Atlantic Richfield Company

28100 Torch Parkway
Warrenville, IL 60555

December 11, 2006

Mr. Michael J. Negrelli
Remedial Project Manager
U.S. Environmental Protection Agency
Region 2
290 Broadway Avenue
NYC SB2 – 20th Floor
New York, New York 10007-1866

RE: 2005 Annual Report of Operation and Maintenance Activities
Central Elevated Landfill Area
Former Sinclair Refinery Site –Operable Unit 1
Wellsville, New York

Dear Mr. Negrelli:

Attached herewith are two copies of the *2005 Annual Report of Operations and Maintenance Activities* for the Central Elevated Landfill Area at the Former Sinclair Refinery Site, Operable Unit 1 (OU1) in Wellsville, New York. The report presents a discussion of the operation and maintenance activities that occurred at this area of OU1 during 2005.

If you have any questions regarding this submittal, please do not hesitate to contact me at (630) 836-6955.

Sincerely,

Joseph P. Sontchi, CPG
Environmental Business Manager
Atlantic Richfield Company, a BP affiliated company

cc: (w/ attachments)
M. Moore, NYSDEC
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Ken Hannon, SECOR
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David A. Howe, Public Library, Wellsville, NY
File

2005 ANNUAL REPORT OF OPERATIONS AND MAINTENANCE ACTIVITIES

FORMER SINCLAIR REFINERY SITE
OPERABLE UNIT ONE
CENTRAL ELEVATED LANDFILL AREA

WELLSVILLE, NEW YORK

Prepared For

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28100 Torch Parkway, MC 2S
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1.0 OVERVIEW

1.1 Introduction

This document presents the 2005 Annual Report of the Operation and Maintenance Activities for the Central Elevated Landfill Area (CELA) at the Former Sinclair Refinery Site Operable Unit 1 (OU1) located in the Town of Wellsville, New York, (please see Figure 1a). This document has been prepared by On-Site Technical Services, Inc. (On-Site), of Wellsville, New York for the Atlantic Richfield Company (Atlantic Richfield). Operation and Maintenance procedures for this project are detailed in the *Operations and Maintenance Plan for Central Elevated Landfill Area and Refinery Surface Soils, Wellsville, New York,* dated April 1993 (O&M Plan), prepared by GeoSyntec Consultants (GeoSyntec), Atlanta, Georgia. An electronic copy of this report is included as Appendix A.

1.2 Project Background

An Administrative Order on Consent (AOC), between Atlantic Richfield and the United States Environmental Protection Agency (USEPA) dated May 1, 1992, provided that Atlantic Richfield remediate the CELA, and excavate certain surface soils in sections of Operable Unit 2 (OU2). To accomplish the CELA remediation, a contract to construct a soil-bentonite cutoff wall and a RCRA cap over the consolidated wastes at the CELA was awarded to Geo-Con, Inc., Monroeville, Pennsylvania, in spring 1992. The contractor mobilized in May 1992 and the final project inspection was conducted on July 7, 1993 (please see Figure 1b for site features). The excavation of surface soils in OU2 was completed by a combination of Geo-Con and Bakers of Jericho Hill, Inc., Alfred, New York. The surface soil remedy included removal of defined soils to an approximate depth of one foot at several locations on the Site, and backfilling with a 12-inch layer of approved borrow material.

Subsection 38 of the AOC provided that Atlantic Richfield prepares an O&M plan for operations and maintenance of the CELA and defined surface soils. GeoSyntec prepared the O&M Plan in April 1993. The O&M Plan has been modified since 1993, with concurrence from the USEPA, on specific requirements, which are discussed in this report. O&M of the defined surface soil excavation areas is covered under routine OU2 operations. Based on site observations during 2005, no significant construction or significant changes in the use of the excavation areas is noted.

1.3 Report Format

The remainder of this report is organized as follows.

- Section 2 outlines the currently approved operation requirements.
- Section 3 presents the currently approved maintenance requirements.
- Section 4 details O&M activities completed during 2005.
- Section 5 provides the results of 2005 monitoring activities.
- Section 6 presents the conclusions and recommendations.

2.0 OPERATIONS REQUIREMENTS

2.1 Inspection Requirements

The O&M Plan outlines the following visual inspections to be performed on a quarterly basis, or following any extreme natural event, which may jeopardize the integrity of the project components.

CELA Cap Vegetative Cover: visually inspect for erosion; stressed vegetation; sediment build-up; local subsidence or loss of grade; water ponding; turf height; evidence of activity of burrowing animals; growth of trees, weeds or undesirable vegetation; evidence of fires or vandalism; perform soil pH test; evidence of unauthorized traffic on cover; and slope instability or sloughing.

Gas Vent System: visually inspect for excess sediment accumulation and vegetative growth over the vent pipes; erosion or washout around the vent pipes; and damage to vent pipes due to vandalism, cap traffic, or natural disaster.

Open Well Piezometers: visually inspect for excess sediment accumulation and any vegetative growth over the protective cover; erosion around the surface casing / CELA Cap interface; proper function of the protective cover cap and lock; excess rust on the surface casing and lock; ponding between protective casing and the riser pipe; or any evidence of vandalism, damage, or any conditions which would allow willful, negligent, or accidental discharge of any undesired substances into the piezometers.

Groundwater Monitoring Wells: visually inspect for excess sediment accumulation and any vegetative growth over the protective cover; erosion around the concrete surface seal; cracks in the concrete surface seal; separation between the concrete surface seal and the surface casing; proper function of the surface casing cap and lock; excess rust on the

surface casing and lock; ponding between the surface casing and the riser pipe; or any evidence of vandalism, damage, or any conditions which would allow willful, negligent, or accidental discharge of any undesired substances into the monitoring wells.

Surface Water Drainage System: visually inspect for any condition which would in any way impede, restrict, or redirect surface water drainage such as dislodged riprap; washouts; erosion; sediment accumulation; gullies and ruts in the drainage swales and appurtenances; excess rusting, holes, cracks, sediment accumulation; foreign objects; and washouts at the berm-culvert interface in the drainage culvert which penetrates the Genesee River Channelization Dike.

Security Fence: visually inspect for proper clearance between fence gates and the ground; proper function of gate lock and hinges; holes; excess rust; ruts or burrows beneath the fence; vegetation growing onto or through the fence; improper connection between posts and chain link mesh; loose posts; cracks in the post foundations; and general signs of deterioration.

2.2 Subsidence and Settlement Surveys

Twenty-five settlement plates, each consisting of a sleeved metal rod attached to a flat metal plate, incorporated into the cap design, are surveyed by a New York State licensed professional land surveyor to detect settlement or subsidence of the materials underlying the cap. Additionally, the survey includes visual monitoring with photographs by traversing the cap on foot looking for signs of differential settlement (ponding water, or zones where the ground is softer than surrounding areas). This survey was initially required twice a year to document differential and total settlement until such time that changes in measurements over a six month period were less than 0.02 ft. Upon achieving this standard, the O&M Plan provides for the reduction in survey frequency to once per year. The current survey frequency is once per year. Differential settlement is the change in elevation since the previous survey. Total (cumulative) settlement is the change in elevation since the 1992 baseline survey. The plan also provides that if a change in settlement exceeding 0.02 ft does not occur after two years, the frequency of surveying can be reduced to once every ten years.

2.3 Groundwater Observation Requirements

A total of 11 groundwater observation wells and six open well piezometers have been installed on and around the CELA. Section 6.2.3 of the O&M Plan provides that

groundwater wells be sampled quarterly for one year to establish baseline conditions and twice per year thereafter. Samples obtained from both upgradient and downgradient wells are used to determine if there is any statistical change in groundwater conditions.

The statistical analysis performed in 2000, as documented in the 2000 Annual Report of Operations and Maintenance Activities, recommended the groundwater sampling requirement be reduced to annual sampling starting in 2001. This recommendation was approved by the USEPA in a letter dated June 2001 (Appendix B), and was implemented in 2001. Fluid level measurements, including non-aqueous phase liquid (NAPL) measurements, have continued on a semi-annual basis due to seasonal fluctuations.

In 2002 Atlantic Richfield requested to discontinue dissolved metals and semi-volatile organic compound (SVOC) analysis and to continue total metals, volatile organic compounds (VOC) and field parameter testing. In a November 2002 letter (Appendix B), the USEPA approved the discontinuation of the dissolved metal analysis contingent upon New York State Department of Environmental Conservation (NYSDEC) collecting split samples during the 2003 sampling event. NYSDEC collected split samples as part of the 2003 sampling event and dissolved metal analysis was discontinued starting in 2004. Also, in a June 27, 2005 email from USEPA to Atlantic Richfield (Appendix B), the USEPA agreed to suspend SVOC analysis. SVOC analysis was discontinued starting with the 2005 sampling event. Therefore, the current groundwater sampling frequency is annual with analysis for total metals and VOCs.

Groundwater data is compared with historical data to evaluate fluctuation of constituents. Graphs are prepared for groundwater indicator parameters and other constituents of interest. Groundwater data is compared with federal Maximum Contaminant Levels (MCLs) and Drinking Water Equivalent Levels (DWELs).

2.4 Static Groundwater Elevations

Semi-annual static groundwater elevations are measured in the observation wells and piezometers and routinely evaluated. Groundwater contour maps are constructed semi-annually and included in the annual report.

2.5 Piezometer Evaluation Program

The liquid level within the CELA is evaluated semi-annually to determine the apparent thickness of light non-aqueous phase liquid (LNAPL), if present, and to document that the

liquid level remains a minimum of 1 ft below the elevation of the tie-in of the CELA cap to the top of the slurry wall. The elevation of the top of the slurry wall varies from 1497 ft to 1501 ft. Also, if the accumulation of LNAPL in any of the piezometers is greater than 2 ft, it will be removed and properly disposed.

2.6 Gas Vent Evaluation

Each gas vent is evaluated semi-annually, using a photo-ionization detector (PID) or flame-ionization detector (FID), for emission of organic compounds. At least one monitoring event is conducted during the summer months. Results of the gas vent evaluation are recorded on a form located in Appendix C of the O&M Plan.

2.7 Storm Water Evaluation

To comply with the substantive requirements of a storm water discharge permit, a storm water grab sample is collected from the outfall of the 42-inch diameter drainage culvert semi-annually (shown on Figure 1b). The grab sample is collected following a storm event that is greater than 0.1 in. of precipitation and at least 72 hours has passed since the previous storm event of at least 0.1 in. of precipitation. Analytical parameter list for this sampling are located in section 6.6.2 of the O&M Plan.

3.0 MAINTENANCE REQUIREMENTS

3.1 Vegetation

Vegetation is mowed during the summer months after the grass goes to seed and reaches a height of more than six inches. Mowing is not lower than four inches. Prior to winter, grass is allowed to grow to eight to twelve inches. Fertilizer is applied as needed, based on agronomic soil tests performed every three years. Lime is applied as necessary to maintain soil pH above 5.8. Replacement of eroded topsoil, reseeding, and mulching is performed on an as needed basis. Routine maintenance includes the removal of sediment and removal of woody or undesirable vegetation.

3.2 Gas Vent System

The only anticipated maintenance of the passive gas vent system is repair or replacement of standpipes in the event they are damaged.

3.3 Observation Wells and Open Well Piezometers

Routine maintenance of the observation wells and piezometers includes removal of sediment accumulation and vegetation from the casing surface; repair of erosion around the concrete surface seals; filling cracks in the concrete surface seal and casing; and replacement of the surface casing cap and locks.

3. 4 Surface Drainage Features

Routine maintenance of the riprap lining of the drainage swales, rock chutes, channels, and culvert inlet and outlet includes removal of accumulated woody vegetation and sediment; replacement of washed-out riprap; and mowing or removal of vegetation. Routine maintenance of the culvert includes removal of sediment build-up; removal of foreign objects; and restoration of washed-out soil at the berm/culvert interface.

3.5 Access Roads

Maintenance of the access roads is performed as needed and includes repairs due to water ponding; removal of woody growth; and addition of new aggregate to fill ruts or depressed areas.

3.6 Security Fence

Routine maintenance of the security fence includes the removal of soil below the fence gate to ensure proper clearance; repair or replacement of gate locks and hinges; repair of holes; replacement of soil whenever ruts or burrows occur below the fence; removal of vegetation growing onto or through the fence; resetting of connection between posts and chain link mesh; replacement of rusted chain link mesh; and securing of loose posts.

4.0 2005 OPERATIONS AND MAINTENANCE ACTIVITIES

4.1 Visual Inspections

Visual inspections of the CELA were completed on March 17, July 5, September 7, and December 5, 2005. The inspections consisted of a complete walk-through visual inspection and completion of the Inspection Checklists (please see Appendix C). A summary of the inspections are included in the following sections.

4.1.1 CELA Cap Vegetative Cover

Below average precipitation and above average temperature throughout the 2005 summer months resulted in below average growth rate for the CELA cap vegetation. Therefore, the CELA cap was only mowed twice during 2005.

4.1.2 Gas Vent System

The gas vent system appears to be in good condition. No notable changes were observed from the 2005 inspections.

4.1.3 Open Well Piezometers

The six open well piezometers appear to be in good condition.

4.1.4 Groundwater Observation Wells

The 11 groundwater observation wells were inspected and are in good condition.

4.1.5 Surface Water Drainage System

The surface water drainage system is functioning as designed. Some vegetation continues to grow in the channels. Due to the extreme high temperatures and low precipitation during the summer of 2005, the vegetation growth throughout the channels was very minimal. No vegetation removal from the drainage channels was conducted on the CELA site in 2005.

4.1.6 Security Fence

The security fence is in overall excellent condition with no visible damage to the surrounding area at the base of the fence poles. All ground rods are properly bonded to the fence and ground posts.

4.2 2005 Monitoring Activities

4.2.1 Settlement Plate Survey

James Ball Land Surveyor of Wellsville, New York, surveyed the settlement plates on September 28, 2005. Settlement plate locations with the differential elevation data are presented in Figure 2. A tabular listing of survey data from 1992 to 2005 is included as

Table 1. Figures 3A through 3E graphically exhibit total change in elevation from 1992 to 2005. Discussion of the survey results is presented in Section 5.1 of this report.

4.2.2 Groundwater Evaluation

On-Site performed annual groundwater sampling at the 11 observation wells (MWR-1 through MWR-11) between July 6 and 12, 2005 (see Figure 1b for well locations). A submersible Grundfos pump was utilized for purging and sampling the wells. Field parameters including pH, Conductivity, Turbidity, Dissolved Oxygen, Temperature and Oxidation Reduction Potential were measured throughout purge and at time of sampling (please see Table 10). LNAPL was measured at an apparent thickness of 0.24 ft in observation well MWR-2 (please see Table 11). Prior to sampling this well the LNAPL was removed using absorbent socks. Laboratory analysis of groundwater samples was performed by Accutest Laboratories of Dayton, New Jersey for total TAL metals (method 6010B) and TCL, VOCs (method 8260B). Discussion of groundwater conditions are presented in Section 5.3. Groundwater analytical results are presented in Tables 2 through 4. Groundwater sampling field parameter forms are in Appendix D.

4.2.3 Liquid Level Evaluation

Static water levels were measured with an oil/water interface probe in the 11 observation wells and six piezometers during the annual groundwater sampling event in July 2005 and in the static water level monitoring event in September 2005. The static water levels are presented in Table 5 and water table contour maps for July and September 2005 are provided as Figures 4 and 5, respectively.

The static water level data were subtracted from the surveyed elevation of the top of casing to calculate the water elevations as shown in Table 5. These data were plotted and contoured on a site base map to represent the potentiometric surface for the July 2005 monitoring event (Figure 4) and September 2005 monitoring event (Figure 5). Each contour represents a line of equivalent water elevation. The direction of groundwater flow is from higher to lower elevation approximately perpendicular to the contours. The O&M plan discusses determining both groundwater flow direction and rate. As presented on Figures 4 and 5, the direction of groundwater flow is generally towards the CELA; however, the presence of the slurry wall restricts flow across the landfill. The rate of groundwater flow in the area is also restricted by the soil-bentonite slurry wall, which has a designed hydraulic conductivity of 1×10^{-7} cm/sec or less.

LNAPL was detected in monitoring well MWR-2 and in piezometer P-4 during the July annual groundwater sampling event. In September 2005, LNAPL was detected at MWR-2, MWR-3, P-04 and P-06. Additional discussion of liquid level monitoring is provided in Section 5.2.

4.2.4 Gas Vent Evaluation

The fourteen gas vents were evaluated with a Mini Rae Photoionization Detector (PID) on August 9, and December 19, 2005 (see Figure 1b for locations). Prior to use, the PID was calibrated according to manufacturer specification with 100 ppm Isobutylene gas. PID readings were measured directly at the gas vent, and approximately five feet upwind and downwind of each vent. Weather conditions on August 9, 2005 were approximately 85 ° F, sunny with variable wind at approximately 0 to 10 mph from the northwest. Weather conditions on December 19, 2005 were approximately 30 ° F, with wind at approximately 5 to 15 mph from the south. Emissions levels at all upwind and downwind locations were below 5 ppm during the evaluations. The gas vent evaluation data are included in Appendix E of this report.

4.2.5 Storm Water Evaluation

One storm water sample was obtained from the CELA Outfall culvert at the north end of the CELA during 2005 (please see Figure 1b). The sample was collected on June 6, 2005. Between July and December 2005, the required conditions as outlined in Section 2.7 were not achieved when sampling personnel were available; therefore a second sampling event was not completed in 2005.

A summary of the June 6, 2005 storm water sampling follows. The estimated flow through the culvert was 1.1 gallons per minute (gpm). The measured rainfall was one inch over approximately ½ hour and it had been greater than 72 hours since the last storm event of at least 0.1 inches. Laboratory analysis for chemical parameters was performed by Accutest Laboratories of Dayton, New Jersey. Analysis for acute toxicity screening of Ceriodaphnia dubia and Pimephales promelas was performed by Aqua Tech Environmental Laboratories (ATEL), Melmore, Ohio. Discussion of storm water data are provided in section 5.4. Table 6 compares storm water results from 2002 to 2005. The ATEL laboratory report and the chain-of-custody are included in Appendix F.

4.2.6 Soil pH and Agronomic Soil Test

Agronomic soil testing which is performed every three years along with annual soil pH testing has demonstrated stable pH values over the last several years as shown in the following table. Based upon this trend, a discontinuation of annual soil pH analysis was approved by USEPA via a June 27, 2005 email correspondence from USEPA to Atlantic Richfield (included in Appendix B) with continuation of agronomic soil testing every three years. Agronomic soil and soil pH testing is required in 2006.

YEAR	ANALYSIS	pH RESULT
2000	Agronomic Test	7.8
2001	Soil pH Test	7.8
2002	Soil pH Test	7.6
2003	Agronomic Test	7.7
2005*	Soil pH Test	7.2

*Soil pH tested on March 17, 2005 to replace non-reported 2004 test results

4.3 Maintenance Activities

Maintenance activities during 2005 included routine mowing of the cap. The CELA was mowed two times during 2005. No lime or fertilizer was added to the CELA in 2005. No topsoil was required to be replaced in 2005. No repairs to the vents, piping, monitoring wells, piezometers, drainage area or fence was required in 2005.

5.0 RESULTS

5.1 Settlement / Differential Elevation

The minimum, maximum and average change in elevation (differential elevation) for the time period of October 7, 2004 to September 28, 2005 are 0.01 ft, -0.03 ft and -0.01 ft, respectively. Negative differential elevation represents settlement. The minimum, maximum and average differential elevation between the October 7, 2003 survey and September 28, 2005 are 0.00 ft, -0.03 ft and -0.03 ft, respectively. The O&M Plan provides that if settlement exceeding 0.02 ft does not occur after two years, the survey frequency can be reduced to once every 10 years. Between October 7, 2003 and September 28, 2005 settlement plate SP-11 exhibited the greatest differential settlement of (–0.07 ft), therefore the survey frequency will remain annual. Settlement plate locations with the 2004 to 2005 and the 2003 to 2005 elevation changes are presented as Figure 2.

Figures 3A through 3E graphically depict elevation change from 1992 to 2005. Table 1 exhibits the survey data from the 1992 baseline to 2005.

Based on visual observations of the cap no significant settlement was noted. The cap continues to have positive drainage with no observed areas of ponding water or abnormally soft ground.

5.2 Liquid Levels

5.2.1 Liquid Elevations vs. Slurry Wall Elevation

Liquid level elevation inside the slurry wall should be a minimum of 1 ft below the elevation of the top of the slurry wall. The slurry wall elevation varies between 1497 and 1501 ft. The highest water level measured inside the CELA slurry wall during 2005 was 1492.04 ft in P-2 on July 5, 2005. This level is well below the minimum of 1 ft below the top of the slurry wall and is consistent with historical measurements. The static water elevations and water table contours for July and September 2005 are presented as Figures 4 and 5, respectively and are consistent with historic levels.

5.2.2 LNAPL Thickness

Since 1993, LNAPL has been detected intermittently in observation wells MWR-02 and MWR-03 and piezometers P-4 and P-6. The maximum apparent LNAPL thickness of 0.67 ft was measured in MWR-02 during June 2004. The maximum apparent LNAPL thickness measured inside the slurry wall was 0.40 ft, measured in P-6 during August 1993. This measured thickness is well below the 2 ft thickness for removal. A graph of LNAPL thickness over time for each of the two wells and two piezometers is presented on Figure 6. Generally, it appears that LNAPL thicknesses have varied over time with observation well MWR-02 consistently containing the most LNAPL. Historically LNAPL has been removed from wells using absorbent socks prior to each groundwater sampling event. Beginning in 2004 additional efforts (more frequent monitoring and socking, as appropriate) has been made to remove LNAPL from MWR-02. In 2005, approximately 173 oz. of LNAPL was recovered from MWR-02 (please see Table 11).

5.3 Groundwater Conditions

5.3.1 MCL and DWEL Comparison

Since 1993, several metals, Bis (2-ethylhexyl) phthalate and Methylene Chloride have exceeded USEPA Maximum Contaminant Levels (MCLs) for potable water at one time or

another. The 2005 annual groundwater sampling event was conducted between July 6 and July 12, 2005. Analytical results from the 11 observation wells sampled indicate various metal detections, and two VOC detections. The only VOCs detected in 2005 are cis -1, 2-dichloroethene (cDCE) and tetrachloroethene (TCE) at monitoring well MWR-11. The reported cDCE concentration is 0.0012 mg/L and TCE is 0.00083 mg/L.

The 2005 groundwater analytical results were compared to MCLs and Drinking Water Equivalent Levels (DWELs). Arsenic and chromium are the only parameters exceeding MCLs or DWELs during 2005. The table below lists the 2005 exceedances.

Parameter	Location	Result (mg/L)	MCL (mg/L)	DWELs (mg/L)
Arsenic, total	MWR-09 (Duplicate)	0.0151	0.01	0.01
Arsenic, total	MWR-09	0.016	0.01	0.01
Arsenic, total	MWR-10	0.0475	0.01	0.01
Chromium, total	MWR-11	0.604	0.1	0.1

Total Metals including antimony, arsenic, beryllium, cadmium, chromium, lead, nickel, selenium; bis (2-ethylhexyl) phthalate (SVOC); and methylene chloride (VOC) have periodically exceeded MCLs in water samples collected from observation wells. Antimony has not exceeded MCL since 1994, and has been non-detect since 1996. The maximum detected arsenic concentration exceeded the MCL for potable water (revised in 2001) every year since the 1993 baseline sampling, with exceedances periodically occurring at each well. Beryllium and selenium have not exceeded MCLs since 1993. Cadmium exceeded the MCL only five of the 12 years of sampling with the last exceedances during 1998. Total chromium exceeded the MCL every year except 2000 and 2001. Lead and methylene chloride have not exceeded their MCLs since 1995. The nickel MCL was previously remanded by the USEPA, and therefore is no longer applicable. Bis (2-ethylhexyl) phthalate has only exceeded the MCL four of the 12 years of sampling, the last exceedances occurring in 1998. Thallium exceeded the MCL six of the 12 years of sampling, the last being 1999.

Table 2 compares frequency of detection, minimum detection, and maximum detection between the baseline sampling conducted in 1993 and the 2005 event. Table 3 presents the analytical results for each well from 2000 to 2005. Table 4 presents a comparison between the 2005 MWR-9 sample and its duplicate. Analytical results from the duplicate samples compare favorably with the original sample results.

5.3.2 Statistical Analysis

Total arsenic, total chromium and total nickel are the parameters typically exhibiting slightly higher concentrations relative to MCLs. Therefore, statistical analysis was performed on these three parameters. The statistical analysis that was first conducted included the last eight sampling events, completed from 1999 through 2004. The Mann-Kendall non-parametric method was used to conduct the analysis [Gilbert R, 1987]. In conducting this analysis, one-half the detection limit was used for non-detect results. Statistically significant negative or decreasing trends, at the 95% confidence level, have Mann-Kendall statistical results less than –16. A statistically significant positive or increasing trend in concentration has a Mann-Kendall statistical result greater than 16. A Mann-Kendall statistic equal to or between –16 and 16 indicates no statistical trend in concentrations over time at the 95% confidence level. A Rolling Average over the previous four sampling events was also calculated.

Arsenic concentrations exhibit decreasing trends at wells except for MWR-10. Based upon the first analysis of the data, arsenic concentrations at MWR-10 show a statistically significant increase at the 95% confidence interval for the period of May 1999 to July 2005 with a Mann-Kedall Statistic of 18. Total Chromium concentrations show positive Mann-Kendall statistics at MWR-4, MWR-6 and MWR-11 and negative Mann-Kendall statistics at MWR-5, but do not represent statistically significant trends at the 95% confidence interval. Since 1999, Nickel has only been detected at MWR-11. MWR-11 shows an increasing Nickel concentration trend, but it is not statistically significant at the 95% confidence interval.

Based upon the results of the first statistical analysis for the MWR-10 arsenic data, the sampling data and analysis method were reviewed. In an effort to better characterize the data, a larger data set was used in the statistical analysis. Larger data sets provide for a more representative analysis and can better characterize trends.

Arsenic concentrations in MWR-10 showed consistent detectable levels beginning in October 1996. The data set (1996 through 2005) was evaluated using the Mann-Kendall non-parametric method. In conducting this analysis, one-half the detection limit was used for non-detect results. No statistically significant increase in the arsenic concentration trend was determined in this expanded analysis. Based on the results of the first statistical evaluation, the raw data evaluation and the expanded statistical

analysis, no statistically significant increases in concentration trends for arsenic, chromium or nickel are reported for MWR-01 through MWR-11 through 2005.

Statistical analyses for arsenic, chromium and nickel are presented in Tables 7, 7a, 8 and 9. In an effort to better characterize data and evaluate concentration trends, expanded data sets will be used in future evaluations. In future evaluations, arsenic, chromium and nickel concentrations will be evaluated for all data where the concentrations are consistently above detection limits. The Mann-Kendall method will be used when appropriate, including using one-half the detection limit used for non-detect concentration results.

5.4 Storm Water Evaluation

One storm water sample (OF-605) was obtained from the CELA surface water drainage channel outfall on June 6, 2005. Chemical analysis and acute toxicity testing was performed on the sample.

The chemical analysis (inorganic compounds, Oil and Grease, pH and Wet Chemistry Parameters) of the storm water sample reported several analytes at or above detection limits. The 2005 storm water analytical results compare favorably with previous years data. Barium, Calcium and Magnesium are common soil constituents and are routinely detected. Oil & Grease continues to be non-detect and pH remains in the mid to high seven range. Wet Chemistry parameters, including Total Dissolved Solids remain at acceptable levels. Table 6 presents the 2002 to 2005 storm water analytical results along with the NYSDEC Class A Surface Water Standards. Storm water analytical results continue to remain below the surface water standards.

Acute toxicity tests of OF-605 for the 24-hour and 48-hour static acute screening toxicity tests resulted in 0% mortality for Pimephales promelas (fathead minnows). Ceriodaphnia dubia results are 0% mortality for the 24-hour test and 0% mortality for the 48-hour test. The laboratory control sample exhibited 0% mortality. Storm water acute toxicity laboratory reports are included as Appendix F of this report.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Inspections

Inspections of the CELA are being conducted on a quarterly basis. All groundwater observation wells, open well piezometers, gas vents, and pipe sleeves appear in good condition. Other physical aspects such as the fences, gates, CELA vegetative cover, and drainage swales are operating or growing properly and serve their function. Inspections will continue to be performed quarterly, consistent with the current O&M Plan.

6.2 Monitoring Programs

6.2.1 Groundwater Evaluation

Semivolatile Organic Compounds have been non-detect since 1998 and annual SVOC analysis was discontinued following the 2004 sampling event. VOCs are mostly non-detect with the occasional detection of cDCE, TCE, m&p xylene and Toluene. In general, the results are consistent with historical data obtained from the site. Various metals have historically been detected at the site and were also observed in 2005. Statistical analysis of arsenic, chromium and nickel concentrations in groundwater indicate no statistically significant increase in concentration.

6.2.2 Other Evaluations

Other activities are being conducted, including: settlement plate evaluation; liquid level evaluation; gas vent evaluation; and storm water evaluation. These evaluations will continue as outlined in the current O&M Plan. The Annual Soil pH testing of the CELA Cap has been discontinued starting in 2005. Agronomic testing including soil pH will continue to be conducted every three years.

6.3 Maintenance

Maintenance continues to be conducted as indicated by the O&M Plan. Anticipated maintenance for 2006 includes routine mowing during the summer months and drainage channel vegetation abatement.

REFERENCES

"Operation and Maintenance Plan for Central Elevated Landfill Area and Areas of Remediated Refinery Surface Soils", GeoSyntec Consultants, April 1993.

"Statistical Evaluation of 1993 Groundwater Monitoring Data Sinclair Refinery Site Wellsville, New York", GeoSyntec Consultants, March 1994.

Gilbert R., Statistical Methods for Environmental Pollution Monitoring, Van Nostrand Reinhold, 1987.

Table 1

CELA Settlement Plate Elevations (1992-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(ft amsl)

PLATE	12/22/92 Survey			4/30/93 Survey			5/26/93 Survey			6/29/93 Survey			10/22/93 Survey		
	Elevation	Differential	Total	Elevation	Differential	Total	Elevation	Differential	Total	Elevation	Differential	Total	Elevation	Differential	Total
SP-01	1512.86	0.00	0.00	1512.83	-0.03	-0.03	1512.83	0.00	-0.03	1512.83	0.00	-0.03	1512.83	0.00	-0.03
SP-02	1513.57	0.00	0.00	1513.55	-0.02	-0.02	1513.55	0.00	-0.02	1513.55	0.00	-0.02	1513.55	0.00	-0.02
SP-03	1521.66	0.00	0.00	1521.58	-0.08	-0.08	1521.55	-0.03	-0.11	1521.55	0.00	-0.11	1521.52	-0.03	-0.14
SP-04	1512.58	0.00	0.00	1512.59	0.01	0.01	1512.45	-0.14	-0.13	1512.45	0.00	-0.13	1512.40	-0.05	-0.18
SP-05	1515.61	0.00	0.00	1515.58	-0.03	-0.03	1515.58	0.00	-0.03	1515.58	0.00	-0.03	1515.59	0.01	-0.02
SP-06	1520.62	0.00	0.00	1520.55	-0.07	-0.07				1520.55		-0.07	1520.53	-0.02	-0.09
SP-07	1516.51	0.00	0.00	1516.44	-0.07	-0.07				1516.44		-0.07	1516.44	0.00	-0.07
SP-08	1519.93	0.00	0.00	1519.79	-0.14	-0.14	1519.78	-0.01	-0.15	1519.78	0.00	-0.15	1519.75	-0.03	-0.18
SP-09	1523.64	0.00	0.00	1523.46	-0.18	-0.18	1523.46	0.00	-0.18	1523.46	0.00	-0.18	1523.42	-0.04	-0.22
SP-10	1519.11	0.00	0.00	1519.04	-0.07	-0.07	1519.01	-0.03	-0.10	1519.01	0.00	-0.10	1518.98	-0.03	-0.13
SP-11	1514.77	0.00	0.00	1514.64	-0.13	-0.13	1514.63	-0.01	-0.14	1514.63	0.00	-0.14	1514.60	-0.03	-0.17
SP-12	1520.72	0.00	0.00	1520.66	-0.06	-0.06	1520.62	-0.04	-0.10	1520.62	0.00	-0.10	1520.60	-0.02	-0.12
SP-13	1516.04	0.00	0.00	1516.07	0.03	0.03				1516.07		0.03	1516.06	-0.01	0.02
SP-14	1517.55	0.00	0.00	1517.49	-0.06	-0.06	1517.46	-0.03	-0.09	1517.46	0.00	-0.09	1517.42	-0.04	-0.13
SP-15	1522.68	0.00	0.00	1522.58	-0.10	-0.10	1522.56	-0.02	-0.12	1522.56	0.00	-0.12	1522.53	-0.03	-0.15
SP-16	1518.96	0.00	0.00	1518.91	-0.05	-0.05	1518.91	0.00	-0.05	1518.91	0.00	-0.05	1518.88	-0.03	-0.08
SP-17	1513.50	0.00	0.00	1513.54	0.04	0.04	1513.48	-0.06	-0.02	1513.48	0.00	-0.02	1513.48	0.00	-0.02
SP-18	1520.70	0.00	0.00	1520.63	-0.07	-0.07	1520.57	-0.06	-0.13	1520.57	0.00	-0.13	1520.54	-0.03	-0.16
SP-19	1515.53	0.00	0.00	1515.54	0.01	0.01	1515.52	-0.02	-0.01	1515.52	0.00	0.01	1515.50	-0.02	-0.01
SP-20	1518.22	0.00	0.00	1518.20	-0.02	-0.02	1518.18	-0.02	-0.04	1518.18	0.00	-0.04	1518.13	-0.05	-0.09
SP-21	1523.34	0.00	0.00	1523.23	-0.11	-0.11	1523.19	-0.04	-0.15	1523.19	0.00	-0.15	1523.13	-0.06	-0.21
SP-22	1519.65	0.00	0.00	1519.61	-0.04	-0.04	1519.58	-0.03	-0.07	1519.58	0.00	-0.07	1519.54	-0.04	-0.11
SP-23	1513.60	0.00	0.00	1513.52	-0.08	-0.08	1513.53	0.01	-0.07	1513.53	0.00	-0.07	1513.50	-0.03	-0.10
SP-24	1515.16	0.00	0.00	1515.10	-0.06	-0.06	1515.10	0.00	-0.06	1515.10	0.00	-0.06	1515.09	-0.01	-0.07
SP-25	1515.44	0.00	0.00	1515.44	0.00	0.00	1515.44	0.00	0.00	1515.44	0.00	0.00	1515.44	0.00	0.00
				Max.	**-0.18**	**-0.18**	**Max.**	**-0.14**	**-0.18**	**Max.**	**0.00**	**-0.18**	**Max.**	**-0.06**	**-0.22**
				Min.	**0.04**	**0.04**	**Min.**	**0.01**	**0.00**	**Min.**	**0.00**	**0.03**	**Min.**	**0.01**	**0.02**
				Avg.	**-0.06**	**-0.06**	**Avg.**	**-0.02**	**-0.07**	**Avg.**	**0.00**	**-0.08**	**Avg.**	**-0.02**	**-0.10**

NOTES:
1) Differential is the change in elevation from the previous survey.
2) Total is the total change in elevation from the 12/22/92 baseline survey.
3) Negative numbers indicate decrease in elevation (settlement).
4) Maximum, Minimum and Average indicate the maximum, minumum and average settlement.
5) Data from 12/22/92 through 5/26/93 developed by GeoSyntec Consultants.
6) Data from settlement plates SP-6,7 and 13 not available from 5/26/93 survey.
7) Between 5/26/93 and 6/29/93, extension rods were installed through the settlement plate pipe sleeves.
8) Surveys conducted on 12/22/92, 4/30/93 and 5/26/93 were measured from the base of the settlement plate. All following surveys were measured from the top of the extension rods. Data on this table for the 12/22/92, 4/30/93 and 5/26/93 surveys has been corrected to correlate with the other surveys. The correction was made by assuming no change between the 5/26/93 and 6/29/93 surveys and adding the difference between these two surveys to the 12/22/92, 4/30/93 and 5/26/93 surveyed elevations.

Table 1

CELA Settlement Plate Elevations (1992-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(ft amsl)

PLATE	5/9/94 Survey			12/1/94 Survey			10/19/95 Survey			10/14/96 Survey			10/13/98 Survey		
	Elevation	Differential	Total	Elevation	Differential	Total	Elevation	Differential	Total	Elevation	Differential	Total	Elevation	Differential	Total
SP-01	1512.85	0.02	-0.01	1512.86	0.01	0.00	1512.83	-0.03	-0.03	1512.83	0.00	-0.03	1512.83	0.00	-0.03
SP-02	1513.56	0.01	-0.01	1513.56	0.00	-0.01	1513.54	-0.02	-0.03	1513.54	0.00	-0.03	1513.53	-0.01	-0.04
SP-03	1521.50	-0.02	-0.16	1521.50	0.00	-0.16	1521.45	-0.05	-0.21	1521.44	-0.01	-0.22	1521.40	-0.04	-0.26
SP-04	1512.40	0.00	-0.18	1512.42	0.02	-0.16	1512.39	-0.03	-0.19	1512.39	0.00	-0.19	1512.37	-0.02	-0.21
SP-05	1515.60	0.01	-0.01	1515.60	0.00	-0.01	1515.57	-0.03	-0.04	1515.56	-0.01	-0.05	1515.52	-0.04	-0.09
SP-06	1520.52	-0.01	-0.10	1520.51	-0.01	-0.11	1520.45	-0.06	-0.17	1520.44	-0.01	-0.18	1520.39	-0.05	-0.23
SP-07	1516.45	0.01	-0.06	1516.45	0.00	-0.06	1516.42	-0.03	-0.09	1516.42	0.00	-0.09	1516.39	-0.03	-0.12
SP-08	1519.73	-0.02	-0.20	1519.71	-0.02	-0.22	1519.65	-0.06	-0.28	1519.64	-0.01	-0.29	1519.59	-0.05	-0.34
SP-09	1523.37	-0.05	-0.27	1523.36	-0.01	-0.28	1523.29	-0.07	-0.35	1523.27	-0.02	-0.37	1523.20	-0.07	-0.44
SP-10	1518.96	-0.02	-0.15	1518.95	-0.01	-0.16	1518.90	-0.05	-0.21	1518.89	-0.01	-0.22	1518.82	-0.07	-0.29
SP-11	1514.58	-0.02	-0.19	1514.57	-0.01	-0.20	1514.51	-0.06	-0.26	1514.49	-0.02	-0.28	1514.43	-0.06	-0.34
SP-12	1520.55	-0.05	-0.17	1520.54	-0.01	-0.18	1520.45	-0.09	-0.27	1520.44	-0.01	-0.28	1520.34	-0.10	-0.38
SP-13	1516.07	0.01	0.03	1516.08	0.01	0.04	1516.04	-0.04	0.00	1516.05	0.01	0.01	1516.00	-0.05	-0.04
SP-14	1517.37	-0.05	-0.18	1517.36	-0.01	-0.19	1517.28	-0.08	-0.27	1517.27	-0.01	-0.28	1517.18	-0.09	-0.37
SP-15	1522.46	-0.07	-0.22	1522.44	-0.02	-0.24	1522.33	-0.11	-0.35	1522.32	-0.01	-0.36	1522.18	-0.14	-0.50
SP-16	1518.86	-0.02	-0.10	1518.86	0.00	-0.10	1518.80	-0.06	-0.16	1518.80	0.00	-0.16	1518.73	-0.07	-0.23
SP-17	1513.49	0.01	-0.01	1513.51	0.02	0.01	1513.45	-0.06	-0.05	1513.47	0.02	-0.03	1513.43	-0.04	-0.07
SP-18	1520.47	-0.07	-0.23	1520.45	-0.02	-0.25	1520.33	-0.12	-0.37	1520.31	-0.02	-0.39	1520.17	-0.14	-0.53
SP-19	1515.49	-0.01	-0.02	1515.51	0.02	0.00	1515.44	-0.07	-0.07	1515.45	0.01	-0.06	1515.39	-0.06	-0.12
SP-20	1518.08	-0.05	-0.14	1518.07	-0.01	-0.15	1517.98	-0.09	-0.24	1517.96	-0.02	-0.26	1517.88	-0.08	-0.34
SP-21	1523.05	-0.08	-0.29	1523.03	-0.02	-0.31	1522.91	-0.12	-0.43	1522.90	-0.01	-0.44	1522.78	-0.12	-0.56
SP-22	1519.52	-0.02	-0.13	1519.53	0.01	-0.12	1519.44	-0.09	-0.21	1519.45	0.01	-0.20	1519.36	-0.09	-0.29
SP-23	1513.50	0.00	-0.10	1513.51	0.01	-0.09	1513.44	-0.07	-0.16	1513.41	-0.03	-0.19	1513.39	-0.02	-0.21
SP-24	1515.08	-0.01	-0.08	1515.08	0.00	-0.08	1515.00	-0.08	-0.16	1515.01	0.01	-0.15	1514.96	-0.05	-0.20
SP-25	1515.45	0.01	0.01	1515.45	0.00	0.01	1515.38	-0.07	-0.06	1515.39	0.01	-0.05	1515.33	-0.06	-0.11
	Max.	**-0.08**	**-0.29**	**Max.**	**-0.02**	**-0.31**	**Max.**	**-0.12**	**-0.43**	**Max.**	**-0.03**	**-0.44**	**Max.**	**-0.14**	**-0.56**
	Min.	**0.02**	**0.03**	**Min.**	**0.02**	**0.04**	**Min.**	**-0.02**	**0.00**	**Min.**	**0.02**	**0.01**	**Min.**	**0.00**	**-0.03**
	Avg.	**-0.02**	**-0.12**	**Avg.**	**0.00**	**-0.12**	**Avg.**	**-0.07**	**-0.19**	**Avg.**	**-0.01**	**-0.19**	**Avg.**	**-0.06**	**-0.25**

NOTES:

1) Differential is the change in elevation from the previous survey.
2) Total is the total change in elevation from the 12/22/92 baseline survey.
3) Negative numbers indicate decrease in elevation (settlement).
4) Maximum, Minimum and Average indicate the maximum, minumum and average settlement.
5) Data from 12/22/92 through 5/26/93 developed by GeoSyntec Consultants.
6) Data from settlement plates SP-6,7 and 13 not available from 5/26/93 survey.
7) Between 5/26/93 and 6/29/93, extension rods were installed through the settlement plate pipe sleeves.
8) Surveys conducted on 12/22/92, 4/30/93 and 5/26/93 were measured from the base of the settlement plate. All following surveys were measured from the top of the extension rods. Data on this table for the 12/22/92, 4/30/93 and 5/26/93 surveys has been corrected to correlate with the other surveys. The correction was made by assuming no change between the 5/26/93 and 6/29/93 surveys and adding the difference between these two surveys to the 12/22/92, 4/30/93 and 5/26/93 surveyed elevations.

Table 1

CELA Settlement Plate Elevations (1992-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(ft amsl)

PLATE	10/1/99 Survey			4/7/00 Survey			9/28/00 Survey			10/31/01 Survey			10/28/02 Survey		
	Elevation	Differential	Total	Elevation	Differential	Total	Elevation	Differential	Total	Elevation	Differential	Total	Elevation	Differential	Total
SP-01	1512.81	-0.02	-0.05	1512.79	-0.02	-0.07	1512.80	0.01	-0.06	1512.81	0.01	-0.05	1512.78	-0.03	-0.08
SP-02	1513.51	-0.02	-0.06	1513.50	-0.01	-0.07	1513.51	0.01	-0.06	1513.51	0.00	-0.06	1513.48	-0.03	-0.09
SP-03	1521.38	-0.02	-0.28	1521.35	-0.03	-0.31	1521.36	0.01	-0.30	1521.36	0.00	-0.30	1521.34	-0.02	-0.32
SP-04	1512.35	-0.02	-0.23	1512.33	-0.02	-0.25	1512.34	0.01	-0.24	1512.34	0.00	-0.24	1512.32	-0.02	-0.26
SP-05	1515.51	-0.01	-0.10	1515.47	-0.04	-0.14	1515.50	0.03	-0.11	1515.48	-0.02	-0.13	1515.47	-0.01	-0.14
SP-06	1520.36	-0.03	-0.26	1520.34	-0.02	-0.28	1520.36	0.02	-0.26	1520.35	-0.01	-0.27	1520.33	-0.02	-0.29
SP-07	1516.37	-0.02	-0.14	1516.35	-0.02	-0.16	1516.37	0.02	-0.14	1516.36	-0.01	-0.15	1516.35	-0.01	-0.16
SP-08	1519.58	-0.01	-0.35	1519.53	-0.05	-0.40	1519.54	0.01	-0.39	1519.53	-0.01	-0.40	1519.52	-0.01	-0.41
SP-09	1523.16	-0.04	-0.48	1523.13	-0.03	-0.51	1523.15	0.02	-0.49	1523.14	-0.01	-0.50	1523.12	-0.02	-0.52
SP-10	1518.80	-0.02	-0.31	1518.76	-0.04	-0.35	1518.78	0.02	-0.33	1518.76	-0.02	-0.35	1518.74	-0.02	-0.37
SP-11	1514.41	-0.02	-0.36	1514.38	-0.03	-0.39	1514.40	0.02	-0.37	1514.37	-0.03	-0.40	1514.36	-0.01	-0.41
SP-12	1520.31	-0.03	-0.41	1520.27	-0.04	-0.45	1520.29	0.02	-0.43	1520.27	-0.02	-0.45	1520.25	-0.02	-0.47
SP-13	1515.98	-0.02	-0.06	1515.94	-0.04	-0.10	1515.98	0.04	-0.06	1515.97	-0.01	-0.07	1515.96	-0.01	-0.08
SP-14	1517.16	-0.02	-0.39	1517.12	-0.04	-0.43	1517.15	0.03	-0.40	1517.11	-0.04	-0.44	1517.11	0.00	-0.44
SP-15	1522.13	-0.05	-0.55	1522.10	-0.03	-0.58	1522.11	0.01	-0.57	1522.09	-0.02	-0.59	1522.07	-0.02	-0.61
SP-16	1518.70	-0.03	-0.26	1518.68	-0.02	-0.28	1518.69	0.01	-0.27	1518.68	-0.01	-0.28	1518.65	-0.03	-0.31
SP-17	1513.42	-0.01	-0.08	1513.40	-0.02	-0.10	1513.42	0.02	-0.08	1513.41	-0.01	-0.09	1513.41	0.00	-0.09
SP-18	1520.12	-0.05	-0.58	1520.09	-0.03	-0.61	1520.10	0.01	-0.60	1520.07	-0.03	-0.63	1520.04	-0.03	-0.66
SP-19	1515.38	-0.01	-0.13	1515.36	-0.02	-0.15	1515.38	0.02	-0.13	1515.35	-0.03	-0.16	1515.34	-0.01	-0.17
SP-20	1517.86	-0.02	-0.36	1517.84	-0.02	-0.38	1517.85	0.01	-0.37	1517.83	-0.02	-0.39	1517.83	0.00	-0.39
SP-21	1522.75	-0.03	-0.59	1522.73	-0.02	-0.61	1522.75	0.02	-0.59	1522.70	-0.05	-0.64	1522.68	-0.02	-0.66
SP-22	1519.34	-0.02	-0.31	1519.32	-0.02	-0.33	1519.33	0.01	-0.32	1519.31	-0.02	-0.34	1519.29	-0.02	-0.36
SP-23	1513.39	0.00	-0.21	1513.37	-0.02	-0.23	1513.40	0.03	-0.20	1513.39	-0.01	-0.21	1513.39	0.00	-0.21
SP-24	1514.94	-0.02	-0.22	1514.92	-0.02	-0.24	1514.95	0.03	-0.21	1514.94	-0.01	-0.22	1514.94	0.00	-0.22
SP-25	1515.32	-0.01	-0.12	1515.31	-0.01	-0.13	1515.34	0.03	-0.10	1515.30	-0.04	-0.14	1515.30	0.00	-0.14
	Max.	**-0.05**	**-0.59**	**Max.**	**-0.05**	**-0.61**	**Max.**	**0.01**	**-0.60**	**Max.**	**-0.05**	**-0.64**	**Max.**	**-0.03**	**-0.66**
	Min.	**0.00**	**-0.05**	**Min.**	**-0.01**	**-0.07**	**Min.**	**0.04**	**-0.06**	**Min.**	**0.00**	**-0.05**	**Min.**	**0.00**	**-0.08**
	Avg.	**-0.02**	**-0.28**	**Avg.**	**-0.03**	**-0.30**	**Avg.**	**0.02**	**-0.28**	**Avg.**	**-0.02**	**-0.30**	**Avg.**	**-0.01**	**-0.31**

NOTES:
1) Differential is the change in elevation from the previous survey.
2) Total is the total change in elevation from the 12/22/92 baseline survey.
3) Negative numbers indicate decrease in elevation (settlement).
4) Maximum, Minimum and Average indicate the maximum, minumum and average settlement.
5) Data from 12/22/92 through 5/26/93 developed by GeoSyntec Consultants.
6) Data from settlement plates SP-8,7 and 13 not available from 5/26/93 survey.
7) Between 5/26/93 and 6/29/93, extension rods were installed through the settlement plate pipe sleeves.
8) Surveys conducted on 12/22/92, 4/30/93 and 5/26/93 were measured from the base of the settlement plate. All following surveys were measured from the top of the extension rods. Data on this table for the 12/22/92, 4/30/93 and 5/26/93 surveys has been corrected to correlate with the other surveys. The correction was made by assuming no change between the 5/26/93 and 6/29/93 surveys and adding the difference between these two surveys to the 12/22/92, 4/30/93 and 5/26/93 surveyed elevations.

Table 1

CELA Settlement Plate Elevations (1992-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(ft amsl)

PLATE	10/07/03 Survey			10/07/04 Survey				09/28/05 Survey			
	Elevation	Differential	Total	Elevation	Differential	Two Year Differential	Total	Elevation	Differential	Two Year Differential	Total
SP-01	1512.78	0.00	-0.08	1512.78	0.00	0.00	-0.08	1512.78	0.00	0.00	-0.08
SP-02	1513.49	0.01	-0.08	1513.48	-0.01	0.00	-0.09	1513.48	0.00	-0.01	-0.09
SP-03	1521.32	-0.02	-0.34	1521.32	0.00	-0.02	-0.34	1521.31	-0.01	-0.01	-0.35
SP-04	1512.31	-0.01	-0.27	1512.32	0.01	0.00	-0.26	1512.30	-0.02	-0.01	-0.28
SP-05	1515.45	-0.02	-0.16	1515.45	0.00	-0.02	-0.16	1515.44	-0.01	-0.01	-0.17
SP-06	1520.31	-0.02	-0.31	1520.31	0.00	-0.02	-0.31	1520.30	-0.01	-0.01	-0.32
SP-07	1516.34	-0.01	-0.17	1516.34	0.00	-0.01	-0.17	1516.33	-0.01	-0.01	-0.18
SP-08	1519.50	-0.02	-0.43	1519.50	0.00	-0.02	-0.43	1519.49	-0.01	-0.01	-0.44
SP-09	1523.10	-0.02	-0.54	1523.09	-0.01	-0.03	-0.55	1523.08	-0.01	-0.02	-0.56
SP-10	1518.72	-0.02	-0.39	1518.71	-0.01	-0.03	-0.40	1518.69	-0.02	-0.03	-0.42
SP-11	1514.35	-0.01	-0.42	1514.35	0.00	-0.01	-0.42	1514.32	-0.03	-0.03	-0.45
SP-12	1520.22	-0.03	-0.50	1520.21	-0.01	-0.04	-0.51	1520.21	0.00	-0.01	-0.51
SP-13	1515.94	-0.02	-0.10	1515.94	0.00	-0.02	-0.10	1515.93	-0.01	-0.01	-0.11
SP-14	1517.08	-0.03	-0.47	1517.07	-0.01	-0.04	-0.48	1517.07	0.00	-0.01	-0.48
SP-15	1522.03	-0.04	-0.65	1522.01	-0.02	-0.06	-0.67	1522.02	0.01	-0.01	-0.66
SP-16	1518.63	-0.02	-0.33	1518.62	-0.01	-0.03	-0.34	1518.63	0.01	0.00	-0.33
SP-17	1513.39	-0.02	-0.11	1513.39	0.00	-0.02	-0.11	1513.38	-0.01	-0.01	-0.12
SP-18	1520.00	-0.04	-0.70	1519.99	-0.01	-0.05	-0.71	1519.99	0.00	-0.01	-0.71
SP-19	1515.31	-0.03	-0.22	1515.31	0.00	-0.03	-0.22	1515.32	0.01	0.01	-0.21
SP-20	1517.79	-0.04	-0.43	1517.76	-0.03	-0.07	-0.46	1517.76	0.00	-0.03	-0.46
SP-21	1522.65	-0.03	-0.69	1522.64	-0.01	-0.04	-0.70	1522.64	0.00	-0.01	-0.70
SP-22	1519.26	-0.03	-0.39	1519.26	0.00	-0.03	-0.39	1519.26	0.00	0.00	-0.39
SP-23	1513.37	-0.02	-0.23	1513.38	0.01	-0.01	-0.22	1513.37	-0.01	0.00	-0.23
SP-24	1514.91	-0.03	-0.25	1514.92	0.01	-0.02	-0.24	1514.90	-0.02	-0.01	-0.26
SP-25	1515.28	-0.02	-0.16	1515.29	0.01	-0.01	-0.15	1515.27	-0.02	-0.01	-0.17
	Max.	-0.04	-0.70	Max.	-0.03	-0.07	-0.71	Max.	-0.03	-0.03	-0.71
	Min.	0.01	-0.08	Min.	0.01	0.00	-0.08	Min.	0.01	0.01	-0.08
	Avg.	-0.02	-0.34	Avg.	0.00	-0.03	-0.34	Avg.	-0.01	-0.01	-0.35

NOTES:
1) Differential is the change in elevation from the previous survey.
2) Total is the total change in elevation from the 12/22/92 baseline survey.
3) Negative numbers indicate decrease in elevation (settlement).
4) Maximum, Minimum and Average indicate the maximum, minumum and average settlement.
5) Data from 12/22/92 through 5/26/93 developed by GeoSyntec Consultants.
6) Data from settlement plates SP-6,7 and 13 not available from 5/26/93 survey.
7) Between 5/26/93 and 6/29/93, extension rods were installed through the settlement plate pipe sleeves.
8) Surveys conducted on 12/22/92, 4/30/93 and 5/26/93 were measured from the base of the settlement plate. All following surveys were measured from the top of the extension rods. Data on this table for the 12/22/92, 4/30/93 and 5/26/93 surveys has been corrected to correlate with the other surveys. The correction was made by assuming no change between the 5/26/93 and 6/29/93 surveys and adding the difference between these two surveys to the 12/22/92, 4/30/93 and 5/26/93 surveyed elevations.

Table 2

Comparison of 1993 Baseline Groundwater Data to 2005 Groundwater Data
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	1993 Baseline Detection Frequency[1]	2005 Detection Frequency	1993 Minimum Detection[1]	2005 Minimum Detection	1993 Maximum Detection[1]	2005 Maximum Detection	2005 Frequency of MCL[2] Exceedence	MCL[2]
Aluminum, total	42/44	0/11	0.231	0.1U	17.789	0.2U		
Antimony, total	2/44	1/11	0.068	0.0057	0.083	0.0057		0.006
Arsenic, dissolved	4/44	NA	0.01		0.056			
Arsenic, total	36/44	4/11	0.012	0.005	0.16	0.0475	2	0.01
Barium, dissolved	9/44	NA	0.232		0.398			
Barium, total	18/44	4/11	0.241	0.21	0.763	0.286		2
Beryllium, total	11/44	0/11	0.007		0.009			0.004
Cadmium, total	16/44	0/11	0.005		0.08			0.005
Calcium, dissolved	28/44	NA	15.96		46.08			
Calcium, total	33/44	10/11	16.1	15.9	48.33	83.6		
Chromium, dissolved	3/44	NA	0.005		0.014			
Chromium, total	29/44	1/11	0.015	0.604	11.2	0.604	1	0.1
Cobalt, total	2/44	0/11	0.003		0.025			
Copper, dissolved	4/44	NA	0.026		0.042			
Copper, total	10/44	0/11	0.026		0.153			1.3
Iron, dissolved	32/44	NA	0.104		22.6			
Iron, total	44/44	10/11	0.6	0.125	65.2	13.3		
Lead, dissolved	8/44	NA	0.004		1.003			
Lead, total	28/44	0/11	0.005		0.7			0.015
Magnesium, dissolved	36/44	NA	6.07		61.021			
Magnesium, total	38/44	8/11	4.71	6.04	63.581	66.7		
Manganese, dissolved	43/44	NA	0.193		14.98			
Manganese, total	42/44	10/11	0.212	0.0454	16.013	13.5		
Nickel, dissolved	3/44	NA	0.054		0.118			
Nickel, total	8/44	1/11	0.04	0.218	0.2	0.218	1	0.1
Potassium, dissolved	12/44	NA	1.72		5			
Potassium, total	14/44	0/11	1.87		59.34			
Selenium, total	2/44	0/11	0.08		0.1			0.05
Silver, dissolved	1/44	NA	0.015		0.015			
Silver, total	5/44	0/11	0.017		0.473			
Sodium, dissolved	39/44	NA	5		20.02			
Sodium, total	39/44	10/11	6.5	7.68	23.37	174		
Thallium, dissolved	1/44	NA	0.156		0.156			
Thallium, total	6/44	0/11	0.132		0.396			0.002
Vanadium, total	1/44	0/11	0.061		0.061			
Zinc, dissolved	7/44	NA	0.023		0.063			
Zinc, total	27/44	2/11	0.022	0.0221	0.2	0.0374		
Benzo(a)anthracene	1/44	NA	0.001		0.001			
bis(2-Ethylhexyl) phthalate	2/44	NA	0.005		0.007			0.006
Di-n-butylphthalate	9/44	NA	0.0009		0.005			
Di-n-octylphthalate	1/44	NA	0.001		0.001			
Naphthalene	1/44	NA	0.001		0.001			
Pyrene	1/44	NA	0.008		0.008			
1,1-Dichloroethane	1/44	0/11	0.001		0.001			
Acetone	3/44	0/11	0.006		0.019			
Benzene	1/44	0/11	0.0009		0.0009			0.005
cis/trans1,2-Dichloroethene	1/44	NA	0.002		0.002			0.07
Dichloromethane (Methylene chloride)	4/44	0/11	0.001		1.342			0.005
Tetrachloroethene	1/44	1/11	0.002	0.00083	0.002	0.00083		0.005

Notes

[1] [GeoSyntec, 1994]

[2]USEPA Maximum Contaminant Level

U - Not detected at detection limit listed

1/44 = 1 detection out of 44 samples

NA - Not Analyzed

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-01	10/11/2000 MWR-01	5/9/2001 MWR-01	4/19/2002 MWR-01	4/24/2003 MWR-01	6/15/2004 MWR-01	7/7/2005 MWR-01
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0126	0.005
Barium, total	0.214	0.215	0.229	0.251	0.256	0.245	0.21
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	35	34.8	39.3	39.4	39.6	36.8	34.3
Chromium, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	0.941	1.11	1.15	2.3	1.28	2.91	1.54
Lead, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	25.2	24.4	26.6	28.6	28.4	25	22.7
Manganese, total	13.7	13.1	15.4	15.8	15.7	14	13.5
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Potassium, total	2 U	2 U	2 U	2 U	2 U	5 U	5 U
Selenium, total	0.00621	0.0125	0.025 U	0.0129	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	14.1	14.3	15.8	17.3	21.6	23.2	24.3
Thallium, total	0.01 U	0.01 U	0.002 U	0.1 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.0221
Volatile Organic Compounds							
1,1,1-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0005 J	0.001 U
Methyl Bromide						0.002 U	0.002 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-01	10/11/2000 MWR-01	5/9/2001 MWR-01	4/19/2002 MWR-01	4/24/2003 MWR-01	6/15/2004 MWR-01	7/7/2005 MWR-01
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0011	0.001 U
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-02	10/12/2000 MWR-02	5/9/2001 MWR-02	4/19/2002 MWR-02	4/24/2003 MWR-02	6/17/2004 MWR-02	7/12/2005 MWR-02
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.0697	0.0557	0.0496	0.0562	0.0579	0.0532	0.005 U
Barium, total	0.442	0.46	0.504	0.48	0.505	0.458	0.2 U
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	39	38.3	44.2	41.4	43.1	39.8	5 U
Chromium, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	34.9	37	44.4	41.9	44.9	40.7	0.1 U
Lead, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	34.4	33.8	38.9	33.7	37.3	31.4	5 U
Manganese, total	6.87	6.88	7.45	7.3	8.28	7.98	0.015 U
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Potassium, total	2.03	2.04	2 U	2.21	2.25	5 U	5 U
Selenium, total	0.005 U	0.00797	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	13.4	12.8	13	12.9	18.2	18.7	5 U
Thallium, total	0.01 U	0.01 U	0.002 U	0.05 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.0283	0.02 U	0.02 U	0.02 U	0.02 U
Volatile Organic Compounds							
1,1,1-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-02	10/12/2000 MWR-02	5/9/2001 MWR-02	4/19/2002 MWR-02	4/24/2003 MWR-02	6/17/2004 MWR-02	7/12/2005 MWR-02
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00033 J	0.001 U
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-03	10/11/2000 MWR-03	5/9/2001 MWR-03	4/18/2002 MWR-03	4/24/2003 MWR-03	6/17/2004 MWR-03	7/12/2005 MWR-03
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.01 U	0.0129	0.01 U	0.01 U	0.01 U	0.0124	0.01
Barium, total	0.213	0.234	0.193	0.22	0.236	0.251	0.286
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	30.2	34.3	30.6	31.5	34.6	41.4	43.6
Chromium, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	2.68	2.7	2.52	2.4	3.06	3.7	3.97
Lead, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	17.3	18.7	16.5	17.7	20.3	23.2	24.8
Manganese, total	1.91	2.15	2.04	2.02	2.39	3	3.31
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Selenium, total	0.005 U	0.005 U	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Sodium, total	11	11.4	10.2	9.63	12.2	12.2	12.5
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00071 J	0.001 U
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-04	10/11/2000 MWR-04	5/7/2001 MWR-04	4/19/2002 MWR-04	4/23/2003 MWR-04	6/16/2004 MWR-04	7/11/2005 MWR-04
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.112	0.1 U	0.2 U	0.1 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U
Barium, total	0.086	0.0857	0.0757	0.104	0.1	0.2 U	0.2 U
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	19.4	21	16.9	17.2	21.2	17.9	17.5
Chromium, total	0.01 U	0.01 U	0.01 U	0.225	0.01 U	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	0.1 U	0.1 U	0.1 U	0.591	0.1 U	0.1 U	0.125
Lead, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	5.74	5.66	4.72	5.15	6.22	5 U	5 U
Manganese, total	4.06	3.63	3.5	3.63	3.75	3.12	0.971
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Potassium, total	2 U	2 U	2 U	2 U	2 U	5 U	5 U
Selenium, total	0.005 U	0.005 U	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	8.96	8.86	7.71	8.09	10.2	8.23	8.59
Thallium, total	0.01 U	0.01 U	0.002 U	0.03 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Volatile Organic Compounds							
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-04	10/11/2000 MWR-04	5/7/2001 MWR-04	4/19/2002 MWR-04	4/23/2003 MWR-04	6/16/2004 MWR-04	7/11/2005 MWR-04
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-05	10/11/2000 MWR-05	5/7/2001 MWR-05	4/18/2002 MWR-05	4/23/2003 MWR-05	6/16/2004 MWR-05	7/11/2005 MWR-05
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.293	0.1 U	0.2 U	0.1 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U
Barium, total	0.0684	0.0709	0.0632	0.0867	0.0878	0.2 U	0.2 U
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	14.9	15.9	14.1	14.6	17.7	15.7	83.6
Chromium, total	0.0114	0.01 U	0.0303	0.14	0.0348	0.0247	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	0.11	0.1 U	0.248	1.1	0.231	0.137	0.267
Lead, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	4.49	4.53	4.02	4.32	5.43	5 U	66.7
Manganese, total	0.24	0.23	0.294	0.68	0.345	0.371	0.0777
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Potassium, total	2 U	2 U	2 U	2 U	2 U	5 U	5 U
Selenium, total	0.005 U	0.005 U	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	9.02	8.91	8.69	8.57	10.5	9.4	174
Thallium, total	0.01 U	0.01 U	0.002 U	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Volatile Organic Compounds							
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00033 J	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-05	10/11/2000 MWR-05	5/7/2001 MWR-05	4/18/2002 MWR-05	4/23/2003 MWR-05	6/16/2004 MWR-05	7/11/2005 MWR-05
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/19/2000 MWR-06	10/11/2000 MWR-06	5/8/2001 MWR-06	4/18/2002 MWR-06	4/2/2003 MWR-06	6/16/2004 MWR-06	7/11/2005 MWR-06
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.0057
Arsenic, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U
Barium, total	0.0769	0.0802	0.0708	0.108	0.105	0.2 U	0.2 U
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	18.9	19.7	17	20.8	22.5	26.9	28.9
Chromium, total	0.01 U	0.01 U	0.01 U	0.0594	0.01 U	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	0.635	0.936	0.153	2.15	0.386	0.996	3.29
Lead, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	6.38	6.2	5.44	6.82	7.61	8.8	9.61
Manganese, total	2.4	2.59	2.17	3.35	3.32	5	7.03
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Potassium, total	2 U	2 U	2 U	2 U	2 U	5 U	5 U
Selenium, total	0.005 U	0.005 U	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	8.11	8.1	7.42	7.7	9.1	7.35	7.68
Thallium, total	0.01 U	0.01 U	0.002 U	0.03 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Volatile Organic Compounds							
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.0059	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00061 J	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/19/2000 MWR-06	10/11/2000 MWR-06	5/8/2001 MWR-06	4/18/2002 MWR-06	4/2/2003 MWR-06	6/16/2004 MWR-06	7/11/2005 MWR-06
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/19/2000 MWR-07	10/10/2000 MWR-07	5/7/2001 MWR-07	4/18/2002 MWR-07	4/24/2003 MWR-07	6/16/2004 MWR-07	7/7/2005 MWR-07
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.2 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U
Barium, total	0.0615	0.0667	0.0308	0.0531	0.0668	0.2 U	0.2 U
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	14.4	16	17.9	34.9	15.9	17.7	15.9
Chromium, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	0.244	0.328	0.251	0.176	0.1 U	0.1 U	0.409
Lead, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	5.79	5.64	4.92	7.45	4.99	5.15	5 U
Manganese, total	3.39	3.55	2.38	1.2	0.455	0.877	2.58
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Potassium, total	2 U	2.01	2 U	2.79	2 U	5 U	5 U
Selenium, total	0.005 U	0.005 U	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	8.1	7.95	7.34	5.02	10.3	9.39	9.93
Thallium, total	0.01 U	0.01 U	0.002 U	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Volatile Organic Compounds							
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00062 J	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/19/2000 MWR-07	10/10/2000 MWR-07	5/7/2001 MWR-07	4/18/2002 MWR-07	4/24/2003 MWR-07	6/16/2004 MWR-07	7/7/2005 MWR-07
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-08	10/12/2000 MWR-08	5/1/2001 MWR-08	4/17/2002 MWR-08	4/22/2003 MWR-08	6/15/2004 MWR-08	7/7/2005 MWR-08
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.0106	0.0167	0.01 U	0.01 U	0.01 U	0.0086	0.005 U
Barium, total	0.0872	0.106	0.0691	0.0927	0.121	0.2 U	0.2 U
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	13.7	15.7	12.6	17.2	22.8	21	18.2
Chromium, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	3.01	2.87	2.47	3.07	4.35	3.37	2.69
Lead, total	0.00522	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	21.2	22.7	17.1	19	29.2	22.8	18.3
Manganese, total	3.15	3.66	2.3	2.99	3.28	3.07	2.81
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Potassium, total	2 U	2.07	2 U	2 U	2 U	5 U	5 U
Selenium, total	0.005 U	0.00583	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	7.78	8.37	6.35	6.84	8.58	8.13	7.7
Thallium, total	0.01 U	0.01 U	0.002 U	0.03 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Volatile Organic Compounds							
1,1,1-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/20/2000 MWR-08	10/12/2000 MWR-08	5/1/2001 MWR-08	4/17/2002 MWR-08	4/22/2003 MWR-08	6/15/2004 MWR-08	7/7/2005 MWR-08
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0004 J	0.001 U
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/19/2000 MWR-09	10/10/2000 MWR-09	5/1/2001 MWR-09	4/17/2002 MWR-09	4/22/2003 MWR-09	6/15/2004 MWR-09	7/7/2005 MWR-09
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.0184	0.0278	0.0112	0.0123	0.0238	0.005 U	0.016
Barium, total	0.249	0.283	0.222	0.228	0.269	0.2 U	0.215
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	49.2	45.3	44.5	51.5	48.2	42.7	38.5
Chromium, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	15.2	17.1	15.5	11.6	17.1	8.35	11.7
Lead, total	0.005 U	0.005 U	0.00541	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	30.8	30.4	24.5	26.2	28.2	21.6	21
Manganese, total	8.12	8.32	8	6.77	8.66	9.05	7.71
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Potassium, total	2.12	2.24	2 U	2.74	2.51	5 U	5 U
Selenium, total	0.005 U	0.00918	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	14.9	17.6	15.7	15.2	18.7	20.5	20.4
Thallium, total	0.01 U	0.01 U	0.002 U	0.05 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Volatile Organic Compounds							
1,1,1-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/19/2000 MWR-09	10/10/2000 MWR-09	5/1/2001 MWR-09	4/17/2002 MWR-09	4/22/2003 MWR-09	6/15/2004 MWR-09	7/7/2005 MWR-09
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00045 J	0.001 U
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/19/2000 MWR-10	10/10/2000 MWR-10	5/1/2001 MWR-10	4/17/2002 MWR-10	4/22/2003 MWR-10	6/15/2004 MWR-10	7/6/2005 MWR-10
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.0304	0.0359	0.0448	0.0586	0.0437	0.045	0.0475
Barium, total	0.291	0.336	0.3	0.384	0.326	0.245	0.228
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	35.2	41.1	37.6	38.7	36.1	33.6	31.6
Chromium, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.025 U	0.025 U
Iron, total	22.9	27	26.2	33.4	25.1	14.2	13.3
Lead, total	0.005 U	0.005 U	0.00612	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	25.7	28.2	25.2	24.4	24.2	23.4	20.6
Manganese, total	13	13.7	13	14.2	12.1	8.46	7.68
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Potassium, total	2 U	2 U	2 U	2 U	2 U	5 U	5 U
Selenium, total	0.00938	0.0122	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	15.3	17.3	18	20.1	21.4	22.8	24.8
Thallium, total	0.01 U	0.01 U	0.002 U	0.1 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.0633	0.02 U	0.02 U	0.02 U	0.02 U
Volatile Organic Compounds							
1,1,1-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1,2-Trichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/19/2000 MWR-10	10/10/2000 MWR-10	5/1/2001 MWR-10	4/17/2002 MWR-10	4/22/2003 MWR-10	6/15/2004 MWR-10	7/6/2005 MWR-10
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00041 J	0.001 U
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/29/2000 MWR-11	10/10/2000 MWR-11	5/8/2001 MWR-11	4/17/2002 MWR-11	4/22/2003 MWR-11	6/17/2004 MWR-11	7/7/2005 MWR-11
Inorganic Compounds							
Aluminum, total	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.2 U
Antimony, total	0.06 U	0.06 U	0.006 U	0.06 U	0.06 U	0.005 U	0.005 U
Arsenic, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U
Barium, total	0.101	0.0872	0.0958	0.115	0.0936	0.2 U	0.2 U
Beryllium, total	0.005 U	0.005 U	0.004 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Calcium, total	28.7	32.4	29.7	26.4	28	28.1	27.3
Chromium, total	0.0378	0.0998	0.0597	0.836	0.122	0.193	0.604
Cobalt, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Copper, total	0.02 U	0.02 U	0.02 U	0.021	0.02 U	0.025 U	0.025 U
Iron, total	0.181	0.993	0.289	3.92	0.584	0.781	2.79
Lead, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.003 U	0.003 U
Magnesium, total	6.76	6.76	6.53	6.36	6.79	6.12	6.04
Manganese, total	0.0184	0.0251	0.01 U	0.0182	0.0121	0.0152	0.0454
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U
Nickel, total	0.0643	0.152	0.0624	0.144	0.0766	0.105	0.218
Potassium, total	3.35	3.39	3.22	4.03	3.34	5 U	5 U
Selenium, total	0.005 U	0.005 U	0.025 U	0.01 U	0.005 U	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Sodium, total	26.3	22	27	30.8	28.3	30.2	29
Thallium, total	0.01 U	0.01 U	0.002 U	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.0374
Volatile Organic Compounds							
1,1-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
1,2-Dichloropropane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
2-Butanone (MEK)	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.01 U	0.01 U
2-Hexanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
4-Methyl-2-pentanone	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.005 U	0.005 U
Acetone	0.020 U	0.020 U	0.020 U	0.020 U	0.02 U	0.01 U	0.01 U
Benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Bromodichloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Bromoform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004 U	0.004 U
Bromomethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Carbon disulfide	0.010 U	0.010 U	0.010 U	0.010 U	0.01 U	0.002 U	0.002 U
Carbon tetrachloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chlorobenzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloroform	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Chloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00067 J	0.0012
cis-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dibromochloromethane	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Dichlorobromomethane						0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U
Ethyl benzene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
m&p-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Methyl Bromide						0.002 U	0.002 U
o-Xylene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Styrene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetrachloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00047 J	0.00083 J
Toluene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00068 J	0.001 U

Table 3

Groundwater Analytical Results (2000-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	4/29/2000 MWR-11	10/10/2000 MWR-11	5/8/2001 MWR-11	4/17/2002 MWR-11	4/22/2003 MWR-11	6/17/2004 MWR-11	7/7/2005 MWR-11
trans-1,2-Dichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Trichloroethene	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U
Vinyl chloride	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	0.001 U

Table 4

2005 Groundwater Duplicate Sample Comparison
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Parameter	MWR9-705	DUP1-705
Inorganic Compounds		
Aluminum, total	0.2 U	0.2 U
Antimony, total	0.005 U	0.005 U
Arsenic, total	0.016	0.0151
Barium, total	0.215	0.208
Beryllium, total	0.005 U	0.005 U
Cadmium, total	0.004 U	0.004 U
Calcium, total	38.5	38.5
Chromium, total	0.01 U	0.01 U
Cobalt, total	0.05 U	0.05 U
Copper, total	0.025 U	0.025 U
Iron, total	11.7	11.6
Lead, total	0.003 U	0.003 U
Magnesium, total	21	20.8
Manganese, total	7.71	7.66
Mercury, total	0.0002 U	0.0002 U
Nickel, total	0.04 U	0.04 U
Potassium, total	5 U	5 U
Selenium, total	0.005 U	0.005 U
Silver, total	0.01 U	0.01 U
Sodium, total	20.4	20.2
Thallium, total	0.01 U	0.01 U
Vanadium, total	0.05 U	0.05 U
Zinc, total	0.02 U	0.02 U
Volatile Organic Compounds		
1,1,1-Trichloroethane	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	0.001 U	0.001 U
1,1,2-Trichloroethane	0.001 U	0.001 U
1,1-Dichloroethane	0.001 U	0.001 U
1,1-Dichloroethene	0.001 U	0.001 U
1,2-Dichloroethane	0.001 U	0.001 U
1,2-Dichloropropane	0.001 U	0.001 U
2-Butanone (MEK)	0.01 U	0.01 U
2-Hexanone	0.005 U	0.005 U
4-Methyl-2-pentanone	0.005 U	0.005 U
Acetone	0.01 U	0.01 U
Benzene	0.001 U	0.001 U
Bromoform	0.004 U	0.004 U
Carbon disulfide	0.002 U	0.002 U
Carbon tetrachloride	0.001 U	0.001 U
Chlorobenzene	0.001 U	0.001 U
Chloroethane	0.001 U	0.001 U
Chloroform	0.001 U	0.001 U
Chloromethane	0.001 U	0.001 U
cis-1,2-Dichloroethene	0.001 U	0.001 U
cis-1,3-Dichloropropene	0.001 U	0.001 U

Parameter	MWR9-705	DUP1-705
Volatile Organic Compounds continued		
Dibromochloromethane	0.001 U	0.001 U
Dichlorobromomethane	0.001 U	0.001 U
Dichloromethane (Methylene chloride)	0.002 U	0.002 U
Ethyl benzene	0.001 U	0.001 U
m&p-Xylene	0.001 U	0.001 U
Methyl Bromide	0.002 U	0.002 U
o-Xylene	0.001 U	0.001 U
Styrene	0.005 U	0.005 U
Tetrachloroethene	0.001 U	0.001 U
Toluene	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U
trans-1,3-Dichloropropene	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U

U - Not detected at listed detection limit

Table 5

2005 Liquid Level Monitoring
Former Sinclair Refinery Site (OU-1)
Wellsville, New York

DATE	WELL	DTW (ft)	DTP (ft)	P THICKNESS (ft)	WATER LEVEL(ft. amsl)
7/5/2005	MWR-01	10.55			1491.49
7/5/2005	MWR-02	15.34	15.10	0.24	1491.14
7/5/2005	MWR-03	15.54			1491.05
7/5/2005	MWR-04	15.42			1492.10
7/5/2005	MWR-05	14.52			1493.10
7/5/2005	MWR-06	13.85			1494.65
7/5/2005	MWR-07	13.82			1494.47
7/5/2005	MWR-08	13.95			1494.65
7/5/2005	MWR-09	12.30			1493.16
7/5/2005	MWR-10	9.75			1492.50
7/5/2005	MWR-11	12.94			1498.36
7/5/2005	P-01	17.48			1491.75
7/5/2005	P-02	20.33			1492.04
7/5/2005	P-03	18.23			1491.95
7/5/2005	P-04	17.72	17.65	0.07	1491.73
7/5/2005	P-05	14.03			1491.78
7/5/2005	P-06	20.47			1491.74
9/16/2005	MWR-01	10.70			1491.34
9/16/2005	MWR-02	15.50	15.33	0.17	1490.98
9/16/2005	MWR-03	15.49	15.47	0.02	1491.10
9/16/2005	MWR-04	15.63			1491.89
9/16/2005	MWR-05	15.08			1492.54
9/16/2005	MWR-06	14.35			1494.15
9/16/2005	MWR-07	13.40			1494.89
9/16/2005	MWR-08	14.16			1494.44
9/16/2005	MWR-09	11.98			1493.48
9/16/2005	MWR-10	9.55			1492.70
9/16/2005	MWR-11	12.73			1498.57
9/16/2005	P-01	17.70			1491.53
9/16/2005	P-02	20.56			1491.81
9/16/2005	P-03	18.43			1491.75
9/16/2005	P-04	17.83	17.82	0.01	1491.62
9/16/2005	P-05	14.20			1491.61
9/16/2005	P-06	20.69	20.68	0.01	1491.52

Note:
DTW - Depth to Water
DTP - Depth to Product (LNAPL)
P THICKNESS - Apparent Product Thickness
ft amsl - Feet Above Mean Sea Level

Table 6

Storm Water Analytical Results (2002-2005)
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L except where noted)

Parameter	8/5/2002 SW-802	12/20/2002 SW-1202	9/2/2003 SW-0903	10/15/2003 SW-1003	7/27/2004 OF-704	6/6/2005 OF-605	NYSDEC Class A Surface Water Std[1]
Inorganic Compounds							
Arsenic, total	0.01 U	0.01 U	0.01 U	0.01 U	0.005 U	0.005 U	0.05
Barium, total	0.0426	0.0319	0.0607	0.0412	0.2 U	0.2 U	1
Calcium, total	32.3	27.9	48.8	40.6	37	29.9	-
Chromium, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05
Cobalt, total	NA	NA	0.05 U	0.05 U	NA	NA	0.005
Copper, total	0.02 U	0.02 U	NA	NA	NA	NA	0.2
Lead, total	0.005 U	0.005 U	0.05 U	0.05 U	0.003 U	0.003 U	0.05
Magnesium, dissolved	NA	NA	9	7.81	6.45	5 U	-
Magnesium, total	5.61	5.21	9.06	7.82	6.49	5.25	35
Mercury, total	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0002 U	0.0002 U	0.0007
Selenium, total	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.01
Silver, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05
Oil & Grease	5 U	5 U	5 U	5 U	5 U	5.2 U	-
pH	7.94	7.48	7.64	7.64	7.72	7.98	6.5-8.5
Wet Chemistry							
Biochemical Oxygen Demand	2 U	2 U	2 U	2 U	2 U	2 U	-
Chemical Oxygen Demand	16.9		25.8	11.9	20 U	20 U	-
Cyanide	NA	NA	NA	NA	0.01 U	0.01 U	9
Nitrate Nitrogen	NA	NA	NA	NA	4.2	5.4	10
Nitrate/Nitrite Nitrogen	4.54	0.581	1.02	1.98	4.2	5.4	10
Nitrite Nitrogen	NA	NA	NA	NA	0.01 U	0.01	1
Phosphorus	0.0694		0.0917	0.0567	0.08	0.11	-
Total Dissolved Solids	147	110	188	159	143	108	500
Total Kjeldahl Nitrogen	0.35	0.371	0.661	0.368	0.29	0.57	-
Total Organic Carbon (TOC)	3.54	5.7	9.72	4.3	1.9	2.9	-
Total Suspended Solids	2.5	7.9	2	1.1	4 U	4	-
Acute Toxicity							
Ceriodaphnia dubia (24-H)	ND	NA	ND	ND	5	ND	-
Ceriodaphnia dubia (48-H)	ND	NA	NA	35	5	ND	-
Pimephales promelas (24-H)	ND	NA	ND	ND	ND	ND	-
Pimephales promelas (48-H)	ND	NA	NA	ND	ND	ND	-

[1]New York State Department of Environmental Conservation 6 NYCRR PARTS 700-706 Class A Surface Water Standard.
NA - Not Analyzed
U - Not detected at listed detection limit

Table 7

Statistical Analysis of Arsenic Groundwater Data (1999-2005)
Mann-Kendall Non-Parametric Method
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Well	Year	1999	2000		2001	2002	2003	2004	2005	Rolling	Mann-
	Event	2	1	2	1	1	1	1	1	Average	Kendall
MWR-01		0.0112	0.0050	0.0050	0.0050	0.0050	0.0050	0.0126	0.005	0.007	-1
MWR-02		0.0681	0.0697	0.0557	0.0496	0.0562	0.0579	0.0532	0.0025	0.042	-14
MWR-03		0.0128	0.0050	0.0129	0.0050	0.0050	0.0050	0.0124	0.01	0.008	-2
MWR-04		0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0025	0.0025	0.004	-12
MWR-05		0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0025	0.0025	0.004	-12
MWR-06		0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0025	0.0025	0.004	-12
MWR-07		0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0025	0.0025	0.004	-12
MWR-08		0.0107	0.0106	0.0167	0.0050	0.0050	0.0050	0.0086	0.0025	0.005	-15
MWR-09		0.0261	0.0184	0.0278	0.0112	0.0123	0.0238	0.0025	0.016	0.014	-10
MWR-10		0.0350	0.0304	0.0359	0.0448	0.0586	0.0437	0.045	0.0475	0.049	18
MWR-11		0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0025	0.0025	0.004	-12

NOTES: 1) Rolling Average over the previous 4 sampling events..
2) Significant Mann-Kendall Statistics at the 95% level of confidence are <-16 and >16.
3) 1/2 of the detection limit used for non-detects.
4) Semiannual sampling conducted between 1999 and 2000 and annual frequency starting in 2001.

Table 7A

Statistical Analysis of MWR-10 Arsenic Groundwater Data (1996-2005)
Mann-Kendall Non-Parametric Method
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Date	10/28/96	05/22/97	10/22/97	05/26/98	10/13/98	05/05/99	10/20/99	04/19/00	10/10/00	05/01/01	04/17/02	04/22/03	06/15/04	07/06/05		
Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14		
Result	0.033	0.053	0.0453	0.0402	0.0426	0.0319	0.035	0.0304	0.0359	0.0448	0.0586	0.0437	0.045	0.0475	Count "+"	Count "-"
0.033		+	+	+	+	-	+	-	+	+	+	+	+	+	11	2
0.053			-	-	-	-	-	-	-	-	+	-	-	-	1	11
0.0453				-	-	-	-	-	-	-	+	-	-	+	2	9
0.0402					+	-	-	-	-	+	+	+	+	+	6	4
0.0426						-	-	-	-	+	+	+	+	+	5	4
0.0319							+	-	+	+	+	+	+	+	7	1
0.035								-	+	+	+	+	+	+	6	1
0.0304									+	+	+	+	+	+	6	0
0.0359										+	+	+	+	+	5	0
0.0448											+	-	+	+	3	1
0.0586												-	-	-	0	3
0.0437													+	+	2	0
0.045														+	1	0
															55	36	19
															Total "+"	Total "-"	S (difference in total "+" and "-")

n=14 Critical value = 31 19<31, no trend*

z_0 = 0.7116 #

Critical value 1.645 1.287<1.645, do not reject no trend

p-value 0.7632 0.1024>0.05, do not reject no trend

*Critical value determined from Table A-12a on page 165 of EPA/G-9S.

#z_0 Determined using equation on page 108 of EPA/G-9S. Critical value and p-value determined from Table A-1 (pp148-149)

z_0 is the statistic calculated to determine the level of significance of the Mann-Kendall test. It's value is compared to values for specific levels of significance, or p-values for comparison to determine the level of significance and the associated p-value.

p-value is the significance level of the test which is compared to α the desired significance level or confidence in the result.

α is the significance level you have selected to evaluate the test significance level against such as 0.05, which corresponds with the assurance that 95% of the time the test is correct if performed correctly.

Table 8

Statistical Analysis of Chromium Groundwater Data (1999-2005)
Mann-Kendall Non-Parametric Method
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Well	Year	1999	2000		2001	2002	2003	2004	2005	Rolling	Mann-
	Event	2	1	2	1	1	1	1	1	Average	Kendall
MWR-01		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0
MWR-02		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0
MWR-03		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0
MWR-04		0.005	0.005	0.005	0.005	0.225	0.005	0.005	0.005	0.060	1
MWR-05		0.0414	0.0114	0.005	0.0303	0.14	0.0348	0.0247	0.005	0.051	-5
MWR-06		0.005	0.005	0.005	0.005	0.0594	0.005	0.005	0.005	0.019	1
MWR-07		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0
MWR-08		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0
MWR-09		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0
MWR-10		0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0
MWR-11		0.0902	0.0378	0.0998	0.0597	0.836	0.122	0.193	0.604	0.439	16

NOTES: 1) Rolling Average over the previous 4 sampling events..
2) Significant Mann-Kendall Statistics at the 95% level of confidence are <-16 and >16.
3) 1/2 of the detection limit used for non-detects.
4) Semiannual sampling conducted between 1999 and 2000 and annual frequency starting in 2001.

Table 9

Statistical Analysis of Nickel Groundwater Data (1999-2005)
Mann-Kendall Non-Parametric Method
Former Sinclair Refinery Site (OU-1)
Wellsville, New York
(mg/L)

Well	Year	1999	2000		2001	2002	2003	2004	2005	Rolling Average	Mann-Kendall
	Event	2	1	2	1	1	1	1	1		
MWR-01		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-02		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-03		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-04		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-05		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-06		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-07		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-08		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-09		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-10		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.020	0
MWR-11		0.0882	0.0643	0.152	0.0624	0.144	0.0766	0.105	0.218	0.136	8

NOTES: 1) Rolling Average over the previous 4 sampling events..
2) Significant Mann-Kendall Statistics at the 95% level of confidence are <-16 and >16.
3) 1/2 of the detection limit used for non-detects.
4) Semiannual sampling conducted between 1999 and 2000 and annual frequency starting in 2001.

Table 10

2005 Groundwater Monitoring Field Parameters
Former Sinclair Refinery Site (OU-1)
Wellsville, New York

Monitoring Well	Date	pH (S.U.)	Conductivity (us/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp (°C)	ORP (mV)
MWR-1	7/7/2005	6.11	0547	2.99	0.65	16.81	14.6
MWR-2	7/12/2005	6.45	0686	6.50	1.97	13.13	-120.6
MWR-3	7/12/2005	6.34	0450	3.39	0.22	15.61	-54.4
MWR-4	7/11/2005	6.15	0191	0.96	0.10	16.02	-39.8
MWR-5	7/11/2005	5.88	0220	1.57	0.12	15.12	-31.3
MWR-6	7/7/2005	6.00	0283	2.35	0.27	15.85	-33.4
MWR-7	7/7/2005	6.12	0261	1.27	1.03	13.75	-27.6
MWR-8	7/7/2005	6.02	0287	1.55	0.94	14.59	-13.8
MWR-9	7/6/2005	6.30	0501	2.70	0.55	14.17	-43.6
MWR-10	7/6/2005	6.21	0.505	32.9	0.23	14.06	-39.8
MWR-11	7/7/2005	5.84	0348	11.1	5.02	14.32	95.0

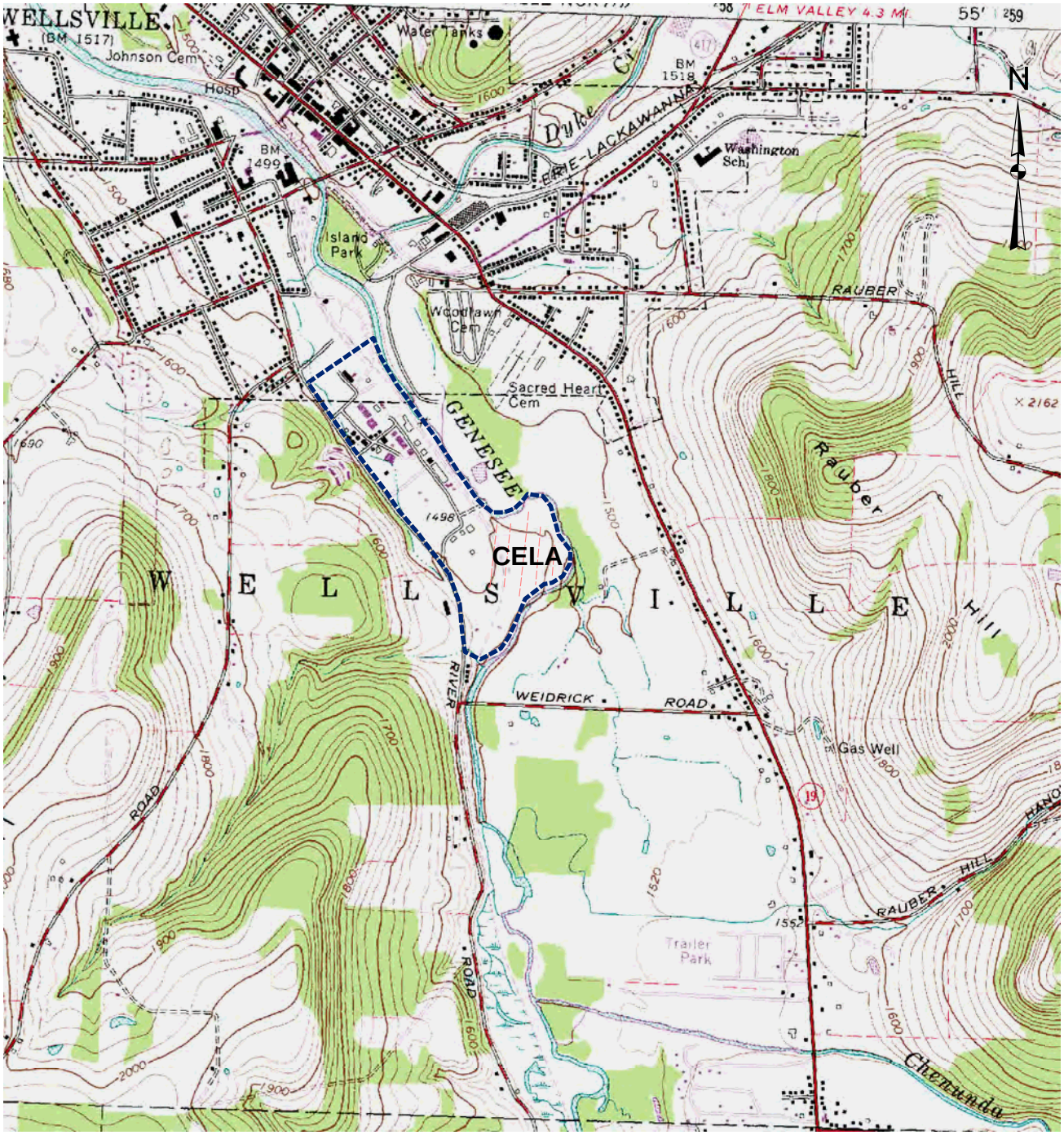
Table 11

2005 LNAPL Measurements and Removal
Former Sinclair Refinery Site (OU1)
Wellsville, New York

Date	Depth to LNAPL (ft)	Depth to Water (ft)	Apparent LNAPL Thickness (ft)	Comment	Sock LNAPL Saturation (in)	Approximate LNAPL Removed (oz)
MWR-2						
7/5/2005	15.10	15.34	0.24	Removed 4 18" socks and installed 4 18" socks	18"	68
7/12/2005	NM	NM	NM	Removed 4 18" socks	18"	68
9/16/2005	15.33	15.50	0.17	Installed 3 18" socks		
9/21/2005	NM	NM	NM	Removed 3 18" socks	13"	37
					2005 Total LNAPL Removed (oz):	**173**

Notes:
The approximate quantities of LNAPL removed are based on the length of sock saturation and the manufacturers information indicates that a 18" sock absorbs 17 oz NAPL.
Example: Four fully saturated 18" socks (4x17oz = 68oz NAPL)
NM - Not Measured

SITE LOCATION



SOURCE: WELLSVILLE SOUTH, NY USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, DATED 1965.

Legend

Approximate Site Boundary

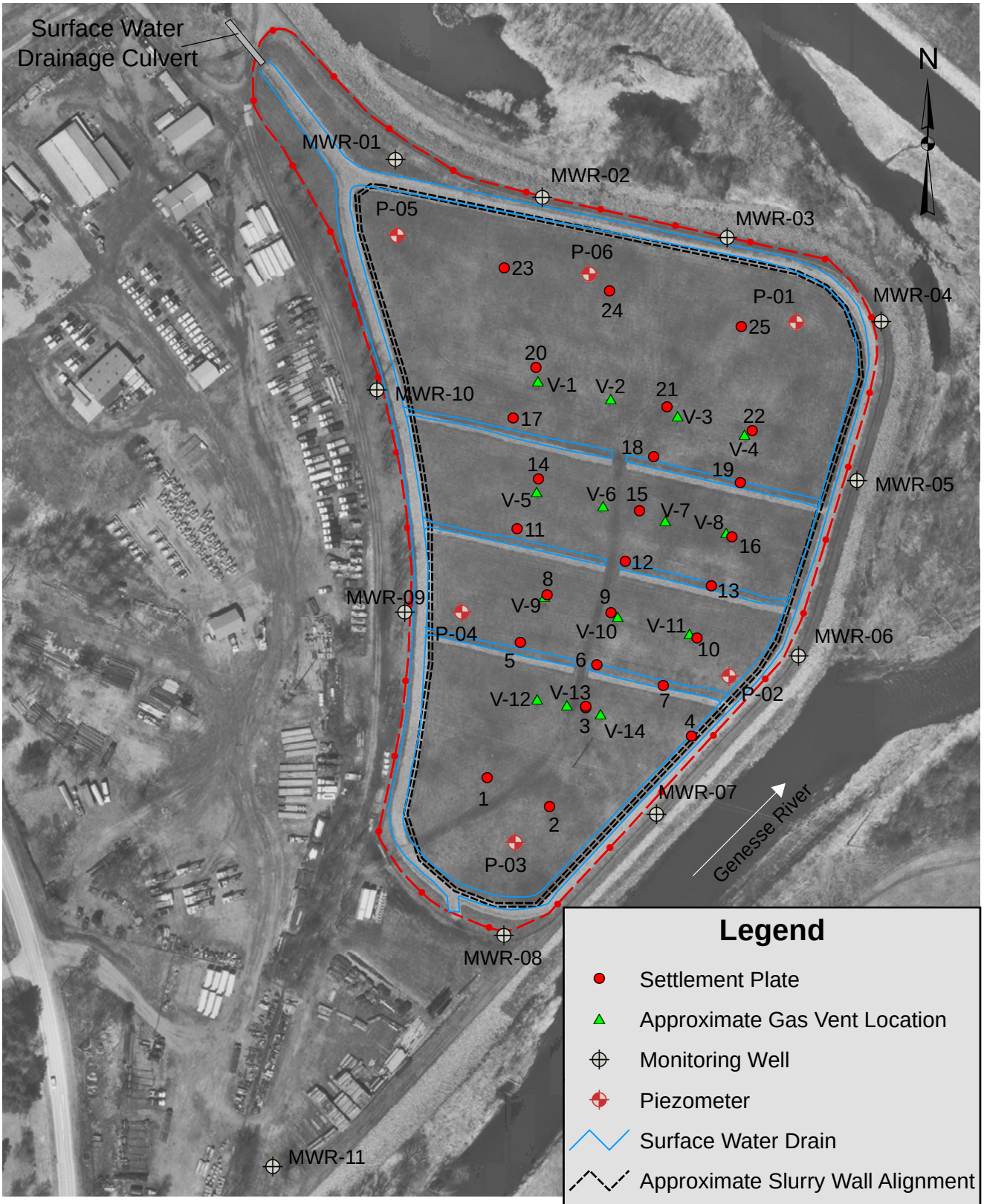
980 490 0 980 1,960 Feet

FIGURE NO.	1a
PROJECT	WELLSVILLE OU-1
DOCUMENT NO.	2005 CELA REPORT
FILE NO.	SITELOC.MXD

ON-SITE TECHNICAL SERVICES, INC.
72 Railroad Avenue Wellsville, NY 14895

N:\ARCO_WLSV\OU1REPORTS\2005CELAREPORT\FIGURES\SITELOC.MXD

SITE FEATURES



1999 AERIAL PHOTOGRAPH

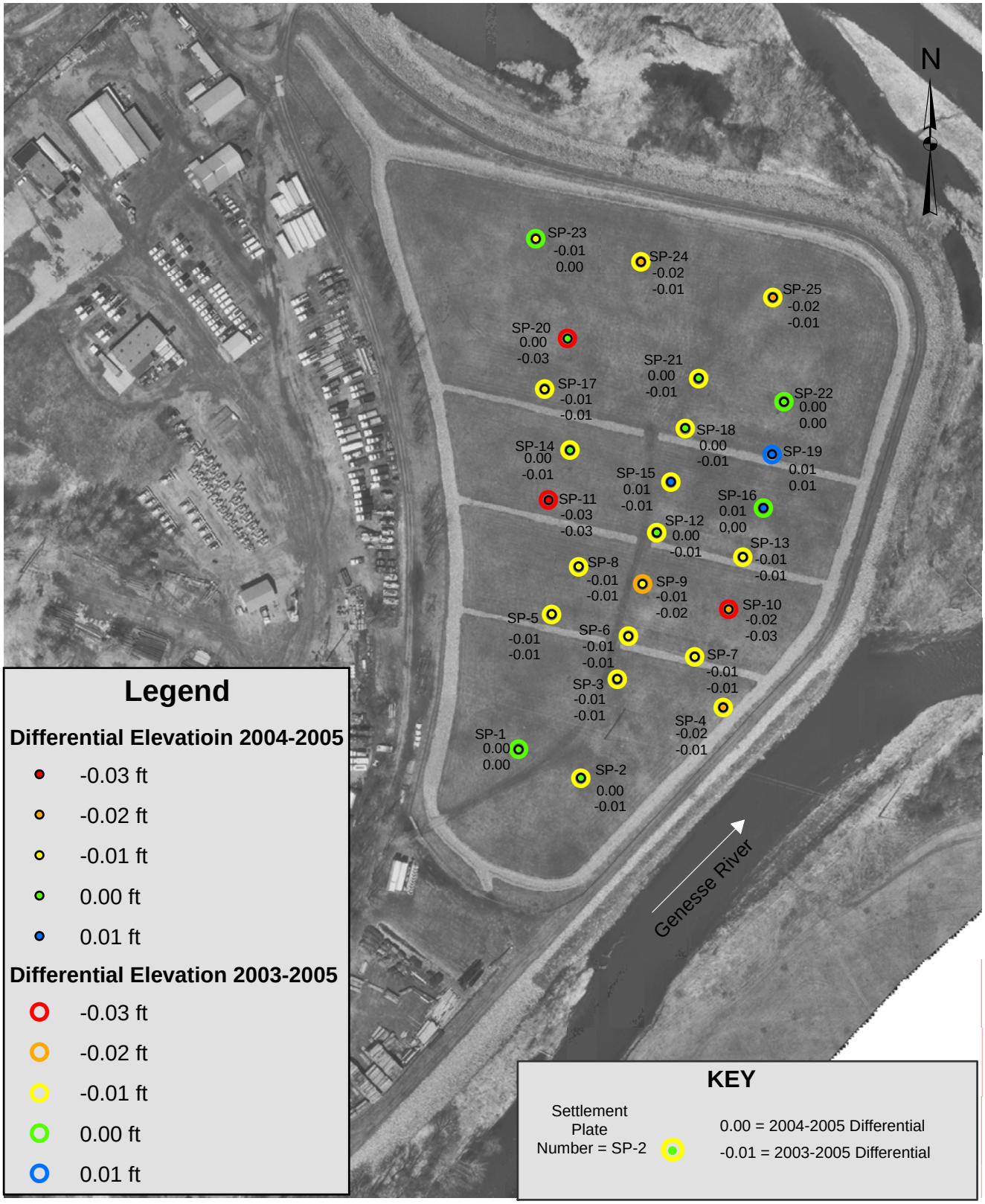
ON-SITE TECHNICAL SERVICES, INC.

72 Railroad Avenue Wellsville, NY 14895

FIGURE NO.	1b
PROJECT	WELLSVILLE OU-1
DOCUMENT	2005 CELA REPORT
FILE NO.	SITE_FEATURES.MXD

N:\ARCO_WLSV\OU1REPORTS\2005CELA\FIGURES\SITE_FEATURES.MXD

CELA DIFFERENTIAL ELEVATIONS



Legend

Differential Elevatioin 2004-2005

- -0.03 ft
- -0.02 ft
- -0.01 ft
- 0.00 ft
- 0.01 ft

Differential Elevation 2003-2005

- -0.03 ft
- -0.02 ft
- -0.01 ft
- 0.00 ft
- 0.01 ft

KEY

Settlement Plate Number = SP-2

0.00 = 2004-2005 Differential

-0.01 = 2003-2005 Differential

100 50 0 100 200 Feet

1 inch equals 200 feet

1999 AERIAL PHOTOGRAPH

ON-SITE TECHNICAL SERVICES, INC.

72 Railroad Avenue Wellsville, NY 14895

FIGURE NO.	2
PROJECT	WELLSVILLE OU-1
DOCUMENT	2005 CELA REPORT
FILE NO.	SETTLE05.MXD

N:\ARCO_WLSV\OU1REPORTS\2005CELA\FIGURES\SITE_\SETTLE05.MXD

FIGURE 3A
CHANGE IN ELEVATION 1992-2005

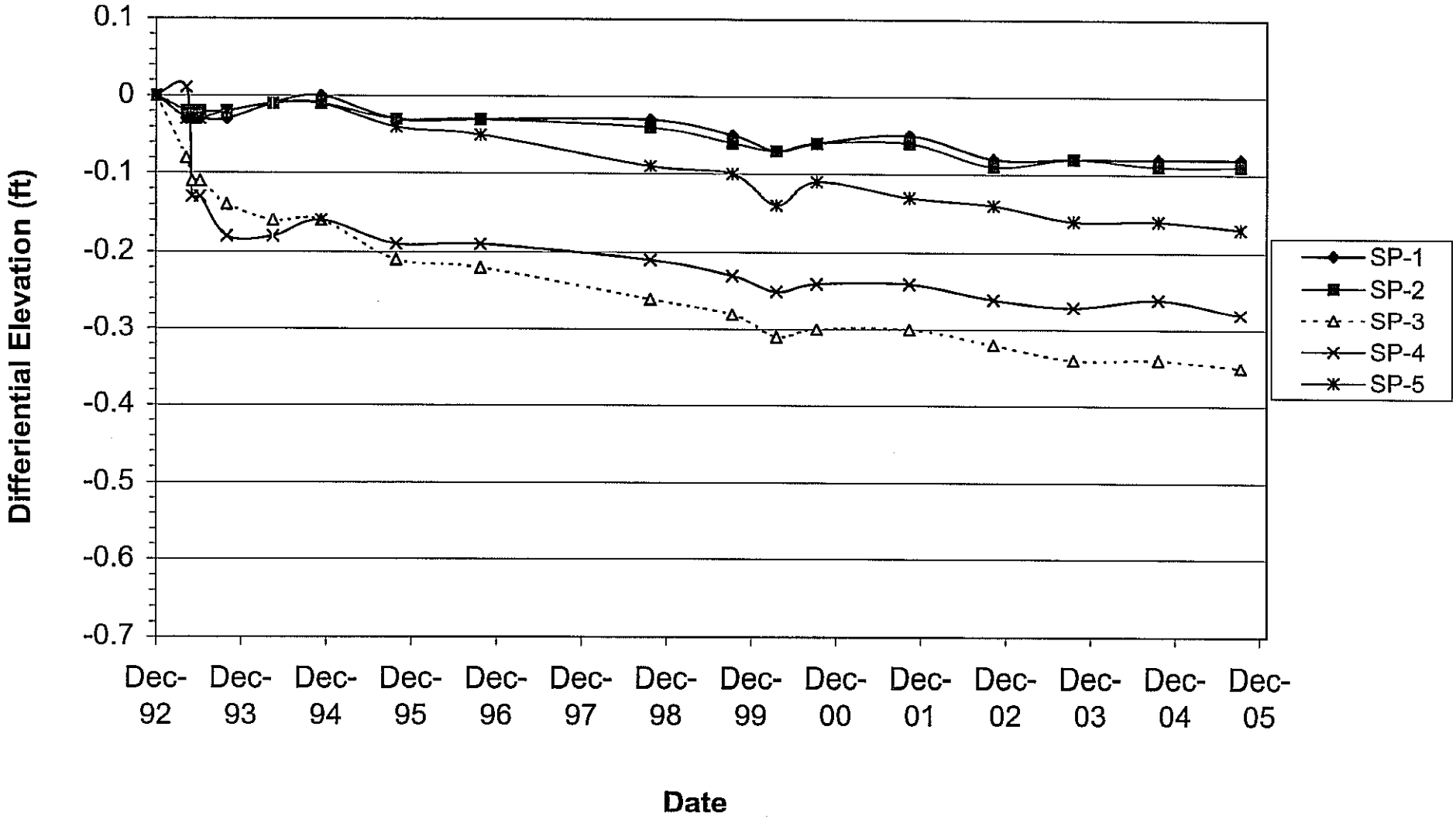


FIGURE 3B
CHANGE IN ELEVATION 1992-2005

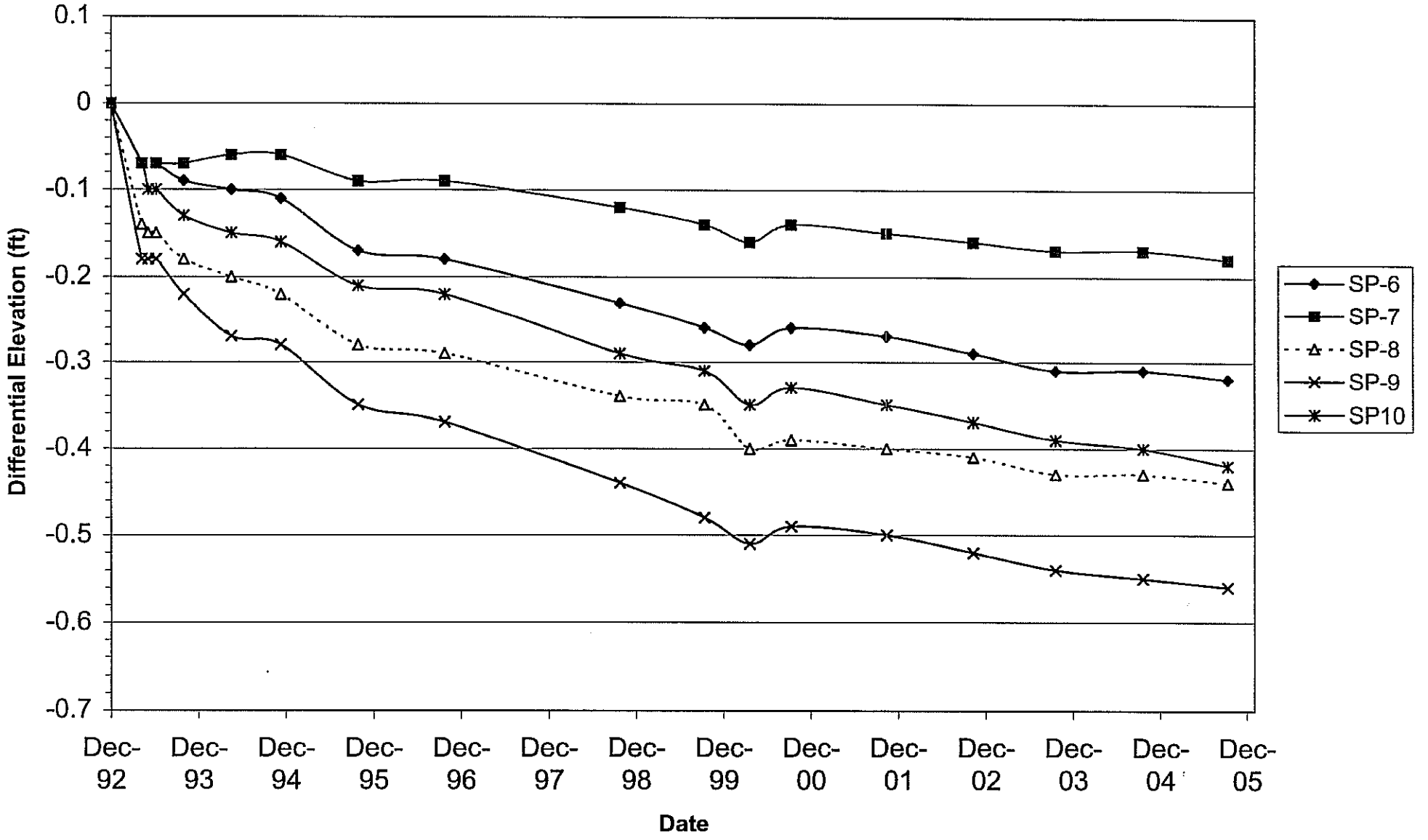


FIGURE 3C
CHANGE IN ELEVATION 1992-2005

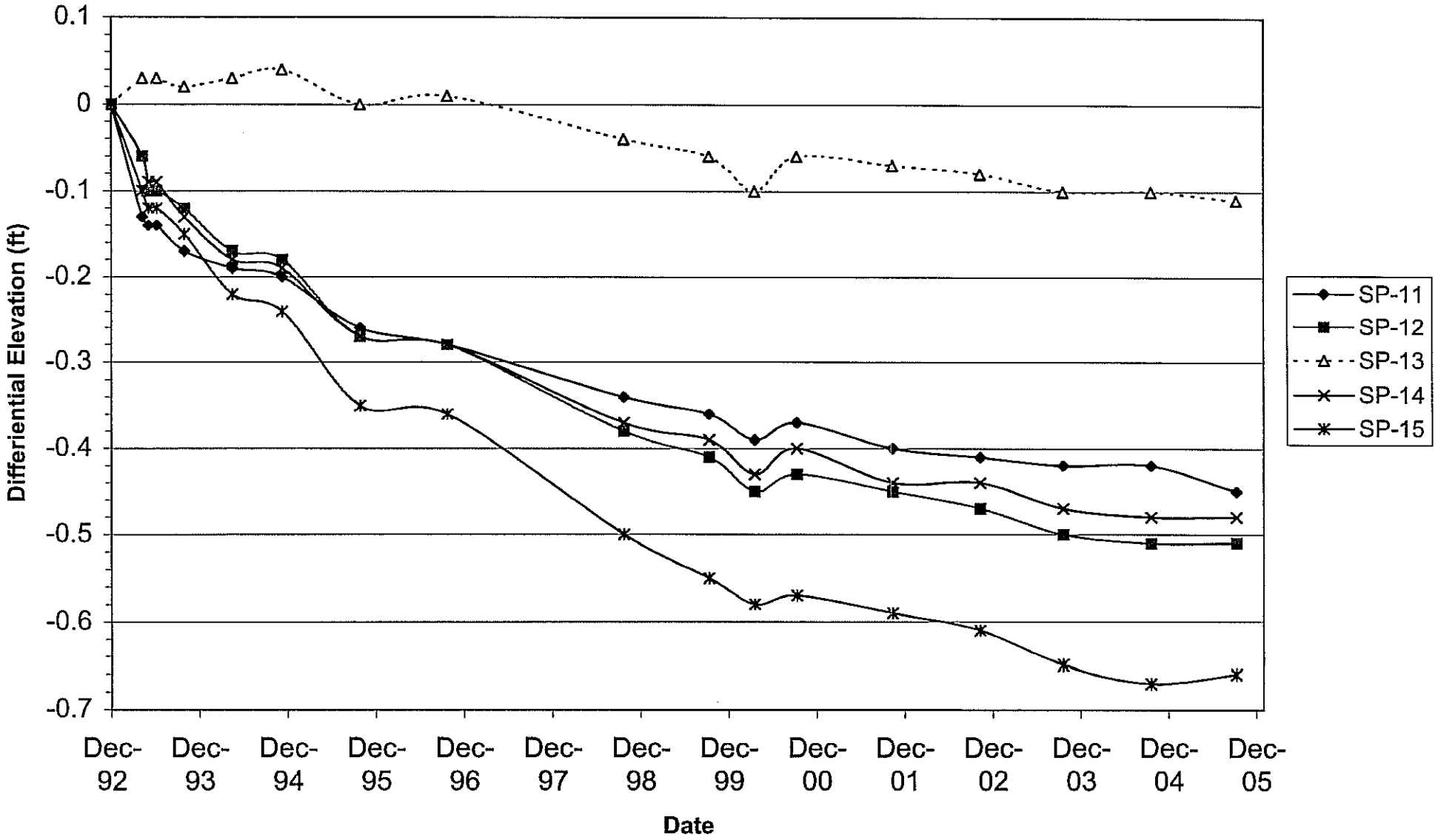


FIGURE 3D
CHANGE IN ELEVATION 1992-2005

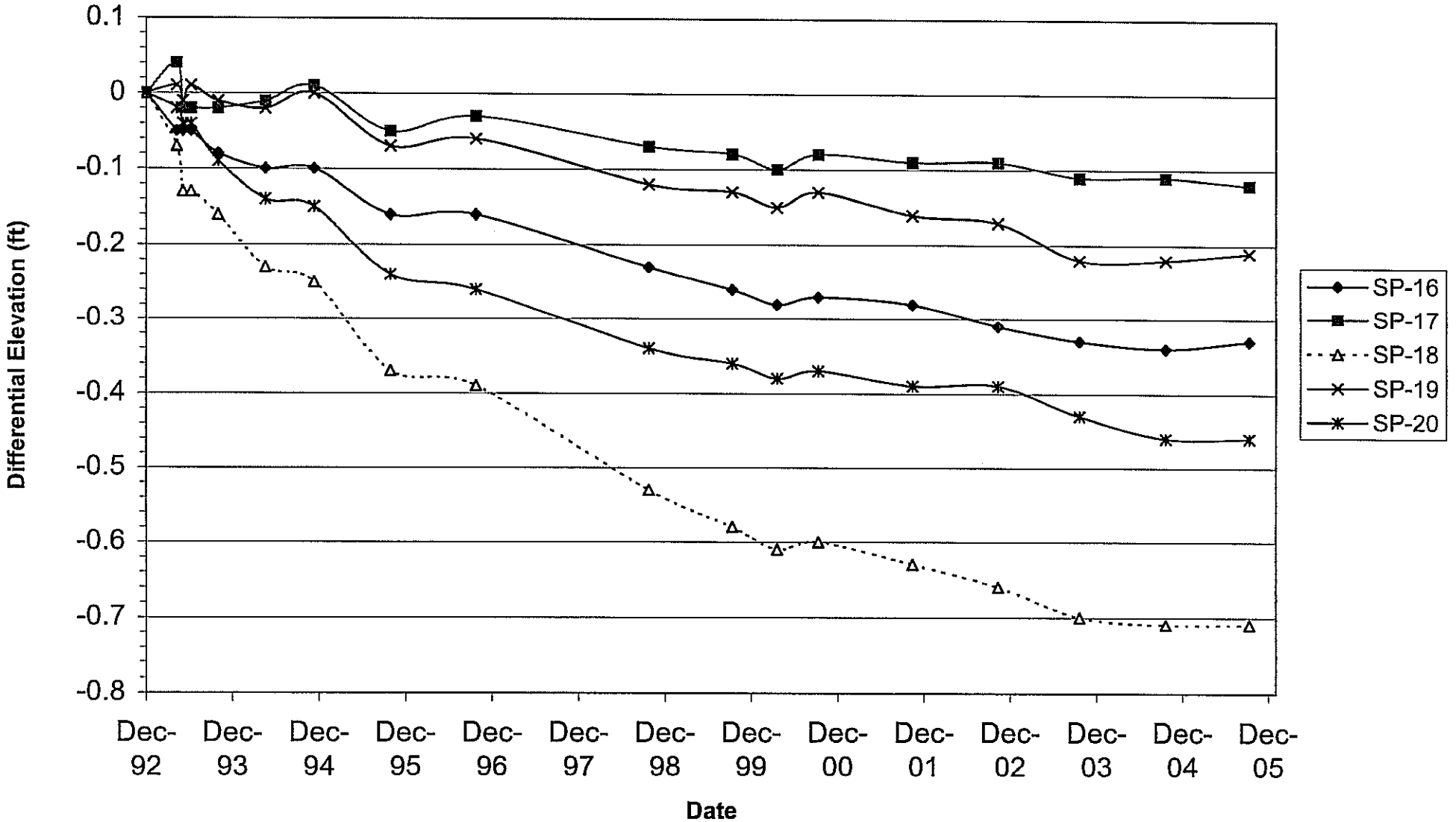
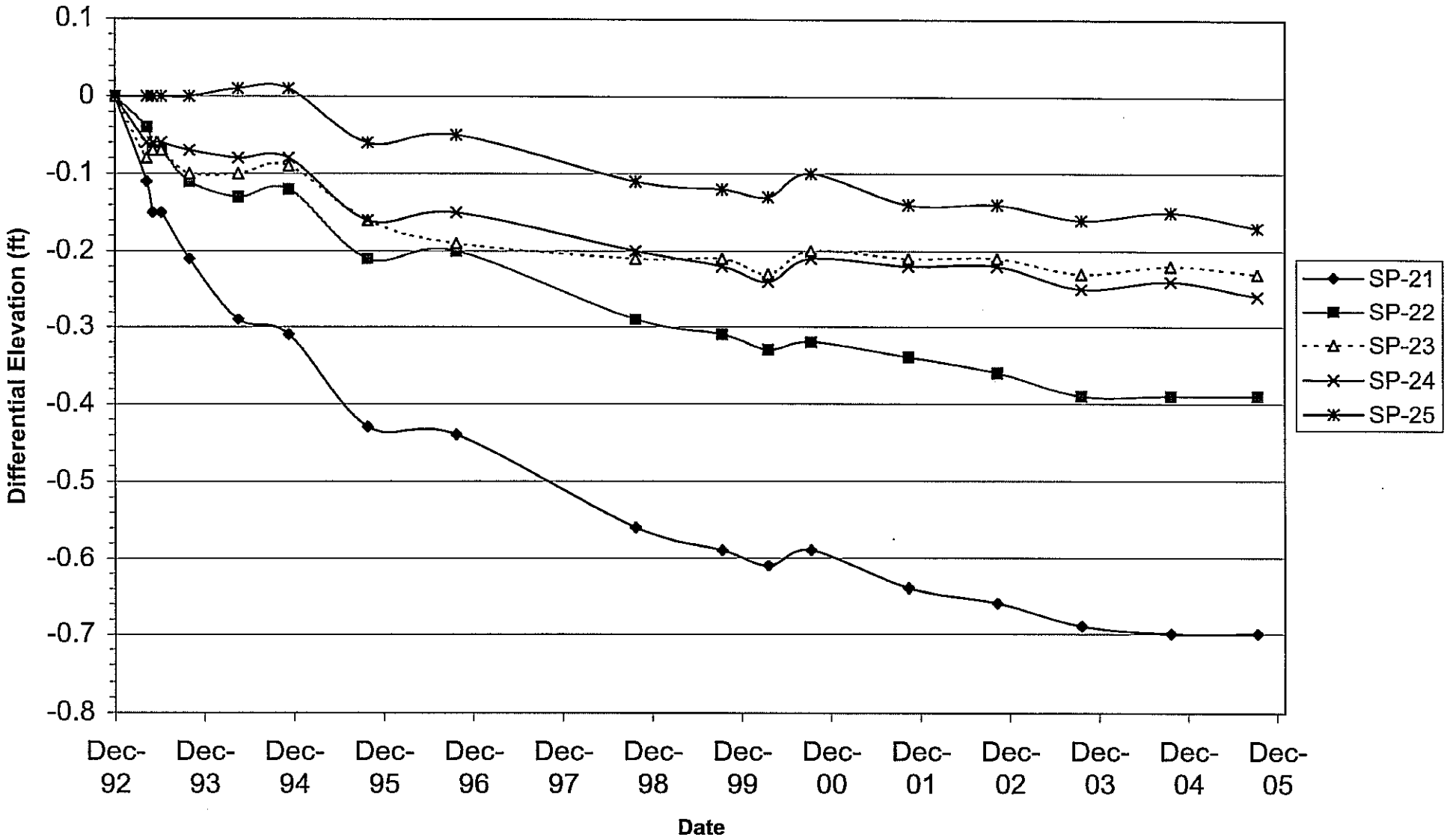
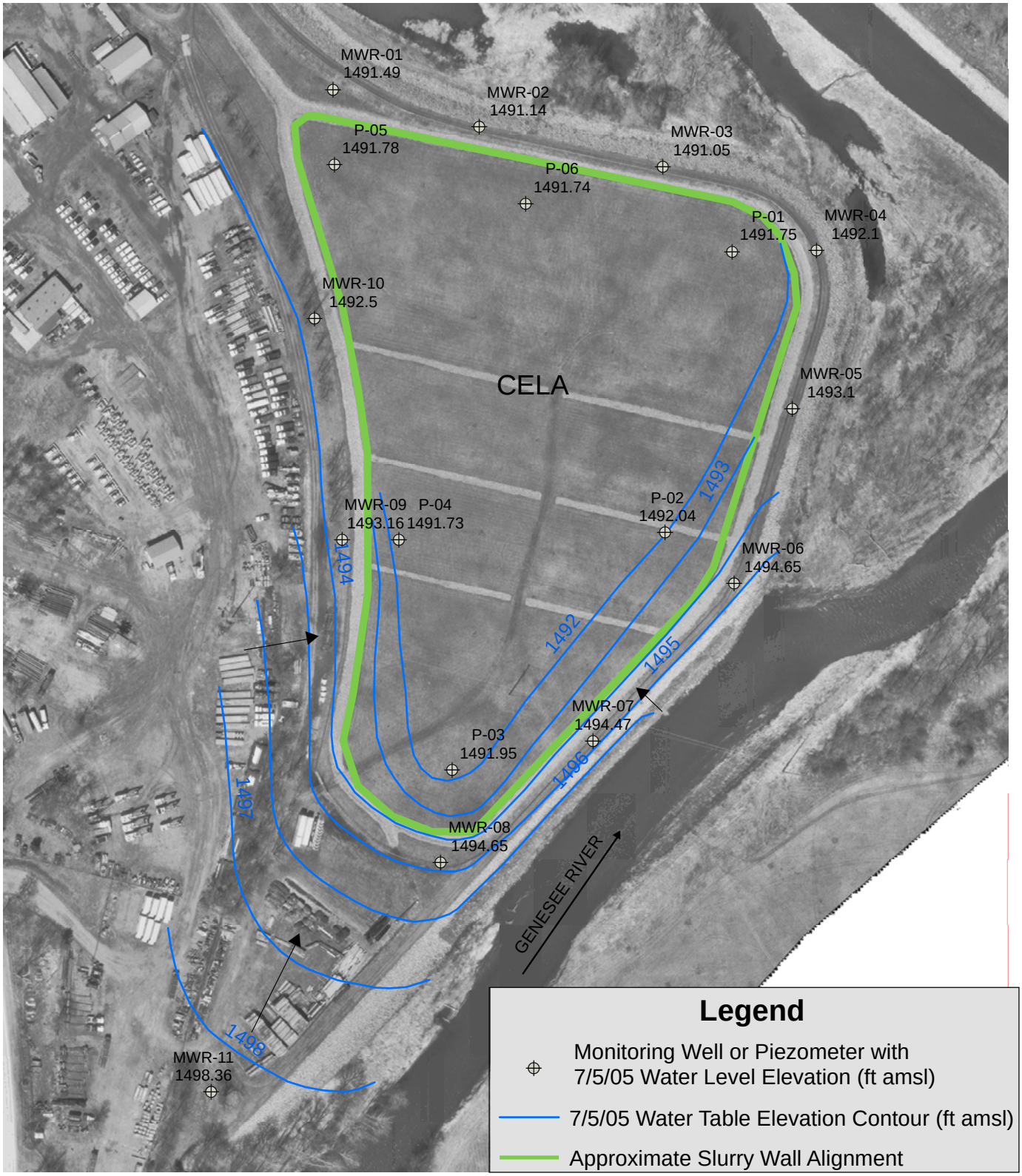


FIGURE 3E
CHANGE IN ELEVATION 1992-2005



JULY 5, 2005 WATER TABLE CONTOUR MAP



1999 AERIAL PHOTOGRAPH

100 50 0 100 200 Feet

ON-SITE TECHNICAL SERVICES, INC.

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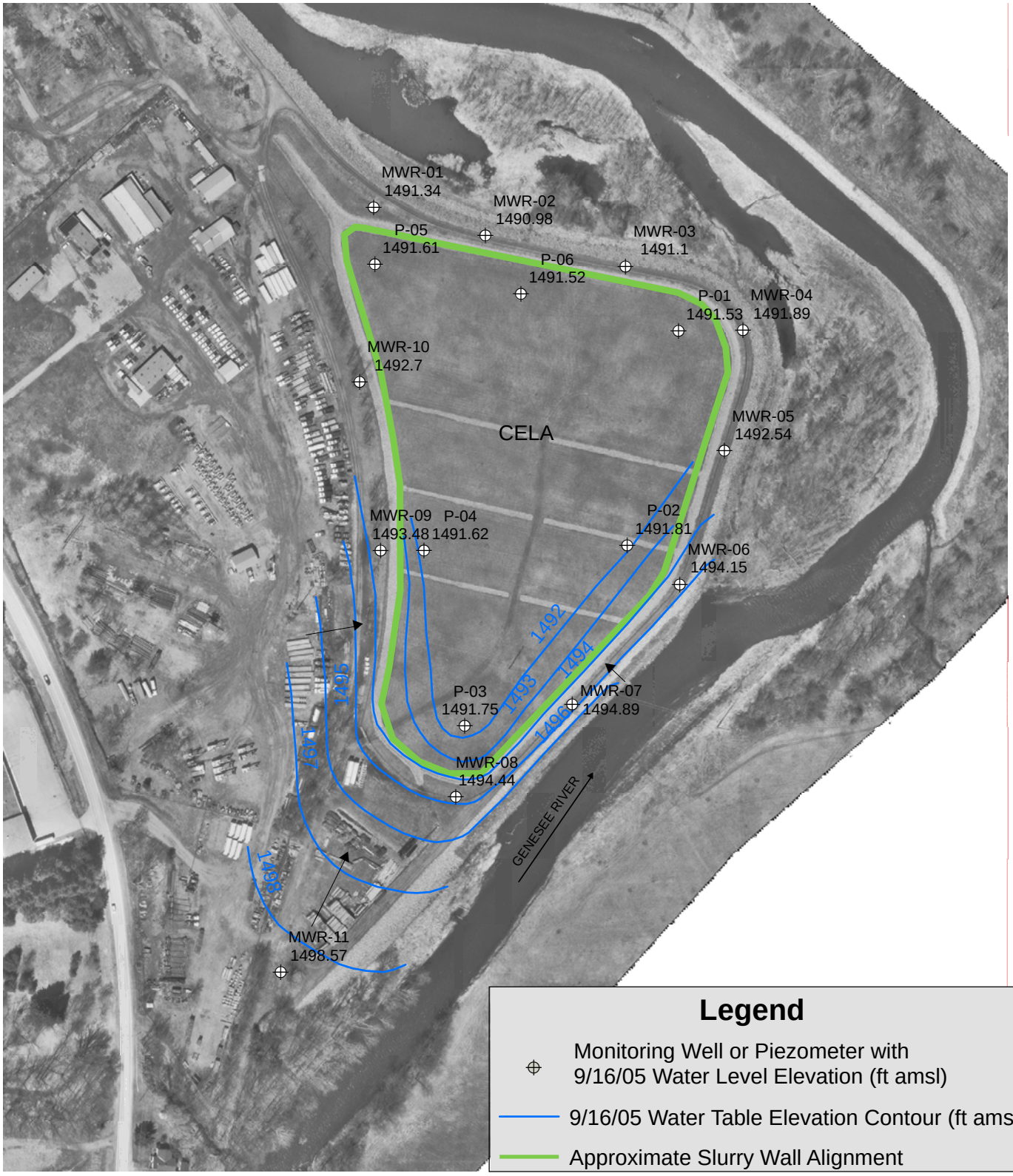
FIGURE NO.	4
PROJECT	WELLSVILLE OU-1
DOCUMENT	2005 CELA REPORT
FILE NO.	FIG4.MXD

N:\ARCO_WLSV\OU1 Reports\2005CELA Report\Figures\Fig4.mxd

SEPTEMBER 16, 2005 WATER TABLE CONTOUR MAP



ON-SITE TECHNICAL SERVICES, INC.

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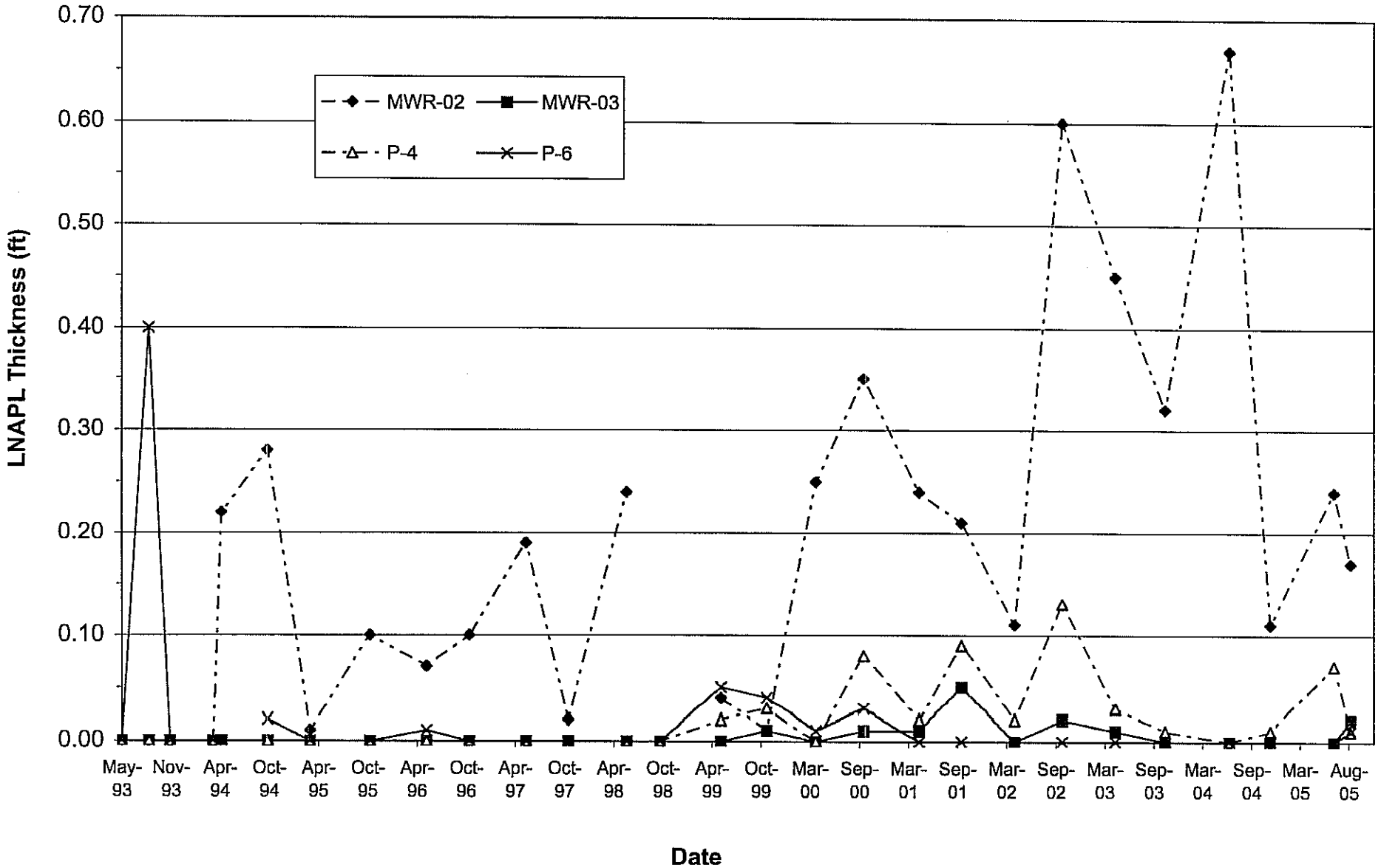
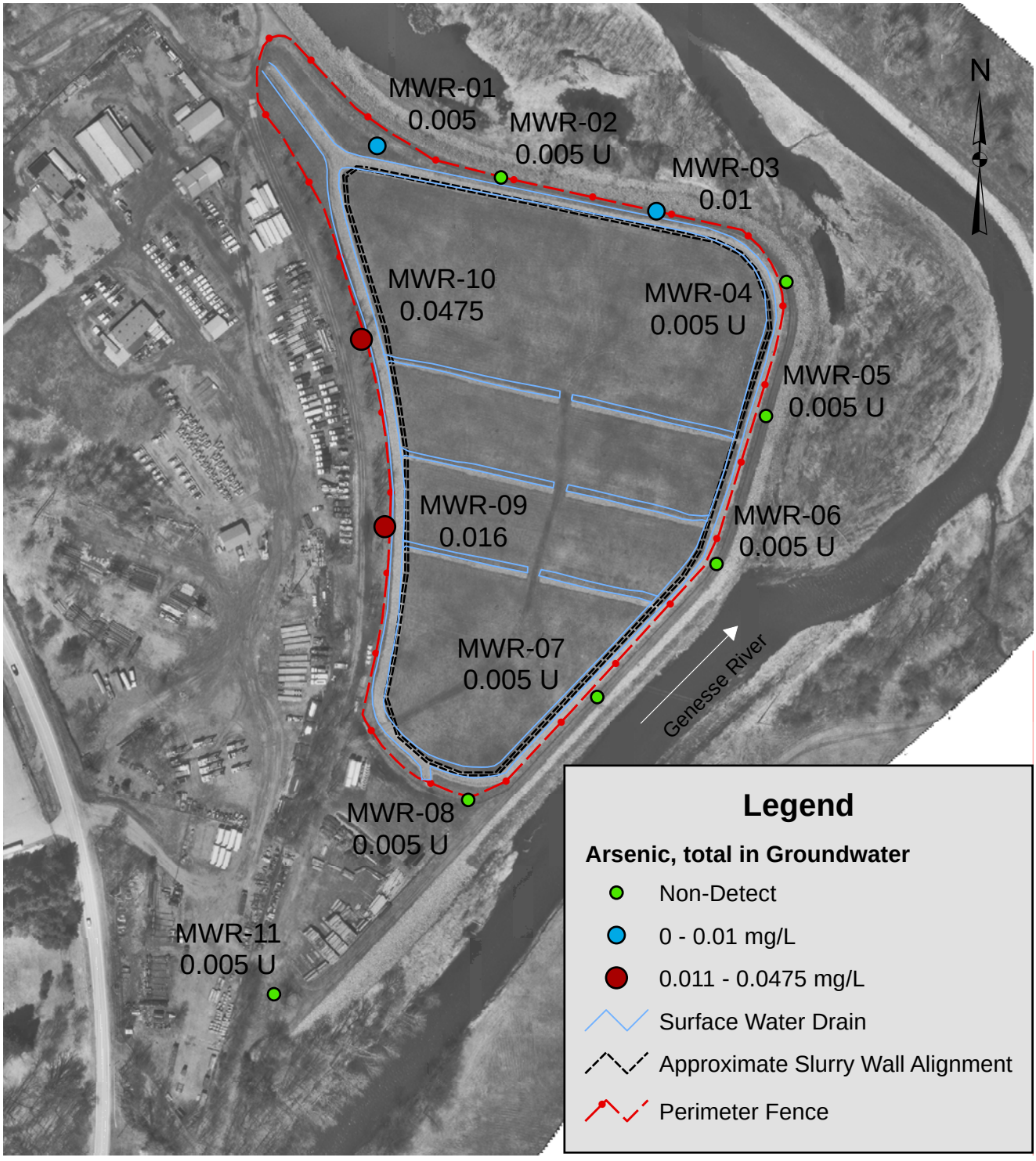
FIGURE NO.	5
PROJECT	WELLSVILLE OU-1
DOCUMENT	2005 CELA REPORT
FILE NO.	FIG5.MXD

N:\ARCO_WLSV\OU1 Reports\2005CELA Report\Figures\Fig5.mxd

FIGURE 6
LNAPL THICKNESS 1993 - 2005



ARSENIC CONCENTRATIONS IN GROUNDWATER (mg/L)



1999 AERIAL PHOTOGRAPH

125 62.5 0 125 250 Feet

1 inch equals 250 feet

ON-SITE TECHNICAL SERVICES, INC.

72 Railroad Avenue Wellsville, NY 14895

FIGURE NO.	7
PROJECT	WELLSVILLE OU-1
DOCUMENT	2005 CELA REPORT
FILE NO.	ARSENIC.MXD

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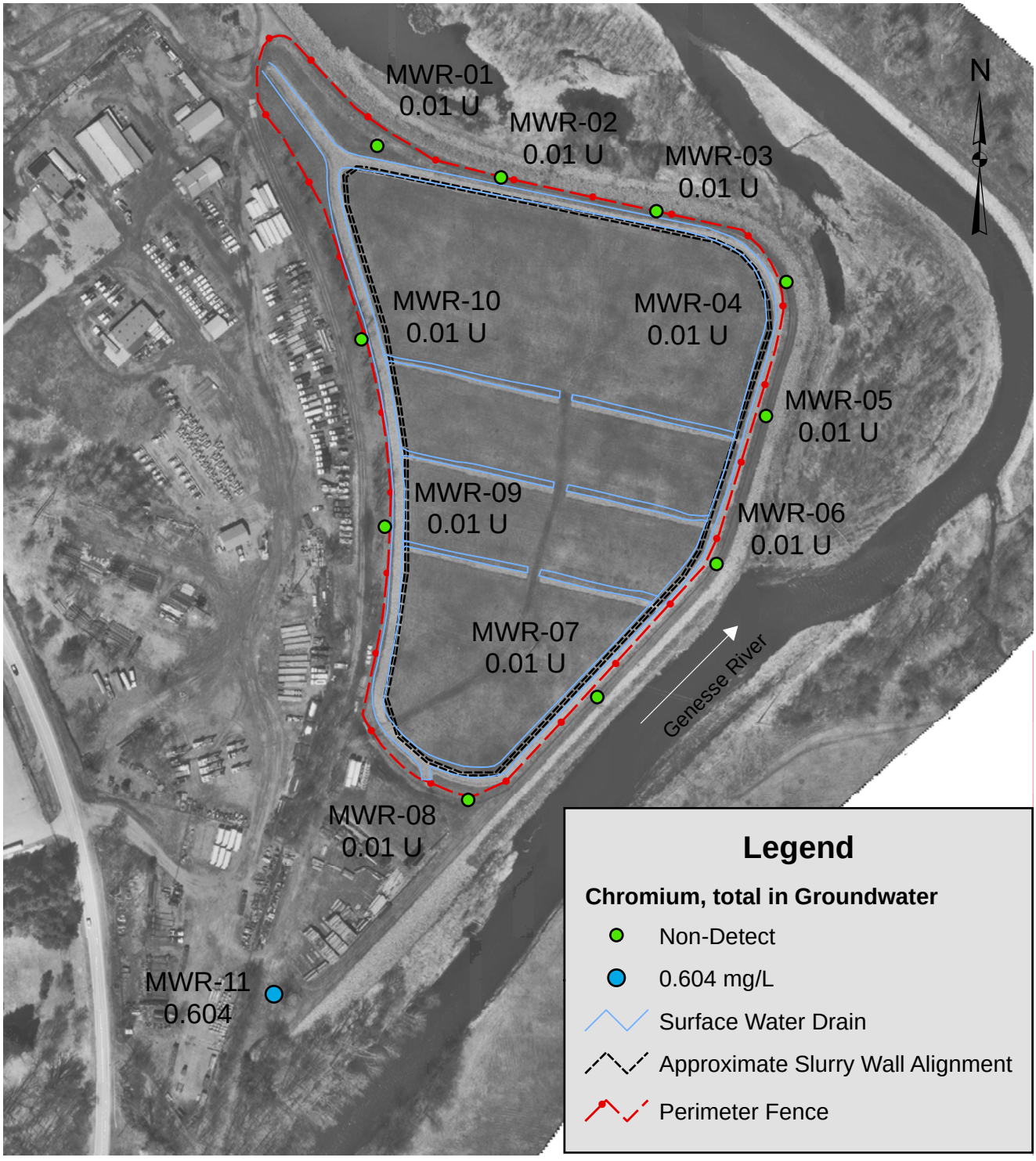
CHROMIUM CONCENTRATIONS IN GROUNDWATER (mg/L)



1999 AERIAL PHOTOGRAPH

125 62.5 0 125 250 Feet

1 inch equals 250 feet

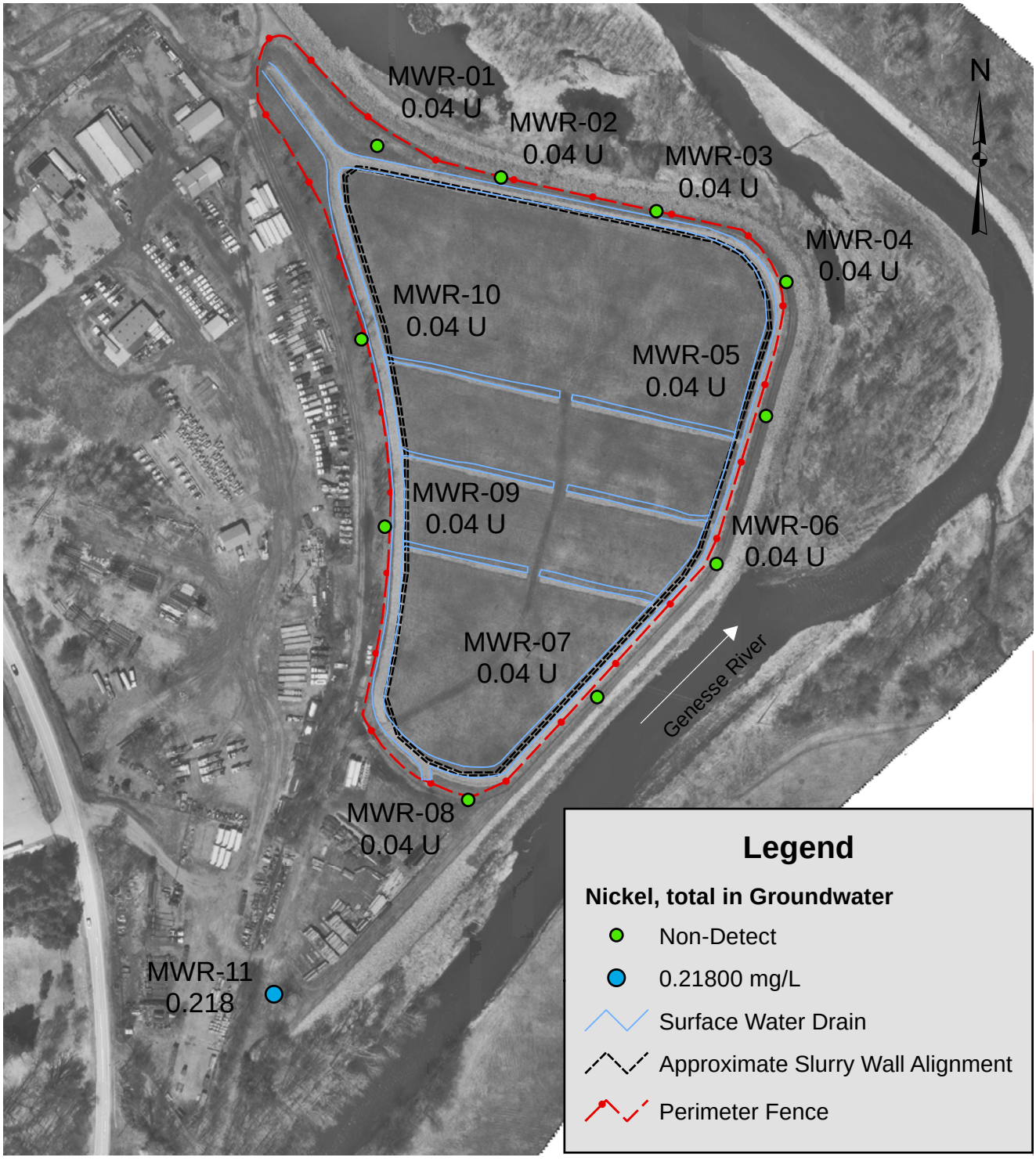
ON-SITE TECHNICAL SERVICES, INC.

72 Railroad Avenue Wellsville, NY 14895

FIGURE NO.	8
PROJECT	WELLSVILLE OU-1
DOCUMENT	2005 CELA REPORT
FILE NO.	CHROMIUM.MXD

N:\ARCO_WLSV\OU1REPORTS\2005CELA\FIGURES\CHROMIUM.MXD

NICKEL CONCENTRATIONS IN GROUNDWATER (mg/L)



1999 AERIAL PHOTOGRAPH

125 62.5 0 125 250 Feet

1 inch equals 250 feet

ON-SITE TECHNICAL SERVICES, INC.

72 Railroad Avenue Wellsville, NY 14895

FIGURE NO.	9
PROJECT	WELLSVILLE OU-1
DOCUMENT	2005 CELA REPORT
FILE NO.	NICKEL.MXD

N:\ARCO_WLSV\OU1REPORTS\2005CELA\FIGURES\NICKEL.MXD

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUN 28 200

BY FEDEX

Terry Moore
Environmental Manager
BP/ARCO Environmental Remediation, L.L.C.
2300 West Plano Parkway, Room PRC-J1633
Plano, TX 75075-8499

Re: Sinclair Refinery Site, Wellsville, New York; Annual Reporting Requirements - OU1.

Dear Mr. Moore:

This is in response to your letter to the U.S. Environmental Protection Agency (EPA) dated April 18, 2001 whereby you request modification of the annual reporting requirements associated with the Central Elevated Landfill Area and Partial River Channelization (OU1) at the Sinclair Refinery Site in Wellsville, New York. Specifically, you request that water quality measurements (chemical analysis of water samples) be performed once per year in the Spring instead of the current Spring and Fall schedule. The reasoning behind your request is that statistical analysis of groundwater quality data show no significant trends in groundwater quality over time.

Upon EPA's review of your request, and in consultation with the New York State Department of Environmental Conservation (NYSDEC), EPA approves this modification to the annual reporting requirements. However, as you state in your letter, fluid level measurements, including non-aqueous phase liquid (NAPL) measurements, will continue on a semi-annual basis due to seasonal fluctuations and all other parameters will continue to be performed in accordance with the schedule set forth in the OU1 Operation and Maintenance Plan.

If you have any questions on this matter, please call me at (212) 637-4278.

Sincerely yours,

Michael J. Negrelli
Remedial Project Manager
New York Remediation Branch

cc: M. Brekhus - BP/ARCO (Los Angeles)
D. Keenan - NYSDEC
C. Berns - EPA/ORC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

NOV 0 8 2002

BY FEDEX

Terry Moore
Environmental Manager
BP/ARCO Environmental Remediation, L.L.C.
1701 Summit Avenue, Suite 2
Plano, TX 75074

Re: Sinclair Refinery Site, Wellsville, New York

Dear Mr. Moore:

This letter is in response to the Atlantic Richfield Company's ("ARCO's") letter to the U.S. Environmental Protection Agency ("EPA"), dated April 24, 2002, regarding proposed modifications to certain Operation and Maintenance (O&M) requirements for the first operable unit (OU1) at the Sinclair Refinery site in Wellsville, New York. Specifically, ARCO's letter requests modifications to the frequency of elevation surveys of the river channel and banks associated with OU1 and discontinuation of analyzing dissolved metals in the annual ground water sampling (total metals will continue to be analyzed).

ARCO notes that the O&M Manual for OU1 states that the frequency of surveying of cross sections of the dikes will depend on significant changes in surveying data (the elevation surveys of the river bed have no corresponding mention of changing the frequency based on observations). Surveys performed by ARCO annually for the past ten years have indicated no significant changes in survey data for either the dike cross sections or river bed. Accordingly, EPA approves modifying the survey frequency from annually to every five years. As ARCO notes in its letter, annual inspections and periodic patrols following high water events shall continue.

ARCO also requests a discontinuation of the analysis for dissolved metals in the annual ground water sampling. This request is based on recent sampling events showing metals to be below MCLs and a good correlation between dissolved and total metals concentrations (ARCO will continue to perform total metals analysis annually). Therefore, EPA approves of ARCO's proposal to discontinue dissolved metals analysis in the annual ground water sampling at OU1. However, at the request of the New York State Department of Environmental Conservation (NYSDEC), this approval shall be effective starting with the 2003 annual sampling event in order to allow the NYSDEC to collect split samples during the 2002 sampling event. Please contact Maurice Moore at the NYSDEC regional office (716-851-7220) at least two weeks prior to the sampling event in order to make arrangements.

If you have any questions on this matter, please contact me at (212) 637-4278 or by email at negrelli.mike@epa.gov.

Sincerely yours,

Michael J.Negrelli
Remedial Project Manager
New York Remediation Branch

cc: Wayne Mizerak - NYSDEC
Maurice Moore - NYSDEC/R.9

-----Original Message-----
From: Negrelli.Mike@epamail.epa.gov
[mailto:Negrelli.Mike@epamail.epa.gov]
Sent: Monday, June 27, 2005 4:08 PM
To: Hufford, Walter
Cc: mfmoore@gw.dec.state.ny.us
Subject: OU1 Monitoring

Walt-
After discussion with Maurice, we agree to ARCO's proposal to suspend SVOC analysis from the CELA monitoring program as they have been non-detect since 1998. However, EPA reserves the right to have SVOC analysis resume should conditions at the CELA change at some point in the future that would lead us to believe the analysis should be resumed. Further, I believe we have previously agreed to your request to changing the soil pH analysis from annually to every three years, both in the CELA monitoring program and partial river channelization monitoring program. Please inform Jerry Palmer and Jon Brandis at On-Site Health and Safety of this determination.

If you have any questions on this matter, please do not hesitate to contact me.

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR VEGETATIVE COVER

Completed By: J. Palmer Sheet 1 of 6

Title: _____ Date: 3/17/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(✓) Quarterly
( ) Other (explain)

Item Description — Condition*/Remarks

A. VEGETATIVE COVER

1. Erosion ✓
2. Stressed Vegetation ✓
3. Sediment Build-Up ✓
4. Local Subsidence or Loss of Grade ✓
5. Water Ponding ✓
6. Turf Height ✓
7. Burrowing Animals ✓
8. Weeds or Undesirable Vegetation ✓
9. Evidence of Fires or Vandalism ✓
10. Soil pH Check — completed 3/17/05 to make up for missing 2004 results
11. Unauthorized Traffic ✓
12. Slope Instability or Sloughing ✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR GAS VENT SYSTEM

Completed By: J. PALMER Sheet 2 of 6

Title: _____ Date: 3/17/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(✓) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
B. GAS VENT SYSTEM	
1. Excess Sediment Build-Up and Vegetation Growth Over Vent Pipes	✓
2. Erosion or Washout Around Vent Pipes	✓
3. Damaged Vent Pipe	✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR OPEN WELL PIEZOMETERS

Completed By: J. Palmer Sheet 3 of 6

Title: _____ Date: 3/17/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(✓) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
C. OPEN WELL PIEZOMETERS	
1. Excess Sediment Build-Up and Vegetation Growth Over Casing	✓
2. Erosion or Washout Around Piezometer Casings	✓
3. Proper Functioning of the Protective Cover Cap and Lock (Test)	✓
4. Excess Rust on the Surface Casing and Lock	✓
5. Ponding Between Protective Casing and Riser Pipe	✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR GROUND-WATER MONITORING WELLS

Completed By: J. PALMER Sheet 4 of 6

Title: _____ Date: 3/17/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(✓) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
D. GROUND-WATER MONITORING WELLS	
1. Excess Sediment-Buildup and Vegetation Growth Over the Surface Casing	✓
2. Erosion Around the Concrete Surface Seal	✓
3. Cracks in the Concrete Surface Seal	✓
4. Separation Between the Concrete Surface Seal and the Surface Casing	✓
5. Proper Function of the Surface Casing Cap and Lock	✓
6. Excess Rust on the Surface Casing and Lock	✓
7. Ponding Between the Surface Casing and the Riser Pipe	✓

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST SURFACE WATER DRAINAGE SYSTEM

Completed By: J. PALMER Sheet 5 of 6

Title: _____ Date: 3/17/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(✓) Quarterly
( ) Other (explain)

Item Description — Condition*/Remarks

E. SURFACE-WATER DRAINAGE SYSTEMS

1. Dislodged Riprap ✓ where visible (heavy snow cover over much
2. Washouts ✓ "
3. Erosion ✓ "
4. Sediment Build-Up on Riprap "
5. Gullies and Ruts
6. Excess Rusting of Drainage Culvert
7. Holes and Cracks in Drainage Culvert ✓
8. Sediment Build-Up in Drainage Culvert ✓
9. Foreign Objects ✓
10. Washout at Berm/Culvert Interface ✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST SECURITY FENCE

Completed By: J. PALMER Sheet 6 of 6

Title: _____ Date: 3/17/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(✓) Regular
( ) Immediately after heavy storm (2 in. in 24 hour)
( ) Other (explain)

Item Description	Condition*/Remarks
F. SECURITY FENCE	
1. Proper Clearance (8 in. (200 mm) Between Fence Gate and the Ground	✓
2. Proper Function of Gate Lock and Hinges	✓ Note: S. Gate currently frozen to ground surface
3. Holes	✓
4. Excess Rust	✓
5. Ruts or Burrows Beneath the Fence	✓
6. Vegetation Growing Onto or Through the Fence	✓
7. Improper Connection Between Posts and Chain Link Mesh	✓
8. Loose Posts	✓
9. Cracks in the Post Foundation	✓
10. General Signs of Deterioration	✓

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR VEGETATIVE COVER

Completed By: Kevin Dye Sheet 1 of 6

Title: Field Tech Date: 7-5-05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(✓) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
A. VEGETATIVE COVER	
1. Erosion ✓	
2. Stressed Vegetation ✓	
3. Sediment Build-Up ✓	
4. Local Subsidence or Loss of Grade ✓	
5. Water Ponding ✓	
6. Turf Height ✓	
7. Burrowing Animals ✓	
8. Weeds or Undesirable Vegetation ✓	
9. Evidence of Fires or Vandalism ✓	
10. Soil pH Check ✓	
11. Unauthorized Traffic ✓	
12. Slope Instability or Sloughing ✓	

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR GAS VENT SYSTEM

Completed By: Kevin Dye Sheet 2 of 6

Title: Field Tech Date: 7-5-05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
B. GAS VENT SYSTEM	
1. Excess Sediment Build-Up and Vegetation Growth Over Vent Pipes	✓
2. Erosion or Washout Around Vent Pipes	✓
3. Damaged Vent Pipe	✓

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR OPEN WELL PIEZOMETERS

Completed By: Kevin Dye Sheet 3 of 6

Title: Field Tech Date: 7-5-05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
C. OPEN WELL PIEZOMETERS	
1. Excess Sediment Build-Up and Vegetation Growth Over Casing	✓
2. Erosion or Washout Around Piezometer Casings	✓
3. Proper Functioning of the Protective Cover Cap and Lock (Test)	✓
4. Excess Rust on the Surface Casing and Lock	✓
5. Ponding Between Protective Casing and Riser Pipe	✓

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR GROUND-WATER MONITORING WELLS

Completed By: Kevin Dye Sheet 4 of 6

Title: Field Tech Date: 7-5-06

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

( ) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
D. GROUND-WATER MONITORING WELLS	
1. Excess Sediment-Buildup and Vegetation Growth Over the Surface Casing	✓
2. Erosion Around the Concrete Surface Seal	✓
3. Cracks in the Concrete Surface Seal	✓
4. Separation Between the Concrete Surface Seal and the Surface Casing	✓
5. Proper Function of the Surface Casing Cap and Lock	✓
6. Excess Rust on the Surface Casing and Lock	✓
7. Ponding Between the Surface Casing and the Riser Pipe	✓

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST SURFACE WATER DRAINAGE SYSTEM

Completed By: Kevin Dye Sheet 5 of 6

Title: Field Tech Date: 7-05-7

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

( ) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
E. SURFACE-WATER DRAINAGE SYSTEMS	
1. Dislodged Riprap ✓	
2. Washouts ✓	
3. Erosion ✓	
4. Sediment Build-Up on Riprap ✓	
5. Gullies and Ruts ✓	
6. Excess Rusting of Drainage Culvert ✓	
7. Holes and Cracks in Drainage Culvert ✓	
8. Sediment Build-Up in Drainage Culvert ✓	
9. Foreign Objects ✓	
10. Washout at Berm/Culvert Interface ✓	

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST SECURITY FENCE

Completed By: Kevin Dye Sheet 6 of 6

Title: Field Tech Date: 7-05-5

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

( ) Regular
( ) Immediately after heavy storm (2 in. in 24 hour)
( ) Other (explain)

Item Description — Condition*/Remarks

F. SECURITY FENCE

1. Proper Clearance (8 in. (200 mm) Between Fence Gate and the Ground ✓
2. Proper Function of Gate Lock and Hinges ✓
3. Holes ✓
4. Excess Rust ✓
5. Ruts or Burrows Beneath the Fence ✓
6. Vegetation Growing Onto or Through the Fence ✓
7. Improper Connection Between Posts and Chain Link Mesh ✓
8. Loose Posts ✓
9. Cracks in the Post Foundation ✓
10. General Signs of Deterioration ✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR VEGETATIVE COVER

Completed By: Kevin Dye Sheet 1 of 6

Title: Field Tech Date: 09-07-05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
A. VEGETATIVE COVER	
1. Erosion ✓	
2. Stressed Vegetation ✓	
3. Sediment Build-Up ✓	
4. Local Subsidence or Loss of Grade ✓	
5. Water Ponding ✓	
6. Turf Height ✓	
7. Burrowing Animals ✓	
8. Weeds or Undesirable Vegetation ✓	
9. Evidence of Fires or Vandalism ✓	
10. Soil pH Check ✓	
11. Unauthorized Traffic ✓	
12. Slope Instability or Sloughing ✓	

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR GAS VENT SYSTEM

Completed By: Kevin Dye Sheet 2 of 6

Title: Field Tech Date: 09-07-05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
B. GAS VENT SYSTEM	
1. Excess Sediment Build-Up and Vegetation Growth Over Vent Pipes	✓
2. Erosion or Washout Around Vent Pipes	✓
3. Damaged Vent Pipe	✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR OPEN WELL PIEZOMETERS

Completed By: Kevin Dye Sheet 3 of 6

Title: Field Tech Date: 09-07-05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

( ) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
C. OPEN WELL PIEZOMETERS	
1. Excess Sediment Build-Up and Vegetation Growth Over Casing	✓
2. Erosion or Washout Around Piezometer Casings	✓
3. Proper Functioning of the Protective Cover Cap and Lock (Test)	✓
4. Excess Rust on the Surface Casing and Lock	✓
5. Ponding Between Protective Casing and Riser Pipe	✓

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR GROUND-WATER MONITORING WELLS

Completed By: Kevin Dye Sheet 4 of 6

Title: Field Tech Date: 09-07-05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
D. GROUND-WATER MONITORING WELLS	
1. Excess Sediment-Buildup and Vegetation Growth Over the Surface Casing	✓
2. Erosion Around the Concrete Surface Seal	✓
3. Cracks in the Concrete Surface Seal	✓
4. Separation Between the Concrete Surface Seal and the Surface Casing	✓
5. Proper Function of the Surface Casing Cap and Lock	✓
6. Excess Rust on the Surface Casing and Lock	✓
7. Ponding Between the Surface Casing and the Riser Pipe	✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST SURFACE WATER DRAINAGE SYSTEM

Completed By: Kevin Dye Sheet 5 of 6

Title: Field Tech Date: 09-07-05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

( ) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
E. SURFACE-WATER DRAINAGE SYSTEMS	
1. Dislodged Riprap ✓	
2. Washouts ✓	
3. Erosion ✓	
4. Sediment Build-Up on Riprap ✓	
5. Gullies and Ruts ✓	
6. Excess Rusting of Drainage Culvert ✓	
7. Holes and Cracks in Drainage Culvert ✓	
8. Sediment Build-Up in Drainage Culvert ✓	
9. Foreign Objects ✓	
10. Washout at Berm/Culvert Interface ✓	

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST SECURITY FENCE

Completed By: Kevin Dye Sheet 6 of 6

Title: Field Tech Date: 09-07-05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

( ) Regular
( ) Immediately after heavy storm (2 in. in 24 hour)
( ) Other (explain)

Item Description — Condition*/Remarks

F. SECURITY FENCE

1. Proper Clearance (8 in. (200 mm) Between Fence Gate and the Ground ✓
2. Proper Function of Gate Lock and Hinges ✓
3. Holes ✓
4. Excess Rust ✓
5. Ruts or Burrows Beneath the Fence ✓
6. Vegetation Growing Onto or Through the Fence ✓
7. Improper Connection Between Posts and Chain Link Mesh ✓
8. Loose Posts ✓
9. Cracks in the Post Foundation ✓
10. General Signs of Deterioration ✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR VEGETATIVE COVER

Completed By: JERRY PALMER Sheet 1 of 6

Title: INSPECTOR Date: 12/5/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
A. VEGETATIVE COVER	
1. Erosion ✓	
2. Stressed Vegetation ✓	
3. Sediment Build-Up ✓	
4. Local Subsidence or Loss of Grade ✓	
5. Water Ponding ✓	
6. Turf Height ✓	
7. Burrowing Animals ✓	
8. Weeds or Undesirable Vegetation ✓	
9. Evidence of Fires or Vandalism ✓	
10. Soil pH Check ✓	
11. Unauthorized Traffic ✓	
12. Slope Instability or Sloughing ✓	

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR GAS VENT SYSTEM

Completed By: JERRY PALMER Sheet 2 of 6

Title: INSPECTOR Date: 12/5/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
B. GAS VENT SYSTEM	
1. Excess Sediment Build-Up and Vegetation Growth Over Vent Pipes	✓
2. Erosion or Washout Around Vent Pipes	✓
3. Damaged Vent Pipe	✓

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR OPEN WELL PIEZOMETERS

Completed By: JERRY PALMER Sheet 3 of 6

Title: INSPECTOR Date: 12/5/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
C. OPEN WELL PIEZOMETERS	
1. Excess Sediment Build-Up and Vegetation Growth Over Casing	✓
2. Erosion or Washout Around Piezometer Casings	✓
3. Proper Functioning of the Protective Cover Cap and Lock (Test)	✓
4. Excess Rust on the Surface Casing and Lock	✓
5. Ponding Between Protective Casing and Riser Pipe	✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST FOR GROUND-WATER MONITORING WELLS

Completed By: Jenny Palmer Sheet 4 of 6

Title: Inspector Date: 12/6/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
D. GROUND-WATER MONITORING WELLS	
1. Excess Sediment-Buildup and Vegetation Growth Over the Surface Casing	✓
2. Erosion Around the Concrete Surface Seal	✓
3. Cracks in the Concrete Surface Seal	✓
4. Separation Between the Concrete Surface Seal and the Surface Casing	✓
5. Proper Function of the Surface Casing Cap and Lock	✓
6. Excess Rust on the Surface Casing and Lock	✓
7. Ponding Between the Surface Casing and the Riser Pipe	✓

---

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST SURFACE WATER DRAINAGE SYSTEM

Completed By: JERRY PALMER Sheet 5 of 6

Title: INSPECTOR Date: 12/5/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Quarterly
( ) Other (explain)

Item Description	Condition*/Remarks
E. SURFACE-WATER DRAINAGE SYSTEMS	
1. Dislodged Riprap	✓
2. Washouts	✓
3. Erosion	✓
4. Sediment Build-Up on Riprap	✓
5. Gullies and Ruts	✓
6. Excess Rusting of Drainage Culvert	✓
7. Holes and Cracks in Drainage Culvert	✓
8. Sediment Build-Up in Drainage Culvert	✓
9. Foreign Objects	✓
10. Washout at Berm/Culvert Interface	✓

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* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

CELA INSPECTION CHECKLIST SECURITY FENCE

Completed By: JERRY PALMER Sheet 6 of 6

Title: INSPECTOR Date: 12/5/05

Verified By: _____

Title: _____ Date: _____

Type of Inspection (check only one):

(X) Regular
( ) Immediately after heavy storm (2 in. in 24 hour)
( ) Other (explain)

Item Description	Condition*/Remarks
F. SECURITY FENCE	
1. Proper Clearance (8 in. (200 mm) Between Fence Gate and the Ground	✓
2. Proper Function of Gate Lock and Hinges	✓
3. Holes	✓
4. Excess Rust	✓
5. Ruts or Burrows Beneath the Fence	✓
6. Vegetation Growing Onto or Through the Fence	✓
7. Improper Connection Between Posts and Chain Link Mesh	✓
8. Loose Posts	✓
9. Cracks in the Post Foundation	✓
10. General Signs of Deterioration	✓

* Indicate satisfactory condition with a check; briefly describe conditions other than satisfactory; use additional sheets if more space is needed.

Recommendations for maintenance or repair (attach additional sheets as needed):

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/7/05

Monitoring Well: MW21 **Sample ID:** MW21-705 **Arrival Time:** 1020

Weather Conditions

Temp. 70 ° F ( ) Sunny ( ) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain (X) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: NA Pro. casing/lock: ok Surface pad: ok

Well Visibility (paint) : ok Well Label : ok

Comment: _____

Depth & Purging Information

Static Water Depth: 10.55 ft Well Depth: 33.25 ft Start Purge: 1030

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 520 ml / 40 sec

Start Sampling: 1130 Purging Duration: 55 min Volume Removed: 11.5 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

	Purge (gal)	Time	pH	Conductivity (us/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
D	3.0	1035							10.60
	4.0	1045	Switch	to cell					10.62
	4.6	1055	6.13	0543	6.43	.71	16.38	29.5	10.60
D	6.2	1105	6.12	0549	4.96	.81	16.63	26.2	10.60
	7.2	1110	6.13	0549	4.39	.50	16.05	24.6	10.60
	8.4	1115	6.12	0547	3.97	.56	16.81	20.5	10.59
D	9.5	1120	6.12	0550	3.94	.58	17.01	15.1	10.60
	10.5	1125	6.10	0547	4.03	.63	17.40	14.9	10.60
	11.5	1130	6.11	0547	2.99	.65	16.81	14.6	Pulled

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Clear / colorless

Sample Odor: (Y) (N) explain: No odor

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments : _____

Analysis Requested: VOCs metals Number of Containers: 4

Well Sampling Completion: Time 1215 Date 7/7/05 Samplers Kevin Dye

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/12/05

Monitoring Well: MWR 2 **Sample ID:** MWR2-705 **Arrival Time:** 0950

Weather Conditions

Temp. 80 ° F (X) Sunny ( ) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain ( ) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: NA Pro. casing/lock: ok Surface pad: ok

Well Visibility (paint) : ok Well Label : ok

Comment:

Depth & Purging Information

Static Water Depth: 15.25 ft Well Depth: 38.74 ft Start Purge: 1010

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500 ml/56 sec

Start Sampling: 1105 Purging Duration: 50 min Volume Removed: 10.5 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

Purge (gal)	Time	pH	Conductivity (us/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
2.0	1015	Switch to flow thru cell						15.50
3.2	1025	6.44	0694	2.30	.42	18.34	-118.1	15.52
D4.5	1035	6.45	0697	2.95	.24	18.84	-135.8	15.50
D5.7	1045	6.49	0694	4.05	.30	15.03	-121.3	15.50
D6.9	1050	6.48	0689	2.38	.29	15.14	-124.4	15.50
D8.1	1055	6.49	0687	2.84	.33	13.60	-120.2	15.50
D9.3	1100	6.40	0686	5.81	1.71	13.10	-118.1	Pulled
10.5	1105	6.45	0686	6.50	1.97	13.13	-120.6	

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Clear Colorless

Sample Odor: (Y) (N) explain: Hydrocarbon Odor

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments :

Analysis Requested: VOC's metals Number of Containers: 4

Well Sampling Completion: Time 1145 Date 7/12/05 Samplers Kevin Nye

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/12/05

Monitoring Well: MWR3 **Sample ID:** MWR3-705 **Arrival Time:** 0810

Weather Conditions

Temp. 75 ° F (X) Sunny ( ) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain ( ) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: NA Pro. casing/lock: ok Surface pad: ok

Well Visibility (paint) : ok Well Label : ok

Comment: _____

Depth & Purging Information

Static Water Depth: 15.20 ft Well Depth: 30.16 ft Start Purge: 0828

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500 ml/44 sec

Start Sampling: 0915 Purging Duration: 40 min Volume Removed: 10.3 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

Purge (gal)	Time	pH	Conductivity (µs/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
3.0	0835	Switch to Flow thru Cell						15.30
4.6	0845	6.31	0453	6.72	.78	15.15	-38.1	15.25
D 6.2	0855	6.72	0452	6.68	.35	15.55	-44.0	15.26
D 8.2	0905	6.72	0450	5.08	.25	15.52	-51.2	15.26
D 9.4	0910	6.75	0450	4.03	.23	15.44	-53.8	15.15
10.3	0915	6.34	0450	3.79	.22	15.61	-54.4	Pulled

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Clear / colorless

Sample Odor: (Y) (N) explain: odorless

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments : _____

Analysis Requested: VOC's metals Number of Containers: 4

Well Sampling Completion: Time 0945 Date 7/12/05 Samplers Kevin Nye

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/11/05

Monitoring Well: MWR4 **Sample ID:** MWR-4-705 **Arrival Time:** 1308

Weather Conditions

Temp. 85 ° F (X) Sunny ( ) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain ( ) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: N/A Pro. casing/lock: OK Surface pad: OK

Well Visibility (paint) : OK Well Label : OK

Comment:

Depth & Purging Information

Static Water Depth: 15.21 ft Well Depth: 25.40 ft Start Purge: 1317

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500 ml/42 sec

Start Sampling: 1410 Purging Duration: 45 min Volume Removed: 11.0 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

	Purge (gal)	Time	pH	Conductivity (us/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
				Switch to Flow thru cell					
D	2.0	1325							15.32
D	4.0	1335	6.18	0196	5.13	.22	16.86	-40.5	15.34
D	6.0	1345	6.18	0191	2.92	.17	16.45	-48.9	15.32
D	8.0	1355	6.16	0189	2.22	.14	15.79	-40.9	15.35
	9.0	1400	6.16	0186	1.50	.11	15.73	-40.3	15.32
	10.0	0205	6.15	0193	1.42	.11	15.93	-40.2	15.35
	11.0	1410	6.15	0191	.96	.10	16.02	-39.8	Pulled

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Clear no color

Sample Odor: (Y) (N) explain: odorless

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments :

Analysis Requested: VOC's metals Number of Containers: 4

Well Sampling Completion: Time 1445 Date 7/11/05 Samplers Kevin Dye

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/11/05

Monitoring Well: MWR 5 **Sample ID:** MWR5-705 **Arrival Time:** 1108

Weather Conditions

Temp. 85 ° F (X) Sunny ( ) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain ( ) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: N/A Pro. casing/lock: ok Surface pad: ok

Well Visibility (paint) : ok Well Label : ok

Comment:

Depth & Purging Information

Static Water Depth: 14.50 ft Well Depth: 31.35 ft Start Purge: 1117

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500ml/35 sec

Start Sampling: 1225 Purging Duration: 1hr Volume Removed: 16.2 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

	Purge (gal)	Time	pH	Conductivity (us/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)	
	3.0	1125	Switched	to Flow	thru Cell				14.60	
D	5.0	1135	6.10	0218	4.11	.41	14.91	-21.4	14.60	
D	7.5	1145	5.97	0222	3.67	.17	14.30	-40.3	14.60	Plus cell
D	10.5	1155	5.88	0222	2.42	.14	~~14.58~~	~~-21.6~~	14.60	
D	13.7	1210	5.85	0220	2.06	.14	14.96	-21.6	14.60	
D	14.2	1215	5.93	0217	1.70	.12	14.67	-28.7	14.60	
D	15.2	1220	5.89	0220	1.69	.13	15.00	-30.0	14.60	
	16.2	1225	5.88	0220	1.57	.12	15.12	-31.3	Pulled	

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Clear / colorless

Sample Odor: (Y) (N) explain: No odor

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments :

Analysis Requested: VOC's metals Number of Containers: 4

Well Sampling Completion: Time 1300 Date 7/11/05 Samplers Kevin Ryan

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/7/05

Monitoring Well: MW6 **Sample ID:** MW6-705 **Arrival Time:** 0900

Weather Conditions

Temp. 70 ° F (X) Sunny ( ) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain ( ) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: N/A Pro. casing/lock: O/K Surface pad: O/S

Well Visibility (paint) : O/K Well Label : O/S

Comment: _____

Depth & Purging Information

Static Water Depth: 13.85 ft Well Depth: 32.90 ft Start Purge: 0922

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500ml/60 sec

Start Sampling: 1020 Purging Duration: 15 min Volume Removed: 9.7 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

	Purge (gal)	Time	pH	Conductivity (µs/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
D	3.0	0935	Switch to Cell						13.80
D	4.5	0945	6.10	0285	5.17	.76	16.03	-26.3	13.85
D	6.0	0955	6.07	0283	4.30	.55	15.15	-29.8	13.80
D	7.6	1005	6.03	0283	3.25	.37	15.50	-30.9	13.80
D	8.4	1010	6.00	0283	2.56	.34	15.51	-32.2	13.80
	9.1	1015	6.00	0283	2.17	.28	15.86	-32.1	13.80
	9.7	1020	6.00	0283	2.35	.27	15.85	-33.4	Pulled

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Clear / colorless

Sample Odor: (Y) (N) explain: Odorless

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments : _____

Analysis Requested: VOC's metals Number of Containers: 4

Well Sampling Completion: Time 1047 Date 7/11/05 Samplers Kevin Dyer

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/7/05

Monitoring Well: MWR 7 **Sample ID:** MWR7-705 **Arrival Time:** 1438

Weather Conditions

Temp. 80 ° F (X) Sunny ( ) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain ( ) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: NA Pro. casing/lock: OK Surface pad: OK

Well Visibility (paint) : NA Well Label : OK

Comment: _____

Depth & Purging Information

Static Water Depth: 13.84 ft Well Depth: 39.15 ft Start Purge: 1455

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500ml/50 Sec

Start Sampling: 1550 Purging Duration: 50 min Volume Removed: 10.3 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

	Purge (gal)	Time	pH	Conductivity (us/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
D	2.0	1500	Switch to	Cell					13.80
D	4.0	1510	6.26	0262	2.93	1.10	13.31	1.5	13.78
D	6.0	1520	6.20	0260	2.72	.63	15.57	-11.2	13.79
	7.2	1530	6.14	0261	1.99	1.08	15.36	-18.9	13.78
D	8.0	1535	6.14	0261	2.47	1.22	14.55	-22.9	13.80
D	8.7	1540	6.13	0260	1.48	1.00	14.44	-24.0	13.80
D	9.5	15.45	6.12	0264	1.32	1.09	13.83	-28.0	13.80
	10.3	1550	6.12	0261	1.27	1.03	13.75	-27.6	Pulled

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Clear Colorless

Sample Odor: (Y) (N) explain: Slight Hydrocarbon odor

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments : _____

Analysis Requested: Voc's Metals Number of Containers: 4

Well Sampling Completion: Time 1630 Date 7/7/05 Samplers Kevin Ly

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/7/05

Monitoring Well: MWR8 **Sample ID:** MWR8-705 **Arrival Time:** 1225

Weather Conditions

Temp. 80 ° F (X) Sunny ( ) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain ( ) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: NA Pro. casing/lock: ok Surface pad: ok

Well Visibility (paint) : ok Well Label : ok

Comment: _____

Depth & Purging Information

Static Water Depth: 13.78 ft Well Depth: 29.45 ft Start Purge: 1235

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500ml/40 sec

Start Sampling: 1335 Purging Duration: 58 min Volume Removed: 9.5 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

	Purge (gal)	Time	pH	Conductivity (us/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
	.50	1237		Switch to Cell					13.95
	2.2	1247	6.05	0295	8.29	.48	14.56	42.5	13.94
D	3.5	1257	5.98	0286	7.05	1.03	14.58	28.4	13.95
	4.8	1307	6.00	0286	5.08	.97	14.50	16.7	13.95
D	6.3	1315	6.01	0287	3.62	1.86	14.15	4.9	13.95
D	7.0	1320	6.04	286	3.15	1.07	14.40	-0.3	13.95 pulled
D	8.1	1325	6.04	0290	1.68	.97	14.49	-7.7	
	8.8	1330	6.05	0287	2.16	.95	14.47	-10.9	
	9.5	1335	6.02	0287	1.55	.94	14.59	-13.8	

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Clear Colorless

Sample Odor: (Y) (N) explain: Odorless

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments : _____

Analysis Requested: VOC's & Metals Number of Containers: 4

Well Sampling Completion: Time 1410 Date 7/7/05 Samplers [signature]

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/6/05

Monitoring Well: MW 9 **Sample ID:** MW 9-705 **Arrival Time:** 1215

Dup1-705 — EB1-705

Weather Conditions

Temp. 70 ° F ( ) Sunny (X) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain ( ) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: NA Pro. casing/lock: o/k Surface pad: ok

Well Visibility (paint) : o/s Well Label : o/s

Comment: _____

Depth & Purging Information

Static Water Depth: 12.33 ft Well Depth: 33.30 ft Start Purge: 1235

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500 ml/34 sec

Start Sampling: 1400 Purging Duration: 1hr 10min Volume Removed: 14.2 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

Purge (gal)	Time	pH	Conductivity (µs/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
D 3.0	1250	# Switch to Cell (X)						12.50
D 5.3	1300	6.23	0500	4.37	.47	13.23	-14.1	12.50
6.8	~~1305~~ 1310	6.30	0502	3.75	.39	14.28	-26.9	12.50
D 8.3	1320	6.28	0502	3.52	.34	14.30	-32.1	12.50
9.8	1330	6.29	0501	3.83	.30	14.42	-34.9	12.50
D 10.8	1335	6.29	0501	3.63	.27	14.27	-36.4	12.50
11.5	1340	6.29	0503	3.25	.55	14.28	-38.6	12.55
12.2	1345	6.29	0501	4.04	1.03	13.98	-39.4	12.50
D 13.0	1350	6.31	0502	2.54	.54	14.10	-40.5	12.50
13.6	1355	6.30	0502	2.80	.53	14.15	-42.8	12.50
14.2	1400	6.30	0501	2.70	.55	14.17	-43.6	Pulled

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Clear colorless

Sample Odor: (Y) (N) explain: odorless

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments : _____

Analysis Requested: VOC's Metals Number of Containers: 4+4+4

Well Sampling Completion: Time 1445 Date 7/6/05 Samplers Kevin Dye

14:05 Dup1-705 4 containers

14:20 EB1-705 4 containers

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/6/05

Monitoring Well: MWR-10 **Sample ID:** MWR-10-705 MS/MSD **Arrival Time:** 1005

Weather Conditions

Temp. 65 ° F ( ) Sunny (X) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain ( ) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: NA Pro. casing/lock: OK Surface pad: OK

Well Visibility (paint) : OK Well Label : OK

Comment:

Depth & Purging Information

Static Water Depth: 9.65 ft Well Depth: 32.28 ft Start Purge: 1015

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500ml / 47 sec

Start Sampling: 1120 Purging Duration: 55 min Volume Removed: 10.8 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

	Purge (gal)	Time	pH	Conductivity (us/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
			* Switch to Ce	//	*				11.05 top of protective casing
D	3.0	1025							
	4.5	1035	6.18	506	56.7	.80	14.14	-24.0	11.05
D	6.0	1045	6.18	503	50.4	.38	13.82	-29.7	11.03
	7.5	1055	6.20	.499	39.8	.33	14.28	-33.9	11.10
D	9.0	1105	6.21	.508	35.6	.27	14.18	-37.0	11.13
	9.6	1110	6.21	.501	35.7	.24	14.08	-37.9	11.15
	10.2	1115	6.21	.503	34.3	.22	13.85	-38.2	11.25
	10.8	1120	6.21	.505	32.9	.23	14.06	-39.8	Pulled

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : Slight yellowish Tint

Sample Odor: (Y) (N) explain: Odorless

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments :

Analysis Requested: Voc's metals Number of Containers: 4 + 5 ms/msd

Well Sampling Completion: Time 1200 Date 7/6/05 Samplers Kevin Dye

MS/MSD - 5 containers

On-Site Technical Services, Inc.

Low Flow Groundwater Purging and Sampling

Project: Wellsville OU-1 **Date:** 7/7/05

Monitoring Well: MW11 **Sample ID:** MW11-705 **Arrival Time:** 0815

Weather Conditions

Temp. 65° F ( ) Sunny ( ) Drizzle ( ) Light Rain ( ) Med. Rain ( ) Hvy. Rain (X) Cloudy ( ) Snow

Well Condition Checklist

Bump posts: N/A Pro. casing/lock: ok Surface pad: ok

Well Visibility (paint) : ok Well Label : ok

Comment: _____

Depth & Purging Information

Static Water Depth: 12.97 ft Well Depth: 28.0 ft Start Purge: 0830

LNAPL Present: (Y) (N) Well Socked Prior to Purging: (Y) (N)

Purging/Sampling Method: (X) Submersible ( ) Peristaltic Pumping Rate: 500ml/50 Sec

Start Sampling: 0945 Purging Duration: 55min Volume Removed: 6.2 gals.

Field Parameters

Meter YSI 556 (sn: 05D2374AW), Hach 2100P (sn: 05020C011331)

	Purge (gal)	Time	pH	Conductivity (µs/cm)	Turbidity (ntu)	D.O. (mg/L)	Temp. (°C)	ORP (mV)	DTW (ft)
	1.7	0850	@ Switch to cell						13.78
D	3.0	0900	5.76	0350	81.6	6.21	13.72	128.9	13.65
	3.7	0910	5.76	0348	52.2	4.83	13.75	123.6	13.75
	4.2	0920	5.77	0349	25.2	4.90	13.65	118.8	13.79
D	5.0	0925	5.80	0349	20.7	4.87	13.69	114.8	13.80
	5.4	0930	5.80	0348	15.8	5.45	14.16	110.7	13.79
5.6	5.8 (A)	0935	5.84	0348	13.5	5.13	14.48	101.1	13.77
	5.8	0940	5.85	0348	11.4	4.98	14.47	96.4	13.79
	6.2	0945	5.84	0348	11.1	5.02	14.32	95.0	Pulled

Stabilization Criteria: 3 consecutive readings ± 0.1 pH, ±3% conductivity, ±10 mv ORP, ±10% DO, ±10% Turbidity

Final sample clarity\color : clear / colorless

Sample Odor: (Y) (N) explain: Odorless

Final sample oil sheen: (X) None ( ) Light ( ) Med ( ) Heavy ( ) NAPL

Other Observations / Comments : _____

Analysis Requested: VOCs, Metals Number of Containers: 4

Well Sampling Completion: Time 1005 Date 7/7/05 Samplers Kevin Dye

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

GAS VENT MONITORING

Completed By: Kevin Dye / Scott Watson Sheet 1 of 1

Title: _____ Date: 8-9-05

Verified By: _____

Title: _____ Date: _____

Type of Monitoring (check only one):

(X) Semi-Annual
( ) Other (explain)
( ) Type of Monitoring Device

Gas Vent Identification	Upwind Reading	Downwind Reading	Gas Venting Reading
V-1	0.1	0.1	0.1
V-2	0.1	0.1	2.7
V-3	0.1	0.1	2.1
V-4	0.1	0.3	5.6
V-5	0.1	0.2	0.9
V-6	0.1	0.1	2.2
V-7	0.1	0.1	0.4
V-8	0.1	4.2	38.8
V-9	0.1	0.1	0.1
V-10	0.1	0.1	0.1
V-11	0.1	0.1	0.4
V-12	0.1	0.1	0.1
V-13	0.1	0.1	0.3
V-14	0.1	0.2	1.2

COMMENTS OR PERIMETER FENCE MONITORING RESULTS (Attach additional sheets if required): 85°F wind 0-10 S West. 0.1 Background
MiniRAE classic Plus PID
Calcd 8/9/05 Am By K Dye

FORMER SINCLAIR REFINERY SITE
WELLSVILLE, NEW YORK

GAS VENT MONITORING

Completed By: Kevin Dye Sheet 1 of 1

Title: Field Tech Date: 12/19/05

Verified By: _____

Title: _____ Date: _____

Type of Monitoring (check only one):

(X) Semi-Annual
( ) Other (explain)
( ) Type of Monitoring Device

Gas Vent Identification	Upwind Reading	Downwind Reading	Gas Venting Reading
V-1	0.1	0.1	0.1
V-2	0.1	0.1	0.5
V-3	0.1	0.1	0.1
V-4	0.1	0.1	0.1
V-5	0.1	0.1	0.1
V-6	0.1	0.1	0.1
V-7	0.1	0.1	0.1
V-8	0.1	0.1	0.1
V-9	0.1	0.1	0.1
V-10	0.1	0.5	2.8
V-11	0.1	0.1	0.1
V-12	0.1	0.1	0.1
V-13	0.1	0.1	0.1
V-14	0.1	0.1	0.1

COMMENTS OR PERIMETER FENCE MONITORING RESULTS (Attach additional sheets if required): 30°F Wind 5-10mpH South 0.0 Background
Mini Rae Classic Plus PID
Calibrate 12/19/05 0700
Kevin Dye

PIMEPHALES PROMELAS AND *CERIODAPHNIA DUBIA* ACUTE SCREENING TOXICITY TEST RESULTS ON A FORMER SINCLAIR REFINERY SITE EFFLUENT SAMPLE (OF-605) COLLECTED 06/06/05 ATEL Lab # 02926

PREPARED FOR:

ON-SITE HEALTH AND SAFETY SERVICES, INC.
2324 HANOVER HILL ROAD
WELLSVILLE, NY 14895

Richard F. Rupp
Senior Biologist

Paul J. Crerar
Biological Manager

Trish Parcher
Quality Assurance Officer

EPA NPDES BIOMONITORING REPORT FORM

GENERAL INFORMATION

1. Facility Name: **Former Sinclair Refinery Site** Reporting Date:_____

2. Address: **2530 South Brooklyn Ave.**
Wellsville, NY 14895

3. State EPA Permit Number: _____ 4. Appl. (NPDES) No.: _____

5. Facility Contact: **Jon Brandes** 6. Phone No.: **(585) 593-1824**
On-Site Health and Safety Services, Inc.

7. Consultant/Testing Lab Name: **Aqua Tech Environmental Laboratories Inc.**

8. Consultant Lab Contact: **Paul Crerar or Dick Rupp** 9. Phone No.: **(419) 397-2659**

10. Receiving Water(s) of Discharge:

11. Outfall(s) Tested: **OF-605**

PIMEPHALES PROMELAS ACUTE TOXICITY TEST CONDITIONS

Table 2.

Summary of Toxicity Test Conditions (EPA/600/4-90/ 027F, Aug. 93)	
1. Test Species and Age:	*Pimephales promelas* 14 days old
2. Test Type and Duration:	Static non-renewal; 48 hours
3. Test Dates:	06/07-09/05
4. Test Temperature (°C):	25°C ± 1°C
5. Light Quality:	Ambient laboratory illumination
6. Photoperiod:	16 h light, 8 h dark
7. Feeding Regime:	Not fed during test
8. Size of Test Vessel:	1 Liter glass beaker
9. Volume and Depth of Test Solutions:	750 mL, 9.0 cm deep
10. No. of Test Organisms per Test Vessel:	10 per test vessel
11. No. of Test Vessels per Test Solution:	3 per solution tested
12. Total No. of Test Organisms per Test Solution:	30 per solution tested
13. Test Concentrations (as percent by volume effluent):	Samples tested at 100%
14. Renewal of Test Solutions:	None
15. Dilution Control Water:	None
16. Secondary Control Water:	Lab water (3 well : 5 RO)
17. Test Chamber Aeration:	None, unless DO <4.0 mg/L; rate should not exceed 100 bubbles per minute.
18. Endpoints Measured:	Mortality
19. Test Acceptability Criterion:	90% or greater survival in control

TABLE 4.

ACUTE TOXICITY TEST RESULTS FOR *PIMEPHALES PROMELAS* AND *CERIODAPHNIA DUBIA*

Results of Static Acute Screening Toxicity Tests
Conducted 06/07/05 to 06/09/05 On Effluent Sample OF-605.

Test Solutions	*Pimephales promelas* Cumulative Percent Mortality 24-HR	48-HR	Test Solutions	*Ceriodaphnia dubia* Cumulative Percent Mortality 24-HR	48-HR
Lab Control	0	0	Lab Control	0	0
100% Effluent (OF-605)	0	0	100% Effluent (OF-605)	0	0

* - indicates a significant difference from the control (p = 0.05).

Method(s) used to determine if there is a significant difference: TT - equal variance T-Test, MTT - modified or unequal variance T-Test, WRS - Wilcoxon Rank Sum Test.

APPENDIX A

Sampling Data

CHAIN-OF-CUSTODY

(Please Print)

ATEL

Aqua Tech Environmental Laboratories

6878 S. State Rt. 100

Melmore, Ohio 44845

1-800-858-8869 fax 419-397-2229

SEND RESULTS TO:

Person: Jon Brandes

Company: On-Site Tech Services

Street: PO Box 54

City: Wellsville State: NY Zip: 14895

Phone: 585-593-1824 FAX: 585-593-7471

ATEL Qoute #: Company PO #:

Sample ID	Date	Time	grab/ comp.	Matrix	ATEL Lab Number	# of Cont.	Analysis Required
OF-605	6-6-05	1415	gcab	H_2O	029260	1	Acute Toxicity 24 & 48 Hour

Industry/Municipality: former Sinclair Refinery Site OU-1

Address: (street) 2350 South Brooklyn Ave.

(City): Wellsville (state) New York (zip) 14895

Telephone: (585) 593 - 1824 Contact Person: Jon Brandes

State Permit No.: N/A NPDES Permit No.: N/A

Type of Business: N/A

Collector(s): Name: Scott Watson / Kevin Dye Organization: On-Site Tech. Services

General Weather Conditions: Clear / Sunny 80°F

Relinquished by:	Date/Time	Received by:	Date/Time
[signature]	6-6-05/1500		
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received at Laboratory by: [signature]	Date/Time 6/7/05 0955

Comments:

Method of Shipment Fed Ex 7916-4337-1450

Cooler Temperature 2.1 °C

APPENDIX B

Pimephales promelas
Toxicity Test Data

48-Hour *Pimephales promelas* Static Acute Toxicity Test Data

Industry/Toxicant: On-site (Former Sinclair Refinery) Contact: Jon Brandes
Address: Wellsville, NY
Effluent Serial No: OF-605 Permit No.: ______

Effluent Comp.: collected from _____AM/PM___/___/___ (Date)
to _____AM/PM___/___/___ (Date)
Effluent: collected 1415 AM/PM 6 / 6 / 05 (Date)

Person(s) Conducting Test: RFR, PJC, NRH
Beginning: Date 6/7/05 Time 10:35am
Ending: Date 6/9/05 Time 10:35am
Test Organism: *Pimephales promelas*; Age: 14 days #13
Length: (x + SD) 12.4 ± 1.0 mm
Weight: (x + SD) .0074 ± .0028 g
Dilution Water Used: None

test vessel size = 1000 mL; volume of test solution per beaker = 750 mL; test temperature = 25°C.

Concentration or % Effluent	Test Rep. No.	Number of Live Organisms			Condition of Organisms			Temperature (°C)			Dissolved Oxygen (mg/L)			pH (s.u.)		Conductivity (umho)		Hard. (mg/L)	Alk. (mg/L)
		0 h	24 h	48 h	0 h	24 h	48 h	0 h	24 h	48 h	0 h	24 h	48 h	0 h	48 h	0 h	48 h	0 h	0 h
Lab Control	1	10	10	10	G	G	G	24.6	25.0	25.2	8.2	6.8	6.6	8.20	7.77	426	436	188	137
	2	10	10	10	G	G	G												
	3	10	10	10	G	G	G												
100% Effluent OF-605	1	10	10	10	G	G	G	25.0	25.0	25.0	8.7	6.9	6.7	7.87	7.50	196	208	137	120
	2	10	10	10	G	G	G												
	3	10	10	10	G	G	G												
	1	10			G														
	2	10			G														
	3	10			G														
	1	10			G														
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	1	10			G														
	2	10			G														
	3	10			G														
	1	10			G														
	2	10			G														
	3	10			G														

Condition of Organisms: G = Good Condition; D = Dead; Im = Immotile; LE = Loss of Equilibrium; A = Atypical Behavior or Appearance; LA = Lab Accident (data not used in analyses). * = single bubble aeration started.

APPENDIX C

Ceriodaphnia dubia
Toxicity Test Data

48-Hour *Ceriodaphnia dubia* Static Acute Toxicity Test Data

Industry/Toxicant: On-site (former Sinclair Refinery) Contact: Joe Brandes
Address: Wellsville, NY
Effluent Serial No: OF-605 Permit No.: ______
Effluent Comp.: collected from ____ AM/PM __/__/__ (Date)
to ____ AM/PM __/__/__ (Date)
Effluent ~~1415~~ pm: collected 1415 AM/PM 6/6/05 (Date)
test vessel size = 30 mL; volume of test solution per cup = 25 mL; test temperature = 25 °C.

Person(s) Conducting Test: RFR, PJL, NRH
Beginning: Date 6/7/05 Time 10:35 am
Ending: Date 6/9/05 Time 10:35 am
Test Organism: *Ceriodaphnia dubia*; Age: 2-24H Mass 85
Dilution Water Used: None

Concentration or % Effluent	Test Rep. No.	Number of Live Organisms			Condition of Organisms			Temperature (°C)			Dissolved Oxygen (mg/L)			pH (s.u.)		Conductivity (umho/cm)		Hard. (mg/L)	Alk. (mg/L)
		0 h	24 h	48 h	0 h	24 h	48 h	0 h	24 h	48 h	0 h	24 h	48 h	0 h	48 h	0 h	48 h	0 h	0 h
Lab Control	1	5	5	5	G	G	G	25.1	24.9	24.7	7.8	–	7.8	8.12	7.94	575	568	257	137
	2	5	5	5	G	↓	↓												
	3	5	5	5	G	↓	↓												
	4	5	5	5	G	↓	↓												
100% Effluent OF-605	1	5	5	5	G	G	G	25.0	24.8	24.4	8.7	–	7.8	7.87	7.67	196	214	137	120
	2	5	5	5	G	↓	↓												
	3	5	5	5	G	↓	↓												
	4	5	5	5	G	↓	↓												
	1	5			G														
	2	5			G														
	3	5			G														
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	4	5			G														
	1	5			G														
	2	5			G														
	3	5			G														
	4	5			G														

Condition of Organisms: G = Good Condition; D = Dead; Im = Immotile; LE = Loss of Equilibrium; A = Atypical Behavior or Appearance; LA = Lab Accident (data not used in analyses).