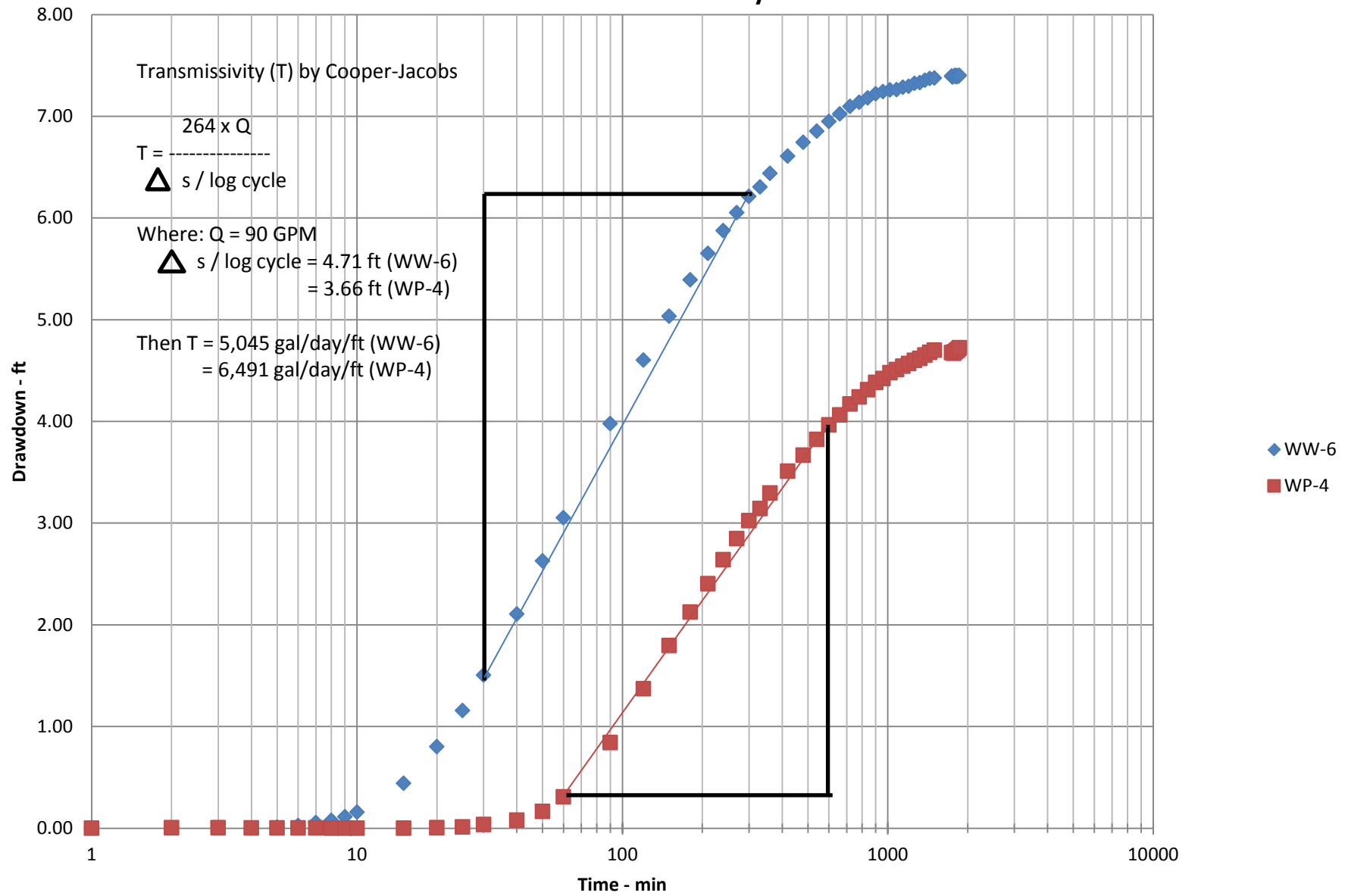
West Well / Parking Area Site
 Aquifer Response Testing
 Groundwater Elevation and Drawdown Data

Date and Time	Pit - MW		WP - 4		WW - 5		WW - 6		WW - 1		2nd rate @ 162 GPM
	Elevation	Drawdown	Elevation	Drawdown	Elevation	Drawdown	Elevation	Drawdown	Elevation	Drawdown	
8/12/2016 16:00	961.79	12.30	967.78	4.72	966.91	4.76	965.38	7.40	968.76	4.52	
8/12/2016 16:01	957.07	17.02	967.78	4.72	966.91	4.76	965.39	7.39	968.77	4.51	
8/12/2016 16:02	955.44	18.65	967.77	4.73	966.90	4.77	965.38	7.40	968.78	4.50	
8/12/2016 16:03	954.51	19.58	967.78	4.72	966.90	4.77	965.38	7.40	968.78	4.50	
8/12/2016 16:04	953.89	20.20	967.77	4.73	966.90	4.77	965.38	7.40	968.78	4.50	
8/12/2016 16:05	953.43	20.66	967.77	4.73	966.90	4.77	965.38	7.40	968.79	4.49	
8/12/2016 16:06	953.09	21.00	967.78	4.72	966.89	4.78	965.36	7.42	968.80	4.48	
8/12/2016 16:07	952.87	21.22	967.78	4.72	966.88	4.79	965.35	7.43	968.80	4.48	
8/12/2016 16:08	952.65	21.44	967.77	4.73	966.88	4.79	965.33	7.45	968.81	4.47	
8/12/2016 16:09	952.48	21.61	967.77	4.73	966.88	4.79	965.32	7.46	968.80	4.48	
8/12/2016 16:10	952.31	21.78	967.77	4.73	966.87	4.80	965.29	7.49	968.81	4.47	
8/12/2016 16:15	951.82	22.27	967.76	4.74	966.81	4.86	965.10	7.68	968.81	4.47	
8/12/2016 16:20	951.48	22.61	967.76	4.74	966.74	4.93	964.83	7.95	968.80	4.48	
8/12/2016 16:25	951.25	22.84	967.74	4.76	966.65	5.02	964.54	8.24	968.80	4.48	
8/12/2016 16:30	951.08	23.01	967.72	4.78	966.55	5.12	964.25	8.53	968.82	4.46	
8/12/2016 16:40	950.81	23.28	967.67	4.83	966.34	5.33	963.70	9.08	968.84	4.44	
8/12/2016 16:50	950.61	23.48	967.57	4.93	966.11	5.56	963.21	9.57	968.85	4.43	
8/12/2016 17:00	950.48	23.61	967.44	5.06	965.91	5.76	962.83	9.95	968.85	4.43	
8/12/2016 17:30	950.18	23.92	966.94	5.56	965.34	6.33	961.93	10.85	968.85	4.43	
8/12/2016 18:00	949.96	24.13	966.49	6.01	964.86	6.81	961.32	11.46	968.85	4.43	
8/12/2016 18:30	949.84	24.26	966.09	6.41	964.50	7.17	960.88	11.90	968.87	4.41	
8/12/2016 19:00	949.73	24.36	965.74	6.76	964.21	7.46	961.11	11.67	968.26	5.02	
8/12/2016 19:30	949.64	24.45	965.47	7.03	964.00	7.67	960.48	12.30	967.88	5.40	
8/12/2016 20:00	949.58	24.52	965.23	7.27	963.85	7.82	960.65	12.13	967.95	5.33	
8/12/2016 20:30	949.52	24.57	965.03	7.48	963.70	7.97	960.04	12.74	966.90	6.38	
8/12/2016 21:00	949.45	24.64	964.84	7.66	963.58	8.09	959.81	12.97	965.22	8.06	
8/12/2016 21:30	949.41	24.68	964.68	7.83	963.45	8.22	959.64	13.14	964.85	8.43	
8/12/2016 22:00	949.34	24.75	964.49	8.01	963.33	8.34	959.50	13.29	964.72	8.56	
8/12/2016 23:00	949.29	24.80	964.24	8.26	963.15	8.52	959.27	13.51	964.72	8.56	
8/13/2016 0:00	949.23	24.86	964.01	8.49	963.00	8.67	959.18	13.60	964.80	8.49	
8/13/2016 1:00	949.20	24.89	963.83	8.67	962.90	8.77	959.34	13.44	964.84	8.44	
8/13/2016 2:00	949.15	24.94	963.66	8.84	962.80	8.87	958.98	13.80	964.94	8.34	
8/13/2016 3:00	949.13	24.97	963.52	8.98	962.73	8.94	958.84	13.94	964.94	8.34	
8/13/2016 4:00	949.10	24.99	963.40	9.10	962.65	9.02	958.76	14.02	964.97	8.31	
8/13/2016 5:00	949.09	25.00	963.27	9.23	962.60	9.07	958.71	14.07	964.87	8.41	
8/13/2016 6:00	949.06	25.03	963.17	9.33	962.55	9.12	958.65	14.13	964.92	8.36	
8/13/2016 7:00	949.04	25.05	963.07	9.43	962.50	9.17	958.61	14.17	964.95	8.33	
8/13/2016 8:00	949.03	25.06	962.97	9.53	962.46	9.21	958.56	14.22	964.93	8.35	
8/13/2016 9:00	949.00	25.09	962.88	9.62	962.41	9.26	958.54	14.24	964.89	8.39	
8/13/2016 10:00	948.98	25.11	962.78	9.72	962.37	9.30	958.48	14.30	964.87	8.41	
8/13/2016 11:00	948.99	25.10	962.72	9.78	962.35	9.32	958.53	14.26	964.85	8.43	
8/13/2016 12:00	948.98	25.11	962.65	9.85	962.31	9.36	958.43	14.35	964.83	8.45	
8/13/2016 13:00	948.98	25.11	962.60	9.90	962.30	9.37	958.40	14.38	964.80	8.48	
8/13/2016 14:00	948.96	25.14	962.53	9.97	962.27	9.40	958.36	14.42	964.77	8.51	
8/13/2016 15:00	948.98	25.11	962.48	10.02	962.27	9.40	958.34	14.44	964.78	8.50	
8/13/2016 16:00	948.98	25.11	962.46	10.04	962.26	9.41	958.32	14.46	964.77	8.51	
8/13/2016 17:00	948.97	25.12	962.41	10.09	962.24	9.43	958.31	14.47	964.78	8.50	
8/13/2016 18:00	948.96	25.13	962.37	10.13	962.23	9.44	958.29	14.49	964.77	8.51	
8/13/2016 19:00	948.93	25.16	962.31	10.19	962.21	9.46	958.25	14.53	964.75	8.53	
8/13/2016 20:00	948.93	25.16	962.27	10.23	962.19	9.48	958.24	14.54	964.76	8.52	
8/13/2016 21:00	948.94	25.15	962.23	10.27	962.19	9.48	958.23	14.55	964.76	8.52	
8/13/2016 22:00	948.94	25.16	962.21	10.30	962.18	9.49	958.23	14.55	964.76	8.52	
8/13/2016 23:00	948.92	25.17	962.16	10.34	962.17	9.50	958.21	14.57	964.73	8.55	
8/14/2016 0:00	948.91	25.18	962.14	10.36	962.15	9.52	958.20	14.58	964.74	8.54	
8/14/2016 1:00	948.91	25.19	962.13	10.37	962.14	9.53	958.19	14.59	964.73	8.55	
8/14/2016 2:00	948.91	25.18	962.13	10.37	962.12	9.55	958.19	14.59	964.71	8.57	
8/14/2016 3:00	948.89	25.20	962.09	10.41	962.11	9.56	958.18	14.60	964.70	8.58	
8/14/2016 4:00	948.90	25.19	962.07	10.43	962.10	9.57	958.16	14.62	964.71	8.57	
8/14/2016 5:00	948.91	25.18	962.05	10.45	962.10	9.57	958.16	14.62	964.72	8.56	
8/14/2016 6:00	948.90	25.19	962.04	10.46	962.11	9.56	958.16	14.62	964.72	8.56	
8/14/2016 7:00	948.89	25.20	962.02	10.48	962.10	9.57	958.16	14.62	964.72	8.56	
8/14/2016 8:00	948.89	25.20	962.01	10.49	962.10	9.57	958.14	14.64	964.71	8.57	
8/14/2016 9:00	948.88	25.21	962.01	10.49	962.10	9.57	958.12	14.66	964.70	8.58	
8/14/2016 10:00	948.87	25.22	962.00	10.50	962.17	9.50	958.10	14.68	964.71	8.57	

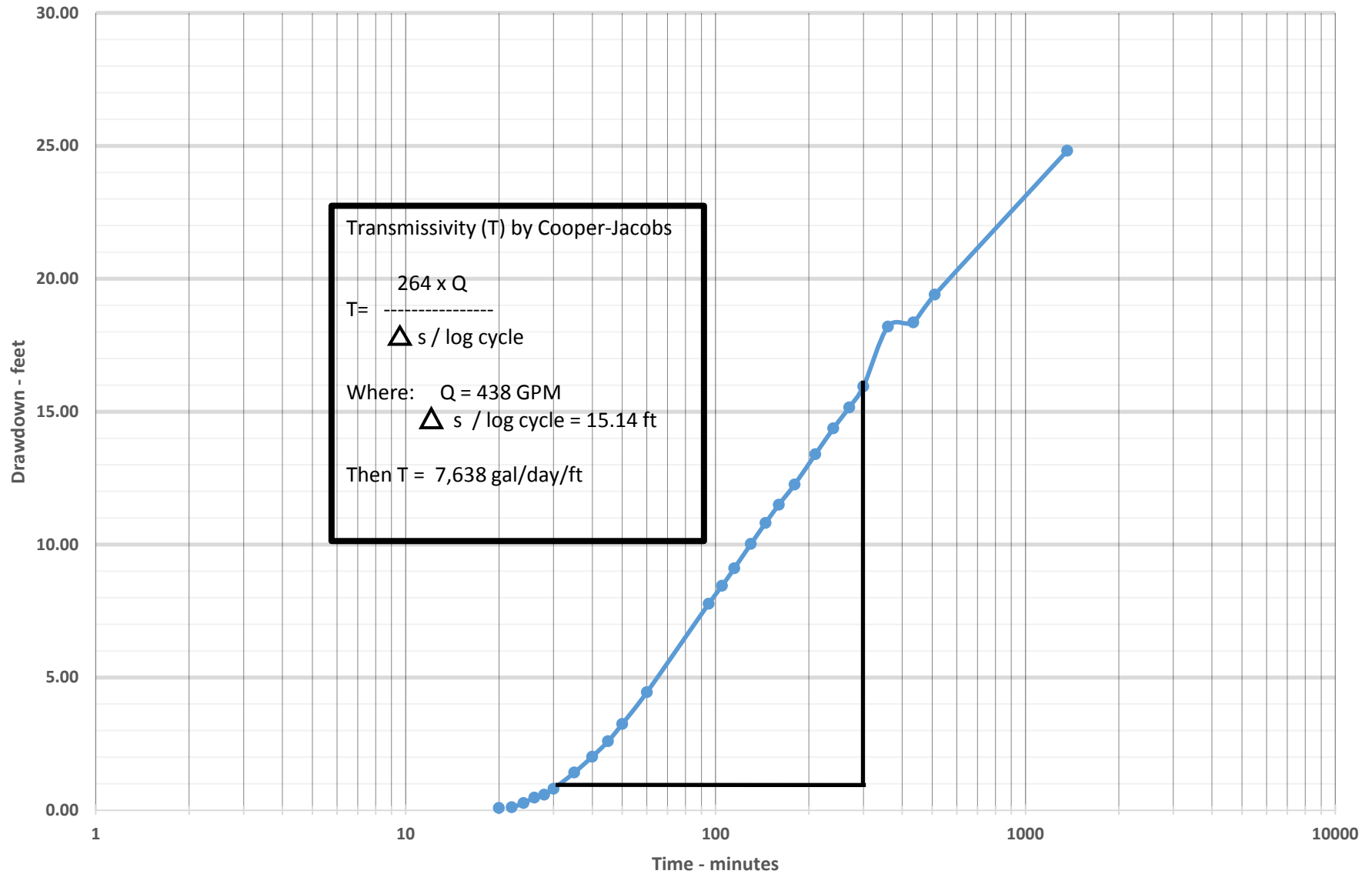
APPENDIX 3

Transmissivity Calculations

West Well Aquifer Response Test Time - Drawdown Summary at 90 GPM



West Well / Parking Area Site
Drawdown from ERM pump test on July 24, 1984
Well WP-4



EXHIBITS

EXHIBIT A
Work Plan and NYSDEC Approval

**West Well / Parking Area Site
NYSDEC Site #413010
and
Boiler Room Site
NYSDEC Site #413013**

**Remediation Review and Enhancement Work Plan
March 2016**

**Amphenol Corporation
Sidney, New York**



Introduction

Amphenol Corporation previously manufactured a variety of electrical connectors at its facility located at 40 – 60 Delaware Avenue in Sidney, New York. The parcel occupies approximately 45 acres. Several different business entities have used this site for industrial manufacturing since the late 1800's. In 2014, all manufacturing operations were re-located to a new facility within the Village of Sidney. The plating operations at the plant, which are housed in a separate building on the west end of the site, however, were not moved and continue at the 40 – 60 Delaware Avenue site.

Two separate and distinct environmental remediation areas are defined on the property. These sites are referred to as the West Well / Parking Area site (#413010) and the Boiler Room area (#413013) on the New York State Department of Environmental Conservation (NYSDEC) registry of Inactive Hazardous Waste Sites. Figure 1 depicts the 40 – 60 Delaware Avenue plant site and the location of the West Well and Boiler Room remediation areas. Each site has an independent Administrative Order on Consent (AOC) that has been executed between Amphenol and the NYSDEC. Groundwater extraction and treatment, initiated as interim remedial measures (IRMs) have been ongoing at each respective site for approximately 20 years as part of Amphenol's compliance with the AOCs.

This document presents a proposed work plan for environmental groundwater investigations to supplement previously completed studies regarding the environmental conditions of the site. Furthermore, in addition to defining current groundwater environmental conditions at the site, data from these supplemental investigations will be used to support a future Corrective Measures Study (CMS) to assess feasible operational modifications or enhancements to the ongoing groundwater remedial actions. Additionally, the results from these efforts will facilitate the preparation of a site-wide Statement of Basis (SoB) for the 40 – 60 Delaware Avenue property.

General Site Background

West Well / Parking Area (#413010)

The West Well (Figure 1) has historically been used as an industrial supply well for the facility's process water demands. Concentrations of chlorinated volatile organic compounds (CVOCs) exceeding the New York State Class GA standards, primarily trichloroethylene and its degradation species, were discovered in the West Well discharge in 1984. Several environmental studies were completed following this discovery which concluded that the primary source of CVOCs was the former solvent storage area with a secondary minor source area beneath the West Parking lot (ERM; April 1986). A plan to remediate the contaminants in the groundwater by continuing to pump the West Well and treating the discharge with air stripping technology was approved by the Department and implemented in March 1988.

In late 1988, during routine maintenance activities, a loss of plating process wastewater was discovered from the wastewater conveyance trenches in the floor of the plating building. A subsequent study concluded that concentrations of cadmium, chromium, zinc and cyanide in the shallow groundwater zone exceed NYS Class GA standards.

Amphenol and the NYSDEC executed an AOC for the West Well / Parking Lot site in November 1989. The AOC calls for Amphenol to address “on-site and off-site contamination” using means that are “technology and economically feasible and will most effectively identify and mitigate to the extent practicable any present or potential future threat to the environment posed by the past disposal of hazardous and industrial wastes” at the site. For the purposes of addressing the COVCs in the West Well, Amphenol proposed and NYSDEC agreed that this AOC goal was best met by continuing to operate and treat the West Well discharge.

Additionally, the AOC provides for the submittal of a Supplemental Remedial Program if other environmental impacts are discovered that require addressing. This being the case for the identification of the select heavy metals in the shallow groundwater beneath the plating building, Amphenol submitted in September 1991, and the Department approved, a SRP calling for the extraction and treatment of groundwater from two monitoring wells that contained the highest concentration of metals. This action initiated near the end of 1999 and continued until July 2014.

As noted earlier, the West Well discharge, following air stripping treatment to remove CVOCs, is used for process water demands at the facility. Any flow that is not consumed for process needs is allowed to by-pass (overflow) the process distribution system and is then discharged to outfall #002 which is permitted under the New York State Pollution Discharge Elimination System (SPDES Permit # 0003824). Outfall #002 also receives storm water flows and the effluent from the Boiler Room site groundwater collection and treatment system.

In March 2015, Amphenol was advised by NYSDEC that routine monitoring data indicated that the discharge at outfall #002 exceeded the chronic Whole Effluent Toxicity (WET) limits prescribed in the facility’s permit. The Department concluded that the chronic WET exceedance was likely caused by naturally occurring inorganic compounds in the groundwater that are discharged via the West Well overflow and/or the Boiler Room remediation system effluent. The Department further directed Amphenol to undertake a Toxicity Reduction Evaluation (TRE) to identify solutions to bring the outfall #002 discharge into compliance.

A work plan for the TRE was subsequently submitted and approved by NYSDEC. The report submitted upon completion of the work plan tasks conclude that the preferred approach to eliminating the chronic WET exceedances was to discontinue overflowing the unconsumed portion of West Well pumping to outfall #002. Additionally, the Boiler Room remedial system effluent would be redirected to SPDES outfall #001 which has been determined to have sufficient hydraulic capacity and diluent to address the Department’s WET concerns.

Boiler Room Area (# 413013)

In November 1984, an underground storage tank located adjacent to the boiler room at the east end of the facility (Figure 1) was removed. This tank had been used to contain waste oil from various manufacturing operations. During the tank removal, soils surrounding the tank were found to be contaminated. This prompted additional subsurface soil and groundwater investigations in this area of the plant.

Between January 1985 and February 1995 several phases of remedial investigations were completed. The purpose of these studies was to evaluate the extent of groundwater impacts along the northwest side of the property and hydraulically down-gradient between the plant and the Village of Sidney supply well and identify appropriate remedial measures to mitigate further off site transport of contaminated groundwater. These objectives were defined in an Administrative Order on Consent (AOC file #R-4-0539-88-02) executed between the NYSDEC and Amphenol in November 1989.

In April 1996, as part of a pre-design study associated with a proposed interim remedial measure (IRM) for the Boiler Room site designed to capture shallow groundwater where the highest concentrations of contaminants were detected, a test groundwater recovery well and treatment system was constructed. This approach proved successful and subsequently, two additional recovery wells were installed to improve the contaminant capture capability of the IRM system. These wells became operational in mid-February 1999. Also in February 1999, NYSDEC issued a Record of Decision (ROD) calling for the continued operation of the IRM groundwater collection and treatment system as the remedy for the Boiler Room site. Amphenol continues to operate this remedial system.

In 2004, at the request of NYSDEC and the New York State Department of Health (NYSDOH), Amphenol initiated a program to assess the potential for soil vapor intrusion (SVI) from off-site concentrations of TCE in the shallow groundwater to affect indoor air chemistry in residential and commercial buildings north of the facility. In response to soil vapor and indoor air monitoring data, 15 residential sub-slab depressurization (vapor mitigation) systems were installed in the neighborhood north of the site.

In addition to soil vapor and indoor air monitoring and the operation of vapor mitigation systems, it was suggested by the NYSDOH that enhancement of the ongoing groundwater remediation on the Boiler Room site would be helpful to reduce the risk of soil vapor intrusion in the down-gradient neighborhoods. In response to this suggestion, Amphenol undertook a series of activities in the spring of 2011 designed to better understand the contaminant distribution along the down-gradient (north side) of the plant and possibly define feasible approaches to improve the on-going groundwater remediation. The investigation efforts included:

- Completion nineteen (19) membrane interface probes to screen for volatile organic compounds (VOCs)

- Installation of eight (8) additional groundwater monitoring wells
- Groundwater sampling and analyses

Based on the results of the supplemental investigations, it was apparent that:

- concentrations of TCE above 1,000 ppb extend vertically to depths of approximately 80 feet below ground level
- a source of TCE likely exists beneath the manufacturing facility

In responses to these discoveries, Amphenol initiated pilot testing of two Advanced Remediation Technologies (ART[™]) wells. Pilot testing on these wells is continuing.

As mentioned previously, Amphenol has relocated its manufacturing operations to a newly constructed manufacturing facility in the Village of Sidney. As a result, the former, main plant building became sufficiently accessible to allow investigation of the subsurface beneath the old plant through the floor. A work plan for additional MIP surveying beneath the plant floor was submitted to and approved by NYSDEC in May 2015. The results of this effort were provided in a letter report to NYSDEC in December 2015.

Supplemental Investigations Purpose and Scopes

West Well / Parking Area (#413010)

The purpose of the supplemental groundwater investigations at the West Well site are to:

- assess the current distribution of COVCs and the metals of concern
- evaluate if pumping the West Well at a volume that meets the minimum process flow demand would still sufficiently control groundwater contaminant migration to meet the intent of the AOC
- develop a conceptual design for an on-demand process water delivery system that would eliminate the overflow of excess discharge to outfall #002.

The specifics associated with each task are described below.

Present contaminant distribution assessment

Figure 2 illustrates the West Well remediation area. The West Well site has been undergoing groundwater remediation using a pump and treat approach for nearly 30 years. As a result of this effort, concentrations of CVOCs have been substantially reduced. In fact at some locations, where the initial historic investigations revealed concentrations of TCE at several orders of magnitude greater than the maximum contaminant level (MCL) of 5 parts per billion (ppb), recent monitoring reported levels of < 1ppb. The metals of concern have fluctuated within a historically defined range with no discernable pattern.

Routine groundwater quality monitoring is completed using select monitoring wells at the West Well site on a quarterly schedule. These data have been provided to NYSDEC in quarterly monitoring reports since the groundwater remediation IRM was implemented.

To provide for a more complete assessment of the present distribution of COVCs and the metals of interest (cadmium, chromium, nickel and zinc) and cyanide, all existing groundwater monitoring wells in the West Well remediation area will be sampled. Table 1 summarizes the specific wells to be sampled. This complete set of samples will be collected on two occasions coincidental with the routine quarterly groundwater monitoring events scheduled for March and June 2016. All samples will be analyzed for CVOs using EPA method 8260. The metals will be analyzed by EPA 200.7. Total cyanide will be quantified using EPA 335.4.

Evaluation of West Well Area of Influence at Reduced Pumping Rates

The West Well was reportedly pumped at a rate of 438 gallons per minute (GPM) during the aquifer performance test completed for the 1986 hydrogeologic investigation report (ERM; April 1986) that lead to the design of the IRM to manage the COVCs discovered in the shallow and deep overburden units that underlie the site. This test revealed substantial drawdown and relatively rapid response in the deep overburden to pumping of the West Well.

The West Well is currently equipped with a direct drive, line-shaft turbine pump. Pump operating speed and therefore discharge volume is not presently controlled relative to pumping level, discharge line pressure or discharge volume.

More recent available flow monitoring data indicates that the average daily flow for the previous 3 years has been approximately 400,000 gallons per day (GPD) or 278 GPM. Presently, the minimum process demand is approximately 100 GPM or approximately 180 GPM less than the West Well is delivering. As noted earlier, the unused portion of the well's yield is directed to outfall #002.

To assess the West Well's ability to control the present distribution of groundwater contaminants at lower discharge rates such that the provisions of the AOC are complied with, additional aquifer performance tests will be completed. Prior to completing these tests, however, modifications must be made to the existing pump's power configuration and flow metering. More specifically, the following will be completed prior to performing the lower yield aquifer performance tests:

- Installation of a variable frequency drive (VFD) on the pump motor electrical feed line such that pump speed can be controlled
- Installation of a new flow meter on the line from the well pump discharge to the air stripper influent to improve lower rate measuring accuracy

After configuring the West Well to deliver controlled lower yields, an aquifer performance test will be completed at a yield of 100 GPM to assess the area of hydraulic influence created by this level of withdrawal. In addition to monitoring the drawdown in the West Well during the test, groundwater elevations will also be monitored in the three deep overburden monitoring wells that have historically been used to demonstrate the West Wells area of influence (WP-4, WW-5 and WW-6). Although, as in past aquifer performance tests, equilibrium conditions are expected to be observed after 24 hours of pumping, the test will continue for up to 72 so best assure that hydraulically equilibrium had been established.

Groundwater elevations at select shallow groundwater monitoring wells near the West Well will also be recorded throughout the test. Although previous tests did not observe responses in the shallow water table that were attributed directly to West Well pumping, these data are useful to assess the variability in vertical hydraulic gradients between the shallow and deep overburden units.

The groundwater elevation gathered will be interpreted using traditional non-equilibrium (Theis) and equilibrium flow (Theim) mathematical solutions. These analyses, together cone of influence mapping using the empirical data, will be used to estimate the capture area of the West Well at the 100 GPM yield.

Interpretation of the test data will be initiated in the field during the performance of the test. This will afford the opportunity to increase (or decrease) the West Well discharge rate and directly observe hydraulic influences at variable pumping rates. We propose to perform the aquifer performance test during the plating operations annual maintenance shut-down in July 2016. Upon completion of the lower yield aquifer performance test, the West Well yield will be increased back to the pre-test discharge rate.

Conceptual Design for an On-Demand Process Water Delivery System

Assuming it can be demonstrated that the contaminants of concern in the West Well remediation area can be managed consistent with the goals defined in the AOC at a lower discharge rate from the supply well, Amphenol will proceed with the conceptual design of an on-demand process water delivery system. The elements of a conceptual design that eliminates the current unused portion of the supply well discharge to outfall 002 may vary greatly depending on the results of the aquifer performance test. Possible alternatives might have to consider the following possible West Well pumping scenarios:

- Pumping rate equal to the minimum process demands of 100 GPM with any overflow during the weekend and maintenance shut-downs being directed to the plating wastewater treatment plant final effluent tank for discharge to SPDES outfall 001

- Pumping rate greater than the minimum process demands of 100 GPM and greater than what excess could be accommodated by the plating wastewater treatment plant final effluent tank for discharge to SPDES outfall 001

Reporting

Following the completion of the data collection and interpretation for the tasks described above, a technical memorandum will be prepared and submitted to NYSDEC. The document will include a summary of the work efforts undertaken and data collected. Interpretations of the distribution of the CVOCs and metals will be provided together with an estimate of the West Well capture area at a reduced yield. A proposed approach to eliminating the overflow to outfall 002 will be presented together with a conceptual design for the infrastructure modifications necessary to implement the solution.

Boiler Room Area (# 413013)

The purpose of the supplemental groundwater investigations at the Boiler Room site are to:

- chemically characterize the contaminant source area beneath the former manufacturing building floor revealed by the 2015 MIP survey
- preliminary evaluate if in-situ biological degradation or in-situ chemical oxidation technology may be feasible as treatment options for the source material beneath the plant floor
- develop baseline fate and transport simulation modeling of the CVOCs in the groundwater at the Boiler Room remediation area

Source area characterization

The MIP survey and down-gradient groundwater chemistry data indicate that a source CVOCs occurs beneath the floor of the now inactive manufacturing facility. Chemical characterization of the material beneath the floor is necessary to understand the potential long term environmental associated risk associated with this area. This will be accomplished by collecting soil and groundwater samples from the source area.

A total of four (4) soil borings will be completed at the locations depicted on Figure 3. Split-spoon soil samples will be collected continuously from where native materials are encountered (about 5 feet below the floor) to a depth of 100 feet below the plant floor level. Soil samples will be inspected and logged for their geologic characteristics. One composite sample of every 3 feet will be screened for VOCs using a PID. Soil samples will be retained for chemical characterization to assess the viability of in-situ bio-degradation and chemical oxidation remediation methods.

Groundwater samples will be collected during the completion of a given soil boring at 10 foot intervals beginning at 20 feet below the floor level using Geoprobe™, SP-16

groundwater sampling device. Groundwater samples will be analyzed for VOCs, chloride, nitrate, sulfate, phosphate and Total Organic Carbon (TOC). Additionally, in-field analysis of -pH, DO, ORP and EC will be completed. A composite sample of the groundwater throughout the depth of the soil boring will also be collected for use in the in-site treatability evaluations.

In-situ treatability evaluations

JTM and Amphenol intend to engage SiREM Labs of Guelph, Ontario, Canada to complete bench scale bio-degradation and chemical oxidation treatability evaluations of the CVOC source material beneath the plant. The study will consist of the following sub-tasks:

- Characterization of the baseline groundwater
- Microcosm construction
- Microcosm incubation, sampling and analysis
- Natural oxidant demand testing
- Permanganate CVOC treatability testing

The composite groundwater samples collected during the soil boring efforts will be analyzed for Dehalococcoides (Dhc) and vinyl chloride reductase (vcrA) quantification (Gene-Trac® Dhc and Gene-Trac® VC). Groundwater will also be analyzed for VOCs, anions, pH and ORP to compare with the field sample data.

➤ Bio-degradation evaluation

Anaerobic microcosms will be constructed using site groundwater and geologic materials. The treatment microcosms will be amended with the target contaminants to reach desired target concentrations.

Anaerobic intrinsic control microcosms will be used to measure intrinsic biodegradation activity. An emulsified vegetable oil (EVO) product will be evaluated as the electron donor. One replicate of each anaerobic control and treatment will be amended with resazurin to monitor redox conditions.

After reducing conditions are achieved (typically 2 to 4 weeks after electron donor addition), one set of the electron donor treatment microcosms will be amended with a dehalorespiring microbial consortium (KB-1®) to assess the ability of this culture to promote or accelerate complete reductive dechlorination. KB-1® is a natural microbial consortium containing *Dehalococcoides (Dhc)* bacteria capable of complete dechlorination of chlorinated ethenes to ethene.

Controls and treatments will be constructed in triplicate. Microcosms will be sealed to allow repetitive sampling of each microcosm, and to allow addition of amendments to sustain metabolic/biodegradation activities.

Bio-treatability microcosms will be incubated for a period of three to six months. Aqueous samples will be collected from the control and treatment microcosms every two to three weeks for analysis of CVOCs and dissolved hydrocarbon gases (DHGs, e.g., ethene, ethane or methane). In addition, at four selected time points, the electron donor amended microcosms will be sampled for analysis of volatile fatty acids (VFAs, e.g., lactate, acetate and propionate) to permit evaluation of electron donor fermentation and longevity. Anions (i.e., sulfate, nitrate, chloride and phosphate) will be evaluated at four selected time points and pH will be measured as required. Gene-Trac[®] *Dhc* and Gene-Trac[®] VC quantification will be performed on the treatment microcosms at the middle and end of the study and from the active controls at the end point of the study only. The table below provides a summary of the sampling parameters and frequency.

Sampling intervals for individual treatments may be modified (either shorter or longer intervals) during the study based on observed microbial activity, cVOC degradation rates, and depletion of electron donors/acceptors.

Anticipated Microcosm Sampling and Analyses

Analyte	Applicable Microcosms	Sample Events	Total Analyses
cVOCs and DHGs	12	7 + 3 baseline	87
VFAs	6	3	18
Anions	12	4 + 3 baseline	51
pH	12	As required	To be determined
<i>Dhc</i> and <i>vcrA</i>	9	2	5*

*samples from triplicates combined to provide one sample per set of microcosms for analysis

➤ Chemical oxidation evaluation

The natural chemical oxidant demand of the site geologic materials will be estimated using permanganate. Treatment reactors will be constructed in glass containers using site geologic materials and groundwater in 1:1 ratios by weight. The reactors will be amended with a permanganate solution. Reactors will be incubated for 7 days at room temperature. Aqueous samples will be collected and analyzed for permanganate on days 0, 3 and 7. Permanganate oxidant demand will be calculated per kilogram of soil.

Following estimation of the natural oxidant demand, the dose of permanganate required to degrade the CVOCs at the site will be assessed. Control and treatment reactors will be prepared using site geologic materials and groundwater in a slurry form with an approximate ration of 1:2 by weight. The reactors will be spiked with TCE if necessary to achieve a concentration representative of the site. The treatment reactors will be amended with low, medium and high dosages of permanganate, the concentrations of which will be determined based on the natural oxidant demand estimate. Reactors will be incubated at room temperature

for 7 days. Samples will be collected on days 0, 3 and 7 and analyzed for CVOCs and permanganate.

Baseline Fate and Transport Modeling

Coincidental with the MIP surveying in 2015, a comprehensive groundwater sampling event was completed concurrent with the routine, annual monitoring event for the Boiler Room site. This included all those wells associated with the Boiler Room site located along the north side on the plant including the following (refer to Figure 1 for their location):

BR-4, BR-11, BR-12, BR-13, BR-14, BR-15, BR-17, BR-18, BR-19S, BR-19I, BR-19D, BR-20, BR-21I, BR-21 D, BR-22 S, BR-22 I, BR-23, BR-24, BR-25, BR-26S, BR-26I, BR-27S, BR-27I, BR-28I, BR-29I, BR-30I, MW-4

** wells in italics are included in the routine Boiler Room annual monitoring event*

This sampling event will be repeated in June 2016.

Historical, routine groundwater monitoring data submitted to NYSDEC as part of Amphenol's compliance with the Boiler Room VOC indicate that the total VOC concentration at off-site groundwater monitoring wells is trending lower. Using the data gathered from the source characterization efforts together with the broader groundwater sampling event and available historic hydrogeologic and groundwater quality data, baseline groundwater fate and transport modeling will be completed. This effort will employ the BIOCHLOR, Natural Attenuation Decision Support System, Version 2.2. This analytical solution is a reasonable first step to assessing the potential future concentrations of CVOCs in the groundwater at the Boiler Room site.

Reporting to NYSDEC

Following completion source area characterization tasks, a technical memorandum will be submitted to NYSDEC. This document will provide a summary of findings and a compilation of data including soil boring logs and laboratory analytical results. We expect this data submittal to be available approximately 90 days after completion of the soil borings.

Subsequent to the in-situ treatability evaluation, a separate letter report will be submitted presenting the results of the study. Assuming all the prepared microcosms require 6 months of incubation, we expect this report to be submitted approximately 8 months after the soil borings are completed.

Proposed Program Schedule and Progress Reporting to NYSDEC

The proposed program schedule is provided as Figure 4.

In addition to the technical memorandum submitted to present the results of the technical evaluations, we propose to provide once monthly progress reports to the NYSDEC remedial program manager throughout completion of the proposed supplementary investigations. These updates will provide an opportunity to advise and consult with the NYSDEC representative as the program progresses.

Table 1
Amphenol Corporation
West Well and Plating Building Area
Groundwater Monitoring Well Summary

Well ID

West Well Monitoring Wells

WW-2
WW-3
WW-4
WP-1

Plating Building Wells

MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-11
MW-12
MW-13
MW-14

Deep Overburden Wells

WW-1
WW-5
WW-6
WP-4

DWG: PATRICK\JTM-ASSOCIATES\AMPHENOL\BOILER-HOUSE-IMPROV-SVAL\030.dwg

PLOT DATE: 02/29/16



FIGURE 1

GROUNDWATER REMEDIATION
ENHANCEMENT PROGRAM
AMPHENOL CORPORATION
SIDNEY, NEW YORK

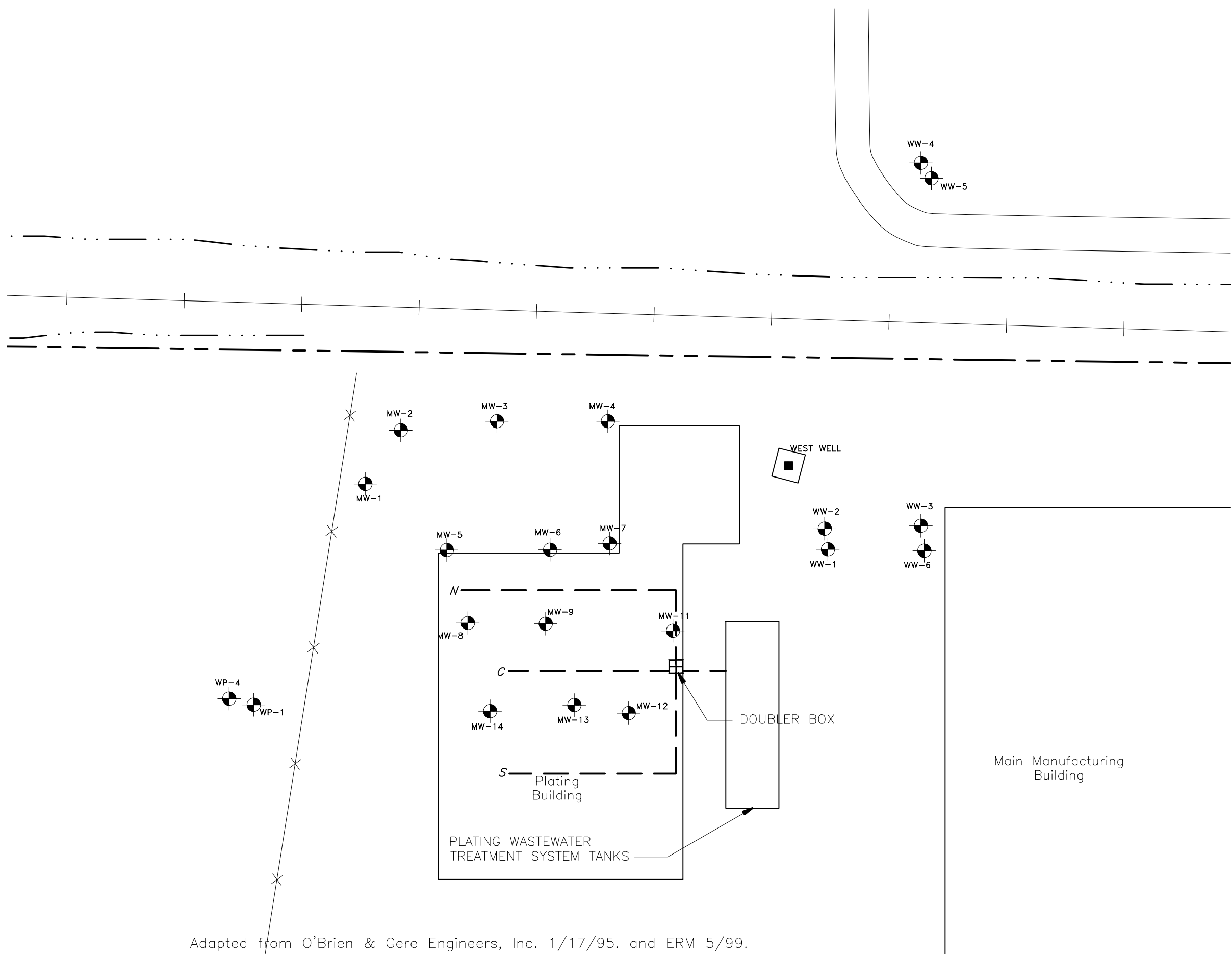
GROUNDWATER MONITORING WELL
AND MEMBRANE INTERFACE
PROBE LOCATION MAP

- LEGEND
- WW-3 MONITOR WELL
 - BR-13 MONITOR WELL
 - RECOVERY WELL
 - MIP LOCATION



FEBRUARY 29, 2016
FILE NO. XXX.XX.030

FIGURE 2
AMPHENOL CORPORATION
WEST WELL SITE
SIDNEY, NEW YORK

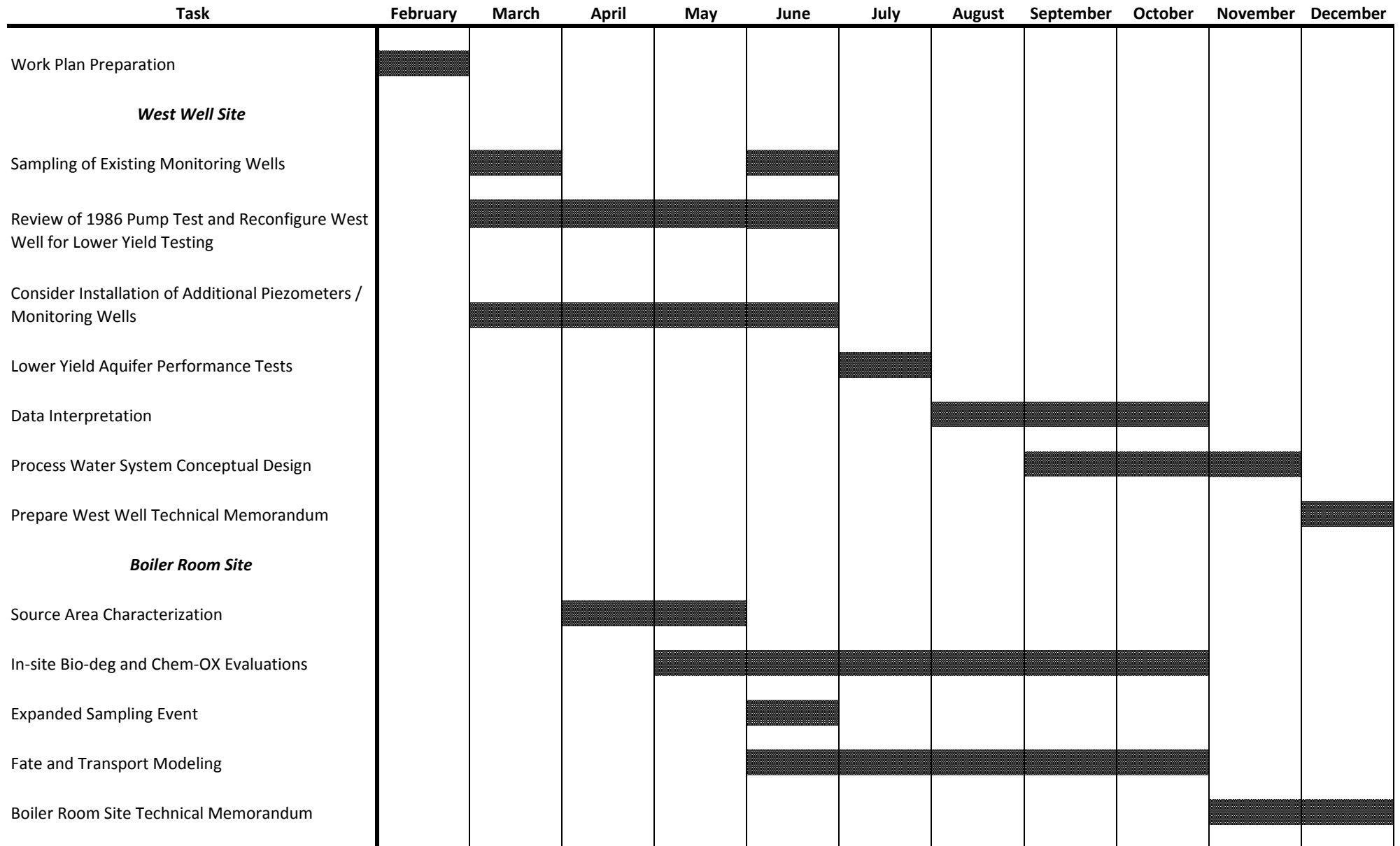


LEGEND

- PROPERTY LINE
- DRAINAGE DITCH
- RAILROAD
- SUPPLY WELL LOCATION
- MONITORING WELL LOCATION
- DOUBLER BOX
- WASTEWATER CONVEYANCE TRENCH

Adapted from O'Brien & Gere Engineers, Inc. 1/17/95. and ERM 5/99.

Figure 4
Amphenol Corporation
Sidney, New York
Supplemental Site Investigations
West Well / Plating Building and Boiler Room Sites
Schedule



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Office of Environmental Quality, Region 4

1130 North Westcott Road, Schenectady, NY 12306-2014

P: (518) 357-2045 | F: (518) 357-2398

www.dec.ny.gov

April 19, 2016

Mr. Joseph Bianchi
Environmental Manager
Amphenol Corporation
Aerospace Operations
40-60 Delaware Avenue
Sidney, NY 13838

Re: Groundwater Remediation Enhancement Program
Supplemental Investigation Work Plan, March 2016

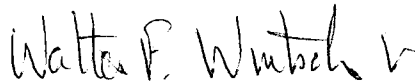
Dear Mr. Bianchi:

Amphenol's Groundwater Remediation Enhancement Program, Supplemental Investigation Work Plan is approved.

This Remediation Enhancement Program should be considered the initial step in what is anticipated to be a site-wide Corrective Measure Study.

Of course, if you have any questions, please call.

Sincerely,



Walter F. Wintch, Jr.
Engineering Geologist 2
NYSDEC, Region 4

cc: Jim Mickam
Jim Quinn



Department of
Environmental
Conservation

EXHIBIT B
Historic Investigation Reports

FINAL REPORT
HYDROGEOLOGIC AND SOILS INVESTIGATIONS
AT THE
WEST WELL AND WEST PARKING LOT

Prepared For:

Allied-Amphenol Products Company
Bendix Connector Operations
Sidney, New York

April 1986

Robert W. Keating psb
Robert W. Keating
Project Hydrogeologist

Marilyn A. Hewitt psb
Marilyn A. Hewitt, P.G.
Project Manager

Prepared By:

Environmental Resources Management, Inc.
999 West Chester Pike
West Chester, Pennsylvania 19382

TABLE OF CONTENTS

	<u>Page</u>
Section 1 - Introduction	1-1
1.1 Background	1-1
1.2 Study Objectives	1-2
1.3 Review of Existing Data	1-2
Section 2 - Field Investigation	2-1
2.1 Well Installation	2-1
2.2 Ground Water Level Measurements and Sampling	2-3
2.3 West Well Pump Test	2-4
2.4 West Parking Lot Soil Sampling	2-5
2.5 Surface Drainageway Sampling	2-5
Section 3 - Results	3-1
3.1 Geology	3-1
3.2 Hydrogeology	3-3
3.3 Ground Water Quality	3-14
3.4 Source Area Evaluation	3-22
3.5 Soil Analyses - West Parking Lot	3-23
3.6 Surface Drainageways	3-23
Section 4 - Conclusions	4-1
4.1 Conclusions	4-1
References	
Appendix A - Well Logs	
Appendix B - Pump Test Results	
Appendix C - Hydraulic Conductivity Calculations	
Appendix D - Laboratory Data Sheets	

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
2-1	Locations of Monitoring Wells and Lines of Geologic Cross Sections	2-2
2-2	Location of Soil Samples in West Parking Lot	2-6
3-1	Hydrogeologic Cross Section A-A'	3-2
3-3	Shallow Ground Water Table Map During Non-Pumping of West Well	3-6
3-4	Ground Water Contour Map - Deep Overburden Flow Component - Non-Pumping Conditions	3-9
3-5	Ground Water Contour Map - Deep Overburden Flow Component - Pumping Conditions	3-10
3-6	Volatile Organic Concentrations in Ground Water	3-18
3-7	Isoconcentration Map - Total Volatile Organics in ppb	3-19
3-8	Isoconcentration Map - Total Volatile Organics in ppb	3-20
3-9	Analytical Results from Soil Samples	3-25
3-10	Analytical Results of the Surface Drainageway Water and Sediment Samples	3-26

LIST OF TABLES

<u>Table</u>		<u>Page</u>
3-1	Well Depths and Water Levels	3-5
3-2	Ground Water Quality Results	3-15
3-3	Soil Analysis Results - West Parking Lot	3-24

SECTION 1

INTRODUCTION

1.1 Background

Environmental Resources Management, Inc. (ERM) has been retained by Amphenol Products-Bendix Connector Operations (formerly the Bendix Corporation, a Division of Allied Corporation), Sidney, New York, to conduct an assessment of the sources and extent of volatile organic compounds (VOCs) detected in ground water in the Bendix West Well and West Parking Lot areas. A former organic solvent storage area was located approximately 150 feet east of the West Well. In this area, trichloroethylene and 1,1,1-trichloroethane were stored in aboveground tanks. It was suspected by Bendix that spillage or leakage from this storage facility may have resulted in the 60 to 80 ppb levels of VOC which have been detected in the West Well. In addition, a former waste incinerator facility was located about seventy feet from the well. Also, the reported past use of waste oils for dust control in the West Parking Lot may have served as an additional source of organics in the area ground waters or possibly the surface waters.

In the spring and summer of 1984, ERM conducted a preliminary ground water assessment and soil investigation of the West Well and West Parking Lot areas. A report of findings was submitted to the New York State Department of Environmental Conservation (DEC) in September 1984. In accordance with ERM's recommendations, two additional monitoring wells were subsequently installed in January 1985. After this well installation was completed, additional ground water samples were collected, and a pump test of the West Well was conducted. To complete the definition of hydrogeologic conditions at the site, one additional well was installed in February 1986. This report represents a comprehensive summary and evaluation of all data collected during the 1984, 1985, and 1986 investigation phases. This technical report will serve as the basis for definition of a remedial action program at the site.

The ERM Group

1.2 Study Objectives

The objectives of the ERM hydrogeologic and soil studies were to:

- define the extent of VOCs in ground water in the area of the West Well;
- determine the source areas for the VOCs detected;
- determine whether the soils of the West Parking Lot provide a source for migration of VOCs and/or PCB to the ground waters or surface waters in the area; and
- determine the degree to which the pumping of the West Well serves to contain the VOCs within the confines of the Amphenol property.

1.3 Review of Existing Data

The 1981 Ground Water Associates, Inc. (GWA) report ("Hydrogeological Investigation for Expansion of a Ground Water Supply at Sidney, New York, Phase I") defined the subsurface geologic conditions at the Amphenol plant. GWA reported that the area is underlain by unconsolidated glacial deposits from 50 to 130 feet thick. These deposits consist of stratified saturated sands and gravels which were deposited in the Susquehanna River Valley by glacial meltwaters. Interbedded red and grey-green siltstones and shales of the Catskill Formation lie unconformably below the glacial deposits.

Laboratory analyses have reported the presence of 61 to 130 ppb total VOCs in the West Well. The well is no longer used as a potable water supply, but pumping has continued at about 400,000 gallons per day to prevent iron and manganese encrustation on the well screen, and to provide part of the plant's non-contact cooling water and process water.

Logs and construction details of the West Well are sketchy. From a 1942 letter, it appears that the well was drilled to a depth of 150 feet, encountering bedrock about 110 feet below grade. The well is twelve inches in diameter. A 1964 television survey conducted by Layne-New York, Inc. indicated that the well was cased to 106 feet below the pump base plate, into bedrock. Despite being finished in rock, the well was pumping significant quantities of sand and silt which appeared to enter the well bore from "cavities" at 109 and 114 feet (Layne-New York, 1968). To mitigate the problem, it was recommended that 35 feet of six-inch

The ERM Group

stainless steel screen be installed in the open well bore. However, current information appears to indicate that this was not done, but that rather a ten-foot long screened pump intake was installed at a depth of 113 feet. The well has continued to experience sediment problems, and in January 1985 the pump was replaced due to this condition.

SECTION 2

FIELD INVESTIGATION

Using the limited historical and geological data available, ERM designed the Phase I study to evaluate ground water conditions in the unconsolidated materials which supply water to the West Well. ERM selected locations for seven wells to be installed as piezometers in that flow system. In addition, ERM conducted an investigation of the shallow subsurface soils in the unpaved west half of the West Parking Lot area to determine whether or not any VOCs are present in the soil, which might serve as a continuing VOC source to the ground water system. As part of an areawide assessment, ERM had previously collected stream water and stream sediment samples from the drainageways surrounding the West Parking Lot to determine if overland transport of VOCs or PCB has impacted local surface waters. The pertinent aspects of this separate study are integrated into this report.

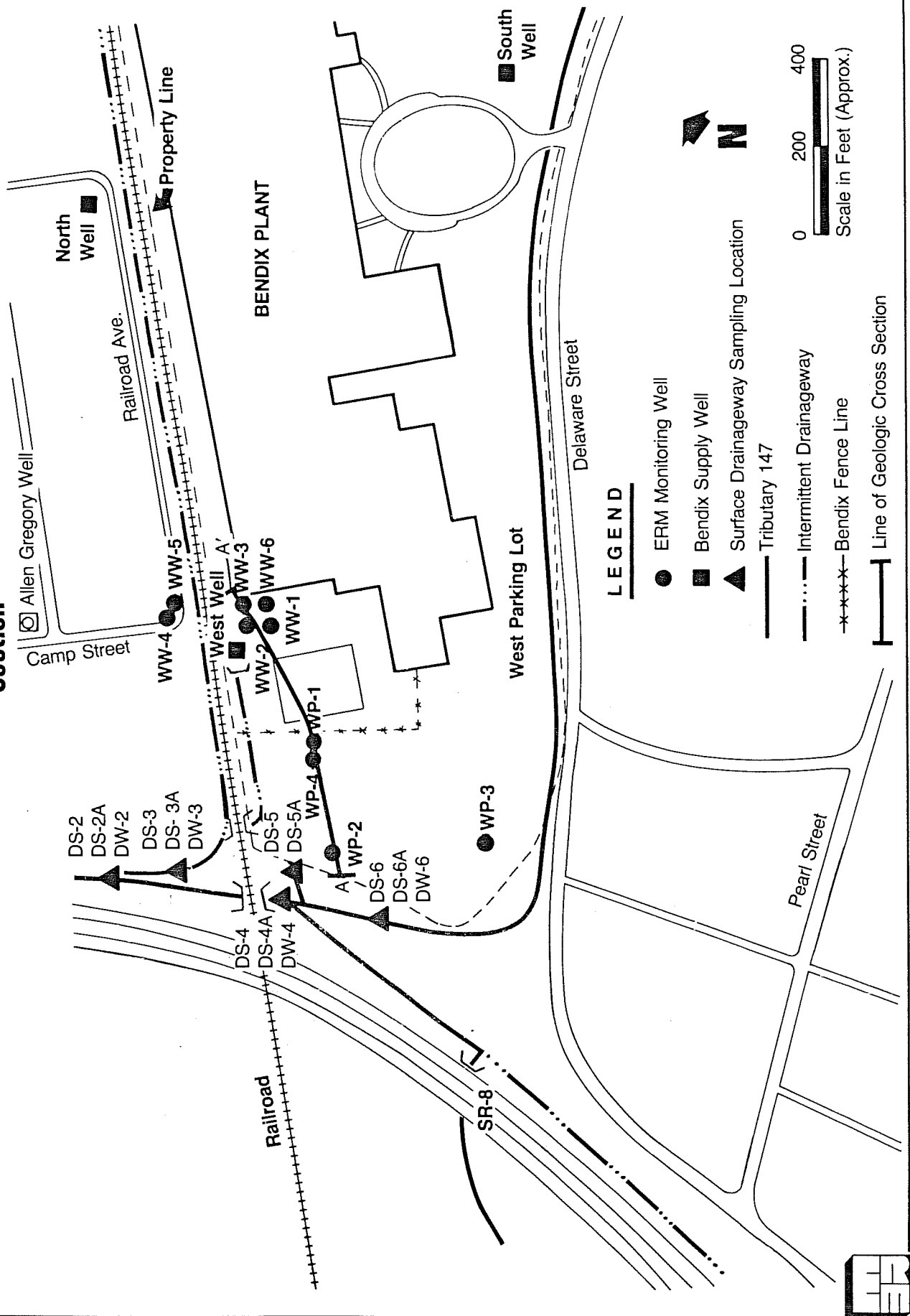
Based on the results of this Phase I investigation, ERM designed a limited second phase of study to further evaluate the downgradient migration of VOCs in the shallow and deep ground water systems. For this purpose, three additional monitoring wells were installed, a complete round of ground water quality samples was collected and analyzed, and a pump test was conducted at the West well.

2.1 Well Installation

In April 1984, seven Phase I wells were installed in the study area. Wells WW-2, WW-3, WP-1, WP-2, and WP-3 were completed at depths of approximately 25 feet. Deep Wells WW-1 and WP-4 were nested with shallow Wells WW-2 and WP-1, respectively, and completed at depths of approximately 100 feet below grade. In January 1985, the Phase II well nest, consisting of shallow Well WW-4 and deep Well WW-5, was installed downgradient of the Amphenol plant property. Lastly, deep Well WW-6 was installed adjacent to Well WW-3 in February 1986. The locations of these monitoring wells are shown in Figure 2-1.

For the drilling of the shallow wells, the hollow stem auger method was used, with split-spoon samples collected continuously for the first ten feet and at five-foot intervals thereafter. Each well was constructed of two-inch I.D. Schedule 40 PVC well riser above the water table and .010-inch machine-slotted screen installed fifteen feet into the water table. All joints were threaded and flush. The screened interval of each well was sand

Figure 2-1
Locations of Monitoring Wells & Line of Geologic Cross Section



The ERM Group

packed to one foot above the top of the screen. A one-foot thick bentonite pellet plug was installed atop the sand pack, and the outer annulus pressure grouted with cement/bentonite grout.

Deep Wells WW-1 and WP-4 were drilled using the mud rotary method, in order to maintain open boreholes. The severe winter weather in January 1985 prevented the use of mud during drilling; hence, the hollow stem auger method was used for the drilling of deep Wells WW-5 and WW-6. Split-spoon samples were collected at five-foot intervals throughout the entire thickness of strata. The boring for WP-4 was finished at the overburden/bedrock interface, while those for WW-1, WW-5, and WW-6 were completed at a dense basal till unit which directly overlies the bedrock. The screens were set in a saturated sand layer between 60 and 75 feet in Well WP-4, between 65 and 85 feet in Well WW-1, between 90 and 110 feet in Well WW-5, and between 75 and 85 feet in Well WW-6. The wells were constructed of two-inch I.D. Schedule 40 PVC well riser and .010-inch machine-slotted screen with all joints threaded and flush. The screened interval in Wells WP-4 and WW-1 were packed with a pea gravel. Formational sand was allowed to backfill around the screen in Wells WW-5 and WW-6. The overlying annular spaces in all three wells were pressure grouted with bentonite/cement grout.

The wells were developed using a combination of the surge block and water flushing methods. All ten wells were finished with steel curb boxes set flush to the pavement. Appendix A shows the geologic logs and construction details for each well. Well elevations were surveyed at the top of the PVC risers to the nearest hundredth of a foot, using the USGS mean sea level datum.

2.2 Ground Water Level Measurements and Sampling

Water levels were measured in May 1984 after the installation of the first seven wells and again in February 1985 after the addition of Wells WW-4 and WW-5. The February 1985 measurements include water levels collected during periods of both non-pumping and pumping of the West well. Measurements were also taken in March 1986 after the completion of Well WW-6. All water levels were measured to the nearest hundredth of a foot from the tops of the PVC risers.

Three complete rounds of ground water samples were collected from the original seven wells during sampling events in April 1984, July 1984, and February 1985. Two sets of samples were collected from the two wells installed in 1985, one on 6 February 1985 and another during the complete sampling round late that same month. Samples were also collected from Wells WW-1, WW-2, WW-3, and WW-6

The ERM Group

on 11 March 1986. For sampling, the wells were purged of three casing volumes using an ISCO 2600 non-contact, diaphragm-type well sampler, or a PVC bailer. After the water levels recovered, PVC bailers were used to collect ground water in laboratory-supplied forty-milliliter glass vials with Teflon-lined septa. During the April 1984 sampling event, one-quart glass jars were also collected for analysis for PCB.

All of the samples collected in 1984 were submitted to Friend Laboratory, Inc., Waverly, New York. For quality control purposes, the samples collected on 6 February 1985 were split between Friend Laboratory and Lancaster Laboratories, Lancaster, Pennsylvania, while the samples collected during the complete February 1985 sampling event were split between Lancaster Laboratories and O'Brien and Gere Laboratory, Syracuse, New York. The samples taken in March 1986 were sent to Lancaster Laboratories. The VOC samples were analyzed for volatile organic priority pollutants using EPA Methods 601 and 602.

2.3 West Well Pump Test

As a result of ground water elevation anomalies in Well WW-1 (to be discussed in Section 3.2.1.2), ERM conducted two separate pump tests of the West Well to determine:

- the hydraulic relationship between the deep and shallow glacial flow systems;
- the transmissivity and hydraulic conductivity of the deep unconsolidated sediments; and
- the extent of the West Well cone of depression.

In July 1984 and again in February 1985, the West Well was shut down for 48 hours, with complete ground water recovery recorded at all monitoring wells. After complete recovery, pumping was resumed at 437.5 gpm and drawdowns were measured in the monitoring wells. During the February 1985 pump test, drawdowns were monitored for five days after pumping was resumed to ensure that equilibrium pumping conditions were attained. Appendix B contains the water level measurements collected during both pump tests.

The ERM Group

2.4 West Parking Lot Soil Sampling

ERM collected samples of the shallow subsurface soils in the previously unpaved section of the West Parking Lot. A total of eight composite samples were taken on the grid pattern shown in Figure 2-2. Four of the samples consisted of material from the top six inches of the soil. The other four samples were collected with a shovel from the twelve-inch depths at the same locations. Samples were placed in one-quart glass jars with Teflon-lined lids and transported to Friend Laboratory for analysis for total PCB and VOCs.

2.5 Surface Drainageway Sampling

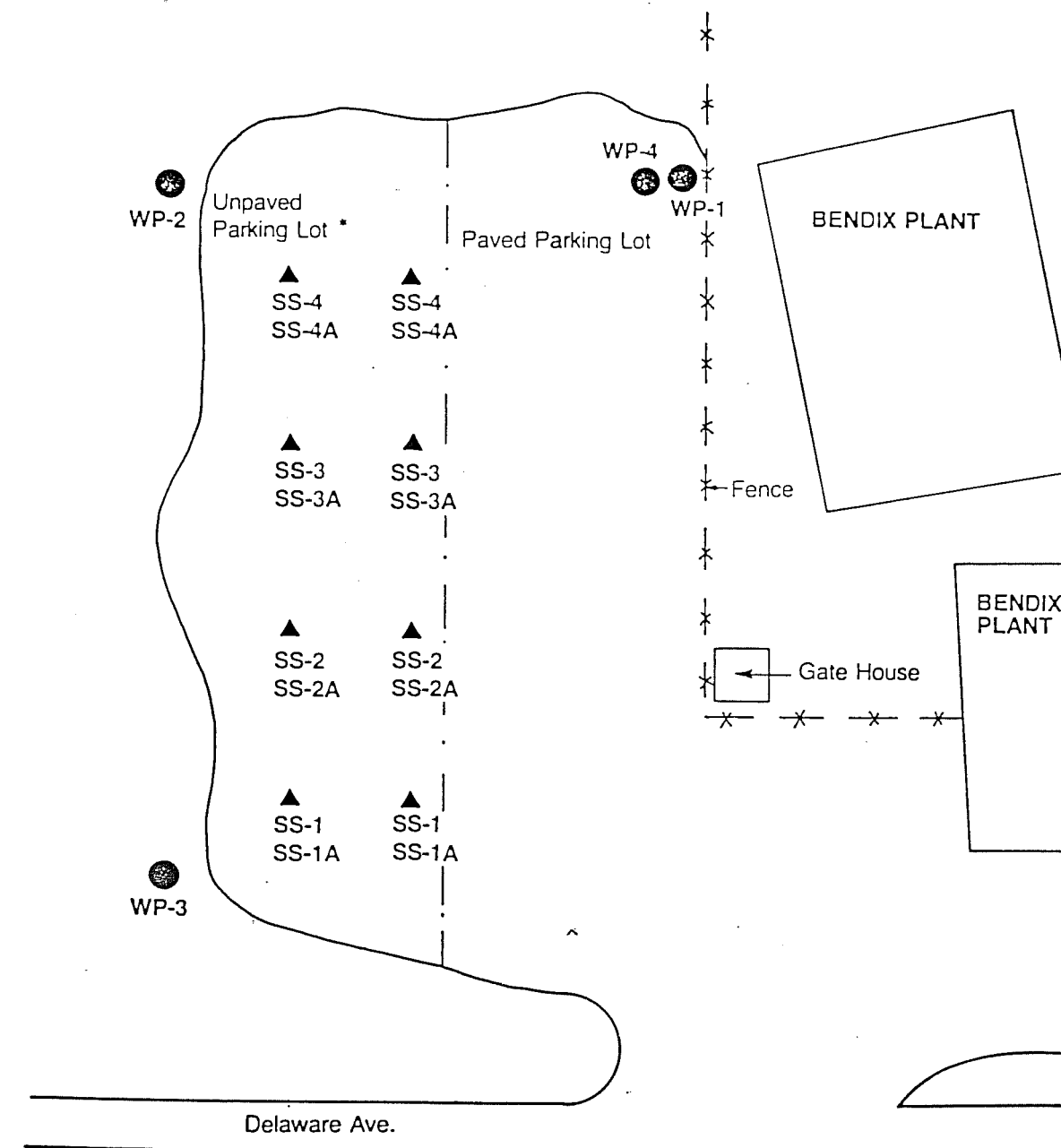
In July 1984, ERM conducted an overall assessment of area surface drainageways to determine whether or not any discharge of PCB or VOC has occurred from Amphenol-related disposal sites. The results of this area assessment were reported in ERM's September 1984 report, "Assessment of Surface Drainageways in the Vicinity of Bendix-Related Operations". Those sampling locations and results that may reflect an impact of the West Well and West Parking Lot are included in this report.

Using the aerial photographs of the region surrounding the West Parking Lot, ERM selected stream sediment and water sampling locations. These locations were adjusted in the field according to the existing conditions. The sampling locations in the vicinity of the West Parking Lot are shown on Figure 2-1.

It is expected that the principal mode of any possible PCB migration from the West Parking Lot would have been either in free oil or as PCB bound to sediments transported through the drainageways by erosion. Since the ERM study was to address possible effects of runoff which may have occurred many years ago, it was considered insufficient to test only the surface sediments in the drainageways. It was felt that erosion and deposition of additional stream bed sediments in the intervening years could have formed a cover of surface sediments over potentially PCB-containing sediments. Therefore, ERM conducted its sampling in the following manner:

- At each sampling location, a shovel was used to take a composite sample from the top six inches of sediment in the eastern half of the stream, from the closest stream bank through the middle of the stream.

Figure 2-2
Location of Soil Samples
In West Parking Lot



0 125 250
Scale in Feet

* Paved August 1984

LEGEND

- ERM Monitoring Well
- ▲ Soil Sample Location
- SS-1 Composite at 6"
- SS-1A Composite at 12"



The ERM Group

- At these same locations, another sample was taken using a bucket auger at an approximate depth of ten to sixteen inches.
- Between each sample, the shovel, auger, and compositing tray were decontaminated with Alconox and water, and rinsed with distilled water.

All of the soil samples were placed in one-quart glass jars with aluminum foil-lined lids. The samples were analyzed by Friend Laboratory for PCB and for the presence of oil. In addition, ERM also collected surface water samples in the drainageways where water was present. The samples were collected in laboratory-supplied glass vials with Teflon-lined septa, and analyzed by Friend Laboratory for VOCs.

SECTION 3

RESULTS

3.1 Geology

The results of the drilling program revealed that the study area is underlain by a 100-foot thick layered section of glacially-derived clays, silts, sands, and gravels. A southwest-northeast (A-A') geologic cross section of the area is shown in Figure 3-1.

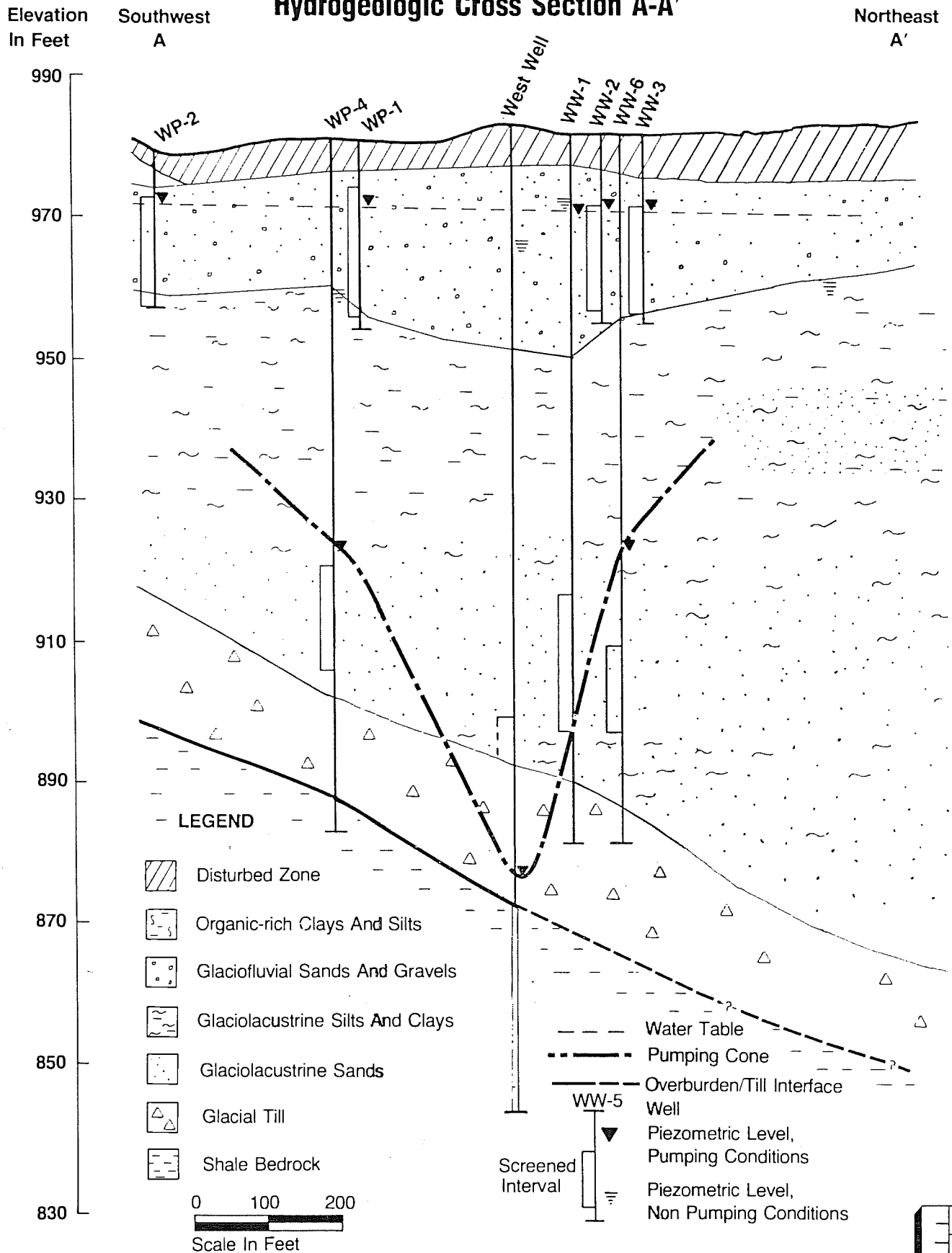
The initial five to six feet of unconsolidated overburden consists of dense silt, gravel, and cobble fill used in the construction of the paved areas. Below this disturbed zone was a twenty-foot thick section of glaciofluvial sediments consisting of loose clayey and silty sands and gravels. These deposits are characterized by an abundance of washed gravel and layers of graded silts and fine to coarse sands. The presence of some peat layers and organic-rich clays beneath the West Parking Lot is likely related to deposition of an organic bog after the retreat of the glaciers.

Underlying the glacial outwash in the parking lot area is a sixty-foot thick section of well-sorted clayey silts and fine to medium sands. As shown in cross section A-A', this section of sediments thickens northward toward Well WW-5 as the bedrock surface elevation descends. In Boring WW-5, the upper section of sediments contained less clay while the lower section of sediments contained fine sand and silt. These glaciolacustrine sediments are likely part of a buried deltaic depositional sequence.

The underlying glacial deposits encountered was a dry, dense, basal red till, consisting of gravel with subordinate amounts of clay, silt, and sand.

Red shale bedrock was encountered in Boring WP-4 approximately 100 feet below the present topographic surface. The boring logs from WW-1, WW-5, WP-4, and the Bendix North, South, and West Wells show that the bedrock surface slopes gently to the northwest.

Figure 3-1
Hydrogeologic Cross Section A-A'



The ERM Group

3.2 Hydrogeology

3.2.1 Ground Water Conditions

Ground water underlying the Bendix plant occurs in two principal flow systems: an upper system in the unconsolidated glacial deposits; and a lower system in the joints, fractures, and bedding planes of the bedrock. The information available on the construction and performance of the West Well are somewhat ambiguous, as they seem to conflict with the geologic/hydrogeologic conditions defined by ERM. The high yield of the well appears to require that the source aquifer be the unconsolidated glaciolacustrine sand unit. However, the West Well is reportedly cased into bedrock, implying that the bedrock is the aquifer unit. The reports of sediment problems in the well appear to confirm direct hydraulic connection with the glaciolacustrine unit. However, there exists an intervening unit of dense glacial till which does not appear to be an aquifer, and should not transmit large volumes of water and/or sediment. Thus, the reported conditions at the well are not consistent with the geology observed.

Several possibilities exist to explain the above inconsistencies:

- the shale bedrock yields over 400 gpm to the well;
- the West Well construction is not as reported, but is actually screened in the glaciolacustrine unit;
- the West Well was never properly grouted, and thus draws its yield downward along the outer annulus; and
- major fracturing in the glacial till unit and in the shallow bedrock directly connect the bedrock to the glaciolacustrine unit.

The Layne-New York Company, Inc. letter of 28 May 1964 appears to favor the last scenario. As will be discussed later, the results of the pump tests conducted by ERM show that the glaciolacustrine unit is indeed the aquifer which supplies water to the West Well. Thus, the emphasis in this study is on the ground water conditions in the glacial overburden, which supplies the bulk of the water to the West Well.

The ERM Group

The aquifer unit of concern at this site is the glacially-derived unit, from which the West Well draws its principal yield. The installation of the monitoring wells shows that the layered sequence of unconsolidated glacial deposits contain two major ground water flow components:

- A shallow flow component, with a water table approximately six to eight feet below the land surface, flowing through the high permeability sands and gravels of the glaciofluvial sediments.
- A deeper flow component defined by the piezometric levels in Wells WW-5, WW-6 and WP-4, flowing through the lower silts and sands of the glacio-lacustrine unit.

These flow components are separated by a semi-confining unit comprised of the clayey silt facies of the lacustrine deposits. The piezometric elevations measured in the monitoring wells under both pumping and non-pumping conditions are shown in Table 3-1. The interrelationships of the two flow components and the effect of the pumping of the West Well reflect a complex hydrogeologic system in the glacial overburden.

3.2.1.1 Shallow Flow Component

The shallow flow component occurs within the upper 20 to 25 feet of glaciofluvial sediments, which overlie the less permeable glaciolacustrine silt and clay sequence. Figures 3-2 and 3-3 show the configuration of the ground water table during non-pumping and pumping conditions at the West Well in February 1985. Figure 3-2 shows that natural ground water flow is directed northwestward, following the regional flow pattern toward the Susquehanna River. The ground water beneath the west end of the West Parking Lot flows westward toward the discharge area at Tributary 147.

With the exception of minor shutdown periods, the West Well pumps constantly; hence, the ground water contour map in Figure 3-3 depicts the predominant ground water flow pattern at the site. On the north end of the site, the ground water flow is directed northward, with a northwest-trending swale apparent in the contours, reflecting a slight response at Well WP-1 to the pumping of the West Well. This basic flow pattern was also present during the May 1984 and July 1984 water level monitoring events.

TABLE 3-1
WELL DEPTHS AND WATER LEVELS

Well No.	Total Boring Depth (feet)	Screened Interval	Elevation of Measuring Point	Pumping Conditions 23 May 1984	Pumping Conditions 23 July 1984	Non-Pumping Conditions 18 February 1985	Pumping Conditions 22 February 1985	Pumping Conditions 11 March 1986	Pumping Conditions 21 March 1986
WM-1	100.0	65 - 85	982.57	973.57	973.30	970.85	971.61	972.72	976.07
WM-2	26.5	10 - 25	982.31	974.90	973.48	971.85	971.71	972.89	976.21
WM-3	26.5	10 - 25	981.45	974.88	973.40	971.67	971.67	972.77	976.12
WM-4	27.0	12 - 27	987.13	--	--	971.39	971.48	972.72	976.00
WM-5	121.5	90 - 110	987.18	--	--	961.93	925.00	934.89	937.93
WM-6	101.8	75 - 85	981.51	--	--	--	--	935.49	--
WP-1	26.5	10 - 25	981.04	974.81	973.59	971.82	971.66	--	--
WP-2	22.0	7 - 22	979.05	975.01	973.84	971.95	971.76	--	976.43
WP-3	23.0	8 - 23	980.77	975.42	974.17	9721.11	971.87	--	--
WP-4	98.0	60 - 75	981.25	928.67	926.02	959.66	924.99	932.32	933.80

Figure 3-2
Shallow Ground Water Table Map
During Non-Pumping of West Well
February 18, 1985

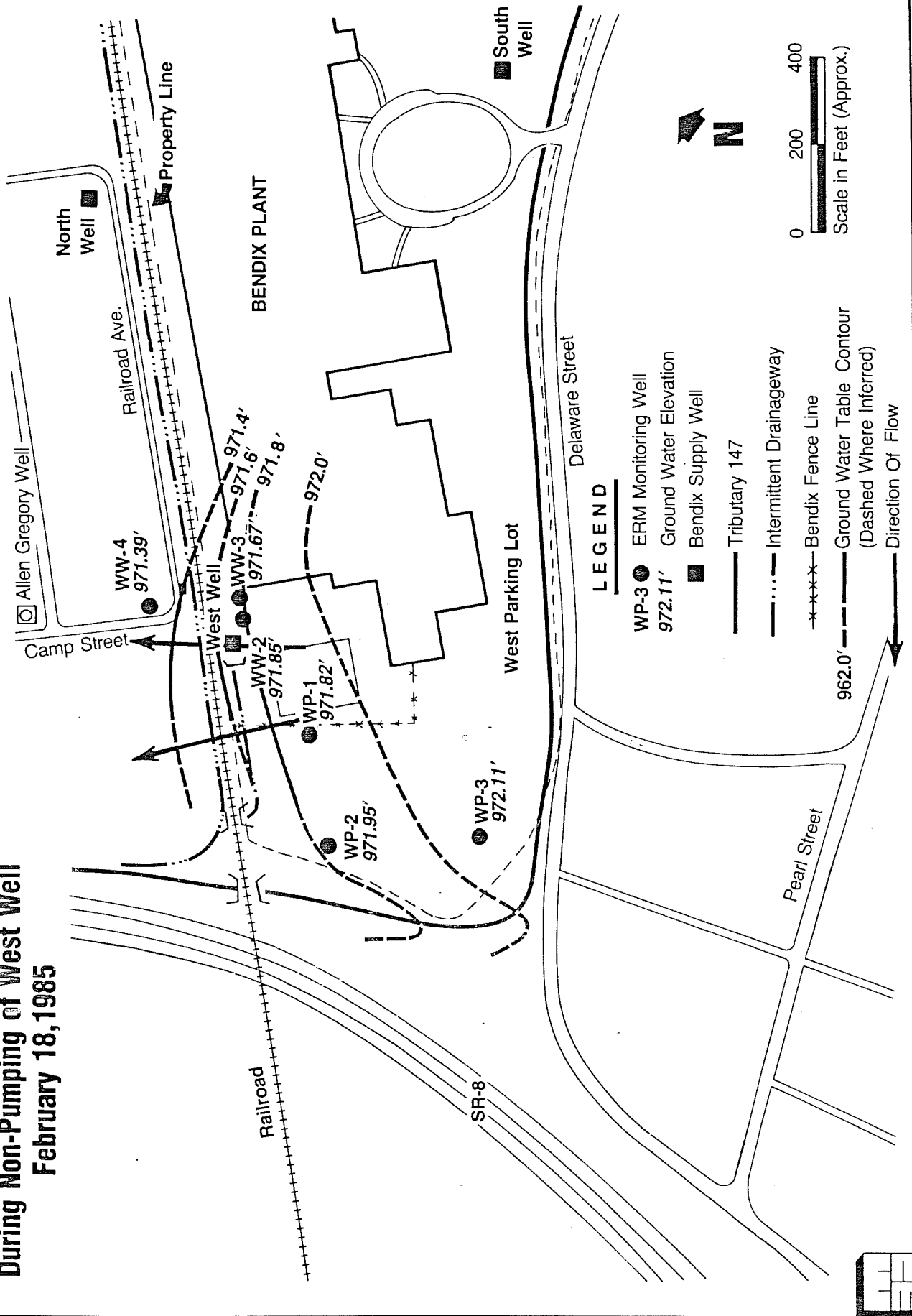
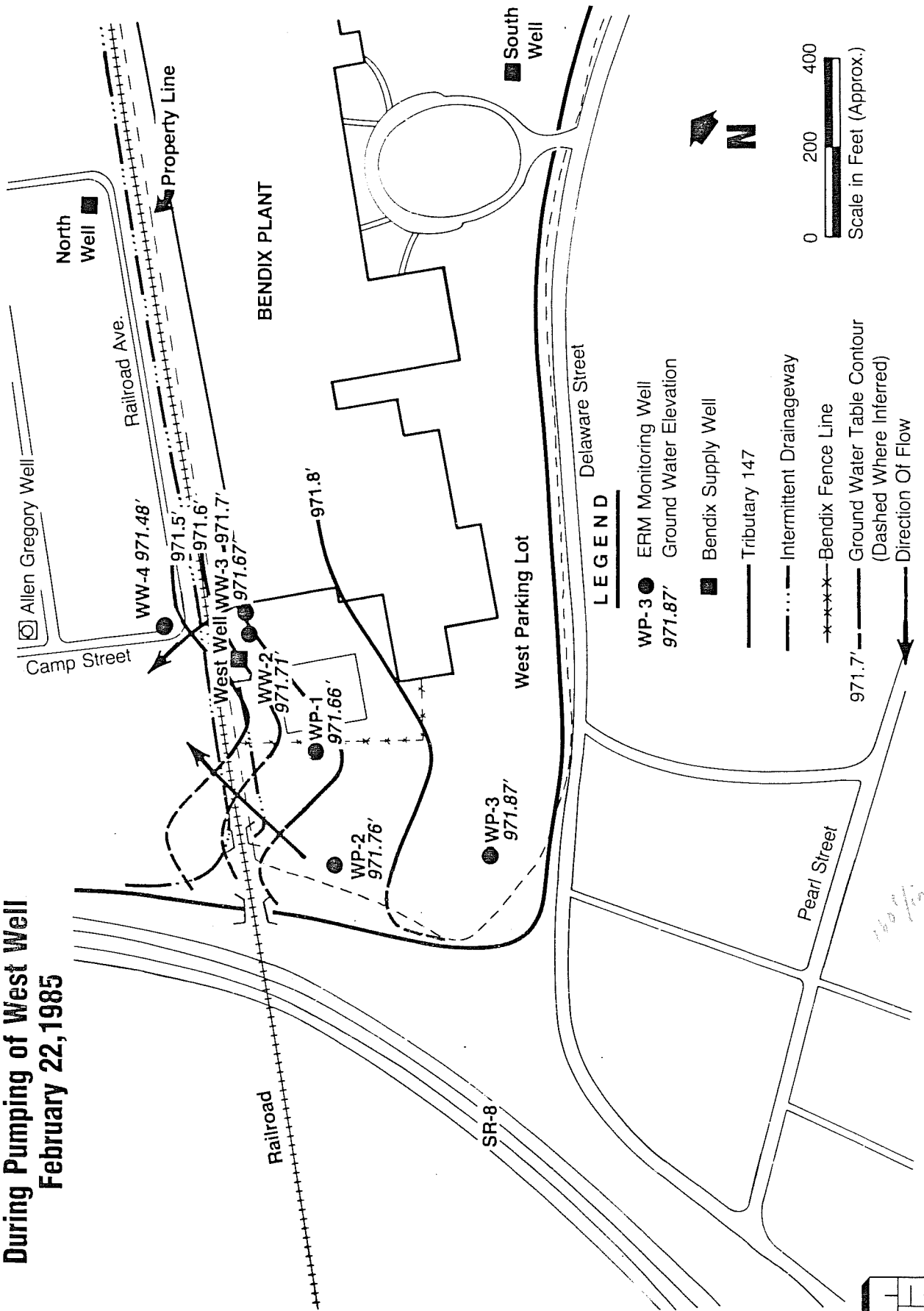


Figure 3-3
Shallow Ground Water Table Map
During Pumping of West Well
February 22, 1985



3.2.1.2 Deep Flow Component

The silts and fine to medium sands of the lower glaciolacustrine deposits contain the deep flow component. This is the unit from which the West Well obtains its yield. Figures 3-4 and 3-5 show the configuration of the piezometric surface in this system for non-pumping and pumping conditions at the West Well, respectively. As shown in Figure 3-4, under non-pumping conditions, flow is directed northwestward following a regional gradient toward the Susquehanna River. The steepness of this gradient is an artifact of an anomalously high piezometric surface at Well WW-1.

Figure 3-5 shows that the water levels in deep Wells WP-4, WW-5 and WW-6 respond to pumping of the West Well with drawdowns approaching forty feet (for purposes of constructing this figure, the water level at Well WW-6 which had not been installed at that time, is assumed to be equivalent to those at Wells WW-5 and WP-4. Subsequent water level data show this to be a valid assumption). The result is a near symmetrical cone of depression in the deep overburden component. However, the water level in deep piezometer WW-1, near the West Well, was similar to that in the shallow flow component, appearing to exhibit little or no response to the West Well pumping.

3.2.2 Pump Test Results

3.2.2.1 Aquifer Responses

Initially, when the West Well was shut down, the piezometric levels in deep Wells WP-4 and WW-5 rose 35 and 37 feet, respectively. The fully recovered piezometric levels in these wells remained from ten to twelve feet below those in the shallow flow component, reflecting the imperfect connection between the two flow components. The anomalously high piezometric level in Well WW-1 remained almost unchanged during the recovery period, while the water level in the West Well rose from a depth of 105 feet to 15 feet.

When pumping of the West Well was resumed, steady drawdowns were measured in Wells WW-5 and WP-4 until reaching the elevations shown in Figure 3-5. This confirms the presence of direct hydraulic connection between the open section of the well and the glaciolacustrine sediments. In deep Well WW-1, the water level dropped 0.6 feet over the initial 75 minutes of pumping, then proceeded to recover until the final level was 0.8 feet higher than the initial static level.

Figure 3-4
Ground Water Contour Map
Deep Overburden Flow Component
Non-Pumping Conditions, February 18, 1985

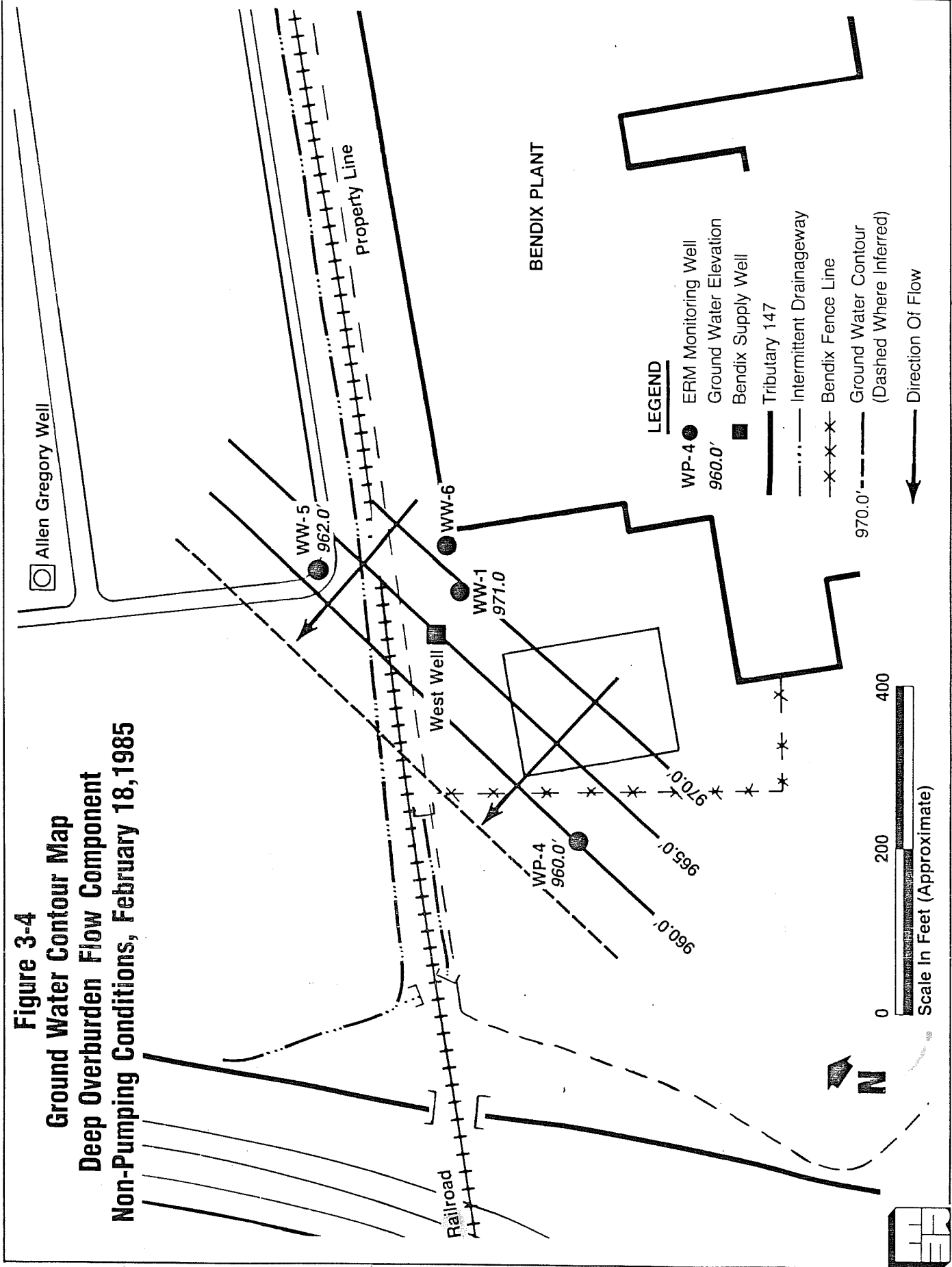
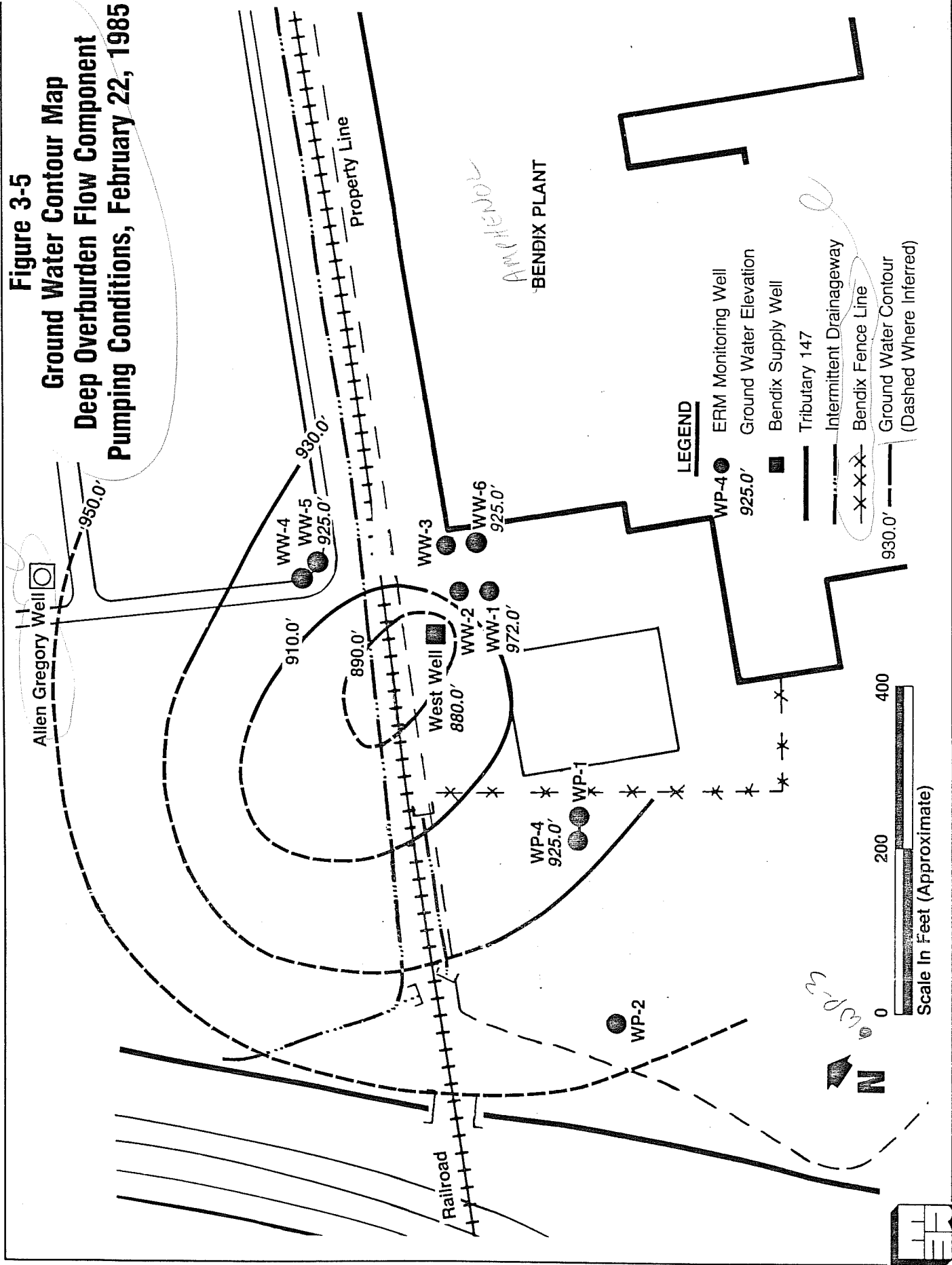


Figure 3-5
Ground Water Contour Map
Deep Overburden Flow Component
Pumping Conditions, February 22, 1985



The ERM Group

The shallow flow component showed little response to the pumping of the West Well. Well WW-2, adjacent to the pumping well, showed a drawdown of less than .2 feet, while the level in Well WW-3 remained essentially unchanged. Shallow Well WW-4 showed a recovering water level during the pump test, indicating a lack of hydraulic communication between the shallow and deep flow components. In the West Parking Lot, shallow Well WP-1 showed a water level decline of only .02 feet during the pump test, while water levels in Wells WP-2 and WP-3 remained unchanged.

The overall lack of significant response to the pump test in the shallow wells confirms that there is imperfect hydraulic connection between the shallow and deep overburden flow components. However, the absence of drawdown in Well WW-1 would seem to suggest that hydrogeologic conditions differ in this area. Since the geology in this area was observed to be the same as that to the north and west, it appears likely that the piezometric level in Well WW-1 is anomalous, and that the piezometric levels in Wells WW-5, WW-6, and WP-4 are typical of natural site conditions. The condition that produces this anomaly is not clear, as there were no significant stratigraphic differences observed in the overburden sediments during the drilling of the four deep piezometers.

It has been hypothesized by ERM that the high piezometric level in Well WW-1 might result from artificial recharge from leaking subsurface plant water lines. However, pressure testing of the distribution lines associated with the West Well revealed no significant leaks. The buried fire line in the area of the West Well is an additional possible source for artificial recharge. The feasibility of testing this line for leakage is currently under consideration.

Another possible explanation of the anomalous water level is leakage of water from the shallow zone downward along the annulus of deep Well WW-1. However, to sustain the highly anomalous water level, such leakage would have to be great enough to counteract the high pumping rate of the West Well. Consequently, this does not appear to be occurring.

3.2.2.2 Aquifer Characteristics

Drawdown versus time plots for monitoring Wells WW-5 and WP-4 produce curves which represent the effect of pumping in a confined unit which receives some recharge from a leaky, overlying confining unit (Appendix C). The shape of this curve thus confirms the limited hydraulic communication between the upper and lower flow components in the overburden. Assuming that the screened intervals of the wells fully penetrated the sand portion

The ERM Group

of the aquifer, the curve-matching method (Fetter, 1980, p. 284) was used to calculate the transmissivity of the glaciolacustrine sands at Wells WW-5 and WP-4. Dividing the transmissivities by the thickness of the deep flow component provides the hydraulic conductivities of the unit in these areas. At Well WW-5, the hydraulic conductivity was calculated to be approximately 2.5×10^{-3} cm/sec (7.0 feet per day), while the hydraulic conductivity at Well WP-4 was 9.0×10^{-3} cm/sec (21.5 feet per day). It should be noted that both of these values are well within the reported range of values for a sand unit (Freeze and Cherry, 1979, p. 29).

3.2.2.3 Cone of Depression

Figure 3-5 shows the approximate configuration of the cone of depression produced by the West Well, in the deep flow component. The downgradient extent was approximated on the assumption that the natural piezometric surface in this flow component is approximately 950 feet in elevation, north of Wells WW-4 and WW-5. This contour elevation would be intercepted by the measured pumping cone approximately 500 feet northwest of the pumping well. Such a cone of depression is consistent with the pumping of a well at a high rate, within a unit of moderate hydraulic conductivity and restricted thickness.

The pumping of the West Well has much less effect on the shallow flow component than on the deep component. Figure 3-3 shows that the limited hydraulic connection between the two flow components limits the formation of an effective cone of depression in the shallow component. The only effect observed is the formation of a narrow "swale" in the shallow water table which forms near WP-1 under pumping conditions. The flow gradient continues to be basically northward, toward the Susquehanna River.

3.2.3 Vertical Flow Component

As previously discussed, the data indicate that there is limited hydraulic communication between the shallow and deep components of the flow system in the areas north and west of the West Well. This limited communication is due to the intervening low permeability glaciolacustrine silts and clays. The permeability of this unit can be quantified by calculations, as shown in Appendix C. Vertical hydraulic conductivities of 4.9×10^{-5} cm/sec (.14 feet per day) at Well WW-5 and 1.0×10^{-5} cm/sec (.03 feet per day) at Well WP-4 were calculated for the confining unit. A larger sand fraction in the confining unit at Well WW-5 may explain the difference in these values.

The ERM Group

Because the hydraulic communication is limited between the two overburden flow components, steep vertical gradients (.96 at Well WP-4 and .55 at Well WW-5) exist as a result of the pumping of the West Well. Under non-pumping conditions, the natural gradients are approximately .23 and .16. These gradients indicate that downward vertical leakage occurs naturally, and is increased substantially by the pumping of the West Well. It should also be noted that there is a zone of twenty to thirty feet between the pumping zone and the shallow system in which saturated flow is virtually eliminated by pumping at the West Well (Figure 3-1). The flow direction within this zone is thus vertically downward, in response to gravity.

As previously discussed, the water level measurements in deep Well WW-1 and shallow Well WW-2 indicate that there is no significant vertical component of flow present immediately east of the West Well. The measurements made at this well pair showed only a very slight downward vertical hydraulic gradient, with a maximum value of .002 on 22 February 1985. Again, the reason for this is uncertain, but may be related to some undefined localized recharge which reaches the deeper flow component in this area.

3.2.4 Ground Water Flow Velocity

The principal lateral migration of VOCs is expected to occur in the shallow flow component; hence, it is important to determine the ground water flow velocity within the zone. The glaciofluvial sands and gravels within this system are similar to the alluvial sediments encountered in the RCRA lagoon area (ERM, 1984). The average hydraulic conductivity calculated for these sediments was approximately 1×10^{-2} cm/sec (28.3 feet per day). The hydraulic conductivity value for this unit in the West Well area is expected to be comparable.

The hydraulic gradient measured across the plant site is approximately .0014. Using an assumed formation porosity of approximately 35 percent for alluvial gravels (Freeze and Cherry, 1979, p. 37), the approximate horizontal flow velocity in the shallow flow system at the site can be calculated using the equation:

$$V \text{ (velocity)} = \frac{K \text{ (hydraulic conductivity)} \times i \text{ (hydraulic gradient)}}{n \text{ (formation porosity)}}$$

The calculated flow rate is approximately 40 ft/yr.

The ERM Group

Vertical ground water velocity has not been calculated for ground water migrating through the confining zone during pumping conditions at Wells WW-5 and WP-4, as flow has been shown to occur under unsaturated conditions. However, it is evident that the steep vertical gradients created by the pumping West Well result in discharge from the overlying fluvial sediments to the underlying lacustrine sediments. The absence of a cone of depression in the shallow water table, however, indicates that the principal flow in the shallow component is horizontal, toward the river to the north.

3.3 Ground Water Quality

The results of the ground water quality analyses are shown in Table 3-2 and Figure 3-6. The February 1985 sample split results show strong correlation between the analyses by Lancaster Laboratories and O'Brien and Gere Laboratory. The only difference is due to O'Brien and Gere's use of higher minimum detection limits of <10 ppb for most of the VOCs. With the lower detection limits, the Lancaster Laboratories data compare better to those previously reported by Friend Laboratory, and will therefore be used for the purpose of discussion and illustration.

3.3.1 Shallow Flow Component

The data from the shallow wells indicate that concentrations of VOCs in excess of 4,000 ppb have been detected in the ground water at Well WW-3, in the former solvent storage area east of the West Well. Concentrations of up to 235 ppb were detected in the ground water underlying the West Parking Lot (Well WP-1), and concentrations up to 205 ppb at the former incineration area (Well WW-2). Off site to the north, Well WW-4 contained a maximum of 12 ppb total VOC. The only detectable level of PCB found in the ground water was a trace concentration in Well WW-2.

In April 1984, the New York Department of Health sampled a shallow driven well at the Allen Gregory residence located in the neighborhood north of the Bendix plant (see Figure 2-1). The results indicated the presence of a total of 2 ppb of two organic compounds, both of which are compounds also detected in the vicinity of the West Well.

Two isoconcentration maps of VOCs in the shallow flow component are shown in Figures 3-7 and 3-8. These maps show that the VOC plume in the shallow flow component is principally contained within the Amphenol plant property. Off-site shallow Well WW-4 has contained a maximum of 12 ppb of total VOCs, in contrast to

TABLE 3-2

GROUND WATER QUALITY RESULTS

(All results in ug/l,

Blank or ND = None Detected)

(Friend = Friend Laboratory, Lancaster = Lancaster Laboratories, O&G = O'Brien and Gere Laboratory)

(Detection limits, <1 ug/l Friend and Lancaster, <10 ug/l O'Brien and Gere)

Well	Date	Laboratory	Trans-1,2 Dichloro- ethylene	Trichloro- ethylene	Tetra- chloro- ethylene	1,1-Di- chloro- ethane	Freon Group	1,1,1- Trichloro- ethane	1,2-Di- chloro- thane	Chloro- form	Vinyl Chloride	PCB (ppm)	Other	Total Volatile Organics
WW-1	4/17/84	Friend	13	99	63		6							181
	7/24/84	Friend	230	500	250									980
	2/20/85	Lancaster	27	280	201	2				6				516
	2/20/85	O&G	17	290	210									517
WW-2	3/11/86	Lancaster	15	63	46	1								125
	4/17/84	Friend	65	35	13	10						.004		123
	7/24/84	Friend	56	120	26						3			205
	2/20/85	Lancaster	20	92	36	7								155
WW-3	2/20/85	O&G	23	120	44									187
	3/11/86	Lancaster	16	37	13	4								70
	4/17/84	Friend	300	310	14	5		130	9					768
	7/24/84	Friend	3,000	1,500	15						35			4,550
	2/20/85	Lancaster	31	65	20	2					2			120
	2/20/85	O&G	26	65	20									111
	3/11/86	Lancaster	47	33	11	2					3			96

TABLE 3-2 (continued)

Well	Date	Laboratory	Trans-1,2 Dichloro- ethylene	Trichloro- ethylene	Tetra- chloro- ethylene	1,1-Di- chloro- ethane	Freon Group	1,1,1- Trichloro- ethane	1,2-Di- chloro- thane	Chloro- form	Vinyl Chloride	PCB (ppm)	Other	Total Volatile Organics
WW-4	2/6/85	Friend	6	5										11
	2/6/85	Lancaster	10	6		1								17
	2/19/85	Lancaster	7	5										12
	2/19/85	O&G		13										13
WW-5	3/11/86	Lancaster	6	4										10
	2/6/85	Friend												ND
	2/6/85	Lancaster												ND
	2/19/85	Lancaster												ND
WW-6	2/19/85	O&G												ND
	3/11/86	Lancaster												ND
	3/11/86	Lancaster	150	190		21		78	2				7	448
	4/18/84	Friend	40	43			18							101
WP-1	7/14/84	Friend	83	39							5			127
	2/19/84	Lancaster	18	34										55
	2/19/85	O&G	13	30		3								43
	4/19/84	Friend	47	10										57
WP-2	7/24/84	Friend	200	10							25			235
	2/20/85	Lancaster	13	7										21
	2/20/85	O&G				2								2

TABLE 3-2 (continued)

<u>Well</u>	<u>Date</u>	<u>Laboratory</u>	<u>Trans-1,2 Dichloro- ethylene</u>	<u>Trichloro- ethylene</u>	<u>Tetra- chloro- ethylene</u>	<u>1,1-Di- chloro- ethane</u>	<u>Freon Group</u>	<u>1,1,1- Trichloro- ethane</u>	<u>1,2-Di- chloro- thane</u>	<u>Chloro- form</u>	<u>Vinyl Chloride</u>	<u>PCB (ppm)</u>	<u>Other</u>	<u>Total Volatile Organics</u>
WP-3	4/19/84	Friend												ND
	7/24/84	Friend	1											1
	2/20/85	Lancaster	3											3
	2/20/85	O&G												ND
WP-4	4/24/84	Friend												ND
	7/24/84	Friend	6	1										7
	2/19/85	Lancaster	5	2										7
	2/19/85	O&G												ND
	3/11/86	Lancaster	9	1										10
West Well	7/24/84	Friend	4	53										57
Allen Gregory Well*	4/17/84		1	1										2

* Samples by New York Department of Health.

Figure 3-6
Schematic - VOC Migration
In Ground Water

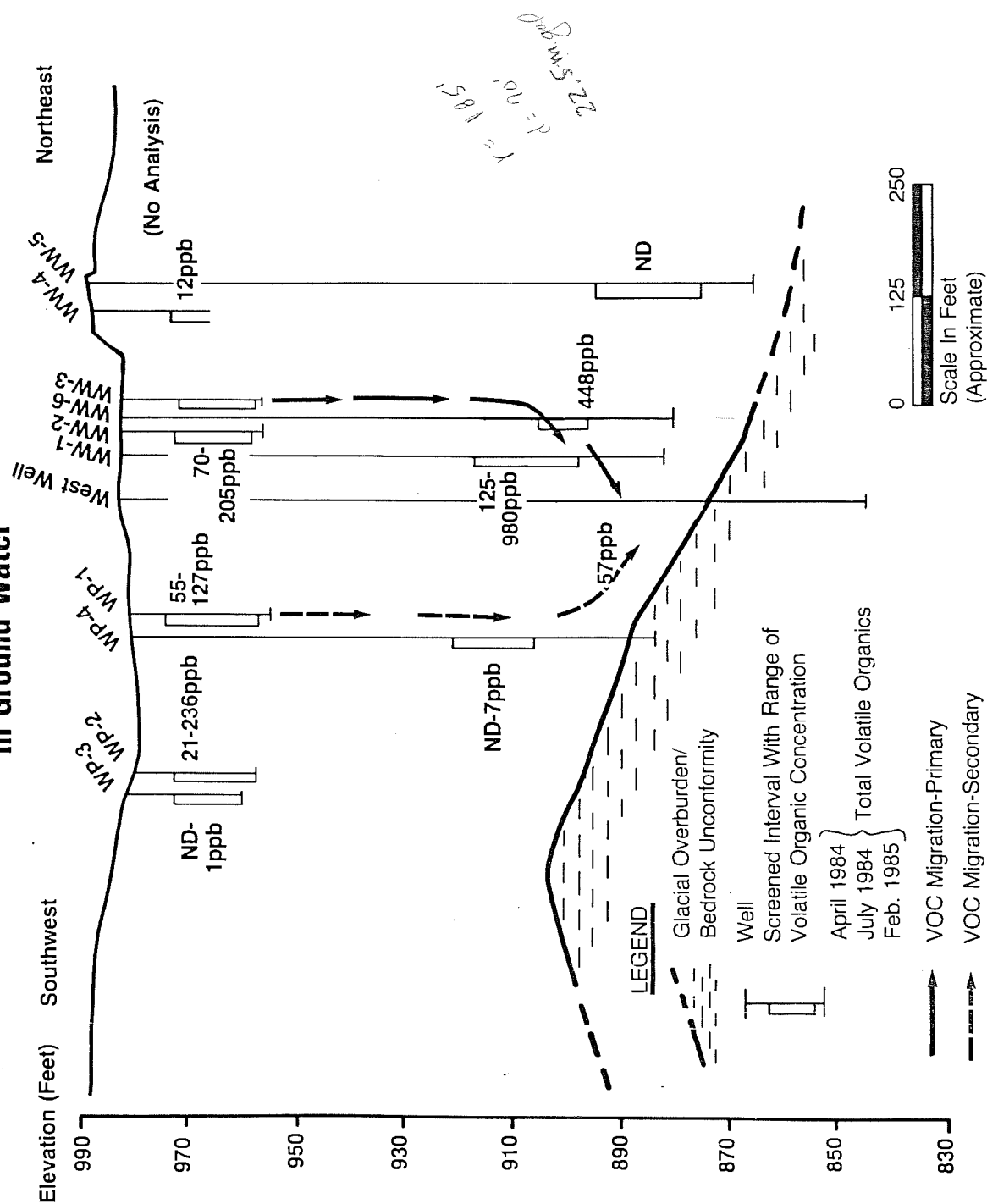


Figure 3-7
Isoconcentration Map-Total Volatile Organics in ppb
July 23, 1984

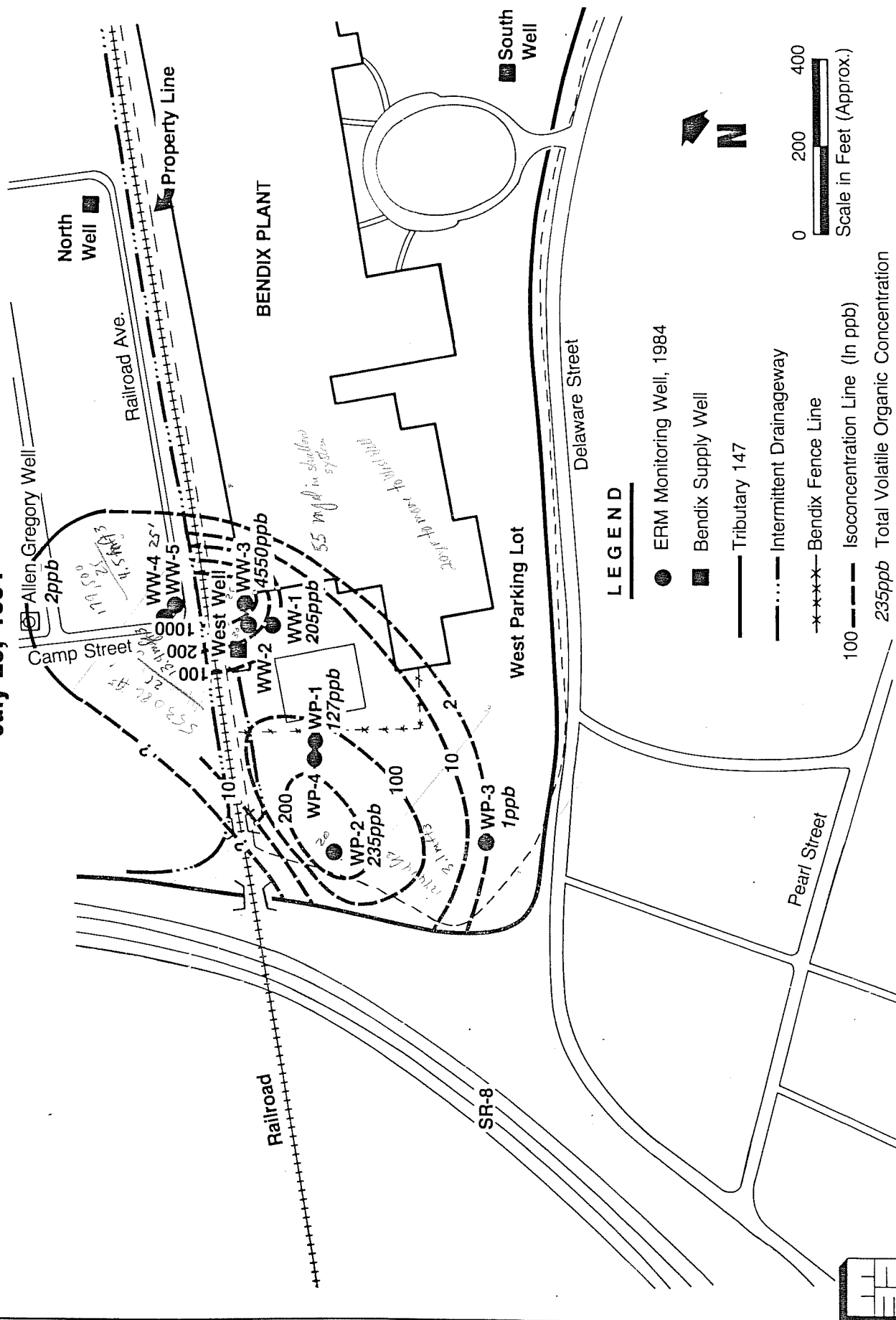
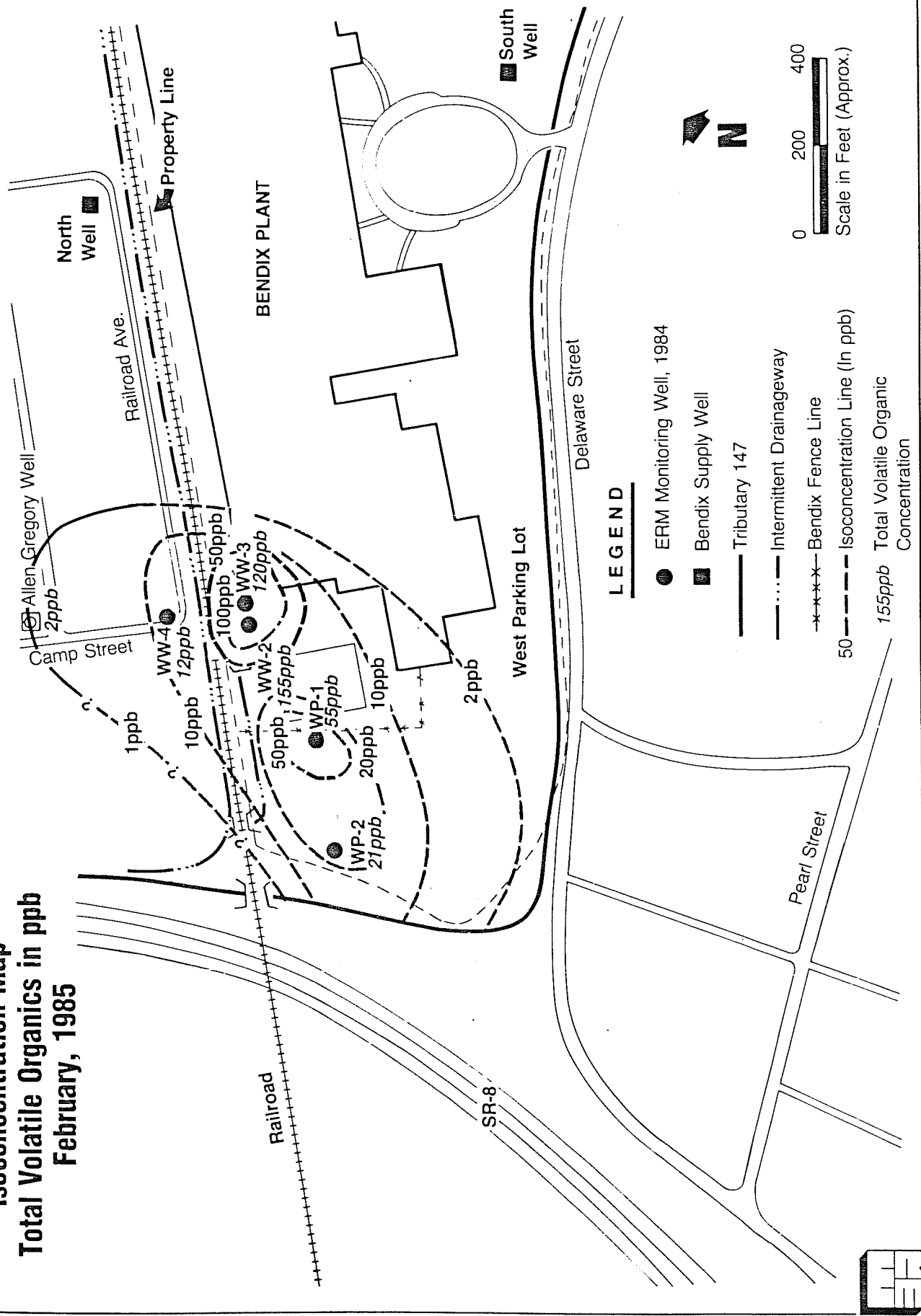


Figure 3-8
Isoconcentration Map
Total Volatile Organics in ppb
February, 1985



The ERM Group

the higher concentrations at WW-3, near the source area. The apparent extent of downgradient VOC migration is in the area of the Gregory residence, where 2 ppb of VOC were detected in a New York State Department of Health sample in 1984.

The migration of VOCs downgradient verifies the relative lack of influence of the West Well pumping on the hydraulics of the shallow flow component. The limitation on the VOC concentrations which have migrated off site is likely due to rapid dilution downgradient in the shallow aquifer.

In the area of the West Parking Lot, the VOC plume has migrated toward Tributary 147 to the west and northward toward the water table "swale" created by the West Well pumping. The discharge of trace concentrations (7 ppb) of VOCs to Tributary 147 from the West Parking Lot area was detected at surface water sampling station DW-6, as previously discussed. To the north, the low concentration West Parking Lot VOC plume is unlikely to migrate off site in significant concentrations, given the limitations on migration from the principal source area, as seen at Well WW-4.

It is interesting to note that the VOC concentrations at Well WW-3, in the source area, have varied from 96 ppb to 4,550 ppb over a two-year period. This unexpectedly wide variation may be due to:

- seasonal fluctuations, with lower concentrations present during the recharge conditions of late winter and spring; and/or
- the remedial activities performed in the source area during construction of the new plant facilities in 1984. As a result of these activities, the source area has been abated, and buildings and paving installed over the area.

The variations at the other shallow wells also occur on an apparently seasonal basis. However, these variations are not as extreme as at Well WW-3, which may indicate that the remedial activities have had a significant impact on improving the ground water quality in that area.

3.3.2 Deep Flow Component

The sampling events at deep Well WW-1 indicated the presence of VOCs ranging from 181 ppb to 980 ppb. At deep Well 6, 448 ppb were detected. The results from deep Wells WP-4 and WW-5 showed only trace levels and no detectable levels of VOCs, respectively.

The ERM Group

These results indicate that there has been vertical migration of VOCs through the glacial overburden in the immediate vicinity of the former location of the solvent storage facilities.

The presence of trace levels of VOCs in WP-4 are likely related to the West Parking Lot, as the cone of depression formed by West Well pumping clearly draws the deep ground water flow from that area toward the West Well. The absence of VOCs in Well WW-5 shows that no migration of VOC has occurred off site in the deep flow component, but is contained by the West Well pumping. Thus, the plume migration in the deep flow component has been restricted to the Amphenol property.

3.4 Source Area Evaluation

The source areas for the VOCs in the vicinity of the West Well have been defined by the construction of the isoconcentration maps for the shallow ground water flow component (Figures 3-7 and 3-8). These maps indicate that the principal source area is the former solvent storage area, with a secondary minor source area beneath the West Parking Lot.

The isoconcentration maps show that the maximum VOCs detected in the ground water underlie the site of the former solvent storage facilities. Each sampling event indicated that VOC concentrations close to the West Well, at Wells WW-1 and WW-2, were higher in the deep flow component than in the shallow. This indicates that the former solvent incinerator area is not the principal source area. Rather, vertical VOC migration in the area of Well WW-3 is intercepted in the deep flow component by the pumping of the West Well. A schematic diagram of the VOC migration to the deep flow component, and from there to the West Well, is shown in Figure 3-6. For schematic purposes, the range of all analytical results at each well is shown. It can be seen that the migration of VOCs to the West Well proceeds from the area of Well WW-3, vertically downward to WW-6, and from there past WW-1 and to the West Well, under the influence of the pumping cone of depression.

As can be seen from the results at Wells WP-1/WP-4, the shallow flow system at the former incinerator and West Parking Lot areas may contribute a few ppb of VOCs to the West Well; however, the former solvent storage area is the principal source area. The presence of VOCs at Wells WP-1, WP-2, WP-3, and WP-4 is likely related to the former spreading of waste oils on the West Parking Lot for dust control.

The ERM Group

The former solvent storage tank area has been abated as a continuing source area for VOCs. Plant upgrading activities conducted in 1984 included the removal of the storage tanks and the construction of a new plant loading dock on this site. The area has been isolated from contact with infiltrating recharge by the loading dock building and by the surrounding asphalt paving. Thus, any potential continuing source of VOCs to the ground water has been minimized.

The soil analysis results are discussed in Section 3.5. These results show that no solvents were detected in the soils at the West Parking Lot. Thus, this area does not serve as a continuing source of VOCs to the shallow ground water. Furthermore, with the completion of paving of the West Parking Lot, all soils beneath the lot are isolated from infiltrating recharge.

3.5 Soil Analyses - West Parking Lot

The objective of the soil sampling at the West Parking Lot was to determine if the soils have retained PCBs or volatile organics which may have been contained in oil spread over the parking lot for dust control. The results of the composite soil analyses are shown in Table 3-3 and Figure 3-9. The PCB analyses show that the upper several inches of soil contain no detectable PCB. The samples taken at the twelve-inch depth contained detectable levels of PCBs, Sample 2A containing 85 ppm and Sample 3A containing 6 ppm. Since the ground water in this area contained no PCB, it is evident that it is fully attenuated in the soil. Since the residual PCB is at depth in the soil, and since the West Parking Lot has been completely asphalt paved, there is no potential for PCB migration by erosion.

As shown in Table 3-3, there were no detectable concentrations of volatile organics in the soil samples. Thus, the soils are not a continuing source of VOCs to the ground water.

3.6 Surface Drainageways

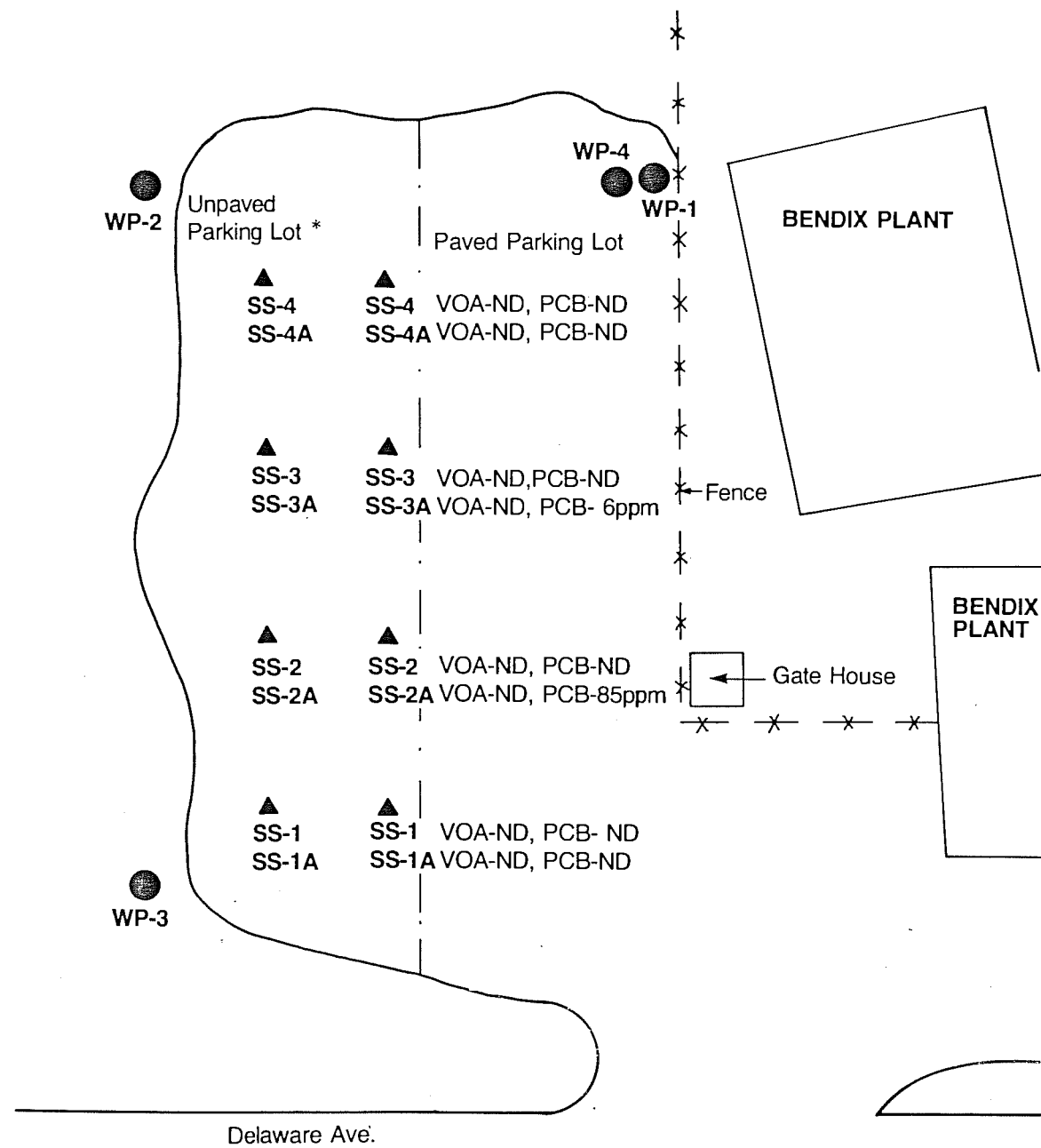
A summary of the results from the drainageway sediment and water analyses are presented in Figure 3-10.

TABLE 3-3
SOIL ANALYSIS RESULTS -
WEST PARKING LOT

<u>Sample No.</u>	<u>Date</u>	<u>PCB (ppm)</u>	<u>Total Volatile Organic Concentrations</u>
SS-1	5/3/84	ND*	ND
SS-1A		ND	ND
SS-2	5/3/84	ND	ND
SS-2A		85	ND
SS-3	5/3/84	ND	ND
SS-3A		6	ND
SS-4	5/3/84	ND	ND
SS-4A		ND	ND

* ND = None Detected

Figure 3-9
Analytical Results From Soil Samples



0 125 250
Scale in Feet

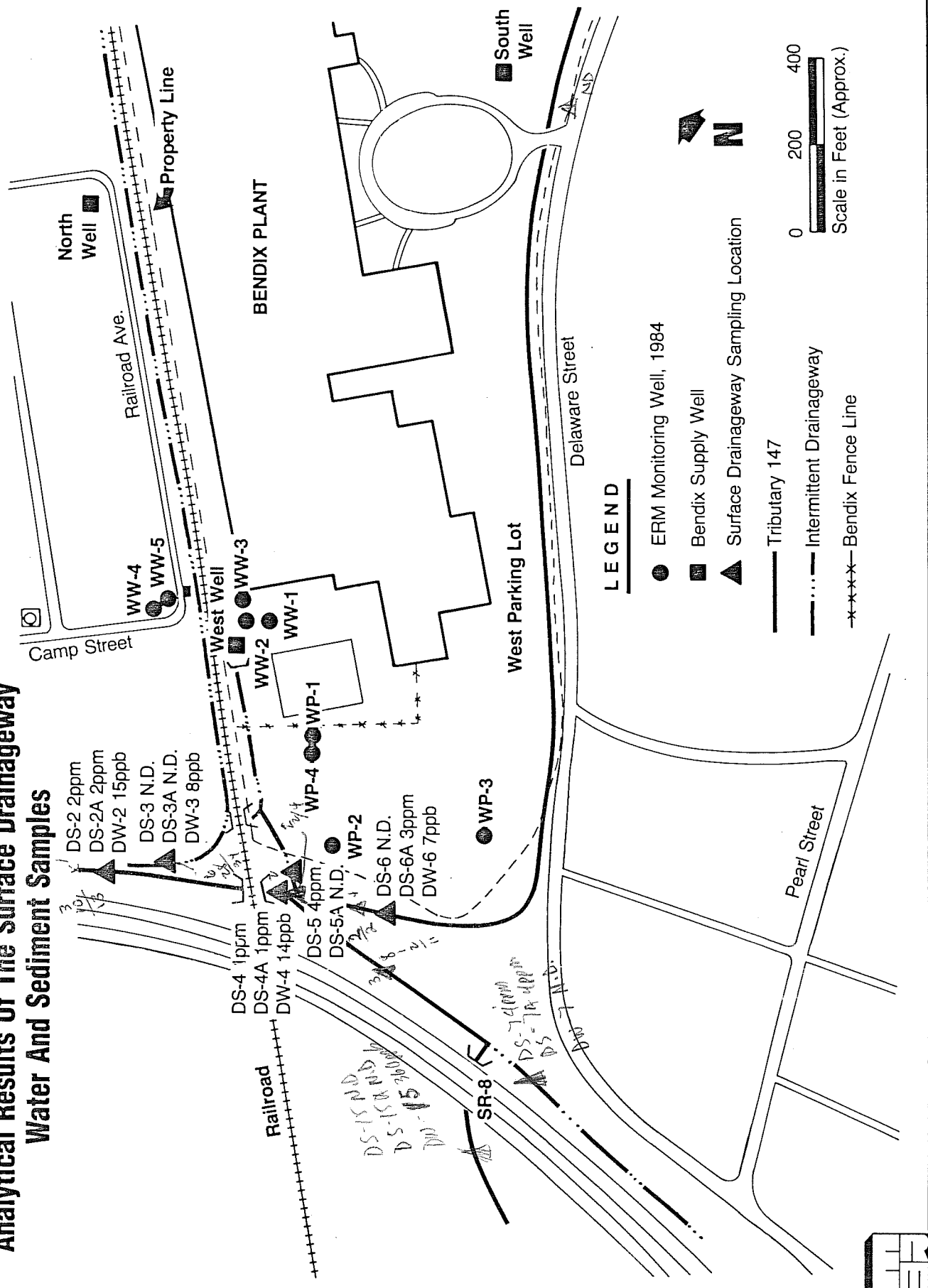
* Paved August 1984

LEGEND

- ERM Monitoring Well
- ▲ Soil Sample Location
- SS-1 Composite at 6"
- SS-1A Composite at 12"
- VOA Total Volatile Organic Concentration
- PCB PCB Concentration (ppm)
- ND Not Detected



Figure 3-10
Analytical Results Of The Surface Drainageway
Water And Sediment Samples



The ERM Group

3.6.1 Sediments

As shown in Figure 3-10, PCB was detected in sediments from sample Locations DS-2, DS-4, DS-5 and DS-6, ranging in concentration from none to 4 ppm. There was little variation in PCB concentration with depth.

The detection of PCB in these stream sediments suggests that the oiling of the West Parking Lot may have been a source of PCB migration into the local drainageways. Surface runoff from the West Parking Lot drains northwestward toward sampling Locations DS-6 and DS-5. These drainageways empty into the main stream of Tributary 147, which showed evidence of PCB in Samples DS-2 and DS-4. As previously discussed, paving of the West Parking Lot has eliminated this area as a potential source of future PCB migration into the streams. Assessment of the potential impacts of the PCB in Tributary 147 will be conducted during the feasibility study for remedial action.

3.6.2 Water

The analyses of the surface drainageway water detected trace concentrations of VOCs, ranging from 7 ppb to 15 ppb at Locations DW-2, DW-3, DW-4, and DW-6 within Tributary 147 and the drainageway which feeds into Tributary 147. As previously discussed, the trace concentrations of VOC at sample Locations DW-4 and DW-6 likely represent the discharge of ground water from beneath the West Parking Lot. However, as was shown in ERM's September 1984 surface water assessment, sample Locations DW-2 and DW-4 receive VOCs from an upgradient discharge as well. The VOC concentrations at Location DW-3 are likely a result of the discharge of the West Well to the surface drainageway that flows along the northern boundary of the West Parking Lot. The 8 ppb total VOC in this sample is approximately an order of magnitude less than the 60 to 80 ppb discharged from the well. This likely reflects the effects of dilution in the drainageway and evaporation of the VOC.

Although no regulatory standards are available for VOCs in surface waters, New York State DEC guidelines suggest limits of 50 ppb for any one compound, or 100 ppb total VOC for potable water. Thus, it does not appear that the concentrations associated with the West Well and West Parking Lot areas are of any environmental concern. This issue will be addressed further in the feasibility study for remedial action at the site.

SECTION 4

CONCLUSIONS

4.1 Conclusions

Based on the foregoing discussions, ERM has drawn the following conclusions regarding conditions at the West Well:

1. The West Well draws its principal yield from the glaciolacustrine sediments of the deep glacial flow component.
2. The source area for VOCs at the West Well is the former solvent storage tank area.
3. VOCs ranging from 120 to 4,550 ppb have been detected in the source area; since that area was paved in 1984, VOC concentrations in the ground water appear to have declined.
4. Off-site migration of VOCs in the shallow flow zone is limited by dilution, with concentrations less than 20 ppb detected during this study.
5. Vertical migration of VOCs into the deep flow component, under the influence of hydraulic gradients, has resulted in the detection of from 181 to 980 ppb near the West Well and 60 to 80 ppb in the West Well.
6. The pumping of the West Well has prevented any off-site VOC migration in the deep flow component.
7. The West Parking Lot is likely a source area for low-level VOCs in the shallow flow component, but does not contribute significantly to the West Well problem.
8. No VOCs are present in the West Parking Lot soils, and therefore no continuing source area is present there.
9. Residual low-level VOCs from the West Parking Lot area discharge to Tributary 147 via the ground water flow system.

The ERM Group

10. PCBs have migrated via erosion to Tributary 147, resulting in sediment concentrations ranging from 1 to 4 ppm.
11. No PCB migration occurs from the West Parking Lot.

The ERM Group

REFERENCES

Fetter, C. W., Jr.; Applied Hydrogeology; Charles E. Merrill Publishing Company; Columbus, Ohio; 1980.

Freeze, Allan R. and John R. Cherry; Groundwater; Prentice-Hall, Inc., Englewood Cliffs, New Jersey; 1979.

Layne-New York Company, Inc.; Correspondence dated May 28, 1964.

The ERM Group

APPENDIX A

WELL LOGS

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
VOLATILE ORGANICS

215-100-5915
3165-001-517

[illegible]

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
VOLATILE ORGANIC DATA
3165-001-517

SAMPLE SITE	SITE SITE	DATE	SAMPLE	NRCL2CH	DCPAN12	DCPENT13	CL3C2H	CLHR2CH	CL3C2H12	DCPENC13	CIFTHIR	CHHR3	CL4C2H2	CL4C2
WP 1		02/19/85	71467	<10.	<10.	<10.	<10.	30.	<10.	<10.	<100.	<100.	<10.	<10.
WP 2		02/20/85	71468	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
WP 3		02/20/85	71469	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
WP 4		02/19/85	71470	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
84-10		02/21/85	71486	<100.	<10.	<10.	240.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
84-12		02/21/85	71487	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
84-13		02/25/85	45320	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.

MAR 27, 1985

12:07

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
VOLATILE ORGANIC DATA
3165-001-517

SAMPLE SITE	SITE	DATE	SAMPLE	CLOROH2	BENZ	TOLUENE	ETHAENZ
WP 1		02/19/85	71467	<10.	<10.	<10.	<10.
WP 2		02/20/85	71468	<10.	<10.	<10.	<10.
WP 3		02/20/85	71469	<10.	<10.	<10.	<10.
WP 4		02/19/85	71470	<10.	<10.	<10.	<10.
84-10		02/21/85	71486	<10.	<10.	<10.	<10.
84-12		02/21/85	71487	<10.	<10.	<10.	<10.
84-13		02/25/85	45320	<10.	<10.	<10.	<10.



Lancaster Laboratories

INCORPORATED

LLI Sample No. WW 1054715

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/14/86
Date Submitted 3/12/86
Discard Date 3/22/86
Collected by C
P.O. 30111
Rel.

Bendix West Wells WW1 2" Well Groundwater
Collected 03/11/86 (1645) by STB

Volatiles in Groundwater	RESULT	AS RECEIVED	LIMIT OF DETECTION	LAB CODE
Benzene	N.D.	ppb	1.	07030000S
Toluene	N.D.	ppb	1.	07040000S
Chlorobenzene	N.D.	ppb	1.	07050000S
Ethylbenzene	N.D.	ppb	1.	07060000S
Chloromethane	N.D.	ppb	5.	07110000S
Bromomethane	N.D.	ppb	5.	07120000S
2-Chloroethylvinyl ether	N.D.	ppb	10.	07130000S
Vinyl chloride	N.D.	ppb	1.	07140000S
Chloroethane	N.D.	ppb	1.	07150000S
Methylene chloride	N.D.	ppb	1.	07160000S
1,1-Dichloroethene	N.D.	ppb	1.	07170000S
1,1-Dichloroethane	1.	ppb	1.	07180000S
trans-1,2-Dichloroethene	15.	ppb	1.	07190000S
Chloroform	N.D.	ppb	1.	07200000S
1,2-Dichloroethane	N.D.	ppb	1.	07210000S
1,1,1-Trichloroethane	N.D.	ppb	1.	07220000S
Carbon tetrachloride	N.D.	ppb	1.	07230000S
Dichlorobromomethane	N.D.	ppb	1.	07240000S
1,2-Dichloropropane	N.D.	ppb	1.	07250000S
trans-1,3-Dichloropropene	N.D.	ppb	1.	07260000S
Trichloroethene	63.	ppb	1.	07270000S
Dibromochloromethane	N.D.	ppb	1.	07280000S
1,1,2-Trichloroethane	N.D.	ppb	1.	07290000S
cis-1,3-Dichloropropene	N.D.	ppb	1.	07300000S
Bromoform	N.D.	ppb	2.	07310000S
1,1,2,2-Tetrachloroethane	N.D.	ppb	2.	07320000S
Tetrachloroethene	46.	ppb	1.	07330000S

2 COPIES TO Environmental Resources Mgmt. ATTN: David R. Blye

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro Pa 17268 • (717) 762-9127

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Richard C. Entz, B.A.
Group Leader, Organic Analysis



Lancaster Laboratories

INCORPORATED

LLI Sample No. WW 1054716

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/14/86
Date Submitted 3/12/86
Discard Date 3/22/86
Collected by C
P.O. 30111
Rel.

Bendix West Wells WW2 2" Well Groundwater
Collected 03/11/86 (1600) by STB

Volatiles in Groundwater	RESULT AS RECEIVED	LIMIT OF DETECTION	LAB CODE
Benzene	N.D. ppb	1.	07030000S
Toluene	N.D. ppb	1.	07040000S
Chlorobenzene	N.D. ppb	1.	07050000S
Ethylbenzene	N.D. ppb	1.	07060000S
Chloromethane	N.D. ppb	5.	07110000S
Bromomethane	N.D. ppb	5.	07120000S
2-Chloroethylvinyl ether	N.D. ppb	10.	07130000S
Vinyl chloride	N.D. ppb	1.	07140000S
Chloroethane	N.D. ppb	1.	07150000S
Methylene chloride	N.D. ppb	1.	07160000S
1,1-Dichloroethene	N.D. ppb	1.	07170000S
1,1-Dichloroethane	4. ppb	1.	07180000S
trans-1,2-Dichloroethene	16. ppb	1.	07190000S
Chloroform	N.D. ppb	1.	07200000S
1,2-Dichloroethane	N.D. ppb	1.	07210000S
1,1,1-Trichloroethane	N.D. ppb	1.	07220000S
Carbon tetrachloride	N.D. ppb	1.	07230000S
Dichlorobromomethane	N.D. ppb	1.	07240000S
1,2-Dichloropropane	N.D. ppb	1.	07250000S
trans-1,3-Dichloropropene	N.D. ppb	1.	07260000S
Trichloroethene	N.D. ppb	1.	07270000S
Dibromochloromethane	37. ppb	1.	07280000S
1,1,2-Trichloroethane	N.D. ppb	1.	07290000S
cis-1,3-Dichloropropene	N.D. ppb	1.	07300000S
Bromoform	N.D. ppb	2.	07310000S
1,1,2,2-Tetrachloroethane	N.D. ppb	2.	07320000S
Tetrachloroethene	13. ppb	1.	07330000S

2 COPIES TO Environmental Resources Mgmt. ATTN: David R. Blye

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

The American Association for
Laboratory Accreditation
Chemical & Biological Fields of Testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro, Pa 17268 • (717) 762-9127

Richard C. Entz, B.A.
Group Leader, Organic Analysis

*Lancaster Laboratories*

INCORPORATED

LLI Sample No. WW 1054717

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/14/86
Date Submitted 3/12/86
Discard Date 3/22/86
Collected by C
P.O. 30111
Rel.

Bendix West Wells WW3 2" Well Groundwater
Collected 03/11/86 (1515) by STB

Volatiles in Groundwater	RESULT AS RECEIVED		LIMIT OF DETECTION	LAB CODE
Benzene	N.D.	ppb	1.	07030000S
Toluene	N.D.	ppb	1.	07040000S
Chlorobenzene	N.D.	ppb	1.	07050000S
Ethylbenzene	N.D.	ppb	1.	07060000S
Chloromethane	N.D.	ppb	5.	07110000S
Bromomethane	N.D.	ppb	5.	07120000S
2-Chloroethylvinyl ether	N.D.	ppb	10.	07130000S
Vinyl chloride	3.	ppb	1.	07140000S
Chloroethane	N.D.	ppb	1.	07150000S
Methylene chloride	N.D.	ppb	1.	07160000S
1,1-Dichloroethene	N.D.	ppb	1.	07170000S
1,1-Dichloroethane	2.	ppb	1.	07180000S
trans-1,2-Dichloroethene	47.	ppb	1.	07190000S
Chloroform	N.D.	ppb	1.	07200000S
1,2-Dichloroethane	N.D.	ppb	1.	07210000S
1,1,1-Trichloroethane	N.D.	ppb	1.	07220000S
Carbon tetrachloride	N.D.	ppb	1.	07230000S
Dichlorobromomethane	N.D.	ppb	1.	07240000S
1,2-Dichloropropane	N.D.	ppb	1.	07250000S
trans-1,3-Dichloropropene	N.D.	ppb	1.	07260000S
Trichloroethene	33.	ppb	1.	07270000S
Dibromochloromethane	N.D.	ppb	1.	07280000S
1,1,2-Trichloroethane	N.D.	ppb	1.	07290000S
cis-1,3-Dichloropropene	N.D.	ppb	1.	07300000S
Bromoform	N.D.	ppb	2.	07310000S
1,1,2,2-Tetrachloroethane	N.D.	ppb	2.	07320000S
Tetrachloroethene	11.	ppb	1.	07330000S

2 COPIES TO Environmental Resources Mgmt. ATTN: David R. Blye

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro, Pa 17268 • (717) 762-9127

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Richard C. Entz, B.A.
Group Leader, Organic Analysis

Lancaster Laboratories

INCORPORATED

222 NEW HOLLAND PIKE, LANCASTER, PA 17601

LAB Sample No. WW1054853

Environ. Resources Management

999 West Chester Pike

P. O. Box 357

West Chester, PA 19380

Bendix-West Wells WW4 Groundwater Sample

Collected on 03/11/86 (1200) by STB

Date Reported 3/26/86

Date Submitted 3/12/86

Discard Date 4/ 3/86

Collected by C

P.O. 30111

Rel.

	RESULT		LIMIT OF	LAB CODE
	AS RECEIVED		DETECTION	
Volatiles in Groundwater				
Benzene	N.D. ppb		1.	070300000N
Toluene	N.D. ppb		1.	070400000N
Chlorobenzene	N.D. ppb		1.	070500000N
Ethylbenzene	N.D. ppb		1.	070600000N
Chloromethane	N.D. ppb		5.	071100000N
Bromomethane	N.D. ppb		5.	071200000N
2-Chloroethylvinyl ether	N.D. ppb		10.	071300000N
Vinyl chloride	N.D. ppb		1.	071400000N
Chloroethane	N.D. ppb		1.	071500000N
Methylene chloride	N.D. ppb		1.	071600000N
1,1-Dichloroethene	N.D. ppb		1.	071700000N
1,1-Dichloroethane	N.D. ppb		1.	071800000N
trans-1,2-Dichloroethene	6. ppb		1.	071900000N
Chloroform	N.D. ppb		1.	072000000N
1,2-Dichloroethane	N.D. ppb		1.	072100000N
1,1,1-Trichloroethane	N.D. ppb		1.	072200000N
Carbon tetrachloride	N.D. ppb		1.	072300000N
Dichlorobromomethane	N.D. ppb		1.	072400000N
1,2-Dichloropropane	N.D. ppb		1.	072500000N
trans-1,3-Dichloropropene	N.D. ppb		1.	072600000N
Trichloroethene	4. ppb		1.	072700000N
Dibromochloromethane	N.D. ppb		1.	072800000N
1,1,2-Trichloroethane	N.D. ppb		1.	072900000N
cis-1,3-Dichloropropene	N.D. ppb		1.	073000000N
Bromoform	N.D. ppb		2.	073100000N
1,1,2,2-Tetrachloroethane	N.D. ppb		2.	073200000N
Tetrachloroethene	N.D. ppb		1.	073300000N

2 COPIES TO Environmental Resources Mgmt. ATTN: David R. Blye

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Richard C. Entz, B.A.
Group Leader, Organic Analysis

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



SEE REVERSE SIDE FOR EXPLANATION
OF SYMBOLS AND ABBREVIATIONS

Member: American Council of
Independent Laboratories, Inc.

Lancaster Laboratories

242 NEW HOLLAND PIKE LANCASTER, PA 17601

Lab Sample No. 1034655

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380
Bendix-West Wells WW5 Groundwater Sample
Collected on 03/11/86 (1230) by STB

Date Reported 3/26/86
Date Submitted 3/12/86
Discard Date 4/ 3/86
Collected by C
P.O. 30111
Rel.

Volatiles in Groundwater	RESULT	LIMIT OF	LAB CODE
	AS RECEIVED	DETECTION	
Benzene	N.D. ppb	1.	070300000N
Toluene	N.D. ppb	1.	070400000N
Chlorobenzene	N.D. ppb	1.	070500000N
Ethylbenzene	N.D. ppb	1.	070600000N
Chloromethane	N.D. ppb	5.	071100000N
Bromomethane	N.D. ppb	5.	071200000N
2-Chloroethylvinyl ether	N.D. ppb	10.	071300000N
Vinyl chloride	N.D. ppb	1.	071400000N
Chloroethane	N.D. ppb	1.	071500000N
Methylene chloride	N.D. ppb	1.	071600000N
1,1-Dichloroethene	N.D. ppb	1.	071700000N
1,1-Dichloroethane	N.D. ppb	1.	071800000N
trans-1,2-Dichloroethene	N.D. ppb	1.	071900000N
Chloroform	N.D. ppb	1.	072000000N
1,2-Dichloroethane	N.D. ppb	1.	072100000N
1,1,1-Trichloroethane	N.D. ppb	1.	072200000N
Carbon tetrachloride	N.D. ppb	1.	072300000N
Dichlorobromomethane	N.D. ppb	1.	072400000N
1,2-Dichloropropane	N.D. ppb	1.	072500000N
trans-1,3-Dichloropropene	N.D. ppb	1.	072600000N
Trichloroethene	N.D. ppb	1.	072700000N
Dibromochloromethane	N.D. ppb	1.	072800000N
1,1,2-Trichloroethane	N.D. ppb	1.	072900000N
cis-1,3-Dichloropropene	N.D. ppb	1.	073000000N
Bromoform	N.D. ppb	2.	073100000N
1,1,2,2-Tetrachloroethane	N.D. ppb	2.	073200000N
Tetrachloroethene	N.D. ppb	1.	073300000N

2 COPIES TO Environmental Resources Mgmt. ATTN: David R. Blye

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



SEE REVERSE SIDE FOR EXPLANATION
OF SYMBOLS AND ABBREVIATIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Richard C. Entz, B.A.
Group Leader, Organic Analysis



Lancaster Laboratories

INCORPORATED

LLI Sample No. WW 1054718

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/14/86
Date Submitted 3/12/86
Discard Date 3/22/86
Collected by C
P.O. 30111
Rel.

Bendix West Wells ⁶WW~~35~~ 2" Well Groundwater
Collected 03/11/86 (1530) by STB

Volatiles in Groundwater	RESULT	LIMIT OF	LAB CODE
	AS RECEIVED	DETECTION	
Benzene	N.D.	1.	07030000S
Toluene	5.	1.	07040000S
Chlorobenzene	2.	1.	07050000S
Ethylbenzene	N.D.	1.	07060000S
Chloromethane	N.D.	5.	07110000S
Bromomethane	N.D.	5.	07120000S
2-Chloroethylvinyl ether	N.D.	10.	07130000S
Vinyl chloride	N.D.	2.	07140000S
Chloroethane	N.D.	1.	07150000S
Methylene chloride	N.D.	1.	07160000S
1,1-Dichloroethene	N.D.	1.	07170000S
1,1-Dichloroethane	21.	1.	07180000S
trans-1,2-Dichloroethene	150.	1.	07190000S
Chloroform	N.D.	1.	07200000S
1,2-Dichloroethane	2.	1.	07210000S
1,1,1-Trichloroethane	78.	1.	07220000S
Carbon tetrachloride	N.D.	1.	07230000S
Dichlorobromomethane	N.D.	1.	07240000S
1,2-Dichloropropane	N.D.	1.	07250000S
trans-1,3-Dichloropropene	N.D.	1.	07260000S
Trichloroethene	N.D.	1.	07270000S
Dibromochloromethane	190.	1.	07280000S
1,1,2-Trichloroethane	N.D.	10.	07290000S
cis-1,3-Dichloropropene	N.D.	10.	07300000S
Bromoform	N.D.	1.	07310000S
1,1,2,2-Tetrachloroethane	N.D.	2.	07320000S
Tetrachloroethene	N.D.	1.	07330000S

Normal reporting limits were not attained for some compounds due to the high level of trichloroethene.
The normal reporting limit for vinyl chloride could not be attained due to the presence of an interferent.

2 COPIES TO Environmental Resources Mgmt. ATTN: David R. Blye

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East Waynesboro, Pa 17268 • (717) 762-9127

Richard C. Entz, B.A.
Group Leader, Organic Analysis

per American Council of
Laboratory Accreditation, Inc.

Lancaster Laboratories

INCORPORATED

24 NEW HOLLAND PIKE LANCASTER PA 17601

Sample No. 1741054054

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380
Bendix-West Wells WP4 Groundwater Sample
Collected on 03/11/86 (1330) by STB

Date Reported 3/26/86
Date Submitted 3/12/86
Discard Date 4/ 3/86
Collected by C
P.O. 30111
Rel.

	RESULT		LIMIT OF	LAB CODE
	AS RECEIVED		DETECTION	
Volatiles in Groundwater				
Benzene	N.D.	ppb	1.	070300000N
Toluene	N.D.	ppb	1.	070400000N
Chlorobenzene	N.D.	ppb	1.	070500000N
Ethylbenzene	N.D.	ppb	1.	070600000N
Chloromethane	N.D.	ppb	5.	071100000N
Bromomethane	N.D.	ppb	5.	071200000N
2-Chloroethylvinyl ether	N.D.	ppb	10.	071300000N
Vinyl chloride	N.D.	ppb	1.	071400000N
Chloroethane	N.D.	ppb	1.	071500000N
Methylene chloride	N.D.	ppb	1.	071600000N
1,1-Dichloroethene	N.D.	ppb	1.	071700000N
1,1-Dichloroethane	N.D.	ppb	1.	071800000N
trans-1,2-Dichloroethene	9.	ppb	1.	071900000N
Chloroform	N.D.	ppb	1.	072000000N
1,2-Dichloroethane	N.D.	ppb	1.	072100000N
1,1,1-Trichloroethane	N.D.	ppb	1.	072200000N
Carbon tetrachloride	N.D.	ppb	1.	072300000N
Dichlorobromomethane	N.D.	ppb	1.	072400000N
1,2-Dichloropropane	N.D.	ppb	1.	072500000N
trans-1,3-Dichloropropene	N.D.	ppb	1.	072600000N
Trichloroethene	1.	ppb	1.	072700000N
Dibromochloromethane	N.D.	ppb	1.	072800000N
1,1,2-Trichloroethane	N.D.	ppb	1.	072900000N
cis-1,3-Dichloropropene	N.D.	ppb	1.	073000000N
Bromoform	N.D.	ppb	2.	073100000N
1,1,2,2-Tetrachloroethane	N.D.	ppb	2.	073200000N
Tetrachloroethene	N.D.	ppb	1.	073300000N

2 COPIES TO Environmental Resources Mgmt. ATTN: David R. Blye

Respectfully Submitted
Lancaster Laboratories, Inc.
Reviewed and Approved by:

Richard C. Entz, B.A.
Group Leader, Organic Analysis

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



SEE REVERSE SIDE FOR EXPLANATION
OF SYMBOLS AND ABBREVIATIONS

Member: American Council of
Independent Laboratories, Inc.

APPENDIX D
LABORATORY DATA SHEETS

Approved by the Environmental
Protection Agency for the:

Bacteriological examination
of Potable Water

Metals by Atomic Absorption

Wet Chemistry

Volatile Organics

Pesticides, Herbicides

Friend Laboratory, Inc.

446 BROAD STREET • WAVERLY, N. Y. 14892

Phones (607) 565-2893 or 2894

Chemical and Bacteri-
analysis of:

WATER

STREAM POLLUTIC

WASTEWATER

SLUDGE

SOIL

DAIRY PRODUCT

FOODS and MOR:

Key for Report

< = Less than

> = Greater than

Pt. Co. U. = Platinum Cobalt U

PPM = Parts per Million

UG/L = Micrograms per Lit.

MG/L = Milligrams per Liter

NTU = Nephelometric
Turbidity Unit

ND = None detected

UMHOS = Micromhos per
Centimeter

Ant Mgr. Environmental Resources Management

Company Name page 2

Address

Date Received: April 28, 84

SAMPLE SOURCES

Pick up by:	G + M B 1	G + M 28	Field blank 7	W P 4	G + m 27	G + M B 3
Analysis Performed:						
pH						
B.O.D. 5 28 mg/L						
B.O.D. mg/L						
Total Hardness mg/L						
Jeldahl Nitrogen mg/L						
Dissolved Solids mg/L						
Suspended Solids mg/L						
Total Solids mg/L						
Volatile Solids mg/L						
Volatile Organics:ug/L		ND	ND	ND		ND
1,1,1-Trichloroethane	13,000				60	
1,1,2-Trichloroethane	13,000					
Breons	18,000					
Carbon Tetrachloride	15,000					
Trichloroethylene					4	
No other Volatile Or- ganics detected						
Copper mg/L						
Iron mg/L						
Nickel mg/L						
Zinc mg/L						
Arsenic mg/L						
Barium mg/L						
Cadmium mg/L						
Chromium mg/L						
Cobalt mg/L						
Mercury mg/L						
Selenium mg/L						
Silver mg/L						

CC:

Comments:

Date _____

Approved by: *W. L. Smith*

Manager

Approved by the Environmental
Protection Agency for the:

Bacteriological examination
of Potable Water

Metals by Atomic Absorption

Wet Chemistry

Volatile Organics

Pesticides, Herbicides

Friend Laboratory, Inc.

446 BROAD STREET • WAVERLY, N. Y. 14892

Phones (607) 565-2893 or 2894

Chemical and Bacte-
analysis of:

WATER

STREAM POLLUTIC

WASTEWATER

SLUDGE

SOIL

DAIRY PRODUCTS

FOODS and MORE

Key for Report

< = Less than

> = Greater than

Pt. Co. U. = Platinum Cobalt U

PPM = Parts per Million

UG/L = Micrograms per Lit.

MG/L = Milligrams per Liter

NTU = Nephelometric
Turbidity Unit

ND = None detected

UMHOS = Micromhos per
Centimeter

ant Mgr. Environmental Resources Management

Company

Name

Address

page 5

Date Received: April 128, 84

SAMPLE SOURCES

Pick up by:

Analysis
Performed:

83-3

83-4

83-5

83-6

83-7

WP 4

pH

D.O.D. 5 28 mg/L

D.O.D. mg/L

Total Hardness mg/L

Weldahl Nitrogen mg/L

Dissolved Solids mg/L

Suspended Solids mg/L

Total Solids mg/L

Volatile Solids mg/L

PCB's ppm

ND<0.001

ND<.001

ND <.001

ND<.001

ND<0.001

ND<0.001

Copper mg/L

Iron mg/L

Cadmium mg/L

Zinc mg/L

Chromium mg/L

Mercury mg/L

Selenium mg/L

Lead mg/L

Chromium mg/L

Mercury mg/L

Selenium mg/L

Lead mg/L

C:

Comments:

Date _____

Approved by: _____

Manager

Approved by the Environmental
Protection Agency for the:

Bacteriological examination
of Potable Water
Metals by Atomic Absorption
Wet Chemistry
Volatile Organics
Pesticides, Herbicides

Friend Laboratory, Inc.

448 BROAD STREET • WAVERLY, N. Y. 14892
Phones (607) 565-2893 or 2894

Chemical and Bact
analysis of:
WATER
STREAM POLLUT
WASTEWATER
SLUDGE
SOIL
DAIRY PRODUCT
FOODS and MOR

Key for Report

< = Less than
> = Greater than
Pt. Co. U. = Platinum Cobalt U
PPM = Parts per Million
UG/L = Micrograms per L
MG/L = Milligrams per Lite
NTU = Nephelometric
Turbidity Unit
ND = None detected
UMHOS = Micromhos per
Centimeter

Plant Mgr. Environmental Resources Management

Company Name page 3

Address

Date Received: April 20, 1984

SAMPLE SOURCES

Pick up by:

Analysis
Performed:

Bailer
blank
after
W P 1

W P 2

W P 3

G + M

18

G + M

B 12

pH									
B.O.D. 5 28 mg/L									
C.O.D. mg/L									
Total Hardness mg/L									
Kjeldahl Nitrogen mg/L									
Dissolved Solids mg/L									
Suspended Solids mg/L									
Total Solids mg/L									
Volatile Solids mg/L									
PCB's ppm									
Purgeable Halocarbons: ug/L	N D			ND<0.001		ND<0.001		ND<0.001	ND<0.001
Trans 1,2-Dichloroethylene				47		N D		3500	830
1,1,1-Trichloroethane								1200	130
Trichloroethylene				10				2300	17
No other purgeable halocarbons detected									
Copper mg/L									
Iron mg/L									
Nickel mg/L									
Zinc mg/L									
Arsenic mg/L									
Barium mg/L									
Cadmium mg/L									
Chromium mg/L									
Lead mg/L									
Mercury mg/L									
Selenium mg/L									
Silver mg/L									

CC:

Date 5 24 sb

Approved by:

Manager

Comments:

Approved by the Environmental
Protection Agency for the:

Bacteriological examination
of Potable Water
Metals by Atomic Absorption
Wet Chemistry
Volatile Organics
Pesticides, Herbicides

Friend Laboratory, Inc.

446 BROAD STREET • WAVERLY, N. Y. 14892
Phones (607) 565-2893 or 2894

Chemical and Bacteriological
analysis of:
WATER
STREAM POLLUTANTS
WASTEWATER
SLUDGE
SOIL
DAIRY PRODUCTS
FOODS and more

Key for Report

< = Less than
> = Greater than
Pt. Co. U. = Platinum Cobalt Unit
PPM = Parts per Million
UG/L = Micrograms per Liter
MG/L = Milligrams per Liter
NTU = Nephelometric
Turbidity Unit
ND = None detected
UMHOS = Micromhos per
Centimeter

Plant Mgr. Environmental Resources Management

Company Name page 5

Address

Date Received: April 12, 1984

SAMPLE SOURCES

Pick up by:

Analysis
Performed:

	G + M 30	G + M 1200 B 12	G + M 20	Field blank # 4	W W
pH					
B.O.D. 5 28 mg/L					
C.O.D. mg/L					
Total Hardness mg/L					
Kjeldahl Nitrogen mg/L					
Dissolved Solids mg/L					
Suspended Solids mg/L					
Total Solids mg/L					
Volatile Solids mg/L					
PCB's ppm	ND<0.001	0.3	0.01		ND<0.0
Purgeable Halocarbons: ug/L				ND	
Trans 1,2-Dichloroethylene	5	19	42,000		13
1,1-Dichloroethane			150		
1,1,1-Trichloroethane			5600		
Tetrachloroethylene		8			63
Freon					6
Trichloroethylene					99
Copper mg/L					
Iron mg/L					
Nickel mg/L					
Zinc mg/L					
Arsenic mg/L					
Barium mg/L					
Cadmium mg/L					
Chromium mg/L					
Lead mg/L					
Mercury mg/L					
Selenium mg/L					
Silver mg/L					

CC: Date 5 24 sb

Approved by:

Manager

Comments: No other Purgeable Halocarbons detected

Approved by the Environmental
Protection Agency for the:

Bacteriological examination
of Potable Water
Metals by Atomic Absorption
Wet Chemistry
Volatile Organics
Pesticides, Herbicides

Friend Laboratory, Inc.

448 BROAD STREET • WAVERLY, N. Y. 14892
Phones (607) 565-2893 or 2894

Chemical and Bact
analysis of:
WATER
STREAM POLLUT
WASTEWATER
SLUDGE
SOIL
DAIRY PRODUCT
FOODS and MOF

Key for Report

< = Less than
> = Greater than
Pt. Co. U. = Platinum Cobalt U
PPM = Parts per Million
UG/L = Micrograms per L
MG/L = Milligrams per Lite
NTU = Nephelometric
Turbidity Unit
ND = None detected
UMHOS = Micromhos per
Centimeter

Ant Mgr. Environmental Resources Management

Company Name page 6

Address

Date Received: April 20, 84

SAMPLE SOURCES

Pick up by:

Analysis
Performed:

	W W 2	W W 3	Seep # 1 1640	Seep # 2	Field blank # 1
pH					
B.O.D. 5 28 mg/L					
C.O.D. mg/L					
Total Hardness mg/L					
Kjeldahl Nitrogen mg/L					
Dissolved Solids mg/L					
Suspended Solids mg/L					
Total Solids mg/L					
Volatile Solids mg/L					
PCB's ppm	0.004	ND<0.001	ND<0.001	ND<0.001	
Purgeable Halocarbons: ug/L			ND		ND
1,1-Dichloroethane	10	5			
Trans 1,2-Dichloroethylene	65	300		9	
Trichloroethane	35	310		28	
Tetrachloroethylene	13	14			
vinyl Chloride		130			
1,1,1-Trichloroethane		9		28	
Copper mg/L					
Iron mg/L					
Nickel mg/L					
Zinc mg/L					
Arsenic mg/L					
Barium mg/L					
Cadmium mg/L					
Chromium mg/L					
Lead mg/L					
Mercury mg/L					
Selenium mg/L					
Silver mg/L					

CC:

Date 5 24 sb

Approved by:

W. Schmitz
Manager

Comments: No other Purgeable Halocarbons detected

Approved by the Environmental
Protection Agency for the:

Bacteriological examination
of Potable Water

Metals by Atomic Absorption

Wet Chemistry

Volatile Organics

Pesticides, Herbicides

Friend-Laboratory, Inc.

446 BROAD STREET • WAVERLY, N. Y. 14892-1445

Phone (607) 565-2893

RECEIVED
AUG 06 1984
E.R.M., INC.

Chemical and Bacteriological
analysis of:

WATER

STREAM POLLUTION

WASTEWATER

SLUDGE

SOIL

DAIRY PRODUCTS

FOODS and MORE

Key for Report

< = Less than

> = Greater than

Pt. Co. U. = Platinum Cobalt Unit

PPM = Parts per Million

UG/L = Micrograms per Liter

MG/L = Milligrams per Liter

NTU = Nephelometric
Turbidity Unit

ND = None detected

UMHOS = Micromhos per
Centimeter

Plant Mgr.

Company
Name

Address

Mr. Robert Keating
Environmental Resources Management, Inc.
999 West Chester Pike
West Chester, Pa. 19380

Date Received: 7/25/84

SAMPLE SOURCES

Pick up by:

Analysis
Performed:

West
Well

WW 1

WW 2

WW 3

WP 1

pH

B.O.D. 5 28 mg/L

C.O.D. mg/L

Total Hardness mg/L

Kjeldahl Nitrogen mg/L

Dissolved Solids mg/L

Suspended Solids mg/L

Total Solids mg/L

Volatile Solids mg/L

Releasable Halocarbons:

Vinyl Chloride ug/L

trans 1,2 Dichloroethene ug/L

Trichloroethylene ug/L

Tetrachloroethylene ug/L

Others detected

4

230

56

3,000

183

53

500

120

1,500

39

250

26

15

137

Copper

Iron

Nickel

Zinc

Arsenic

Barium

Cadmium

Chromium

Lead

Mercury

Selenium

Silver

C:

Date 8/1/84 bs

Approved by:

W. M. S. Jr.
Manager

Comments:

Approved by the Environmental
Protection Agency for the:

Bacteriological examination
of Potable Water

Metals by Atomic Absorption

Wet Chemistry

Volatile Organics

Pesticides, Herbicides

Friend Laboratory, Inc.

446 BROAD STREET • WAVERLY, N. Y. 14892-1445

Phone (607) 565-2893

Chemical and Bacteri-
analysis of:

WATER

STREAM POLLUTION

WASTEWATER

SLUDGE

SOIL

DAIRY PRODUCTS

FOODS and MORE

Key for Report

< = Less than

> = Greater than

Pt. Co. U. = Platinum Cobalt Unit

PPM = Parts per Million

UG/L = Micrograms per Liter

MG/L = Milligrams per Liter

NTU = Nephelometric
Turbidity Unit

ND = None detected

UMHOS = Micromhos per
Centimeter

Plant Mgr.

Mr. Robert Keating

Company

Environmental Resources Management, Inc.

Name

999 West Chester Pike

Address

West Chester, Pa. 19380

Date Received: 7/25/84

Page 2 of 2

SAMPLE SOURCES

Pick up by:

Analysis

Performed:

WP 4

WP 2

WP 3

Field Blank Boiler
Blank

pH									
B.O.D. 5 28 mg/L									
C.O.D. mg/L									
Total Hardness mg/L									
Kjeldahl Nitrogen mg/L									
Dissolved Solids mg/L									
Suspended Solids mg/L									
Total Solids mg/L									
Volatile Solids mg/L									
Purgeable Halocarbons	ug/L							ND <1	ND <1
1,2 Dichloroethene	ug/L	6		200		1			
1,1 Dichloroethylene	ug/L	1		10					
Vinyl Chloride	ug/L			25					
Others detected									
Copper									
Iron									
Nickel									
Zinc									
Arsenic									
Barium									
Cadmium									
Chromium									
Lead									
Mercury									
Selenium									
Silver									

0:

Date 8/1/84 bs

Approved by:

Manager

Comments:

Approved by the Environmental
Protection Agency for the:
Bacteriological examination
of Potable Water
Metals by Atomic Absorption
Wet Chemistry
Volatile Organics
Pesticides, Herbicides

Friend Laboratory, Inc.

446 BROAD STREET, WAVERLY, N.Y. 14892-1445
Phone (607) 565-2893

Chemical and Bact
analysis of:
WATER
STREAM POLLUT
WASTEWATER
SLUDGE
SOIL
DAIRY PRODUCT
FOODS and MOR

Key For Report

< = Less Than
> = Greater Than
Pt. Co. U. = Platinum Cobalt Un
ppm = Parts per Million
ug/L = Micrograms per Liter
mg/L = Milligrams per liter
NTU = Nephelometric
Turbidity Unit
ND = None Detected
uMHOS/cm = Micromhos per
Centimeter

Plant Mgr. ☐ Environmental Resources Management, Inc.
Company Name ATTN: Mr. Robert Keating
999 West Chester Pike, P.O. Box 357
Address ☐ West Chester, PA 19380

Date Received: 2/7/85

SAMPLE SOURCES

Pick up by: Jay

Analysis
Performed:

		84-13 (2/7) Bendix	WW-4 (2/6) Bendix	WW-5 (2/6) Bendix		
pH						
B.O.D. 5 28 mg/L						
C.O.D. mg/L						
Total Hardness mg/L						
Kjeldahl Nitrogen mg/L						
Dissolved Solids mg/L						
Suspended Solids mg/L						
Total Solids mg/L						
Volatile Solids mg/L						
trans-1,2-Dichloroethylene	ug/L	ND<1	6	ND<1		
Trichloroethylene	ug/L	ND<1	5	ND<1		
Other Purgeable Halo-						
carbons	ug/L	ND<1	ND<1	ND<1		
Copper mg/L						
Iron mg/L						
Nickel mg/L						
Chromium mg/L						
Arsenic mg/L						
Barium mg/L						
Cadmium mg/L						
Bromine mg/L						
Lead mg/L						
Mercury mg/L						
Selenium mg/L						
Silver mg/L						

0:

Date 2/20/85 pg

Approved By:

Manager

Comments:



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 361042

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 2/12/85
Date Submitted 2/ 8/85
Discard Date 2/19/85
Collected by Client

Bendix Sidney WM-4 Groundwater Grab Sample
Collected on 2/6/85 (1400) by RK

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	5.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	10.	ppb
Vinyl chloride	<	1.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane	<	1.	ppb
trans-1,2-Dichloroethene	<	1.	ppb
Chloroform	<	10.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene	<	1.	ppb
Dibromochloromethane	<	6.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	1.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene	<	2.	ppb
	<	1.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro, Pa 17268 • (717) 762-9191

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 361043

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 2/12/85
Date Submitted 2/ 8/85
Discard Date 2/19/85
Collected by Client

Bendix Sidney WM-5 Groundwater Grab Sample
Collected on 2/6/85 (1600) by RK

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	5.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	10.	ppb
Vinyl chloride	<	1.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane	<	1.	ppb
trans-1,2-Dichloroethene	<	1.	ppb
Chloroform	<	1.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene	<	1.	ppb
Dibromochloromethane	<	1.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	2.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene	<	1.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pke. Lancaster Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro Pa 17268 • (717) 762-9126

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 364355

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/ 7/85
Date Submitted 2/25/85
Discard Date 3/14/85
Collected by Client

Bendix Sidney WP-4 Well Grab Water Sample
Collected on 2/19/85 (1830) by DRB

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	1.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	5.	ppb
Vinyl chloride	<	10.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane	<	1.	ppb
trans-1,2-Dichloroethene	<	1.	ppb
Chloroform	<	5.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene	<	1.	ppb
Dibromochloromethane	<	2.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	1.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene	<	2.	ppb
	<	1.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro, Pa 17268 • (717) 762-9111

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 364356

Environ. Resources Management
 999 West Chester Pike
 P. O. Box 357
 West Chester, PA 19380

Date Reported 3/ 7/85
 Date Submitted 2/25/85
 Discard Date 3/14/85
 Collected by Client

Bendix Sidney WP-1 Well Grab Water Sample
 Collected on 2/19/85 (1900) by DRB

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	1.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	5.	ppb
Vinyl chloride	<	10.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane		1.	ppb
trans-1,2-Dichloroethene		2.	ppb
Chloroform		18.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene	<	1.	ppb
Dibromochloromethane		34.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	1.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene	<	2.	ppb
	<	1.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
 Laboratory Accreditation
 Chemical & Biological fields of testing



MAIN LABORATORY
 2425 New Holland Pk. Lancaster, Pa. 17601 • (717) 656-2301

FRANKLIN DIVISION
 5424 Buchanan Trail East, Waynesboro, Pa. 17268 • (717) 762-9

Respectfully submitted,
 Lancaster Laboratories, Inc.

Reviewed and Approved by
 Richard C. Entz, B.A.
 Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 364362

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/ 7/85
Date Submitted 2/25/85
Discard Date 3/14/85
Collected by Client

Bendix Sidney WP-2 Well Grab Water Sample
Collected on 2/20/85 (1315) by DRB

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	5.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	10.	ppb
Vinyl chloride	<	1.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane	<	1.	ppb
trans-1,2-Dichloroethene	<	13.	ppb
Chloroform	<	1.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene	<	7.	ppb
Dibromochloromethane	<	1.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	2.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene	<	1.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro Pa 17268 • (717) 762-9

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 364361

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/ 7/85
Date Submitted 2/25/85
Discard Date 3/14/85
Collected by Client

Bendix Sidney WP-3 Well Grab Water Sample
Collected on 2/20/85 (1300) by DRB

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	5.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	10.	ppb
Vinyl chloride	<	1.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane	<	1.	ppb
trans-1,2-Dichloroethene	<	3.	ppb
Chloroform	<	1.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene	<	1.	ppb
Dibromochloromethane	<	1.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	2.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene	<	1.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro, Pa 17268 • (717) 762-9

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 364358

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/ 7/85
Date Submitted 2/25/85
Discard Date 3/14/85
Collected by Client

Bendix Sidney WW-1 Well Grab Water Sample
Collected on 2/20/85 (1000) by DRB

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	5.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	10.	ppb
Vinyl chloride	<	1.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane		2.	ppb
trans-1,2-Dichloroethene		27.	ppb
Chloroform		6.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene		280.	ppb
Dibromochloromethane	<	1.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	2.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene		201.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro, Pa 17268 • (717) 762-9

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 364359

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/ 7/85
Date Submitted 2/25/85
Discard Date 3/14/85
Collected by Client

Bendix Sidney WW-2 Well Grab Water Sample
Collected on 2/20/85 (1015) by DRB

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	5.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	10.	ppb
Vinyl chloride	<	1.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane		7.	ppb
trans-1,2-Dichloroethene		20.	ppb
Chloroform	<	1.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene		92.	ppb
Dibromochloromethane	<	1.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	2.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene		36.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY.
2425 New Holland Pike, Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION.
5424 Buchanan Trail East, Waynesboro, Pa 17268 • (717) 762-9000

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 364360

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/ 7/85
Date Submitted 2/25/85
Discard Date 3/14/85
Collected by Client

Bendix Sidney WW-3 Well Grab Water Sample
Collected on 2/20/85 (1045) by DRB

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	5.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	10.	ppb
Vinyl chloride		2.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane		2.	ppb
trans-1,2-Dichloroethene		31.	ppb
Chloroform	<	1.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene		65.	ppb
Dibromochloromethane	<	1.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	2.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene		20.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological Fields of Testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro, Pa 17268 • (717) 762-9131

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 364353

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/ 7/85
Date Submitted 2/25/85
Discard Date 3/14/85
Collected by Client

Bendix Sidney WW-4 Well Grab Water Sample
Collected on 2/19/85 (1630) by DRB

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	5.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	10.	ppb
Vinyl chloride	<	1.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane	<	1.	ppb
trans-1,2-Dichloroethene	<	7.	ppb
Chloroform	<	1.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene	<	5.	ppb
Dibromochloromethane	<	1.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	2.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene	<	1.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster, Pa 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro, Pa 17268 • (717) 762-9

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles



ANALYSIS REPORT

Lancaster Laboratories INCORPORATED

LLI Sample No WW 364354

Environ. Resources Management
999 West Chester Pike
P. O. Box 357
West Chester, PA 19380

Date Reported 3/ 7/85
Date Submitted 2/25/85
Discard Date 3/14/85
Collected by Client

Bendix Sidney WW-5 Well Grab Water Sample
Collected on 2/19/85 (1645) by DRB

Volatiles in Groundwater

AS RECEIVED

Benzene	<	1.	ppb
Toluene	<	1.	ppb
Chlorobenzene	<	1.	ppb
Ethylbenzene	<	1.	ppb
Chloromethane	<	1.	ppb
Bromomethane	<	5.	ppb
2-Chloroethylvinyl ether	<	5.	ppb
Vinyl chloride	<	10.	ppb
Chloroethane	<	1.	ppb
Methylene chloride	<	1.	ppb
1,1-Dichloroethene	<	1.	ppb
1,1-Dichloroethane	<	1.	ppb
trans-1,2-Dichloroethene	<	1.	ppb
Chloroform	<	1.	ppb
1,2-Dichloroethane	<	1.	ppb
1,1,1-Trichloroethane	<	1.	ppb
Carbon tetrachloride	<	1.	ppb
Dichlorobromomethane	<	1.	ppb
1,2-Dichloropropane	<	1.	ppb
trans-1,3-Dichloropropene	<	1.	ppb
Trichloroethene	<	1.	ppb
Dibromochloromethane	<	1.	ppb
1,1,2-Trichloroethane	<	1.	ppb
cis-1,3-Dichloropropene	<	1.	ppb
Bromoform	<	2.	ppb
1,1,2,2-Tetrachloroethane	<	2.	ppb
Tetrachloroethene	<	1.	ppb

SEE REVERSE SIDE FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

The American Association for
Laboratory Accreditation
Chemical & Biological fields of testing



MAIN LABORATORY
2425 New Holland Pike, Lancaster, Pa. 17601 • (717) 656-2301

FRANKLIN DIVISION
5424 Buchanan Trail East, Waynesboro, Pa. 17268 • (717) 762-9

Respectfully submitted,
Lancaster Laboratories, Inc.

Reviewed and Approved by
Richard C. Entz, B.A.
Senior Chemist, Volatiles

West Wells
West Parking

COMPUTER NOMENCLATURE
FOR VOLATILE ORGANIC COMPOUNDS

December 3, 1982

<u>Compound</u>	<u>Computer Designation</u>	<u>Compound</u>	<u>Computer Designation</u>
Chloromethane	CH3CL	t-1,3-Dichloropropene	DCPENT13
Bromomethane	CH3BR	Trichloroethene	CL3C2H
Vinyl Chloride	CH2CHCL	Benzene	BENZ
Chloroethane	C2H5CL	Dibromochloromethane	CLBR2CH
Methylene Chloride	CH2CL2	1,1,2-Trichloroethane	CL3C2H2
1,1-Dichloroethene	DCLEN11	Cis-1,3-Dichloropropene	DCPENC13
1,1-Dichloroethane	DCETAN11	2-Chloroethylvinyl Ether	CLETHER
t-1,2-Dichloroethene	DCLEN12	Bromoform	CHBR3
Chloroform	CHCL3	1,1,2,2-Tetrachloroethane	CL4C2H2
Freon 113	FREON113	Tetrachloroethene	CL4C2
1,2-Dichloroethane	DCETAN12	Toluene	TOLUENE
1,1,1-Trichloroethane	CL3CCCH3	Chlorobenzene	CLOROBZ
Carbon Tetrachloride	CCL4	Ethyl Benzene	ETHIBENZ
Bromodichloromethane	BRCL2CH	Xylenes	XYLENES
1,2-Dichloropropane	DCPAN12		

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
VOLATILE ORGANIC DATA
3165-001-517

3163-001-517															
SAMPLE SITE	SITE SITE	DATE	SAMPLE	CH3CL	CH3HR	CH2CHCL	C2H5CL	CH2CL2	DCLEN11	DCETAN11	DCLFN12	CHCL3	DCETAN12	CL3CCH3	CCL4
Field Blank		02/19/85	71488	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
Field Blank		02/20/85	71489	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
Field Blank		02/21/85	71490	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
MW-1D		02/19/85	71471	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
MW-B1H		02/25/85	45321	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
MW-3		02/20/85	71472	<10.	<10.	<10.	<10.	3800.	230.	360.	22000.	<100.	51.	4000.	<100.
MW-6		02/19/85	71473	<10.	<10.	<10.	<10.	<10.	<10.	<10.	26.	<10.	<10.	<10.	<10.
MW-7D		02/19/85	71474	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
MW-8		02/19/85	71475	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
MW-B12H		02/21/85	71476	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
MW-B13H		02/21/85	71478	<10.	<10.	<10.	<10.	23.	13.	110.	1600.	<100.	<10.	400.	<10.
MW-15H		02/20/85	71479	<10.	<10.	<10.	<10.	20.	74.	67.	2100.	<100.	<10.	500.	<10.
MW-16H		02/20/85	71480	<10.	<10.	<10.	<10.	<10.	13.	13.	13.	<10.	<10.	710.	<10.
MW-18H		02/20/85	71481	<10.	<10.	<10.	<10.	<10.	13.	13.	230.	<10.	<10.	190.	<10.
MW-19H		02/25/85	45323	<100.	<100.	<100.	<100.	27000.	2100.	1200.	3200.	<100.	<10.	2200.	<100.
MW-22H		02/25/85	45324	<100.	<100.	<100.	<100.	2500.	270.	1700.	2000.	<1000.	<100.	22000.	<1000.
MW-24H		02/21/85	71482	<10.	<10.	<10.	<10.	<10.	48.	200.	2400.	<100.	<10.	870.	<10.
MW-26H		02/21/85	71483	<100.	<100.	<100.	<100.	960.	450.	1100.	3700.	<100.	100.	10000.	<100.
MW-27H		02/20/85	71484	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	42.	<10.
MW-28H		02/21/85	71485	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
Seep #3		02/25/85	45325	<10.	<10.	<10.	<10.	15.	<10.	<10.	150.	<10.	<10.	22.	<10.
Seep #4		02/25/85	45326	<10.	<10.	100.	<10.	12.	11.	60.	1100.	<100.	<10.	360.	<100.
MW-1		02/20/85	71463	<10.	<10.	<10.	<10.	<10.	<10.	<10.	17.	<10.	<10.	<10.	<10.
MW-2		02/20/85	71464	<10.	<10.	<10.	<10.	<10.	<10.	<10.	23.	<10.	<10.	<10.	<10.
MW-4		02/19/85	71465	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
MW-5		02/19/85	71466	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.

MAR 27, 1985

PAGE 1-2

12:07

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
VOLATILE ORGANIC DATA
3165-001-517

SAMPLE SITE	SITE	DATE	SAMPLE	HRCL2CH	DCPANI2	DCPEPTI3	CL3C2H	CLHR2CH	CL3C2H12	DCPENCI3	CLETHR	CHNR3	CL4C2H2	CL4C2
Field Blank		02/19/85	71488	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
Field Blank		02/20/85	71489	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
Field Blank		02/21/85	71490	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-10		02/19/85	71471	<10.	<10.	<10.	67.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-B1H		02/25/85	45321	<100.	<10.	<10.	520.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-3		02/20/85	71472	<10.	<10.	<10.	65.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-6		02/19/85	71473	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	20.
MW-7D		02/19/85	71474	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-8		02/19/85	71475	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-B12H		02/21/85	71476	<10.	<10.	<10.	19.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-13H B13H		02/21/85	71478	<10.	<10.	<10.	50.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-15H		02/20/85	71479	<10.	<10.	<10.	1900.	<100.	<100.	<10.	<100.	<100.	<10.	<10.
MW-16H		02/20/85	71480	<10.	<10.	<10.	570.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-18H		02/20/85	71481	<100.	<10.	<10.	2100.	<100.	<100.	<10.	<100.	<100.	<10.	<10.
MW-19H		02/25/85	45323	<1000.	<1000.	<1000.	35000.	<1000.	<1000.	<1000.	<1000.	<1000.	<100.	<10.
MW-22H		02/25/85	45324	<1000.	<1000.	<1000.	50000.	<1000.	<1000.	<1000.	<1000.	<1000.	<100.	<100.
MW-24H		02/21/85	71482	<10.	<10.	<10.	330.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-26H		02/21/85	71483	<100.	<100.	<100.	9900.	<100.	<100.	<100.	<1000.	<1000.	<100.	<100.
MW-27H		02/20/85	71484	<10.	<10.	<10.	11.	<10.	<10.	<10.	<100.	<1000.	<100.	<100.
MW-28H		02/21/85	71485	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
Seep #3		02/25/85	45325	<10.	<10.	<10.	14.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
Seep #4		02/25/85	45326	<100.	<10.	<10.	150.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-1		02/20/85	71463	<10.	<10.	<10.	290.	<10.	<10.	<10.	<100.	<100.	<10.	<10.
MW-2		02/20/85	71464	<10.	<10.	<10.	120.	<10.	<10.	<10.	<100.	<100.	<10.	210.
MW-4		02/19/85	71465	<10.	<10.	<10.	13.	<10.	<10.	<10.	<100.	<100.	<10.	44.
MW-5		02/19/85	71466	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<100.	<100.	<10.	<10.

MAR 27, 1985

12:07

PAGE 1-3

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
VOLATILE ORGANIC DATA
3165-001-517

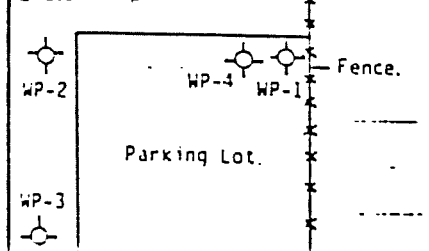
SAMPLE SITE	SITE	DATE	SAMPLE	CHLOROBZ	HFNZ	TOLUENE	ETHENZ
-----	-----	-----	-----	-----	-----	-----	-----
Field Blank		02/19/85	71488	<10.	<10.	<10.	<10.
Field Blank		02/20/85	71489	<10.	<10.	<10.	<10.
Field Blank		02/21/85	71490	<10.	<10.	<10.	<10.
MW-10		02/19/85	71471	<10.	<10.	<10.	<10.
MW-B7H		02/25/85	45321	<10.	<10.	89.	<10.
MW-3		02/20/85	71472	<10.	<10.	<10.	<10.
MW-6		02/19/85	71473	<10.	<10.	<10.	<10.
MW-7D		02/19/85	71474	<10.	<10.	<10.	<10.
MW-8		02/19/85	71475	<10.	<10.	<10.	<10.
MW-B12H		02/21/85	71476	<10.	<10.	<10.	<10.
MW-13H	613H	02/21/85	71478	<10.	<10.	<10.	<10.
MW-15H		02/20/85	71479	<10.	<10.	<10.	<10.
MW-16H		02/20/85	71480	<10.	<10.	<10.	<10.
MW-18H		02/20/85	71481	12.	<10.	<10.	<10.
MW-19H		02/25/85	45323	<100.	<100.	6100.	780.
MW-22H		02/25/85	45324	<100.	<100.	7000.	1000.
MW-24H		02/21/85	71482	23.	<10.	<10.	<10.
MW-26H		02/21/85	71483	<100.	<100.	<100.	<100.
MW-27H		02/20/85	71484	<10.	<10.	<10.	<10.
MW-28H		02/21/85	71485	<10.	<10.	<10.	<10.
Seep #3		02/25/85	45325	<10.	<10.	<10.	<10.
Seep #4		02/25/85	45326	<10.	<10.	<10.	<10.
MW-1		02/20/85	71463	<10.	<10.	<10.	<10.
MW-2		02/20/85	71464	<10.	<10.	<10.	<10.
MW-4		02/19/85	71465	<10.	<10.	<10.	<10.
MW-5		02/19/85	71466	<10.	<10.	<10.	<10.

Environmental Resources Management

Drilling Log

Project Bendix-Sidnev Owner _____
 Location West Parking Lot W.O. Number 301-05
 Well Number WP-1 Total Depth 26.5' Diameter 2"
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Screen: Dia. 2" Length 15' Slot Size .01"
 Casing: Dia. 2" Length 10' Type PVC Sch. 40
 Drilling Company Parratt Wolff, Inc. Drilling Method Hollow Stem Auger
 Driller Butch Stevens Log By Bob Keating Date Drilled 3/29/84

Sketch Map



Notes
 No odors were detected
 in any of the samples.

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				Well finished with gate box.
0-2'			dry	Red clay and silt-parking lot fill.
2-4'			dry	Red brown silty medium, subrounded to rounded gravel.
4-6'			damp	Red brown silty clay with a trace of fine sub- rounded to rounded gravel.
6-8'			damp	Mostly red, some green clay with some silt, some medium-rounded gravel.
8-10'			damp	(1') Green clayey silt.
10-12'			damp	(1') Green silty subrounded to rounded gravel. (1') Green silty subangular to subrounded gravel. (1') Green and red subangular to subrounded silty gravel.
15-16.5'			damp	(1') Green silty coarse sand to fine gravel. (6") Green silty medium to coarse gravel.
20-21.5'			damp	Dark gray medium to coarse, gravelly silt, subrounded to rounded clasts.
25-26.5'			damp	(1') Green and red silty coarse sand to fi. gravel. (6") Massive brown clayey silt, no clasts.

Environmental Resources Management

Drilling Log

Project Bendix-Sidney Owner _____
 Location _____ W.O. Number 301-05
 Well Number WP-2 Total Depth 22' Diameter 2"
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Screen: Dia. 2" Length 15' Slot Size .01"
 Casing: Dia. 2" Length 7' Type PVC Sch. 40
 Drilling Company Parratt Wolff, Inc Drilling Method Hollow Stem Auger
 Driller Butch Stevens Log By Bob Keating Date Drilled 3/29/84

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				Finished with a gate box.
0-2'			damp	Light brown sandy-medium to coarse gravel, some silt.
2-4'			damp	Light brown silty coarse gravel with a bright green unknown substance.
4-6'			damp	(1') Brown silty clay (no gravel). (1') Green silt with a trace of clay.
6-8'			damp	Green silty medium sand, trace clay.
8-10'			satur	Green silty medium to coarse sand.
10-12'			satur	(1') Green sandy fi. to med. gravel with sub-angular clasts. (1') Green to brown sandy coarse gravel with sub-rounded to rounded clasts.
15-16.5'			satur	Light brown silty coarse, rounded gravel, trace clay.
20-22'			damp	Light brown clay layer with a trace of silt.
25				N.B. No odors detected in any of the samples.

Environmental Resources Management

Drilling Log

Project Bendix-Sidnev Owner _____
 Location West Parking Lot W.O. Number 301-05
 Well Number WP-3 Total Depth 23' Diameter 2"
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Screen: Dia. 2" Length 15' Slot Size .10"
 Casing: Dia. 2" Length 8' Type PVC Sch. 40
 Drilling Company Parratt Wolff, Inc. Drilling Method Hollow Stem Auger
 Driller Butch Stevens Log By Bob Keating Date Drilled 3/30/84

Sketch Map

Notes

No odors detected in
any of the samples.

Depth (feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
				Continuous split spoon 10' every 5' after that.
0			damp	Finished with a gate box.
0-2'			damp	Light brown soil with a layer of burned soil with slight odor, light brown clayey silt w/some rounded gravel.
2-4'			damp	Dark brown silty fine, gravel w/subangular to rounded clasts.
4-6'			damp	(1') Hard light brown decomposed peat w/slight odor.
6-8'				(1') Massive green silty clay.
				Green sandy silt with some clay.
8-10'			damp	(1') Brown clayey decomposed organic matter w/slight odor.
10-12'			satur	(1') Green sandy silt w/some clay and fi. rounded gravel.
				Green yellow red sandy, silty fi. to med. angular to rounded gravel.
15-16.5'			satur	(1') Green sandy fi. to med. angular to rounded gravel w/some silt.
				(6") Orange silty, sandy, fi. to med. angular to rounded gravel.
20-21.5'				Graded section.
				1. Green fine to medium sand, 6".
				2. Green med. to coarse sand, 6".
				3. Green coarse sand to med. gravel, 6".
				4. Green poorly sorted gravel mostly rounded clasts.
				5. Lt. brown sandy silt poorly sorted rounded clasts.

Environmental Resources Management

Drilling Log

Project: Bendix-Sidnev Owner: _____
 Location: West Parking Lot W.O. Number: 301-05
 Well Number: WP-4 Total Depth: 98' Diameter: 2"
 Surface Elevation: _____ Water Level: Initial: _____ 24-hrs. _____
 Screen: Dia. 2" Length: 15' Slot Size: .10"
 Casing: Dia. 2" Length: 83' Type: PVC Sch. 40
 Drilling Company: Patratt Wolff, Inc Drilling Method: Mud Rotary
 Driller: Mike Ellingworth Log By: Bob Keating Date Drilled: 4/2 - 4/3/84

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description: Soil Classification (Color, Texture, Structures)
25-26.5'			satur	Massive light brown clayey silt with a trace of sand, no odor.
30-31.5'			satur	Massive light brown clayey silt, no odor.
35-36.5'			satur	Massive light brown clayey silt, no odor.
40-41.5'			satur	Massive light brown clayey silt, no odor.
45-46.5'			satur	Massive light brown clayey fine sand, no odor.
50-51.5'			satur	Massive light brown silty fine sand, no odor.

Environmental Resources Management

Drilling Log

Project: Bendix-Sidney Owner: _____
 Location: West Parking Lot W.O. Number: 301-05
 Well Number: WP-4 Total Depth: 98' Diameter: 2"
 Surface Elevation: _____ Water Level: Initial: _____ 24-hrs: _____
 Screen: Dia. 2" Length: 15' Slot Size: .10"
 Casing: Dia. 2" Length: 83' Type: PVC Sch. 40
 Drilling Company: Parratt Wolff, Inc. Drilling Method: Mud Rotary
 Driller: Mike Ellingworth Log By: Bob Keating Date Drilled: 4/2 - 4/3/84

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
55			satur	55-56.5' Light brown silt with a trace clay and a trace of fine sands, no odor.
60			satur	60-61.5' Light brown fine to medium sand with trace of silt, no odor.
65			satur	65-66.5' Light brown fine to medium sand, no odor.
70			satur	70-71.5' Light brown fine to medium sand, no odor.
75			satur	75-76.5' Light brown fine to medium sand, no odor. Drilling became hard.

Environmental Resources Management

Drilling Log

Project Bendix-Sidney Owner _____
 Location West Parking Lot W.O. Number 301.05
 Well Number WP-4 Total Depth 98' Diameter 2"
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Screen: Dia. 2" Length 15' Slot Size .10"
 Casing: Dia. 2" Length 83' Type PVC Sch. 40
 Drilling Company Parratt Wolff, Inc Drilling Method Mud Rotary
 Driller Mike Ellinworth Log By Bob Keating Date Drilled 4/2 - 4/3/84

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description: Soil Classification (Color, Texture, Structures)
80			damp	80-81.5' Red silty medium, subangular to subrounded gravel with trace of clay, no odor. Thief zone - lost 30 gallons of mud.
85			damp	85-86.5' Red and green angular silty gravel with trace of clay, the lithology of the gravel is a weathered grey shale.
90			satur	90-91.5' Red silty medium gravel with rounded to angular clasts and trace of clay, no odor. 93' Bedrock, red shale chips in drilling bit. Drilling through bedrock.
95				95-95.5' No recovery.
98				

Drilling Log

Sketch Map

Notes

Soil Classification
(Texture, Structures)

ey silt with a trace of gravel.

medium sand to fine angular

cs

to coarse, angular to subrounded
silt and sand.

massive silt, trace of sand and

wn clayey silt.

wn sandy silt.

at brown clayey silt.

ht brown fine to medium sand
ilt.

ive clayey silt with a trace

illing Log

Drilling Log

Sketch Map

WW-2

WW-1

Road

WW-3

Notes

No odors detected
in any of the samples.

Soil Classification
(Texture, Structures)

ded gravel-parking lot fill.

ng lot gravel.

and medium subrounded gravel.

ch silt with traces of sand,
l gravel.

/ silt with a trace of gravel and
wood chips.
sand and silt with wood chips.

n to coarse subrounded silty,
silt. clayey gravel.
/ silt with wood chips.

ey, sandy, fine to medium sub-
rounded to rounded gravel.
y clay.

l.

to coarse subangular to rounded
gravel.

fi. to coarse subrnd. to rnd.

/ of gravels is grey and red

to coarse subangular to rounded
fine to medium clean gravel.

nded gravel, lithologies are
red shale.

d and fine to coarse angular

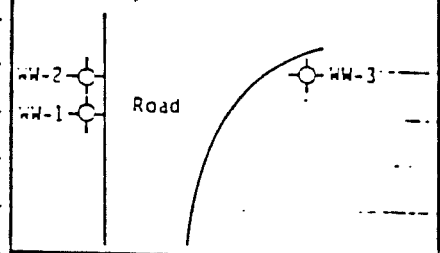
l.

Environmental Resources Management

Drilling Log

Project Bendix, Sidney Owner _____
 Location _____ W.O. Number 301-05
 Well Number WW-3 Total Depth 26.5' Diameter 2"
 Surface Elevation _____ Water Level, Initial _____ 24-hrs. _____
 Screen: Dia. 2" Length 15' Slot Size .10"
 Casing: Dia. 2" Length 10' Type PVC Sch. 40
 Drilling Company Parratt Wolff, Inc. Drilling Method Hollow Stem Auger
 Driller Mike Ellingsworth Log By Bob Keating Date Drilled 4/5/84

Sketch Map



Notes

No odor was detected in any of the samples.

Depth (feet)	Graphic Log	Well Construction	Sample Number	Description, Soil Classification (Color, Texture, Structures)
0				Finished with a gate box.
0-2'		damp		Red clay and rounded gravel-parking lot fill.
2-4'		damp		Red clay and rounded gravel-parking lot fill.
4-6'		damp		(1') Red clay and rounded gravel-parking lot fill.
6-8'		satur		(1') Green silty med. to coarse subrnd. to rounded gravel.
8-10'		satur		(1') Green organic-rich coarse, subrnd. gravel, trace clay. (1') Green silty med. to coarse gravel.
10-11.5'		satur		(1') Green fi. to coarse subrnd. gravel, trace of sand and clay. (1') Green silty clayey fi. to coarse subrnd. to subangular gravel. (6") Green and red fi. to med., angular to rounded gravel, trace of silt. (1') Green med. to coarse, silty angular to subangular gravel, lithology is gray shale.
15-16.5'		satur		(6") Green fi. to coarse, angular to subrnd. gravel. (1') Green silty, sandy fi. to coarse, subangular to rounded gravel, trace of clay, lithology is gray shale.
20-21.5'		satur		(1') Green fi. to med., angular to rounded gravel and trace silt. (6") Fi. to med., angular to rounded sandy gravel and trace of silt.
25-26.5'		satur		(1') Green coarse sand to fi. angular to rounded gravel. (6") Light brown massive silty clay with a trace of sand.

Environmental Resources Management

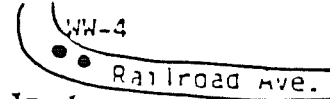
Drilling Log

Project: Bendix-Sidney Owner: _____Location: West Well Area W.O. Number: 3010502Well Number: WW-4 Total Depth: 27.0' Diameter: 2"

Surface Elevation: _____ Water Level: Initial _____ 24-hrs. _____

Screen: Dia. 2" Length: 15.1' Slot Size: .01"Casing: Dia. 2" Length: 12.0' Type: PVC Schedule 40Drilling Company: Porratt Wolff, Inc. Drilling Method: Hollow Stem AugerDriller: Mike Ellingworth Co. By: Bob Keating Date Drilled: 1-28-85

Sketch Map

Notes: Screen packed with
dry cement-bentonite mix
grout

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				Finished with 6" I.D. Steel curb box, flush to blacktop.
0-2'				Red brown silty soil and rounded gravel FILL, dense, dry.
2-4'				Same as above.
4-6'				(1') Same as above.
6-8'				(1') Brown SILT, little clay, soft, moist, (soil). Same as above (soil).
8-10'				Brown mottled grey, SILT, little f. sand, little clay, soft, moist (loom).
10-11.5'				Brown, mottled grey, f. SAND, little silt, soft, moist.
15-16.5'				Red and green silty CLAY and f/m/c subrounded to rounded GRAVEL, firm, moist to saturated (outwash). -1' saturated conditions
20-21.5'				Red and green f/m/c rounded GRAVEL, little silt, little f. sand, trace clay, firm, saturated (outwash).
25				Well sorted green m/sand

Drilling Log

Sketch Map	
Notes	

Page 2 of 2

Environmental Resources Management

Drilling Log

Project: Bendix-Sidney Owner: _____
 Location: West Well Area W.O. Number: 2010522
 Well Number: WW-5 Total Depth: 110.0' Diameter: 2"
 Surface Elevation: _____ Water Level: Initial: _____ 24-hrs: _____
 Screen: Dia. 2" Length: 20.0' Slot Size: .01"
 Casing: Dia. 2" Length: 90.0' Type: PVC Schedule 40
 Drilling Company: Porttatt Wolff, Inc. Drilling Method: Hollow Stem Auger
 Driller: Mike Ellingworth Log By: Bob Keating Date Drilled: 1/29/85

Sketch Map

Notes
 Total boring depth 121.5'

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				Finished with a 6" I.D. steel curb box, flush to blacktop.
				See log for WW-4 for sample descriptions from 0' to 25.0'
5				
10				
15				
20				
25				

Environmental Resources Management

Drilling Log

Project: Bendix-Sidney Owner: _____
 Location: West Wall Area W.O. Number: 3010502
 Well Number: WTW-5 Total Depth: 110.0' Diameter: 2"
 Surface Elevation: _____ Water Level: Initial: _____ 24-hrs: _____
 Screen: Dia. 2" Length: 20.0' Slot Size: .10"
 Casing: Dia. 2" Length: 90.0' Type: PVC Schedule 40
 Drilling Company: Poratt Wolff, Inc Drilling Method: Hollow Stem Auger
 Driller: Mike Ellingworth Log By: Bob Keating Date Drilled: 1-29-85

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
30			bentonite plug	
30-31.5'				Red brown SILT, little clay, moist to saturated, soft.
35				
35-36.5'				Red brown SILT, little clay, trace f. sand, soft, moist
40				
40-41.5'				Red brown SILT, little clay, little f. sand, saturated, soft
45			bentonite slurry	
45-46.5'				Brown f. sand, little silt, trace clay, soft, saturated.
50				
50-51.5'				Brown SILT, little f. sand, little clay soft, saturated

Environmental Resources Management

Drilling Log

Project: Pendix-Sidney Owner: _____
 Location: West Well Area W.O. Number: 3010502
 Well Number: WW-5 Total Depth: 110.0' Diameter: 2"
 Surface Elevation: _____ Water Level: Initial: _____ 24-hrs: _____
 Screen: Dia. 2" Length: 20.0' Slot Size: .01"
 Casing: Dia. 2" Length: 90.0' Type: PVC Schedule 40
 Drilling Company: Porratt Wolff, Inc. Drilling Method: Hollow Stem Auger
 Driller: Mike Ellinworth Log By: Bob Keating Date Drilled: 1-29-85

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
55				
60			60-61.5'	Brown SILT and f. SAND, trace clay, soft, saturated.
65				
70			70-71.5'	Brown f. SAND, little silt, trace clay, soft, saturated
75				

Environmental Resources Management

Drilling Log

Project: Bendix-Sidney Owner: _____
 Location: West Well Area W.O. Number: 1010502
 Well Number: WW-5 Total Depth: 110.0' Diameter: 2"
 Surface Elevation: _____ Water Level: Initial _____ 24-hrs. _____
 Screen: Dia. 2" Length: 20.0' Slot Size: .01"
 Casing: Dia. 2" Length: 90.0' Type: PVC Schedule 40
 Drilling Company: Poratt Wolff, Inc. Drilling Method: Hollow Stem Auger
 Driller: Mike Ellingworth Log By: Bob Keating Date Drilled: 1-29-85

Sketch Map

Notes

Depth (feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
80			80-81.5'	Brown SILT and f. SAND, trace clay, soft, saturated
85				benite slurry
90			90-91.5'	Brown f. SAND, little SILT, firm, saturated.
95				formation sand
100			100-101.5'	Same as above
105				

Environmental Resources Management

Drilling Log

Project: Bendix-Sidney Owner: _____
 Location: West Wall Area W.O. Number: 3010502
 Well Number: WW-5 Total Depth: 110.0' Diameter: 2"
 Surface Elevation: _____ Water Level: Initial: _____ 24-hrs: _____
 Screen: Dia. 2" Length: 20.0' Slot Size: .01"
 Casing: Dia. 2" Length: 90.0' Type: PVC Schedule 40
 Drilling Company: Porttatt Wolff, Inc. Drilling Method: Hollow Stem Auger
 Driller: Mike Ellingworth Log By: Bob Keating Date Drilled: 1-29-85

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
110			formation sand	
110-111.5			110-111.5'	1.5' Brown f. SAND, little silt, firm, saturated
115				- Red till
120			120-121.5'	1.5' Red f/m rounded gravelly f. SAND, little silt, trace clay, dense, dry.
				N.B. No odors were detected in any samples.
				Formational Sand allowed to backfill around screen.

Environmental Resources Management

Drilling Log

Project Allied/Amphenol-BCO Owner _____
 Location West Well W.O. Number 301-11
 Well Number WW-6 Total Depth 85.0' Diameter 2"
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Screen: Dia. 2" Length 10.0' Slot Size .015"
 Casing: Dia. 2" Length 75.0' Type Sch 40 PVC
 Drilling Company Parratt Wolff, Inc Drilling Method Mud Rotary
 Driller Mike Ellingworth Log By B. Keating Date Drilled 2-3-86

Sketch Map

Notes
 Advanced 6-inch
 borehole to a total
 depth of 101.5'

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
0				Finished with a curb box flush to grade
5				For complete log of initial 25.0 see log for WW-3. Well WW-6 is nested with shallow well WW-3.
10				90-10 cement-bentonite grout
15				
20				
25				Green-brown SILT, Little clay, Trace f. sand, soft saturated, (5 + 5).

Project _____ Owner _____

Sketch Map

Location _____ W.O. Number _____

Well Number WW - 6 Total Depth _____ Diameter _____

Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company _____ Drilling Method _____

Notes

Driller _____ Log By _____ Date Drilled _____

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
30			30- 31.5	Red-brown clayey SILT, moist, soft, (2-3-4).
35			35- 36.5	Red-brown SILT, little clay, moist, soft (2-3-4).
40			40- 41.5	Green-brown SILT, little to trace f. sand, trace clay, moist, soft (2-5-5).
45			45- 46.5	Same as above, moist, soft, (4-4-7).
50			50- 51.5	Green-brown SILT, trace clay, trace f soil, moist, soft, (5-5-6).

Project _____ Owner _____
 Location _____ W.O. Number _____
 Well Number WW-6 Total Depth _____ Diameter _____
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Screen: Dia. _____ Length _____ Slot Size _____
 Casing: Dia. _____ Length _____ Type _____
 Drilling Company _____ Drilling Method _____
 Driller _____ Log By _____ Date Drilled _____

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
55			55-56.5'	Red and green brown SILT, Little clay, trace f sand, moist, soft (4-4-7).
60			60-61.5'	Green-brown f. SAND, little silt, trace clay, moist to saturated, soft (3-5-6).
65			65-66.5'	Red brown SILT, little to trace clay, trace f sand, moist, soft, (3-5-7). formational sand allowed to cave around screen
70			70-71.5'	(.5') Green brown SILT, trace clay, trace of sand moist, (1.0') light brown f. to m. sand, little silt, saturated, soft (3-7-10).
75			75-76.5'	Green brown layered sequence (2") f. to m. SAND, or SILT, trace clay, soft, saturated (5-6-12).

Project _____ Owner _____

Location _____ W.O. Number _____

Well Number WW-6 Total Depth _____ Diameter _____

Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company _____ Drilling Method _____

Driller _____ Log By _____ Date Drilled _____

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
80			80-81.5	Green-brown f. SAND, little to trace silt, saturated, soft to firm, (5-6-16).
85			85-86.5	Same as above, sat., firm, (6-10-17).
90			90-91.5	Green-brown silty f. SAND, sat., soft, (9-10-15).
95			95-96-3	Till Red Brown f. SAND, little f/m rounded gravel, cobble, incomplete recovery, sat., firm to dense (45-17-50/.3)
100			100-100.8	Basal Till Red SILT and f/m/c subang gravel, v. dense, dry, (48-50/.3)

APPENDIX B
PUMP TEST RESULTS

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test

Station Location West Well - Pumping Well

Elevation of Measuring Point _____ Land Surface Elevation _____ Height of M.P. Above L.S. _____

Date	Time Min.	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-23	0.0		105.5'					
	2.0		82.83'					
	5.0		79.42'					
	6.0		76.00'					
	11.0		37.00'					
	50.0		35.32'					
	60.0		28.06'					
	110.0		27.93'					
	122.0		27.94'					
	132.0		26.63'					
	142.0		24.76'					
	200.0		24.68'					
	240.0		23.96'					
	253.0		22.87'					
7-24	1190.0		15.45'					
	1213.0		15.47'					

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump TestStation Location West Well - Pumping Well

Elevation of Measuring Point _____ Land Surface Elevation _____ Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-24	0.0		15.47'					
	.5		36.84'					
	1.0		43.96'					
	2.0		54.72'					
	4.0		61.87					
	6.0		69.44'					
	8.0		73.33'					
	10.0		77.08'					
	15.0		82.075'					
	65.0		94.36'					
	75.0		96.50'					
	90.0		97.53'					
	190.0		101.47'					
	250.0		101.92'					
	310.0		103.21'					
	370.0		103.25'					
	480.0		103.80'					
7-25	1385.0		105.75'					

Project Bendix - West Well Pump Test Station Location WP-1Elevation of Measuring Point 991.04 Land Surface Elevation _____ Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level	Water Level	Water Level	Height of M.P.	Depth To	Comments
			Below M.P. (ft)	Elevation (+ MSL)	Below M.P. (ft)	Above L.S. (ft)	Water Below L.S. (ft)	
7-23	0.0	-	7.45'					
	74.0		7.44'					
	181.0		7.44'					
	268.0		7.41'					
	1166.0		7.375'					

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test

Station Location _____

WP-1

Elevation of Measuring Point 981.04

Land Surface Elevation _____

Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-24	0.0	.	7.375					
	42.0		7.38'					
	118.0		7.39'					
	225.0		7.40'					
	362.0		7.37'					
	510.0		7.38'					
7-25	1370.0		7.49'					

Water Level Data Summary

Elevation of Measuring Point _____ Land Surface Elevation _____ Height of M.P. Above L.S. _____

Page 7 of

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test

Station Location

WP-2

Elevation of Measuring Point 979.05

Land Surface Elevation

Height of M.P. Above L.S.

Date	Time	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-24	0.0		5.14'					
	120.0		5.12'					
	230.0		5.13'					
	380.0		5.13'					
7-25	1372.0		5.24'					

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test

Station Location WP-3

Elevation of Measuring Point 980.77'

Land Surface Elevation _____

Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-24	0.0		6.49'					
	125.0		6.49'					
	230.0		6.51'					
	385.0		6.51'					
	450.0		6.51'					
7-25	1375.0		6.69'					

Water Level Data Summary

Elevation of Measuring Point 980.77 Land Surface Elevation _____ Height of M.P. Above L.S. _____

Page ____ of ____

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test

Station Location _____

WP-4

Elevation of Measuring Point 981.25

Land Surface Elevation _____

Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-23	0.0		55.23'					
	20.0		55.03'					
	30.0		54.82'					
	40.0		54.53'					
	72.0		53.24'					
	82.0		52.84'					
	92.0		52.40'					
	102.0		51.95'					
	152.0		49.65'					
	162.0		49.18'					
	180.0		48.33'					
	265.0		44.60'					
	280.0		44.11'					
7-24	1165.0		27.79'					

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test

Station Location _____

WP-4

Elevation of Measuring Point 981.25

Land Surface Elevation _____

Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-24	0.0		27.38'					
	20.0		27.47'					
	22.0		27.50'					
	24.0		27.65'					
	26.0		27.86'					
	28.0		27.97'					
	30.0		28.19'					
	35.0		28.80'					
	40.0		29.40'					
	45.0		29.98'					
	50.0		30.63'					
	60.0		31.82'					
	95.0		35.15'					
	105.0		35.83'					
	115.0		36.49'					
	130.0		37.40'					
	145.0		38.19'					
	160.0		38.88'					
	180.0		39.64'					
	210.0		40.78'					
	240.0		41.75'					
7-25	270.0		42.54'					
	300.0		43.33'					
	360.0		45.58'					
	435.0		45.74'					
	510.0		46.78'					
	1365.0		52.20'					

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test Station Location WW-1Elevation of Measuring Point 982.57 Land Surface Elevation _____ Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-23	0.0		9.27'					
	8.0		9.23'					
	13.0		9.23'					
	46.0		9.23'					
	62.0		9.23'					
	113.0		9.23'					
	203.0		9.21'					
	241.0		9.18'					
	258.0		9.22'					
7-24	1192.0		9.20'					

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test

Station Location WW-1

Elevation of Measuring Point 982.57

Land Surface Elevation _____

Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-24	0.0		9.20					
	80.0		9.23					
	245.0		9.24					
	315.0		9.23					
	485.0		9.24					
7-25	1400.0		9.32					

Water Level Data Summary

Station Location

WW-2

Land Surface Elevation

Height of M.P. Above L.S.

Page ____ of ____

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test

Station Location _____

WW-2

Elevation of Measuring Point 979.05

Land Surface Elevation _____

Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
7-24	0.0	.	8.83'					
	80.0		8.83'					
	185.0		8.82'					
	315.0		8.81'					
	485.0		8.82'					
7-25	1405.0		8.90'					

Water Level Data Summary

Station Location

WW-3

Elevation of Measuring Point _____ Land Surface Elevation _____ Height of M.P. Above L.S. _____

Page ____ of ____

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump test

Station Location WW-3

Elevation of Measuring Point 981.45

Land Surface Elevation _____

Height of M.P. Above L.S. _____

Date	Time	Elevation of M.P. (+ MSL)	Water Level	Water Level	Water Level	Height of M.P.	Depth To	Comments
			Below M.P. (ft)	= Elevation (+ MSL)	Below M.P. (ft)	Above L.S. (ft)	Water Below L.S. (ft)	
7-24	0.0	.	8.07'					
	80.0		8.07'					
	185.0		8.06'					
	320.0		8.04'					
	490.0		8.05'					
7-25	1410.0		8.13'					

Water Level Data Summary

Elevation of Measuring Point _____ Land Surface Elevation _____ Height of M.P. Above L.S. _____

Page ____ of ____

Water Level Data Summary

Elevation of Measuring Point 982.57 Land Surface Elevation _____ Height of M.P. Above L.S. _____

Page ____ of ____

Water Level Data Summary

Station Location WW-2

Land Surface Elevation

Height of M.P. Above L.S.Page ____ of ____

Water Level Data Summary

Station Location _____ WW-3

Elevation of Measuring Point 991.45 Land Surface Elevation _____ Height of M.P. Above L.S. _____

Page ____ of ____

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test

Station Location WW-4

Elevation of Measuring Point

Land Surface Elevation

Height of M.P. Above L.S.[illegible]

Project Bendix - West Well Pump Test Station Location WW-5

Elevation of Measuring Point _____ Land Surface Elevation _____ Height of M.P. Above L.S. _____

Date	Time t	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
2-18	0.0		25.25		t/r^2			Drawdown (ho-b)
	2.0		25.25					
	4.0		25.25					
	6.0		25.30					
	10.0		25.37					
	15.0		25.58		3.8×10^{-4}			.53
	20.0		26.04		5.0×10^{-4}			.79
	25.0		26.66					
	30.0		27.57		7.5×10^{-4}			2.32
	40.0		29.46		1.0×10^{-3}			4.21
	50.0		31.66		1.25×10^{-3}			6.41
	60.0		33.23		1.5×10^{-3}			7.98
	75.0		35.95		1.9×10^{-3}			10.70
	94.0		38.55		2.3×10^{-3}			13.30
	106.0		40.48		2.6×10^{-3}			15.83
	120.0		41.92		3.0×10^{-3}			16.67
	145.0		44.29		3.6×10^{-3}			19.04
	174.0		46.49		4.4×10^{-3}			21.24
	214.0		48.84		5.3×10^{-3}			23.59
	240.0		50.03		6.0×10^{-3}			24.78
	269.0		51.28		6.7×10^{-3}			26.03
2-20			62.39					
2-21			62.67					
2-22	7200.0		61.69		1.8×10^{-3}			36.44
			r = distance from pumping well					
			r = 200 feet					
			$r^2 = 40,000$ feet					

Water Level Data Summary

Station Location WP-1

Elevation of Measuring Point 991.04 Land Surface Elevation _____ Height of M.P. Above L.S. _____

Page ____ of ____

Water Level Data Summary

Elevation of Measuring Point 970.05 Land Surface Elevation _____ Height of M.P. Above L.S. _____

Page ____ of ____

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Well Pump Test Station Location WP-3

Elevation of Measuring Point _____ Land Surface Elevation _____ Height of M.P. Above L.S. _____

[illegible]

Environmental Resources Management

Water Level Data Summary

Project Bendix - West Wall Pump Test Station Location WD-4Elevation of Measuring Point 981.25 Land Surface Elevation _____ Height of M.P. Above L.S. _____

Date	Time t	Elevation of M.P. (+ MSL)	Water Level Below M.P. (ft)	Water Level Elevation (+ MSL)	Water Level Below M.P. (ft)	Height of M.P. Above L.S. (ft)	Depth To Water Below L.S. (ft)	Comments
2-18	0.0		21.59		t/r^2			Drawdown (ho-h)
	2		21.59					
	4		21.59					
	6		21.60 ✓					
	13		21.76					
	15		21.84					
	20		22.09		3.2×10^{-4}			.50
	30		22.96		4.8×10^{-4}			1.37
	35		23.44		5.6×10^{-4}			1.85
	40		24.01		6.4×10^{-4}			2.42
	51		25.31		8.1×10^{-4}			3.72
	61		26.45		9.8×10^{-4}			4.86
	81		28.45		1.3×10^{-3}			6.86
	100		30.46		1.6×10^{-3}			8.87
	132		33.43		2.1×10^{-3}			11.84
	151		33.59					
	193		35.79		3.1×10^{-3}			12.20
	211		36.52		3.3×10^{-3}			14.93
	254		38.17		4.1×10^{-3}			16.58
	269		38.66		4.3×10^{-3}			17.07
2-20			52.45					
2-21			55.59					
2-22	7200		56.26		1.1×10^{-1}			34.67
			r = distance from pumping well					
			r = 250 feet					
			r ² = 62,500 feet					

APPENDIX C
HYDRAULIC CONDUCTIVITY CALCULATIONS

Figure C-1
Curve-Matching Analysis Of
Time vs. Drawdown Plot
Well WP-4

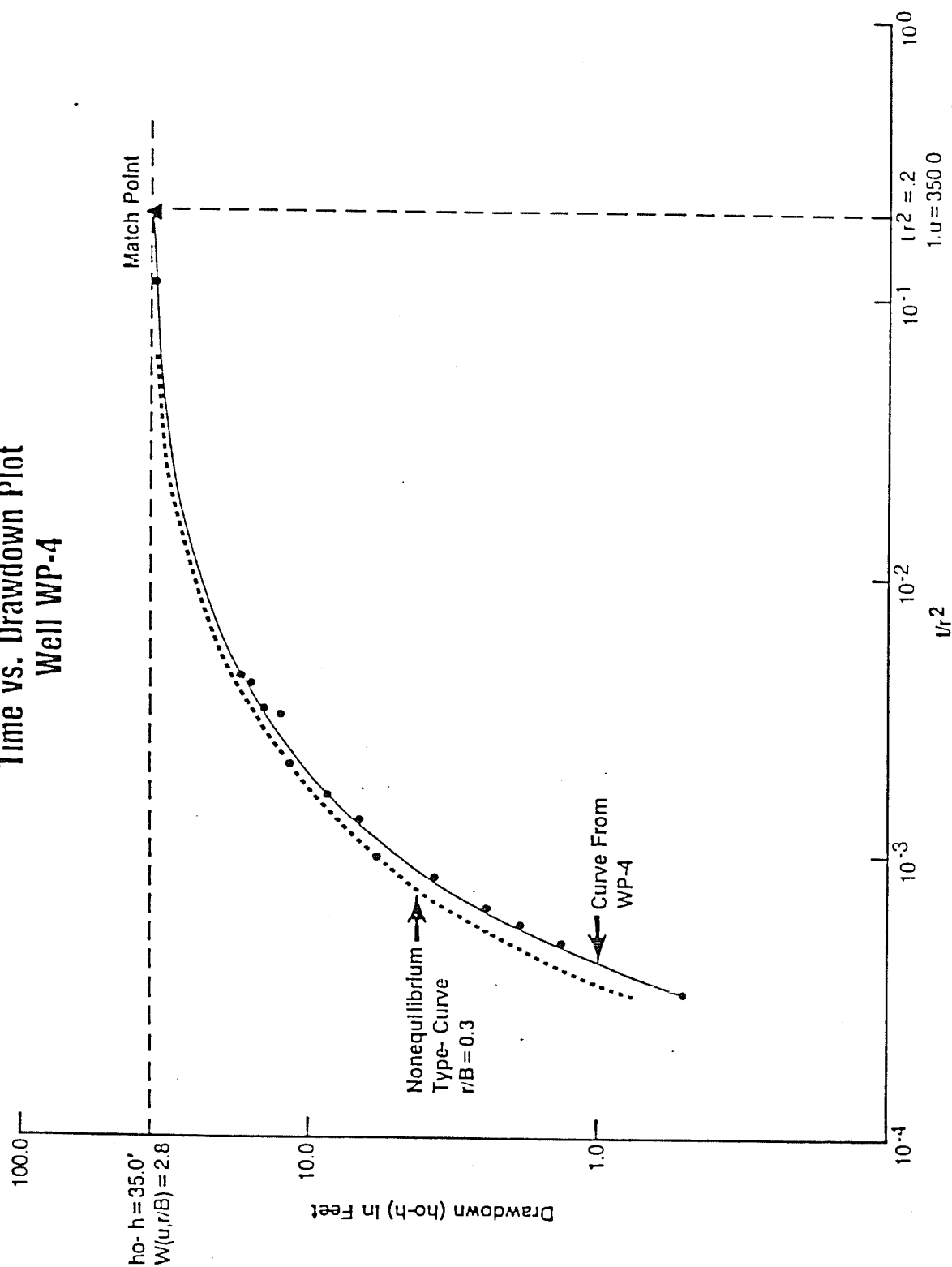
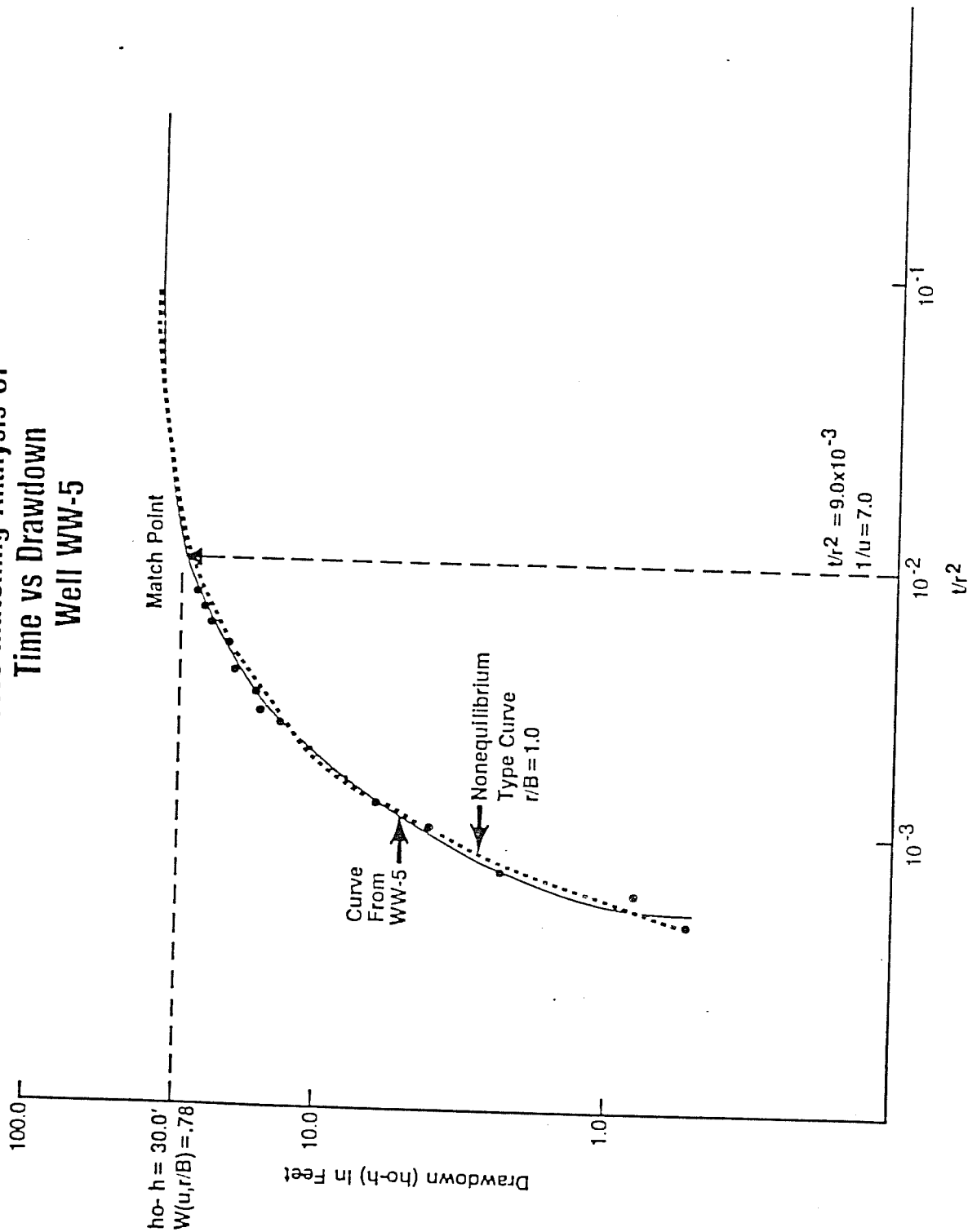


Figure C-2
Curve-Matching Analysis Of
Time vs Drawdown
Well WW-5



The ERM Group

CALCULATIONS FOR DETERMINING TRANSMISSIVITIES AND HYDRAULIC CONDUCTIVITIES

Well WP-4

The following parameters were obtained using the curve-matching analysis shown in Figure C-1:

$$\begin{aligned}W(u, r/B) &= 2.8 \\1/u &= 350 \\u &= .0028 \\t/r^2 &= .2 \\h_o - h &= 35.0' \\r/B &= .3\end{aligned}$$

Using the following formulas, the transmissivity (T) and hydraulic conductivity (K) of the permeable unit as well as the vertical hydraulic conductivity (K') of the overlying semi-pervious unit were calculated:

$$T = \frac{114.6 \cdot Q}{h_o - h} W(u, r/B)$$

$$K = T/b$$

$$K' = \frac{[Tb' \cdot (r/B)^2]}{r^2}$$

$$Q = 437.5 \text{ gpm}$$

$$b = 25.0 \text{ ft (aquifer thickness)}$$

$$b' = 33.0 \text{ ft (aquiclude thickness)}$$

$$r = 250.0 \text{ ft (distance from pumping well)}$$

$$T = \frac{114.6 (437.5)}{30.0} 2.8 = 4,679.5 \text{ gal/day/ft}$$

$$\begin{aligned}K &= 4679.5/25 = 187.18 \text{ gal/day/ft}^2 \\&= 25.0 \text{ ft/day} \\&= 9 \times 10^{-3} \text{ cm/sec}\end{aligned}$$

$$\begin{aligned}K' &= \frac{[4679.5 (33') \cdot (.3)^2]}{62,500} = .22 \text{ gal/day/ft}^2 \\&= .03 \text{ ft/day} \\&= 1 \times 10^{-5} \text{ cm/sec}\end{aligned}$$

The ERM Group

It should be noted that the transmissivity value calculated from the July 1984 pump test data was 2,507 gal/day/ft which is similar to this result.

Well WW-5

The following parameters were obtained using the curve-matching analysis shown in Figure C-2:

$$\begin{aligned}W(u, r/B) &= .78 \\ 1/u &= 7.0 \\ u &= .14 \\ t/r^2 &= 9.0 \times 10^{-3} \\ h_0 - h &= 30.0' \\ r/B &= 1.0\end{aligned}$$

Using the equations previously defined and these additional parameters, the aquifer and aquiclude characteristics were determined at Well WW-5:

$$\begin{aligned}Q &= 437.5 \text{ gpm} \\ b &= 25.0 \text{ ft} \\ b' &= 33.0 \text{ ft} \\ r &= 200 \text{ ft}\end{aligned}$$

$$T = \frac{114.6 (437.5)}{30.0} (.78) = 1,303.6 \text{ gal/day/ft}$$

$$\begin{aligned}K &= 1303.6/25.0 = 52.1 \text{ gal/day/ft}^2 \\ &= 7.0 \text{ ft/day} \\ &= 2.5 \times 10^{-3} \text{ cm/sec}\end{aligned}$$

$$\begin{aligned}K' &= \frac{[1303.6 (33) \cdot (1.7)^2]}{40,000} = 1.08 \text{ gal/day/ft}^2 \\ &= .14 \text{ ft/day} \\ &= 4.9 \times 10^{-5} \text{ cm/sec}\end{aligned}$$

File: 301-11

ALTERNATIVES FOR REMEDIATION -
WEST WELL AND WEST PARKING LOT AREA

18 May 1987

Prepared For:

Amphenol Corporation
Sidney, New York

Prepared By:

Environmental Resources Management, Inc.
999 West Chester Pike
West Chester, Pennsylvania 19382

TABLE OF CONTENTS

	<u>Page</u>
Section 1 - Introduction	1-1
1.1 - Background	1-1
1.2 - Potential Source Areas	1-1
1.3 - Summary of Investigations	1-3
1.4 - Conclusions	1-18
1.5 - Objectives of Remediation	1-20
Section 2 - Site Impact Assessment/Remedial Requirements	2-1
2.1 - Site Impact Assessment	2-1
2.2 - Ground Water	2-2
2.3 - Soils/Sediments	2-9
2.4 - Surface Water	2-11
2.5 - Proposed Remedial Actions	2-12
Section 3 - Ground Water Treatment	3-1
3.1 - Introduction and Statement of Objectives	3-1
3.2 - Treatment Alternatives	3-3
3.3 - Air Stripping Process Description	3-3
3.4 - Design Conditions	3-6
3.5 - Design Procedures	3-8
3.6 - Recommended Design of Air Stripper	3-12
3.7 - Air Emission Analysis	3-13
3.8 - Physical Layout	3-15
Section 4 - Conclusions and Recommendations	4-1
4.1 - Conclusions	4-1
4.2 - Recommendations	4-2

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1-1	General Site Map and Locations of Monitoring Wells	1-2
1-2	Cone of Depression Deep Flow Zone February 22, 1985	1-9
1-3	Locations of Soil Samples in West Parking Lot	1-11
1-4	Locations of Tributary 147 Sediment Samples	1-14
1-5	Tributary 147 Surface Water Samples	1-15
3-1	Amphenol Corporation - Bendix Connector Operations - Present Service Schematic	3-2
3-2	Amphenol Corporation - Bendix Connector Operations - Air Stripper Service Schematic	3-17
3-3	Amphenol Corporation - Bendix Connector Operations - West Well Plan View	3-19
3-4	Amphenol Corporation - Bendix Connector Operations - West Well Section "AA"	3-20

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1-1	Summary of Analytical Results for Ground Water From West Well Area	1-5
1-2	Summary of Analytical Results for Soils/Sediment	1-12
1-3	Surface Water Sampling Locations	1-16
1-4	Summary of Analytical Results for Surface Water of Tributary 147	1-17
2-1	Regulatory Criteria for Site Evaluation	2-3
2-2	Summary of 1985 and 1986 Analytical Results for Shallow Ground Water	2-4
2-3	Summary of Analytical Results for Deep Ground Water	2-7
3-1	West Well Inorganic Analyses	3-4
3-2	West Well Ground Water Quality Summary	3-7
3-3	Design Basis	3-9
3-4	Design Summary	3-10
3-5	Air Emission Analyses	3-14
3-6	Equipment List	3-21

SECTION 1

INTRODUCTION

1.1 Background

ERM has been retained by Amphenol Corporation - Bendix Connector Operations (formerly the Bendix Corporation), Sidney, New York to conduct an assessment of the source and extent of volatile organic compounds (VOCs) detected in ground water at the West Well. The ground water withdrawn from the West Well is primarily used for process and non-contact cooling water. Water is distributed from a reservoir, and any excess overflows to a drainage ditch which enters Tributary 147. To date, the concentrations of VOCs discharged from the West Well have ranged from approximately 60 to 130 ppb.

The results of the field investigation were presented in an April 1986 report entitled, "Final Report - Hydrogeologic and Soils Investigation at the West Well and the West Parking Lot". As a result of the investigation, ERM has prepared this evaluation of alternatives for remediation of the VOCs detected in the vicinity of the West Well. This technical document presents the basis and method for remediation of the VOCs detected.

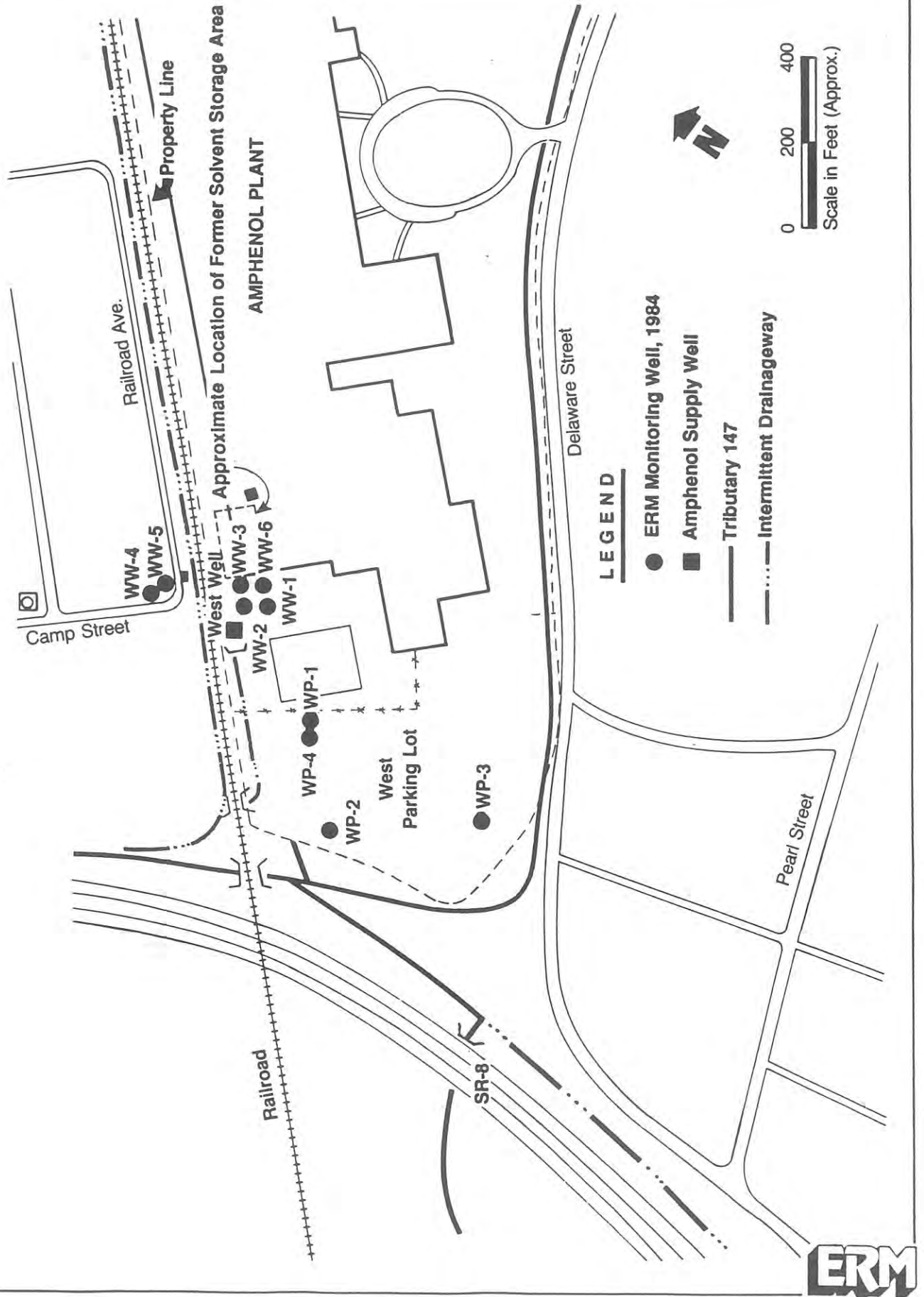
1.2 Potential Source Areas

Three potential source areas exist for the VOCs detected in the West Well. These potential source areas include:

- Former organic solvent storage tanks east of the West Well
- Waste oils which were spread across the West Parking Lot for dust control
- Prenco incinerator formerly located near the West Well

The former organic solvent storage tanks were located approximately 150 feet east of the West Well (see Figure 1-1). In this area, trichloroethene and 1,1,1-trichloroethane were stored in above ground tanks. In 1984, this area was reconstructed with substantial soil removal, construction of a loading dock and a new confined solvent storage facility with secondary containment. The surrounding area was paved.

Figure 1-1
General Site Map and Locations of Monitoring Wells



It was also reported that waste oils were used in the past for dust control in the West Parking Lot (Figure 1-1). Finally, a Prenco incinerator used to burn waste material was located near the West Well (Figure 1-1). This unit has undergone formal EPA closure and decontamination, and has been removed from the site.

1.3 Summary of Investigations

The hydrogeologic and soils investigation was completed in several phases during the years 1984, 1985, and 1986, and serves as the basis for definition of a remedial action program. Additional monitoring data have also been collected since the April 1986 final report, and are incorporated into the remedial evaluation.

The field investigation consisted of monitoring well and piezometer installations, ground water sampling and analysis, pump testing, surface soil/sediment sampling, and surface water sampling in the nearby drainageways. The well locations are shown in Figure 1-1. The findings and results of the investigation are summarized herein; for detailed discussion of existing conditions, the aforementioned reports should be reviewed.

1.3.1 Ground Water

1.3.1.1 Hydrogeology

Between April 1984 and February 1986, a total of ten wells/piezometers were installed to monitor the shallow and deep ground water systems within the vicinity of the West Well (Figure 1-1). ERM conducted pump tests of the West Well during July 1984 and February 1985. The objectives of the pump tests were to determine:

- the hydraulic relationship between the deep and shallow flow systems in the unconsolidated glacial drift;
- the transmissivity and hydraulic conductivity of the deep unconsolidated sediments; and
- the extent of the West Well cone of influence.

The pump tests indicated that the West Well draws its principal yield from the bedrock and glaciolacustrine fine sand sediments of the deep glacial flow component. The overlying shallow flow component, consisting of permeable sand and gravel, is partially hydraulically separated from the deep flow system by a sequence of lacustrine clayey silts.

1.3.1.2 Ground Water Quality

Analyses of ground water from the West Well have detected total VOCs at levels ranging from 57 ppb to 129 ppb. Ground water samples were collected during the field investigation from both the shallow and deep flow components to determine if detectable levels of VOCs or PCBs were present. The full period of record for ground water monitoring, from April 1984 through December 1986, is presented in Table 1-1. In the shallow flow component, VOCs were detected which ranged from less than 50 ppb to over 4,000 ppb in the ground water near the former solvent storage tanks. The VOC levels in excess of 4000 ppb were detected at WW-3 in July 1984, soon after soil removal and reconstruction of the solvent storage area had been completed. As a result of the reconstruction and soil removal, VOCs at WW-3 were reduced to 120 ppb when the next sampling event was completed in February 1985. Levels of VOCs in WW-3 have since been reduced to 32 ppb, as evidenced by the December 1986 sampling event.

In the deep flow zone, VOCs have been detected at up to 448 ppb near the former solvent storage tank area and at up to 980 ppb at the former Prencos incineration area. Concentrations of VOCs ranging from less than 1 ppb to 235 ppb were detected in the shallow ground water underneath the West Parking Lot. Concentrations ranged from none detected to 10 ppb in the deep zone in this area.

A trace level of PCBs (4 ppb) was detected in the sample from in April 1984. PCBs were not detected at any other location during this sampling/analysis event. No subsequent analyses were run for PCBs, due to its general absence at the site.

1.3.1.3 Discussion of Results

The data show that pumping of the West Well has prevented any off-site migration of VOCs in the deep flow zone. As shown in Figure 1-2, an extensive cone of depression is maintained in the deep flow zone. In the shallow zone, migration has been limited to under 20 ppb by dilution, dispersion, and pumping of the West Well. The dynamics of vertical ground water flow at the West Well are complex. As previously noted, the shallow and deep aquifer zones are partially hydraulically separated by lacustrine sediments of low hydraulic conductivity. However, pumping of the West Well does affect flow in the shallow aquifer. This is evidenced by:

- the downward hydraulic gradients observed at piezometer pairs WP1/WP4, WW3/WW6, and WW4/WW5;

TABLE 1-1

SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER FROM WEST WELL AREA
 (Blank or ND = none detected; NA = not analyzed; Other unlisted constituents were not detected)

10.

Well Number	Date Sampled	Lab*	Total Volatiles	Trans-1,2-Dichloro-ethene	Trichloro-ethene	Tetrachloro-ethene	1,1-Dichloro-ethane	1,1-Dichloro-ethene	Vinyl Chloride
West Well	7/25/84	F	57	4	53				
	5/22/86	L	129	17	110		2		
	11/25/86	L	113	22	89		2		
West Well Outfall	12/2/86	L	84	15	67		2		
WP-1	4/20/84	F	ND						
	7/25/84	F	127	83	39				5
	2/19/85	L	55	18	34		2	1	
	2/19/85	O	43	13	30				
WP-2	4/20/84	F	57	47	10				
	7/25/84	F	235	200	10				25
	2/20/85	L	21	13	7		1		
	2/20/85	O	ND						
	3/21/86	L	12	7	4		1		
WP-3	4/20/84	F	ND						
	7/25/84	F	1	1					
	2/20/85	L	3	3					
	2/20/85	O	ND						
WP-4	4/28/84	F	ND						
	7/25/84	F	7	6	1				
	2/19/85	L	7	5	2				
	2/19/85	O	ND						
	3/11/86	L	10	9	1				
	12/2/86	L	8	5	2				
WW-1	4/20/84	F	175	13	99	63			
	7/25/84	F	980	230	500	250			
	2/20/85	L	516	27	280	201	2		
	2/20/85	O	517	17	290	210			
	3/11/86	L	125	15	63	46	1		
	12/2/86	L	37	5	21	11			

All results are measured in ppb.

*Labs

F - Friends Laboratory
 O - O'Brien and Gere
 L - Lancaster Laboratories

TABLE 1-1
(CONTINUED)

Well Number	Date Sampled	Lab*	Total Volatiles	Trans-1,2-Dichloro-ethene	Trichloro-ethene	Tetrachloro-ethene	1,1-Dichloro-ethane	1,1-Dichloro-ethene	Vinyl Chloride
WW-2	4/20/84	F	123	65	35	13	10		
	7/25/84	F	205	56	120	26			3
	2/20/85	L	155	20	92	36	7		
	2/20/85	O	187	23	120	44			
	3/11/86	L	70	16	37	13	4		
	12/2/86	L	62	16	32	10	2		2
WW-3	4/20/84	F	768	300	310	14	5		130
	7/25/84	F	4550	3000	1500	15			35
	2/20/85	L	120	31	65	20	2		2
	3/11/86	L	96	47	33	11	2		3
	12/2/86	L	32	17	12	3			
WW-4	2/6/85	F	11	6	5				
	2/6/85	L	17	10	6		1		
	2/19/85	L	12	7	5				
	2/19/85	O	13		13				
	3/11/86	L	10	6	4				
	12/2/86	L	6	3	3				
WW-5	2/6/85	F	ND						
	2/6/85	L	ND						
	2/19/85	L	ND						
	2/19/85	O	ND						
	3/11/86	L	ND						
	12/2/86	L	ND						
WW-6	3/11/86	L	448	150	190		21		
	12/2/86	L	4	2	2				

TABLE 1-1
(CONTINUED)

Well Number	Date Sampled	1,1,1-Trichloro-ethane	Chloroform	Toluene	Chloro-benzene	1,2-Dichloro-ethane	Methylene Chloride	Freon	PCB
West Well	7/25/84								NA
	5/22/86								NA
	11/25/86								NA
									NA
Outfall	12/2/86								
WP-1	4/20/84								ND
	7/25/84								NA
	2/19/85								NA
	2/19/85								NA
WP-2	4/20/84								ND
	7/25/84								NA
	2/20/85								NA
	2/20/85								NA
	3/21/86								NA
WP-3	4/20/84								ND
	7/25/84								NA
	2/20/85								NA
	2/20/85								NA
WP-4	4/28/84								ND
	7/25/84								NA
	2/19/85								NA
	2/19/85								NA
	3/11/86								NA
	12/2/86							1	NA
WW-1	4/20/84							6	ND
	7/25/84								NA
	2/20/85								NA
	2/20/85								NA
	3/11/86								NA
	12/2/86								NA

TABLE 1-1
(CONTINUED)

Well Number	Date Sampled	1,1,1-Trichloro-ethane	Chloroform	Toluene	Chloro-benzene	1,2-Dichloro-ethane	Methylene Chloride	Freon	PCB
WW-2	4/20/84								4
	7/25/84								NA
	2/20/85								NA
	2/20/85								NA
	3/11/86								NA
	12/2/86								NA
WW-3	4/20/84	9							ND
	7/25/86								NA
	2/20/85								NA
	3/11/86								NA
	12/2/86								NA
WW-4	2/6/85								NA
	2/6/85								NA
	2/19/85								NA
	2/19/85								NA
	3/11/86								NA
	12/2/86								NA
WW-5	2/6/85								NA
	2/6/85								NA
	2/19/85								NA
	2/19/85								NA
	3/11/86								NA
	12/2/86								NA
WW-6	3/11/86	78		5	2	2			NA
	12/2/86								NA

Figure 1-2
Cone of Depression
Deep Flow Zone
February 22, 1985

1-9

Allen Gregory Well

950.0'

910.0'

WW-4

WW-5

925.0'

930.0'

Property Line

Approximate Location of
 Former Solvent Storage Area

Railroad

West Well
880.0'

WW-2

WW-1

972.0'

WW-3

WW-6

925.0'

WP-4
925.0'

WP-1

WP-2

West Parking Lot

AMPHENOL PLANT

LEGEND

- WP-4 ● ERM Monitoring Well
- 925.0' Ground Water Elevation
- Amphenol Supply Well
- Tributary 147
- - - Intermittent Drainageway
- - - Ground Water Contour
(Dashed Where Inferred)

0 200 400
 Scale In Feet (Approximate)

- the downward migration of VOCs at WW3/WW6 and at WP1/WP4;
- the effect, although somewhat limited, of the West Well pumping on the shallow water table configuration; and
- the very limited VOC migration off-site in the shallow flow zone, which indicates that flow in this zone is predominantly downward, under the influence of the West Well pumping.

Thus, the VOCs detected in the shallow aquifer at the former solvent storage tanks and beneath the West Parking Lot have migrated downward under the influence of the West Well pumping, and into the West Well. This has limited migration of VOCs off-site in the shallow aquifer.

The VOC distribution indicates that the former solvent storage tanks were the principal source of the VOCs in the West Well. The West Parking Lot area is not a major source area for the VOCs in the West Well. The much higher original concentrations at the solvent storage tank area have been the principal contribution to the West Well. Those original high concentrations have abated significantly in the shallow flow system since the source area was remediated during plant construction activities in 1984.

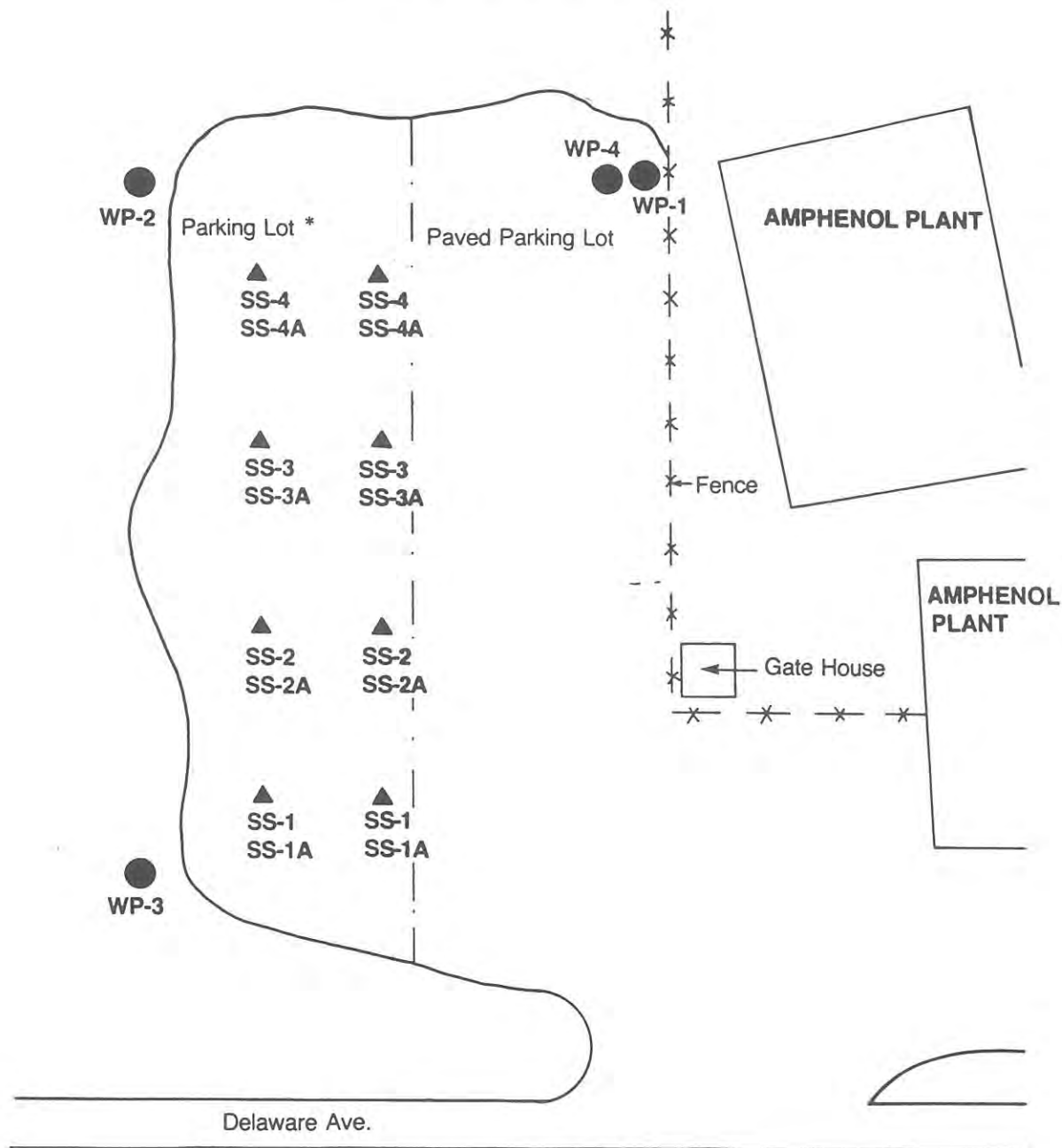
In the West Parking Lot area south and west of wells WP1/WP4, shallow VOC concentrations were highest at the west corner of the parking lot at well WP-2. At WP-2, the concentrations decreased from a high of 235 ppb in July 1984 to 12 ppb in December 1986. These results may reflect some seasonal difference in concentrations, and/or the effects of temporary storage of former underground tanks in the area in 1984. It is possible that some solvent residue from these tanks might have entered the ground during a rainfall event. The tanks were removed for proper disposition after a short period of time.

At WP-3, trace VOC concentrations of 3 ppb to none detectable indicate that the southwest section of the West Parking Lot is not a significant source area for VOCs in the ground water. No PCBs were detected in any of the West Parking Lot wells.

1.3.2 Soils/Sediments

In May 1984 ERM collected samples of shallow soils in an unpaved section of the West Parking Lot for analysis for PCBs and VOCs. In July 1984 ERM collected sediments from Tributary 147 for analysis. The locations of soil sampling at the West Parking Lot are shown in Figure 1-3, with results presented in Table 1-2. There were no detectable concentrations of VOCs. Two samples

Figure 1-3
Locations of Soil Samples
In West Parking Lot



0 125 250
Scale in Feet

* Paved August 1984

LEGEND

- ERM Monitoring Well
- ▲ Soil Sample Location
- SS-1 Composite at 6"
- SS-1A Composite at 12"

30111



TABLE 1-2

SUMMARY OF ANALYTICAL RESULTS FOR SOILS/SEDIMENT

West Parking Lot - April, 1984

Sample Locations	VOCs	PCBs
SS-1	ND	ND
SS-1A	ND	ND
SS-2	ND	ND
SS-2A	ND	85 ppm
SS-3	ND	ND
SS-3A	ND	6 ppm
SS-4	ND	ND
SS-4A	ND	ND

Tributary 147 - July, 1984

DS-2	NA	2 ppm
DS-2A	NA	2 ppm
DS-3	NA	ND
DS-3A	NA	ND
DS-4	NA	1 ppm
DS-4A	NA	1ppm
DS-5	NA	4 ppm
DS-5A	NA	ND
DS-6	NA	ND
DS-6A	NA	3 ppm

ND = None Detected

NA = Not Analyzed

showed detectable levels of PCBs (85 ppm at location 2A and 6 ppm at location 3A) at a depth of 6 to 12 inches in the West Parking Lot soils. The entire West Parking Lot has been paved since the investigation. This, coupled with the analytical results indicate that the West Parking Lot soils are not a continuing source area for VOC migration to the ground water or surface water. In regard to PCBs, their immobility in the soils and their isolation from infiltrating precipitation by the paving of the West Parking Lot preclude any migration to the ground water. As previously noted, no PCBs were detected in any of the West Parking Lot monitoring wells.

PCBs were detected in bottom sediments from Tributary 147 at locations DS2, DS4, DS5, and DS6, ranging up to 4 ppm (Figure 1-4). Little variation in PCB concentrations were observed with depth in these sediments.

1.3.3 Surface Water

To assess Tributary 147 waters, surface water samples were collected for analysis in July 1984, and again in December, 1986 to obtain up-to-date information on VOCs and the potential for PCB concentrations in site drainageway waters. The surface water sampling locations are shown in Figure 1-5. The July 1984 sampling event was part of a program to evaluate the area surface drainageways on a more regional basis, with potential effects of other, upgradient source areas included. For clarity, the stream sampling locations from the two sampling events have been combined, and designated locations SW-1 through SW-9, as shown in Figure 1-5. These locations are described in Table 1-3. The analysis results are shown in Table 1-4.

The results of the surface water VOC analyses at SW-1 indicate that no VOCs enter the site from upstream in the main branch of Tributary 147 at SW-1, or in the stormwater drainageway samples at SW-2. However, the July 1984 analysis indicated that 366 ppb of VOCs were present in the unnamed tributary at SW-3. This area is currently being studied as part of the Route 8 Landfill investigation. Downgradient of SW-3, at SW-4, residual VOCs in the unnamed tributary were detected at 14 ppb in December 1986. Since the main branch of Tributary 147 lies between this location and the West Parking Lot, it is likely that the VOCs at SW-4 represent residual from the upgradient source area, rather than discharge from ground water beneath the West Parking Lot.

Adjacent to the West Parking Lot, at SW-5, 7 ppb and 2 ppb of TCE were detected in July, 1984 and December 1986, respectively. This represents the contribution from discharging ground water from the West Parking Lot area. Downstream, at SW-6, the total

Figure 1-4
Locations of Tributary 147 Sediment Samples

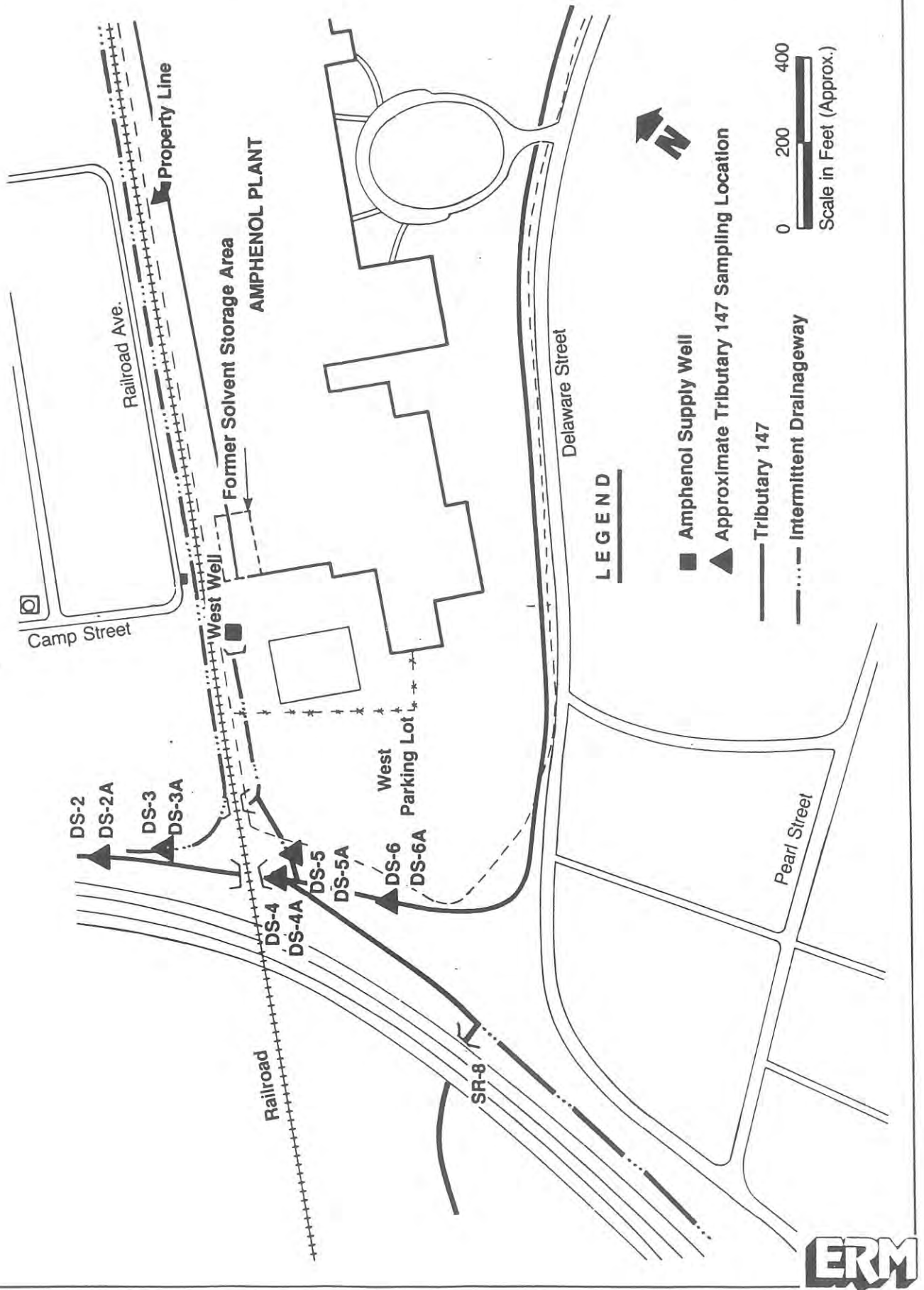


Figure 1-5
Tributary 147 Surface Water Samples

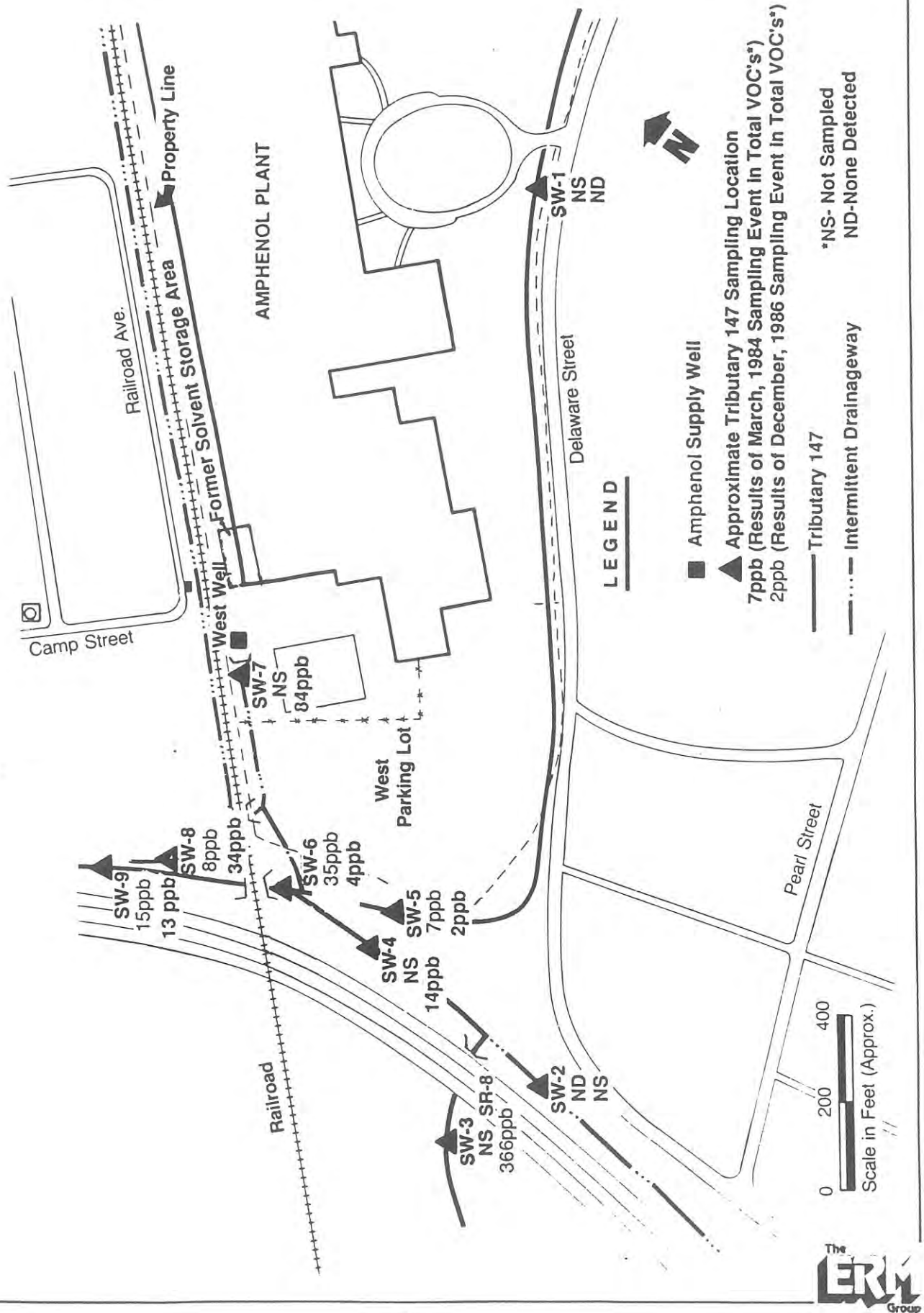


Table 1-3

SURFACE WATER SAMPLING LOCATIONS

- SW-1 Upgradient, entering Amphenol property. Sampled December 1986.
- SW-2 Upgradient in intermittent storm water drainageway. Sampled July 1984.
- SW-3 Upgradient in unnamed tributary to Tributary 147. Sampled July 1984.
- SW-4 Unnamed tributary to Tributary 147, before confluence with main branch of Tributary 147, adjacent to West Parking Lot. Sampled December 1986.
- SW-5 Main branch of Tributary 147, adjacent to West Parking Lot. Sampled July 1984 and December 1986.
- SW-6 Immediately below confluence of unnamed tributary and main branch of Tributary 147, downstream of West Parking Lot. Sampled July 1984 and December 1986.
- SW-7 West Well outfall to drainage ditch. Sampled December 1986 and again in May 1986.
- SW-8 Drainage ditch north of railroad tracks, downstream of West Well outfall. Sampled July 1984 and December 1986.
- SW-9 Immediately downstream of confluence of West Well outfall drainage ditch and Tributary 147. Sampled July 1984 and December 1986.

TABLE 1 - 4

SUMMARY OF ANALYTICAL RESULTS FOR SURFACE WATER OF TRIBUTARY 147
(Blank or ND = none detected; NA = not analyzed; Other volatile constituents were not detected)

Well Number	Date Sampled	Lab*	Total Volatiles	Trans-1,2-Dichloro-ethene	Trichloro-ethene	Tetrachloro-ethene	1,1-Dichloro-ethene	1,1,1-Trichloro-ethene	1,1,2-Trichloro-ethene	Vinyl Chloride	PCB
SW - 1	12/2/86	L	ND								NA ND(<0.08 ppb)
SW - 2	7/18/84	L	ND								NA
SW - 3	7/19/84	L	366	280	15		23	22	18	8	NA
SW - 4	12/2/86	L	14	8	1		2	3			ND(<0.2 ppb)
SW - 5	7/20/84	F	7		7						NA
SW - 5	12/2/86	L	2		2						ND(<0.3 ppb)
SW - 6	7/20/84	F	35	21	14						NA
SW - 6	12/2/86	L	4	2	2						ND(<0.3 ppb)
SW - 7	5/22/86	L	62	7	53		1	1			NA
SW - 7	12/2/86	L	84	15	67		2				ND(<0.08 ppb)
SW - 8	7/20/84	F	8	2	6						NA
SW - 8	12/2/86	L	34	6	28						ND(<0.08 ppb)
SW - 9	7/20/84	F	15	6	9						NA
SW - 9	12/2/86	L	13	3	10						ND(<0.3 ppb)

All results are measured in ppb.

*Labs

F - Friend Laboratory
O - O'Brien and Gere
L - Lancaster Laboratories

VOCs detected were 35 ppb and 4 ppb during those same sampling events. The additional VOCs were contributed to the main branch from the upstream unnamed tributary discharge.

The samples from the West Well outfall (SW-7) contained 62 ppb and 84 ppb in May and December of 1986. Downstream in the drainage ditch, at SW-8, VOC concentrations were 8 ppb and 34 ppb in July 1984 and December 1986. These are residuals from the West Well outfall. At SW-9, below the confluence of the drainage ditch and Tributary 147, the West Well outfall VOC residual resulted in concentrations of 15 ppb and 13 ppb in July 1984 and December 1986. Thus, the outfall raised total VOCs in Tributary 147 by 9 ppb in December 1986, but did not raise the concentrations in July 1984.

No PCBs were detected in the surface water samples from December 1986. However, it should be noted that detection limits as low as the New York State Department of Environmental Control surface water PCB standard of 0.001 ppb could not be achieved, due to sample turbidity.

Several observations can be made from these results:

- Discharge of ground water from the West Parking Lot area contributes less than 10 ppb of VOCs to Tributary 147.
- The principal VOC contribution to Tributary 147 comes from upgradient in the unnamed tributary.
- The West Well outfall contributes slightly to the VOCs in Tributary 147. The degree to which can be detected depends upon the discharge volume at the outfall, which varies depending on Amphenol plant water demand. The Tributary 147 flow volume conditions may also contribute to the degree of detection.
- PCBs do not appear to be of concern in the surface waters.

1.4 Conclusions of Investigations

After evaluation of all water quality, soils, piezometric levels, and pump test data, the hydrogeologic and soils investigations have resulted in several conclusions relating to the assessment of VOCs detected at the West Well.

- VOCs entered the ground water principally at the former solvent storage tank area; secondary potential source

areas are the north and northwest corners of the West Parking Lot.

- The principal source area for VOCs at the West Well is the former solvent storage tank area; the north and west section of the West Parking Lot is a secondary source area.
- The West Parking Lot soils do not serve as a continuing source of VOCs to the ground water; the former storage tank area was remediated during plant construction activities.
- Pumping at the West Well has created a vertical component of ground water flow which has caused VOCs to migrate into the deep flow zone, and has thus limited off-site migration in the shallow flow zone to less than 20 ppb of VOCs.
- The West Well pumping has created a cone-of-depression which prevents any off-site VOC migration in the deep flow zone.
- Some low level VOCs discharge from beneath the West Parking Lot into Tributary 147. . .
- PCBs are present in Tributary 147 sediments at concentrations ranging from 1 ppm to 4 ppm. Although the West Parking Lot soils were a potential source area of PCBs, the general absence of PCBs and the placement of pavement over the West Parking Lot have eliminated any potential for future migration to Tributary 147.
- VOCs enter Tributary 147 from an upstream source via the unnamed tributary, from ground water discharge from the West Parking Lot, and from the West Well outfall.
- Because of dilution and aeration, total VOCs in Tributary 147 are usually less than 20 ppb.
- PCBs were not detected in Tributary 147 waters.

1.5 Objectives of Remediation

Based on the results of the field investigation, two primary objectives have been identified for remedial action in the West Well area:

1. the mitigating any impact from exposure to ground water, surface water, soil and/or sediments in the affected area; and
2. addressing applicable standards and guidelines established by the NYSDEC pertaining to site-related ground water, surface water and soil.

SECTION 2

SITE IMPACT ASSESSMENT/REMEDIAL REQUIREMENTS

2.1 Site Impact Assessment

To determine the need for remedial action at the West Well site, two factors were considered:

- potential for impacts from public exposure to compounds of concern; and
- potential violation of regulatory standards, or in the absence of standards, comparison to guideline values, where available.

2.1.1 Potential for Public Exposure Impacts

Public exposure to chemical compounds in the environment is difficult to assess, as little is known about the potential effects of low-level chemical exposures at this time. Currently, the USEPA has developed methods for calculating approximate levels of non-carcinogenic and carcinogenic risk for the compounds of concern at the West Well/West Parking Lot site. Although these methods are subject to question because of the lack of actual epidemiological data from human exposures, they can be applied at waste disposal sites to determine relative need for remediation. Currently, under the Superfund program, the EPA considers a carcinogenic risk of one in ten thousand (1×10^{-4}) to one in ten million (1 to 10^{-7}) to be potentially acceptable at any given site. A general guideline for ground water remediation is currently a risk level of one in one million (1×10^{-6}).

Due to the limited scope and concentrations of compounds associated with the West Well/West Parking Lot area, no formal risk assessment has been performed. However, risk assessment for some very similar exposures has been conducted nearby, for the Amphenol Hill Site. The similarity of compounds present, media of potential exposure, and exposure point concentrations allows for order of magnitude risk levels to be approximated without full risk assessment at the West Well. For USEPA methodologies employed, and detailed calculations, the reader is referred to the April, 1987 report: "Remedial Investigations and Feasibility Studies at the Hill Site: Volume III-Site Risk Assessment".

2.1.2 Comparison to Standards/Guidelines

The second criterion by which the West Well/West Parking Lot area was assessed was a comparison to regulatory standards, or guidelines where they existed. Table 2-1 shows applicable regulatory standards and guidelines for the compounds associated with the site. It should be noted that only the standards are enforceable criteria. However, in the absence of standards for most site-related compounds in the ground water, surface water, and soil media, available guidelines are also listed in Table 2-1 to allow for a better overview of site-related conditions.

The factors above are considered for each potential pathway of compound migration and/or exposure. Based on the hydrogeologic and soils investigations, there are three pathways for potential exposure to the compounds identified. These are ground water, surface water, and soils/sediments. Each of these is discussed in the following sections.

2.2 Ground Water

The results of the hydrogeologic investigation identified two principal ground water flow systems: a shallow system in the unconsolidated glacial deposits, and a deeper glacial system from which the West Well draws water. The results of ground water quality monitoring to date were shown in Table 1-1 with monitoring well/piezometer locations indicated in Figure 1-1. As shown, total VOCs ranging from below the laboratory detection limit to approximately 200 ppb are present in the shallow flow system, and up to approximately 500 ppb in the deep system. The potential ground water pathway for public exposure to VOCs would be through potable water supply wells using either the shallow or deep ground water flow systems.

2.2.1 Shallow Flow System

Results of the 1985 and 1986 ground water analyses from the shallow flow system are shown in Table 2-2. The 1984 results are not considered here, due to the declining VOC trends in both the West Well and West Parking Lot areas. The data indicate that maximum concentrations of VOCs of 32 ppb to 120 ppb are present in the ground water at Well WW-3, in the former solvent storage area east of the West Well. Concentrations of up to 235 ppb were originally present in the shallow ground water underlying the West Parking Lot at Well WP-2, but have since reduced to 12 ppb to 21 ppb. Up to 187 ppb were detected in 1985 at the former Prencor incinerator area (Well WW-2), with a maximum of 70 ppb in 1986. Off-site and downgradient to the north, Well WW-4 contained a maximum of 17 ppb total VOCs in 1985 and 10 ppb in 1986.

TABLE 2-1

REGULATORY CRITERIA FOR SITE EVALUATION
(NS = No Standard/Guideline)

	Ground Water Standards (S) or Guidelines (G) ug/l)	NYSDEC Surface Water Standard (ug/l)	Guidelines for Protection of Aquatic Life (ug/l)*	NYSDEC Soil Guideline (mg/kg)
Trichloroethene	10 (S)	NS	21,900	NS
Trans-1,2 Dichloroethene	50 (G)	NS	20,000	NS
Tetrachloroethene	0.07 (G)	NS	840	NS
1,1 Dichloroethane	50 (G)	NS	NS	NS
1,1 Dichloroethene	0.07 (G)	NS	NS (11,600 acute)	NS
Vinyl Chloride	5 (S)	NS	NS	NS
1,1,1, Trichloroethane	50 (G)	NS	NS (52,800 acute)	NS
Chloroform	100 (S)	NS	1,240	NS
Toluene	50 (G)	NS	NS (17,500 acute)	NS
1,2 Dichloroethane	0.8 (G)	NS	20,000	NS
Chlorobenzene	20 (G)	50	50	NS
PCB	0.1 (S)	0.001	0.014	10

* Lowest observed effects level (LOEL) for Chronic exposure. Source: Quality Criteria for Air and Water, USEPA, 1986.

TABLE 2-2
SUMMARY OF 1985 and 1986 ANALYTICAL RESULTS FOR SHALLOW GROUND WATER
(Blank or ND = none detected; NA = not applicable; Other volatile constituents were not detected)

Well Number	Date Sampled	Lab ^a	Total Volatiles	Trans-1,2-Dichloro-ethene	Trichloro-ethene	Tetrachloro-ethene	1,1-Dichloro-ethane	1,1-Dichloro-ethene	Vinyl Chloride
WP-1	2/19/85	L	52	18	34		2	1	
	2/19/85	O	43	13	30				
WP-2	2/20/85	L	21	13	7		1		
	2/20/85	O	ND						
	3/21/86	L	12	7	4		1		
WP-3	2/20/85	L	3	3					
	2/20/85	O	ND						
WW-2	2/20/85	L	155	20	92	36	7		
	2/20/85	O	187	23	120	44			
	3/11/86	L	70	16	37	13	4		
	12/2/86	L	62	16	32	10	2		2
WW-3	2/20/85	L	120	31	65	20	2		2
	3/11/86	L	96	47	33	11	2		3
	12/2/86	L	32	17	12	3			
WW-4	2/6/85	F	11	6	5				
	2/6/85	L	17	10	6		1		
	2/19/85	L	12	7	5				
	2/19/85	O	13		13				
	3/11/86	L	10	6	4				
	12/2/86	L	6	3	3				
NYSDEC Standard Guidance Value				NA 50 ppb	10 ppb NA	NA 0.7 ppb	NA 50 ppb	NA 0.07 ppb	NA 5.0 ppb

All results are measured in ppb

^aLabs

F - Friends Laboratory

O - O'Brien and Gere

L - Lancaster Laboratories

The results of a 1985 New York Department of Health analysis of water from an unused shallow well at the Allen Gregory residence, north of the Amphenol plant, indicated the presence of 2 ppb total VOCs. This included two compounds which were also detected in the vicinity of the West Well. The extent of shallow VOC migration has therefore been defined by the analyses from the Allen Gregory well and the off-site monitoring Well WW-4.

2.2.1.1 Potential for Public Exposure

There presently are no wells in the vicinity of the Amphenol Corporation plant site which utilize shallow ground water as a source of potable water. The area is fully served by the Village of Sidney public water supply. The absence of potable water supply wells within the shallow flow zone eliminates possible health risks to the public by this pathway.

2.2.1.2 Ground Water Standards and Guidelines

As shown on Table 2-1, NYSDEC Ground Water Standards exist for trichloroethene, vinyl chloride, chloroform and PCBs. Guideline values are available for the other site-related compounds.

The recent analyses of ground water from well WW-4 indicate that NYSDEC ground water quality standards and guidelines are not exceeded off the Amphenol property. Total VOCs have ranged from 6ppb to 17 ppb at WW-4, with the volatiles consisting primarily of trans-1,2-dichloroethene at levels ranging from less than 1 ppb to 10 ppb, and trichloroethene ranging from 3 ppb to 13 ppb. The 13 ppb of trichloroethene exceeds the NYSDEC standard of 10 ppb, but a split analysis of the same sample indicated a trichloroethene level of only 5 ppb. Previous and subsequent analyses have confirmed trichloroethene levels below the 10 ppb standard.

Analyses of ground water from on-site shallow monitoring wells during 1985 and 1986 indicated total VOCs ranging from less than 1 ppb to 187 ppb. The trichloroethene standard of 10 ppb was exceeded at wells WP-1, WW-2, and WW-3, with concentrations ranging from less than 1 ppb to 120 ppb. No other NYSDEC standard has been exceeded. However, guidance values for 1,1-dichloroethene, 1,2-dichloroethene and 1,1,1-trichloroethane have been exceeded. Also, the detection of 4 ppb of PCB in July 1984 should be noted as this exceeded the NYSDEC standard of 0.1 ppb.

2.2.1.3 Remedial Action Requirements

The shallow ground water flow zone is not used and no standards are exceeded off the Amphenol property. In addition, the VOC concentrations in this zone have decreased substantially from

1984 to the present. Remedial actions to date, including removal of the main source area and pumping at the West Well, have been shown to have provided remedial action for ultimately meeting the NYSDEC ground water standards in the shallow aquifer. In addition, the discharge of ground water from beneath the West Parking Lot to Tributary 147 does not adversely affect the stream (this is discussed further in Section 2.3, Surface Water). Thus, there is no need for additional direct remediation of the shallow ground water flow zone. Continued pumping of the West Well is recommended to ensure that the NYSDEC standards will not be exceeded off-site, and also to reduce the on-site concentrations of trichloroethene and PCB in excess of those standards, until they are no longer exceeded.

2.2.2 Deep Flow System

Since the effects of source area remediation in 1984 may not be as rapidly reflected in the deep system as in the shallow, the full period of record is considered for the deep system. This is summarized in Table 2-3. The analyses of ground water from the deep flow zone have indicated the presence of VOCs ranging from 37 ppb to 980 ppb at Well WW-1, 4 ppb to 448 ppb at WW-6, less than 10 ppb at WP-4 and none detectable off-site at WW-5. The results at WW-1, WP-4 and WW-6 indicate that there has been vertical migration of VOCs through the glacial overburden in the immediate vicinity of the former location of the solvent storage tanks, and to a lesser extent at the northeast end of the West Parking Lot. Data from WW-5 and piezometric surface mapping of the deep flow system indicate that the VOC plume is restricted to the Amphenol property by the pumping of the West Well. The continued withdrawal of ground water from the West Well will prevent any off-site migration of VOCs in the deep flow system.

2.2.2.1 Potential for Public Exposure

At no location within the extent of the VOC plume is the deep ground water used for a potable water supply. Since this ground water is not used as a source of potable water, and VOCs are contained on the Amphenol property, no public health risk exists.

2.2.2.2 Ground Water Standards and Guidelines

The analysis results from the deep flow system and the associated NYSDEC standards and guideline values are shown in Table 2-3. As exhibited by data from Well WW-5, off-site VOC migration has not occurred in the deep flow system. Thus, ground water standards and guidelines as set forth by the NYSDEC are met beyond the Amphenol property.

TABLE 2-3
SUMMARY OF ANALYTICAL RESULTS FOR DEEP GROUND WATER
(Blank = none detected; Other volatile constituents were not detected)

Well Number	Date Sampled	Lab*	Total Volatiles	Trans-1,2-Dichloro-ethene	Trichloro-ethene	Tetrachloro-ethene	1,1-Dichloro-ethane
West Well	7/25/84	F	57	4	53		
	5/22/86	L	129	17	110		2
	11/25/86	L	113	22	89		2
WP-4	4/28/84	F	ND				
	7/25/84	F	7	6	1		
	2/19/85	L	7	5	2		
	2/19/85	O	ND				
	3/11/86	L	10	9	1		
	12/2/86	L	8	5	2		
WW-1	4/20/84	F	175	13	99	63	
	7/25/84	F	980	230	500	250	
	2/20/85	L	516	27	280	201	2
	2/20/85	O	517	17	290	210	
	3/11/86	L	125	15	63	46	1
	12/2/86	L	37	5	21	11	
WW-5	2/6/85	F	ND				
	2/6/85	L	ND				
	2/19/85	L	ND				
	2/19/85	O	ND				
	3/11/86	L	ND				
	12/2/86	L	ND				
WW-6	3/11/86	L	448	1150	190		21
	12/2/86	L	4	2	2		
NYSDEC Standard Guidance Value				NA 50 ppb	10 ppb NA	NA 0.7	NA 50

All results are measured in ppb
NA = none applicable
ND = not detected

*Labs

F - Friends Laboratory
O - O'Brien and Gere
L - Lancaster Laboratories

TABLE 2-3
(CONTINUED)

2 of 2

Well Number	Date Sampled	1,1,1-Trichloro-ethane	Chloroform	Toluene	Chloro-benzene	1,2-Dichloro-ethane	Methylene Chloride	Freon	PCB
West Well	7/25/84 5/22/86 11/25/86								
WP-4	4/28/84 7/25/84 2/19/85 2/19/85 3/11/86 12/2/86						1		ND NA NA NA NA NA
WW-1	4/20/84 7/25/84 2/20/85 2/20/85 3/11/86 12/2/86		6					6	ND NA NA NA NA NA
WW-5	2/6/85 2/6/85 2/19/85 2/19/85 3/11/86 12/2/86								
WW-6	3/11/86 12/2/86	78		5	2	2			
NYSDEC Standard Guidance Value		NA 50 ppb	NA 100 ppb	NA 50 ppb	NA 20 ppb	NA 0.8 ppb	NA 50 ppb	NA NA	NA NA

The ground water analyses for the deep on-site monitoring wells indicate that the NYSDEC standard for trichloroethene is exceeded at wells WW-1 and WW-6, with concentrations detected ranging from 2 ppb to 500 ppb. In addition, the guideline values for 1,1,1-trichloroethane, tetrachloroethene and 1,1,1-trichloroethene have been exceeded on-site occasionally.

2.2.2.3 Remedial Action Requirements

Based on ERM's analysis of hydrogeologic conditions and recent monitoring of ground water quality at the Amphenol plant, continued ground water recovery is necessary to prevent VOC migration off-site in the deep flow system. The West Well, which pumps continuously at approximately 300 gpm, has been shown to effectively contain and retrieve the VOCs in the deep flow system. Continued pumping of the West Well is therefore recommended to prevent off-site migration of VOCs in the deep system, and to reduce the VOCs on site to below the NYSDEC standard of 10 ppb for trichloroethene.

2.3 Soils/Sediments

The potential impacts and need for remedial action in the West Parking Lot soils and Tributary 147 sediments are discussed as below.

2.3.1 West Parking Lot

Soil sampling was conducted at the West Parking Lot to determine if PCBs or VOCs are present as a result of past dust control activities. As Table 1-2 indicates, there were no detectable VOCs in the soils, nor were there any detectable concentrations of PCBs within the upper several inches of soil beneath the parking lot. However, analysis of samples 2A and 3A, taken at a depth of approximately 6 to 12 inches, indicated localized PCB concentrations of 85 ppm and 6 ppm, respectively.

2.3.1.1 Potential for Public Exposure

Since the residual PCB was present at only two spot locations, both below the surface soil, and since the West Parking Lot has been completely asphalt paved, there exists no potential for public contact with the PCBs or for migration of the PCBs by erosion. Since no VOCs were detected in the soil, no potential VOC migration or public health impact exists.

2.3.1.2 State Standards and Guidelines

Only Sample 2A exceeded the NYSDEC guideline of 10 ppm for PCBs in soils. As ground water analyses from the West Parking Lot

area indicated no detectable PCBs, it is evident that the limited residual PCBs are fully attenuated within the soil and are not migrating downward into the ground water.

2.3.1.3 Remedial Action Requirements

Based on the above, no remedial action is necessary for the West Parking Lot soils.

2.3.2 Tributary 147 Sediments

Sediment sampling was conducted at various locations within Tributary 147. PCBs were detected in sediments from sample locations DS-2, DS-4, DS-5, and DS-6, with a maximum concentration of 4 ppm. There was little variation noted in PCB concentration with depth of the sample at any locations. No VOCs were detected in the sediment samples.

2.3.2.1 Potential for Public Exposure

Human exposure to VOCs or PCBs in the sediment of Tributary 147 would be very infrequent and would occur only over a very short time period. Such exposure would be rare since the Tributary is actually a reconstructed drainageway for Route 8, and is not generally used for fishing. The concentrations in the tributary sediments are comparable to those reported at the Amphenol Hill Site in surface soils. A risk assessment at that site, using EPA methods, indicated a carcinogenic risk level of approximately 3×10^{-6} associated with soils containing 4 ppm of PCBs ("Remedial Investigations and Feasibility Studies at the Hill Site; Volume III, Risk Assessment"). This is well within the EPA-defined range of potentially acceptable risk, which is 1×10^{-4} to 1×10^{-7} .

2.3.2.2 Standards and Guidelines

There is no NYSDEC standard for maximum concentrations of PCBs in soils with respect to human exposure. The NYSDEC has established a PCB guideline for soil cleanup of 10 ppm. The maximum detected level of 4 ppm PCBs is below that NYSDEC guideline.

2.3.2.3 Remedial Action Requirements

Since pavement has now been placed across the parking lot area, and only spot concentrations are present at the 6 to 12 inch depth interval, there is no potential for further migration of the PCB to the site drainageways. Additionally, since Tributary 147 is rarely utilized by the public, the calculated risk level is very low, and the sediment PCB levels are below the NYSDEC guideline, no remediation is required for that pathway.

2.3.3 Soils at Former Solvent Storage Tank Area

The third area of potential soil exposure is at the former solvent storage tank area. As previously described, soils were removed from this area during plant construction activities in 1984. Any residual is now covered by plant building facilities, with fringe areas covered by paving.

2.3.3.1 Potential for Public Exposure

No direct public exposure is possible to any VOC containing soils in this area.

2.3.3.2 Standards and Guidelines

No standards or guidelines exist for VOCs in soils.

2.3.3.3 Remedial Action Requirements

The effectiveness of the plant reconstruction activities in reducing VOC migration to ground water is evident in the data collected at Well WW-3. Thus, the clear trend of reduction of VOCs in the ground water indicate that no further remedial action is required at this location.

2.4 Surface Water

Surface water sampling and analysis was conducted in Tributary 147 on two occasions; in July 1984 to determine VOC concentrations in the regional surface waters, and in December 1986 to determine VOC and PCB levels with respect to the West Parking Lot area, and to evaluate the effect of West Well overflow to the tributary. The surface water sampling locations were shown in Figure 1-4, and the analytical results were summarized in Table 1-3.

As discussed in Section 1, VOCs are present in Tributary 147 from upgradient, from the West Parking Lot ground water discharge, and from the West Well overflow. The minimum concentration detected was 2 ppb, adjacent to the West Parking Lot, and the maximum was 35 ppb, where VOCs in the upstream unnamed tributary enters Tributary 147. The West Well outfall, in combination with all other sources, resulted in concentrations of 13 and 15 ppb detected in Tributary 147. Again, no PCBs were detected in the Tributary 147 samples taken in December, 1986.

2.4.1 Potential for Public Exposure

Potential public exposure is limited to dermal or inhalation contact with volatile compounds present in Tributary 147. Again,

public use of the stream is rare. As discussed in Section 2.2.2.1, a relative assessment of potential risk can be made by comparison with the nearby Hill Site, which underwent formal risk assessment for a similar suite of VOCs. In that study, surface water VOC concentrations exceeding 100 ppb resulted in a calculated carcinogenic risk level of approximately 9.5×10^{-7} . The risk at Tributary 147 would be even lower, as the maximum VOC concentration detected in Tributary 147 is 35 ppb. Thus, the public health risk is below any potentially unacceptable EPA risk level.

2.4.2 Standards and Guidelines

NYSDEC surface water standards vary depending upon surface water usage and classification of the water body. For the compounds in question, standards exist only for drinking water sources. Tributary 147 waters are not a drinking water source, and it is considered by the NYSDEC to be a Class "D" stream. Since Tributary 147 is a Class "D" stream, no NYSDEC standard or guideline values exist for the VOCs detected in the West Well studies. However, a PCB standard of 0.001 ppb does exist. Due to interference of sample turbidity, detection limits as low as this standard were not achievable in the laboratory.

For purposes of comparison, ERM has listed in Table 2-1 the guideline values for protection of aquatic life from chronic effects of site-related compounds. None of these values are exceeded, or even approached in Tributary 147. Thus, the ground water discharge and West Well discharge to the tributary do not result in exceeding of any guideline values or standards.

2.4.3 Remedial Action Requirements

Based on the evaluation of potential for public exposure and comparison to surface water standards, no remedial action is necessary in Tributary 147.

2.5 Proposed Remedial Actions

2.5.1 Ground Water Recovery

Based on the foregoing discussions, it is evident that the off-site VOC concentrations are below NYSDEC guidelines and standards, and no potential exists for public exposure to the compounds of concern via the ground water pathway. The only potential for exposure or off-site violation of NYSDEC standards might occur if future increases should occur in off-site migration of the VOC plume in the shallow or deep ground water flow systems. The pumping of the West Well has prevented such

migration, and continued pumping is recommended for containment and retrieval of the VOCs on-site.

This pumping will reduce the on-site VOCs to within NYSDEC standards over time. The period of record of monitoring at wells WW-1, WW-2 and WW-3 indicates a clearly decreasing VOC trend since the remediation of the former solvent storage tank area. Over a period of less than three years, reductions of one order of magnitude have been seen at wells WW-1 and WW-3, and of one-half order of magnitude at well WW-2. If these trends continue, as is expected, the trichloroethene standard should be met within a very few years at the site. Continued monitoring will be necessary to confirm the continuing VOC reduction.

2.5.2 Ground Water Treatment

The discharge of ground water from the West Well overflow has been shown to have a negligible effect on Tributary 147. However, the NYSDEC has indicated that current policy requires treatment to the Best Applicable Technology (BAT) level for VOCs where there is a discharge to surface water under a ground water cleanup program. Thus, the ground water recovered from the West Well must be treated before discharge. This is described in detail in the next Section of this document.

2.5.3 Monitoring

Since the VOC plume is well contained and no ground water standards are exceeded off-site, and since the discharge from the West Well will receive the BAT, a semi-annual monitoring program to track the cleanup progress is recommended. Samples for VOC analysis should be collected at monitoring wells WW-1, WW-2, WW-3, WW-4, WW-5, and WW-6. Influent and effluent monitoring for the West Well treatment system will be performed in accordance with SPDES permit requirements.

SECTION 3

GROUND WATER TREATMENT

3.1 Introduction and Statement of Objectives

The Amphenol Corporation facility in Sidney, New York presently has three potable and non-potable water supply sources serving the Plating Building and Main Building. Non-potable water is supplied by two wells, the North Well and West Well, while potable water is supplied by a connection to the Village of Sidney distribution system. Distribution piping within the Main Building is divided into two separate systems, one for potable and one for non-potable supply. North Well and West Well distribution pumps discharge into the non-potable distribution system which can be augmented by a connection to the potable water system, if necessary. The potable water system is isolated from the non-potable system by a series of backflow preventors.

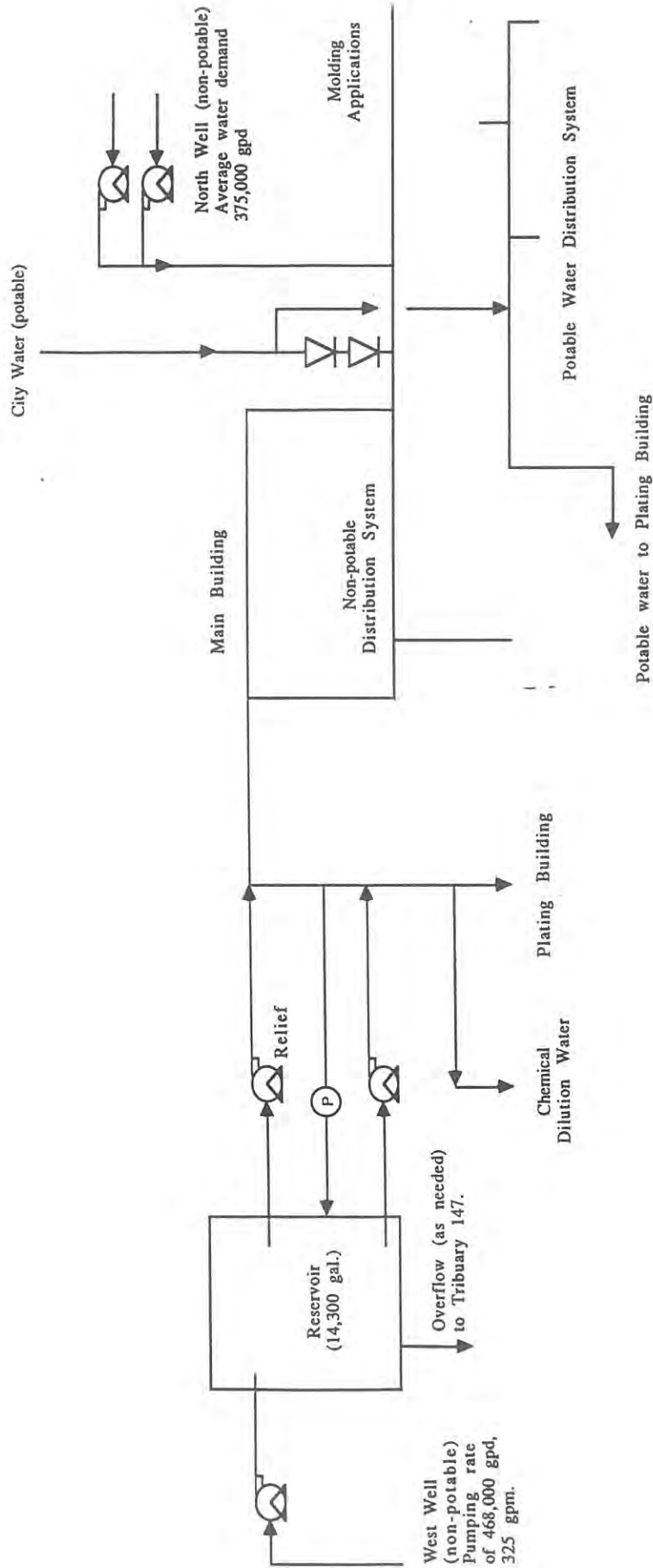
Figure 3-1 presents a schematic of the present water distribution system. The West Well currently delivers between 424,800 to 468,000 gpd, or approximately 295 gpm to 325 gpm. These flow rates were measured during pump tests performed by Amphenol Corp. personnel on 12 March 1987.

Ground water from the West Well is discharged from a single Layne Vertical Centrifugal Turbine pump into a 14,300-gallon holding reservoir located just below grade. Two supply pumps, (also Layne Vertical Centrifugal Turbine pumps), draw from this reservoir and transfer water to the points of use. These pumps discharge to a common header which supplies non-potable water for the Main Building and Plating Building.

Experience with the West Well indicates that a continuous high pumping rate is necessary to minimize fouling of the well screen. Thus, the holding reservoir allows for a constant discharge from the West Well, independent of water demand. The supply pumps are fixed speed and operate continuously. During periods of low water demand, pressure relief valves are activated which provide for recycle of this process water flow back to the holding reservoir. When water demand is below the West Well delivery rate for extended periods, the reservoir overflows through a weir, to a drainage ditch, and from there to Tributary 147.

FIGURE 3-1 AMPHENOL CORPORATION

BENDIX CONNECTOR OPERATIONS
PRESENT SERVICE SCHEMATIC



- Note:
1. Water demands are presented as daily averages.
 2. Above schematic representation of the system does not include all connections, fittings or valves.

Continuous pumping of the West Well will result in containment and remediation of the VOCs in ground water in this area. Based on the previously stated NYSDEC policy for discharge of ground water recovery programs, the objective of the West Well Remediation is to treat the discharge to BAT (Best Applicable Technology) levels. With the overflow to Tributary 147 varying over time due to fluctuating plant water demand, it is recommended that the entire West Well flow be treated to minimize VOC discharge to the surface waters of Tributary 147.

3.2 Treatment Alternatives

The most frequently applied technologies for providing BAT for removal of VOCs from water are carbon adsorption and air stripping. At the West Well flow rate, the size of a carbon adsorption bed required to provide adequate contact time for VOC removal makes that option less cost-effective than air stripping. In addition, the use of an air stripper eliminates the need for replacement or regeneration of the carbon adsorption bed. Thus, air stripping is the treatment method recommended at the West Well.

It should be noted that comprehensive inorganic analysis of West Well discharge water, conducted in December 1986 (Table 3-1), indicates that no readily apparent potential interferences with air stripper operation (such as encrusting by iron and manganese, or fouling by iron bacteria) are present in the water.

3.3 Air Stripping Process Description

Air stripping, also known as desorption, is the physical process in which volatile compounds are transferred from the liquid to the gas phase. The rate and degree of volatile compound transfer depends on the following conditions: (1) the volatility of the compound(s), (2) the ratio of gas flow to liquid flow, (3) the surface area provided by gas:liquid interface, (4) efficiency of gas and liquid mass transfer rates, and (5) the temperature of the liquid.

Air stripping of volatile organic compounds from ground water is most efficiently accomplished by the countercurrent flow of air up through the downward flow of contaminated ground water. A packed tower is employed to enhance the overall efficiency of mass transfer by providing controlled surface area, contact time and air:liquid ratio.

TABLE 3-1
WEST WELL INORGANIC ANALYSES
2 December 1986

pH	7.5
Total Hardness	190 mg/l
Sulfate	26 mg/l
Calcium	56.7 mg/l
Iron	ND
Magnesium	7.6 mg/l
Manganese	0.07 mg/l
Potassium	0.79 mg/l
Sodium	13.9 mg/l

The volatility of a specific compound is reflected by its Henry's Law Constant, which is the ratio of the compound's equilibrium concentration in the gas phase to that in the liquid phase. The greater the value of the Henry's Law Constant, the more readily the compound can be "stripped" from the liquid phase to the gas phase. In practical terms, the greater the Henry's Law Constant is for a given material, the shorter the required packing height for an air stripping column.

The volume of gas necessary to strip the volatile compound(s) from the liquid phase (the gas to liquid ratio) is based on the physical interaction of the two phases. Physical parameters that control transfer from the liquid to the gas phase are: (1) the mass transfer coefficient of the volatile compound(s) within the liquid phase, (2) the mass transfer coefficient of the volatile compound(s) at the gas:liquid interface, and (3) the mass transfer coefficient of the volatile compound(s) within the gas phase. The greater resistance to movement of any of the above transfer coefficients, the more difficult it will be to "strip" a given compound, or compounds. As the overall resistance to mass transfer increases, the height of the packing media required to provide sufficient contact time between the gas and liquid phases increases.

A means of increasing the transfer rate of volatile compound(s) across the gas:liquid interface is to maximize the surface contact of the liquid and gas phases. Means of accomplishing this are: (1) increase the gas flow rate at a constant liquid flow rate and bubble size, (2) decrease the bubble size (increase the number of bubbles) at a constant gas flow rate and liquid flow rate, (3) increase the contact time by increasing the column size at constant gas and liquid flow rates, and (4) improve the packing material to give better gas:liquid contact at constant gas and liquid flow rates. Increased mass transfer rates result in decreased packing depth and decreased air requirements.

The volatility of a compound is affected by temperature. Solubility of gases in liquids increases for most substances as temperature decreases. Therefore, as the temperature of the liquid decreases the volatility of the compound will decrease, requiring greater gas:liquid flow rates, longer contact times, and/or improved packing to maintain the same efficiency as at warmer temperatures.

3.4 Design Conditions

To contain and collect the VOC plume at the West Well, and due to the problem of potential siltation through the well screen, it is projected that the delivery from the West Well will remain at 468,000 gpd (approximately 325 gpm). In order to allow for possible variations in West Well flow, the design flow rate selected for the air stripper is 350 gpm.

The design values for influent organic concentrations for future ground water discharged by the West Well were developed based on projected trends indicated by the sampling program. With the major source of VOCs removed during prior remedial actions (i.e., removal of soils from the former solvent storage tank area, and pavement of the area), the plume concentrations will decrease along their path of flow to the West Well. In addition, the continuous pumping of the West Well should continue to draw in uncontaminated ground water which will further dilute the plume. As shown in Table 3-2, the current VOC concentration at the West Well (as measured 25 November 1986) is 113 ppb. Over the full period of record, analysis of water from the West Well has indicated a slow increase in VOC concentration. However, recent sampling data (refer to Table 1-1) suggest that the VOC concentration has leveled off in the West Well discharge, possibly due to remediation of the principal source area. Therefore, using a conservative design approach, ERM has assumed that the maximum VOC concentration of the West Well discharge might increase to 200 ppb.

In addition, as the previous sampling data indicate that the West Well contains only three VOCs (trans-1,2-dichloroethane, trichloroethene, and 1,1-dichloroethane), it is projected that the design concentration of 200 ppb will also contain only these compounds. The design concentrations presented in Table 3-2 are based on maintaining the same proportional concentrations of the three compounds as detected in the 25 November 1986 samples.

It should be noted that these design values represent a projected worst case and it is possible that actual peak values may remain below these values.

TABLE 3-2
WEST WELL GROUND WATER QUALITY SUMMARY

<u>Organic Component</u>	<u>Historical(1)</u> (ppb)	<u>Current(2)</u> (ppb)	<u>Design(3)</u> (ppb)
Trans-1,2-Dichloroethene	17	22	32
Trichloroethene	110	89	164
1,1-Dichloroethane	2	2	4
Total	129	113	200

(1) Maximum values recorded at West Well for these compounds during sampling period (25 July 1984, 22 February 1986, 25 November 1986).

(2) Samples collected 25 November 1986.

(3) Design concentrations based on compounds previously identified in West Well. Refer to text for discussion of design VOC concentrations.

3.5 Design Procedures

3.5.1 Selection of Design Basis by Compound

Packed tower sizing for the West Well site was completed using an algorithm based on work by Onda as expanded by Roberts, et al.¹ The packing material used for the system sizing is 2-inch nominal size Jaeger Tri-Packs, which was selected based on test results from several sources on similar liquid streams.

A design operating temperature of 52.6°F (11.5°C) was assumed to approximate worst case conditions for stripper operation at the site. This design temperature is based on an energy balance performed using an influent ground water temperature estimated at 55°F (13°C) and the minimum air temperature at -10°F (-23°C). For the energy balance, a 100:1 air to water ratio was used. (At an air to water ratio of 50:1, the design operating temperature would be 54.0°F [12.2°C]).

Of the three volatile organic substances detected in the West Well ground water, the two major constituents are trichloroethene, with a "worst case" projected concentration of 164 ppb, and trans-1,2-dichloroethene, projected at 32 ppb. Of these, trichloroethene is not only the predominant compound, but also has the lower Henry's Law Constant and was therefore used for design of the column. The remaining measurable VOC in the West Well discharge, 1,1-dichloroethane, has a Henry's Law Constant that is lower than trichloroethene but is projected at only 4 ppb. Therefore, since it represents only 2 percent of the design VOC level, it was not used as the design compound. Thus, for the design basis it was considered that trichloroethene will be present at a concentration of 200 ppb.

3.5.2 Design Performance

The design basis must also specify the performance, or removal efficiency, expected by the process. Three design removal efficiencies were evaluated to provide a sensitivity analysis of performance vs. column sizing and indirectly, relative cost. The design removal efficiencies evaluated are 90 percent, 95 percent, and 98 percent. The design values and column sizings for the various removal efficiencies are presented in Tables 3-3 and 3-4.

¹Roberts, Paul et al. 1985. "Evaluating Two-Resistance Models for Air Stripping of Volatile Organic Contaminants in a Countercurrent, Packed Column"; Environmental Science and Technology, 1985, Vol. 19: pps 164-173.

TABLE 3-3
DESIGN BASIS

Flow	350 gpm
Maximum Organic Concentration	200 ppb
Henry's Law Constant	4.2×10^{-3} atm m ³ /mole(1)
Packing Material	Jaeger Tri-Packs (2-inch nominal)
Surface Tension	0.0281 kg/sec ²
Total Specific Surface Area	138/meter
Nominal Packing Diameter	0.0508 meters
Air Temperature (Minimum)	-10°F
Water Temperature (Minimum)	55°F
Material of Construction	PVC or fiberglass
Air/Water Ratio	between 50:1 and 100:1

(1) Value for trichloroethene (TCE) which is the least strippable of the major VOCs projected in the West Well design VOC level at 10°C. The dimensionless Henry's Law Constant is 0.20 under these conditions.

TABLE 3-4
DESIGN SUMMARY

West Well Flow Rate is 350 gpm
Design VOC is Trichloroethene
Packing Media is 2-inch Jaeger Tri-Packs

VOC Percent Removal	Column Diameter (ft)	Packing Height (ft)	Packing Volume (cu ft)	Air:Water Ratio	Liquid Flux (kg/m2/s)	Gas Flux (kg/m2/s)	Stripping Factor
90	3.00	---	---	100	33.67	4.17	19.72
	3.00	---	---	75	33.67	3.12	15.04
	3.00	---	---	50	33.67	2.08	10.20
90	4.00	---	---	100	18.94	2.35	19.72
	4.00	---	---	75	18.94	1.76	15.04
	4.00	8.92	112.09	50	18.94	1.17	10.20
90	5.00	7.80	153.15	100	12.12	1.50	19.72
	5.00	7.86	154.33	75	12.12	1.12	15.04
	5.00	8.06	158.26	50	12.12	0.75	10.20
90	6.00	7.19	203.29	100	8.42	1.04	19.72
	6.00	7.25	204.99	75	8.42	0.78	15.04
	6.00	7.45	210.64	50	8.42	0.52	10.20
95	3.00	---	---	100	33.67	4.17	19.72
	3.00	---	---	75	33.67	3.12	15.04
	3.00	---	---	50	33.67	2.08	10.20
95	4.00	---	---	100	18.94	2.35	19.72
	4.00	---	---	75	18.94	1.76	15.04
	4.00	11.69	146.90	50	18.94	1.17	10.20
95	5.00	10.19	200.08	100	12.12	1.50	19.72
	5.00	10.28	201.85	75	12.12	1.12	15.04
	5.00	10.57	207.54	50	12.12	0.75	10.20
95	6.00	9.39	265.50	100	8.42	1.04	19.72
	6.00	9.48	268.04	75	8.42	0.78	15.04
	6.00	9.77	276.24	50	8.42	0.52	10.20
98	4.00	---	---	100	18.94	2.35	19.72
	4.00	---	---	75	18.94	1.76	15.04
	4.00	15.38	193.27	50	18.94	1.17	10.20
98	5.00	13.35	262.13	100	12.12	1.50	19.72
	5.00	13.49	264.88	75	12.12	1.12	15.04
	5.00	13.91	273.12	50	12.12	0.75	10.20
98	6.00	12.31	348.06	100	8.42	1.04	19.72
	6.00	12.44	351.73	75	8.42	0.78	15.04
	6.00	12.84	363.04	50	8.42	0.52	10.20

A review of Table 3-4 provides the following information:

- Column diameters in excess of four feet are required to provide sufficient media area to maintain the liquid flux and gas flux rates within acceptable limits. The liquid flux rate should range between 0.5 and 30 kg/m²/sec so that the ground water distributes evenly across the media. The gas flux rate should range between 0.017 and 0.17 kg/m²/sec. Operating within these ranges will provide sufficient gas:liquid interface and permit efficient stripping.

In addition, the stripping factor should be greater than one for proper operation of the column. The stripping factor is determined by multiplying the non-dimensional Henry's Law Constant by the Volumetric A:W ratio. When this factor is above one there is sufficient air to remove the VOCs from the liquid phase. If the stripping factor falls below one, then the algorithm used to determine the packing media height (through a calculation of the number and height of transfer units required) fails.

- Operation of a properly sized column with as small a blower as possible is preferred, as the electrical requirements will be decreased. As shown in the table, the required media depth for a given percent removal and increases only slightly for a decrease in the A:W ratio from 100:1 to 50:1. Thus, energy savings can be realized over the long term for the relatively insignificant up-front cost of a slightly higher packed column.
- An increase in stripping tower diameter for a given A:W ratio does not substantially reduce the required media height but does substantially increase the packing volume. To design the proper foundation or support structure it is necessary to design for a flooded stripper column. The increased packing volume results in a greater design load on the support structure. Thus, a small diameter column is preferable.
- The design VOC removal rate is independent of the inlet design concentration at the concentrations anticipated from the West Well discharge. In reality, VOC removal efficiencies start becoming affected only as the concentration approaches the solubility limit of the compound(s) in the liquid stream. Under these extreme

conditions a stripper would be seeing a two phase solution that behaves substantially differently from a soluble substrate. The compounds identified in the West Well discharge are several orders of magnitude below their solubility limits and therefore the percent removal calculations are independent of anticipated inlet concentrations.

3.6 Recommended Design of Air Stripper

Calculations were performed to size air strippers for the 90 percent, 95 percent, and 98 percent removal of VOCs from the ground water. Based on a comparison of the proposed systems, ERM recommends that a 4-foot diameter column with an air:water ratio of 50:1 be installed. The bases for this recommendation are:

- Based on the requirement that the column support must be designed to carry a flooded column, this design minimizes the design loading.
- Operation of the stripper with a 50:1 air:water ratio will minimize power requirements and therefore minimize yearly operating costs.
- Based on the design VOC concentration of 200 ppb, a column designed for 90 percent removal would have a finished water concentration of 20 ppb; a column designed for 95 percent removal would have a finished water concentration of 10 ppb; and a column designed for 98 percent removal would have a finished water concentration of 4 ppb. The selected removal efficiency affects the required packing depth for a 4-foot diameter column, over a range from 8.92 to 15.38 feet, between 90 percent and 98 percent removal. Since the cost differential over this column-height range is small, ERM recommends that a 98 percent removal column be specified to provide the BAT required by the NYSDEC. This column will provide remediation of the design ground water (inlet concentration 200 ppb) to a finished concentration of 4 ppb; or for the current ground water (inlet VOC concentration 113 ppb) to approximately 2 ppb.

The recommended air stripper is designed for a flow of 350 gpm, is 4-feet in diameter, has media packing of 15 feet, and has an air-to-water ratio of 50:1. This unit will have an overall

height of approximately 20 feet and will remove 98 percent of the inlet VOCs.

3.7 Air Emission Analysis

At an air flow rate of 50:1 (2350 scfm at the design flow rate of 350 gpm) and a design concentration of 200 ppb, the off-gas concentrations for the three components are all acceptable based on calculations performed in accordance with the "New York State Air Guide - 1, Guidelines for the Control of Toxic Ambient Air Contaminants", July 1986 printing. These calculations were performed using a conservative analysis based on the following assumptions:

- The design concentration of 200 ppb was used.
- It was assumed that the stripper removed all 200 ppb which is then discharged to the surrounding atmosphere from a point source.

Under the procedure outline in the NYS Air Guide-1, page 12, for point sources the first step is to establish the toxicity and corresponding AALs (Acceptable Ambient Levels) for all contaminants under consideration. Of the three VOCs under consideration at this site only one, trichloroethene, has a specified AAL at 900 ug/m³. For the two remaining compounds trans-1,2,-dichloroethane and 1,1-dichloroethane the minimum AAL for moderate to low toxicity compounds without TWA-TLVs (Threshold Limit Value - Time Weighted Averages) was used. This value is 0.03 ug/m³.

The second step of the analysis is to determine the "in-stack" concentration of each contaminant. This was performed by a mass balance based on the design concentrations, assuming that the entire VOC load is transferred to the air stream at the air flow rate of 2350 scfm. The in-stack concentration level is then divided by 100, to account for atmospheric dispersion, as per the guidelines. This value is then compared with the AALs.

From a review of Table 3-5, it can be seen that the calculated atmospheric concentrations using the design concentrations for the three design VOCs are all well below the AALs. Under the guidelines no further analysis is required and off-gas treatment is also not required.

TABLE 3-5
AIR EMISSION ANALYSES

<u>Compound</u>	<u>Design Concentration in Ground Water</u>	<u>AALs(1)</u>	<u>Calculated Atmospheric Concentration(3)</u>
trans-1,2-dichloroethene	32 ppb	0.03 ug/m ³ (2)	0.0016 ug/m ³
trichloroethene	164 ppb	900 ug/m ³	0.0061 ug/m ³
1,1-dichloroethane	4 ppb	0.03 ug/m ³ (2)	0.0002 ug/m ³

(1) Acceptable Ambient Levels as presented in NYS Air Guide-1, Guidelines For the Control of Toxic Ambient Air Contaminants, July 1986 printing.

(2) Deminimus AALs for moderate and low toxicity contaminants without TWA-TLVs (Threshold Limit Value - Time Weighted Analyses)

(3) Based on procedures outlined on page 12 of the NYS Air Guide-1, Guidelines For the Control of Toxic Ambient Air Contaminants, July 1986 printing. Under this procedure the concentration in the off-gas is divided by 100 to account for atmospheric dispersion and then is compared with the AALs. As noted, the off-gas concentrations are below the AALS, so under the guidelines no further analysis is required and no off-gas treatment is required.

3.8 Physical Layout

3.8.1 Location

The air-stripper installation will require one stripper column with packing, a booster lift pump, an air blower, and the necessary controls. Pumping to the stripper will be performed by the existing Layne Vertical Centrifugal Turbine Pump which will be boosted by an in-line centrifugal pump. Modification of the existing West Well pump to discharge directly to the top of the air stripper would be costly and difficult, as the Layne Centrifugal Pump has a rather flat pump curve. Presently, the pump is discharging at approximately 315 gpm at a static lift of about 80 feet.

In order to limit space requirements, ideally the air stripper will be positioned over the existing West Well holding reservoir. Positioning the stripper here will require few piping modifications due to its close proximity to the existing West Well pump. In addition, all controls and electrical connections can be located within the existing West Well building. The blower and booster pump can also be positioned near the existing structure and can be enclosed in removal structures that protect the equipment from the elements but can be easily removed for servicing the equipment.

A review of the pile and pile-cap plan for the West Well pump building and holding reservoir indicates that a total of fifteen piles are positioned under the holding reservoir. These piles are laid out in three rows of five piles, placed equidistant and perpendicular to the holding reservoir's length. Based on field measurements of the piles taken in 1943, the piles beneath the holding reservoir are capable of carrying a load of 191.6 tons. Presently, the holding reservoir load, including water, is 165 tons. Therefore, as a conservative estimate, the piles and pile caps beneath the holding reservoir are capable of handling an additional load of 25 tons.

Design load for the air stripper is based on a 4-foot diameter column, 20 feet in height. The greatest load would occur if the column flooded with water, resulting in a total load of less than 10 tons. While it is unlikely the column would flood during normal operation, standard industry practice is to design for this condition. Possible conditions that could result in a flooded column are: (1) freezing of the discharge line, (2) clogging of the discharge line due to broken media, etc., and (3) closure of the discharge valve (underdrain) of the column while the feed pump was still operating.

A base support system must be designed to permit the transfer of the column load to the reservoir side walls, as the reservoir cover cannot be expected to support the load. Detailed structural evaluation is necessary to ascertain the best method of support. This will be performed during the detailed engineering design phase. Based on review of the support system necessary to carry a flooded column load, it may prove more economical to build a separate air stripper foundation in the vicinity of the holding reservoir. Detailed cost comparisons will also be performed during the engineering design phase.

3.8.2 System Description

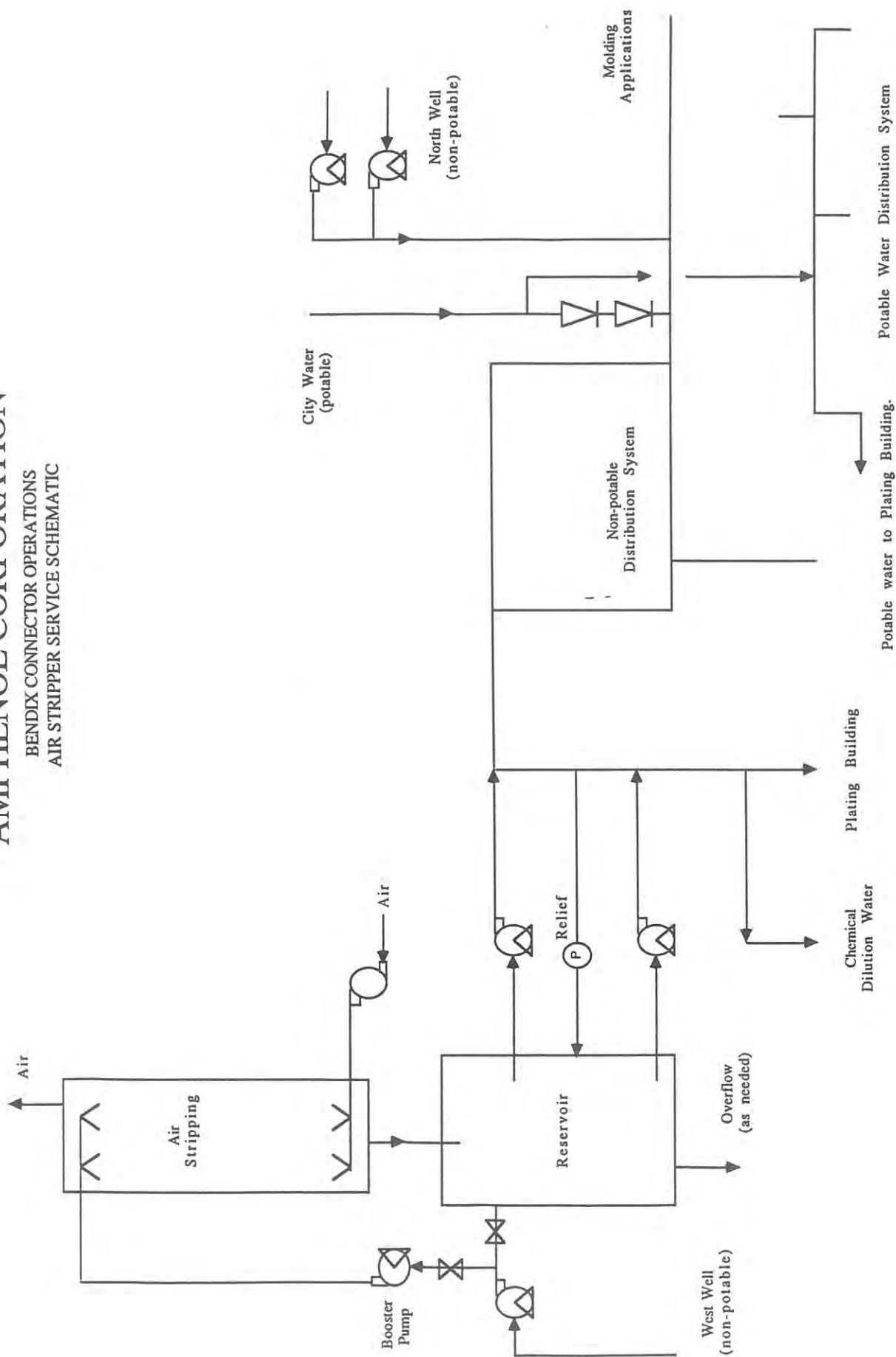
The addition of the air stripper to the existing distribution system will be accomplished in the following fashion (refer to Figure 3-2). The discharge line for the West Well pump will be modified, with the present discharge elbow from the West Well pump removed and replaced with a tee fitting. One end of the tee will remain directed toward the holding reservoir while the other will be directed toward the Pump Room wall. Both extensions will have manually operated valves to permit control of flow direction. Under operating conditions, the line to the reservoir will be closed. An opening in the Pump Room wall will permit the other line to exit the building. Outside the building, above the holding reservoir, the line will connect to an in-line centrifugal booster pump to lift the West Well flow to the top of the air stripper column. The centrifugal pump and motor can be enclosed in a small shed to protect the electrical equipment.

The proposed piping modifications would permit the West Well flow to enter the holding reservoir directly in the event that (1) the air stripper is off-line for maintenance, or (2) the organic concentration of the ground water decreases so that stripping is no longer required. Positioning the centrifugal pump in-line will require that the centrifugal pump be interlocked with the West Well pump so that it will shut down if the West Well pump shuts down.

For discharge from the bottom of the air stripping column, a discharge line can extend down through the holding reservoir roof. An alternative option would be to place the underdrain line through the same wall opening as the booster pump line. This would eliminate the need to bore through the reservoir roof, which may affect the structural integrity of the concrete slab.

It is possible that the stripper blower could be positioned on the holding reservoir roof next to the air stripper and protected

FIGURE 3-2
AMPHENOL CORPORATION
 BENDIX CONNECTOR OPERATIONS
 AIR STRIPPER SERVICE SCHEMATIC



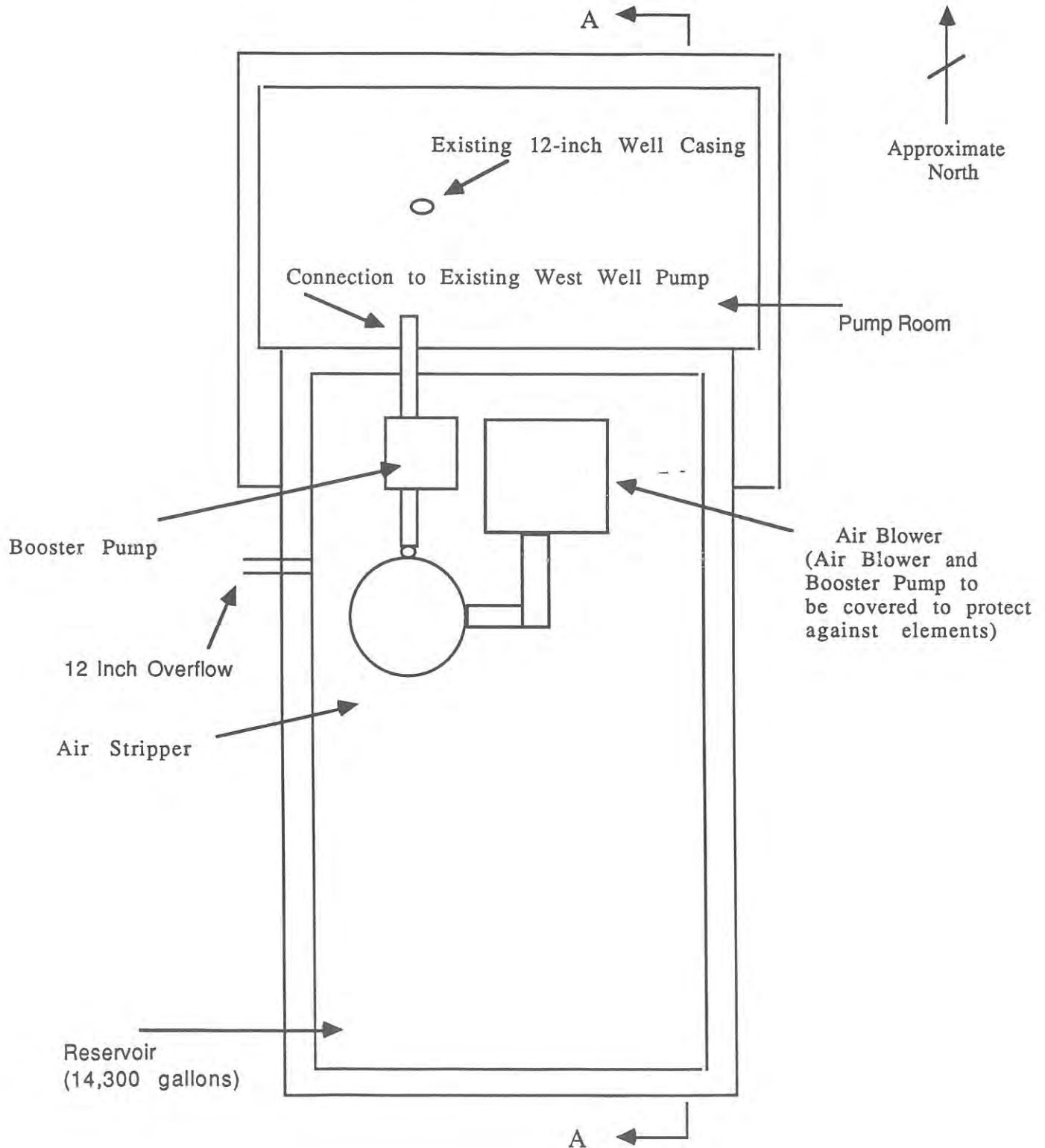
Note:
 1. Above schematic representation of system does not include all connections, fittings or valves.

from the elements by a small enclosed structure. (Refer to Figures 3-3 and 3-4). However, possible vibration of the air blower may require construction of an isolated foundation slab.

Piping the system in the manner described above will allow for treatment of the entire West Well flow, using the existing holding reservoir to hold the treated (i.e. "stripped") ground water. The existing non-potable distribution system to the Main Building and Plating Building will be maintained, with overflow from the holding reservoir to Tributary 147 treated.

Insulation of the air stripping column and associated piping is not required based on energy balance calculations. To ensure that the operation of the system is unaffected during the winter, it is recommended that the inlet and discharge lines be heat traced. During operation, the latent heat in the ground water will be sufficient to prevent freezing down to air temperatures below approximately -10°F (-23°C). For possible maintenance during freezing conditions, a drain line should be provided to permit dewatering of the booster pump and feed line.

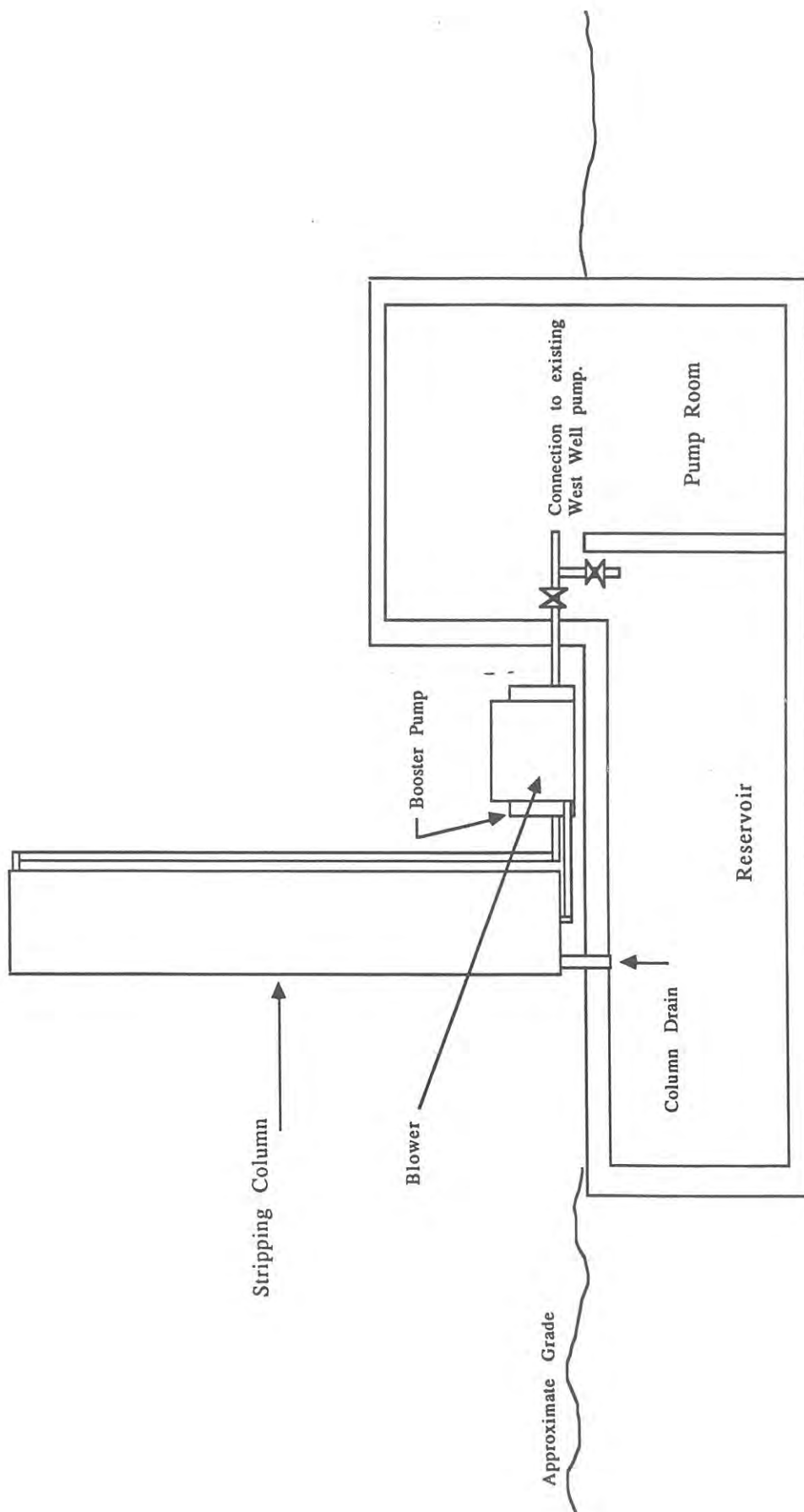
FIGURE 3-3
AMPHENOL CORPORATION
BENDIX CONNECTOR OPERATIONS
WEST WELL-PLAN VIEW



Note:

Approximate scale is 1-inch equals 5-feet

FIGURE 3-4
 AMPHENOL CORPORATION
 BENDIX CONNECTOR OPERATIONS
 WEST WELL-SECTION "AA"



Note: Approximate scale 1-inch = 6.7-feet.

TABLE 3-6
EQUIPMENT LIST

Air Stripping System

Column

Function:	Remove 98% of volatile organic constituents from ground water
Design Basis:	Air: water ratio = 50:1 Design temperature = 54°F (12°C) Design VOC concentration = 200 ppb of trichloroethene
Number:	One, approximately 20 ft high, 4 ft diameter
Capacity:	350 gpm, maximum
Type:	Packed tower, 12 ft of 2" diameter Jaeger Tri-Packs
Material:	FRP tower, Polypropylene packing

Blower

Function:	Provide air flow to stripping tower
Design Basis:	Air: water ratio = 50:1 at a water flow rate of 350 gpm (2350 scfm)
Number:	One
Capacity:	Centrifugal Blower
Material:	Steel, TEFC
Control:	On/Off

SECTION 4

CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing discussion, the following conclusions and recommendations are presented:

4.1 Conclusions

1. The pumping of the West Well at approximately 350 gpm has prevented any off-site VOC migration in excess of New York State Ground Water Standards.
2. The reconstruction of the former solvent storage tank area and the associated soil removal have remediated the principal source area of VOCs to the ground water at the West Well.
3. Continued pumping of the West Well contains the VOCs on site so that no NYSDEC standards are violated off-site, and reduces the VOC concentrations in the on-site ground water.
4. There is no potential public health risk associated with the VOCs in ground water under the current conditions.
5. There is no potential public or environmental impacts associated with the West Parking Lot soils or sediments in Tributary 147.
6. The ground water and West Well discharges to Tributary 147 are in compliance with New York State standards for the designated Class D waters, and with the Amphenol SPDES permit conditions.
7. The NYSDEC current policy requires that Best Applicable Technology (BAT) be applied to ground water recovered under an aquifer restoration program.
8. The most cost-effective BAT method at the West Well is countercurrent air stripping before the distribution reservoir.

4.2 Recommendations

1. The current pumping schedule should be maintained at the West Well in order to contain and recover the VOC plume at the site.
2. Countercurrent air stripping of the water from the West Well should be implemented to provide BAT.
3. Semi-annual monitoring should be conducted at monitoring wells WW-1, WW-2, WW-3, WW-4, WW-5, and WW-6; and at stream monitoring locations 1, 2, 3, and 4. This monitoring should be conducted in early April and September, to represent the seasonal extremes so that long-term time trends can be evaluated.