GZA
GeoEnvironmental
of New York

*Engineers and
Scientists*

July 1, 2014
File No. 03.0033579.04

Mr. David Szymanski
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue
Buffalo, New York 14203-2915

Re: Site Management Periodic Review Report and IC/EC Certification Submittal
Monitoring Period: May 5, 2013 through May 5, 2014
Tecumseh Redevelopment Site (Site No. C915205)
Lackawanna, New York

535 Washington Street
11th Floor
Buffalo, New York
14203
716-685-2300
Fax: 716-685-3629
www.gza.com

Dear Mr. Szymanski:

GZA GeoEnvironmental, Inc. (GZA) is pleased to submit this Site Management Periodic Review Report and Institutional Controls/Engineering Controls (IC/EC) Certification Submittal (PRR) to the New York State Department of Environmental Conservation (NYSDEC), for the Steel Winds I portion of the Tecumseh Redevelopment Site (Site No. C915205), located in Lackawanna, New York. This letter report has been prepared on behalf of the Site operator, Niagara Wind Power, LLC (NWP) an affiliate of First Wind Energy, LLC (First Wind) and has been prepared in general accordance with NYSDEC's May 27, 2014 letter to BQ Energy and NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation, dated May 23, 2010. This letter report is subject to the Limitations provided in Attachment A.

EXECUTIVE SUMMARY AND SITE OVERVIEW

Tecumseh Redevelopment, Inc. (Tecumseh) owns approximately 1,100 acres of land at 1951 Hamburg Turnpike, as shown on Figure 1. The property was formerly used for the production of steel, coke and related products by Bethlehem Steel Corporation (BSC). Steel production on the Tecumseh property was discontinued in 1983 and the coke ovens ceased activity in 2000. Tecumseh acquired the property, along with other BSC assets, out of bankruptcy in 2003.

In September 2006, BQ Energy entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines and supporting power generation equipment and infrastructure on an approximately 29-acre parcel of the Tecumseh property, referred to as the Steel Winds Site. BQ Energy and the NYSDEC also entered into a Brownfield Cleanup Agreement for the Steel Winds Site. The Site is wholly contained within the Slag Fill Area (SFA) Zones 3 and 4 of the Tecumseh property bordered by Lake Erie to the west, Smokes Creek to the south, and former industrial lands of BSC to the north and east, as shown on Figure 2. A Site Plan is provided as Figure 3. NWP operates the eight wind turbines installed at the Site.

The Brownfield Cleanup Program (BCP) was successful in achieving the remedial objectives for the Steel Winds Site. The Site Management Plan (SMP) and Final Engineering Report (FER) were approved by NYSDEC in December 2007. NYSDEC issued a Certificate of Completion (COC) for the Site on December 18, 2007.

The remedial activities conducted at the Site include:

- Excavation and off-site disposal of impacted slag fill from the eight wind turbine foundations and interconnecting utility trenches;
- In-situ enhanced biodegradation of residual volatile organic compounds (VOCs), including benzene, toluene, total xylenes, and naphthalene, using oxygen release compound (ORC®) socks within the saturated soil and groundwater in the vicinity of WT-01 and associated monitoring; and,
- Completion of a soil cover system.

An *Operation, Monitoring and Maintenance Request for Modification*, dated November 2011, was submitted to NYSDEC by Benchmark Environmental Engineering and Science, PLLC (Benchmark) on behalf of First Wind. This report proposed ceasing operation of the oxygen releasing compound (ORC®) groundwater remedy for the WT-01 Vicinity. NYSDEC provided comments to this report on April 10, 2012 and GZA provided a response letter on May 9, 2012. Based on this letter, and recent correspondence with NYSDEC, the ORC® remedy has been terminated (the ORC socks were removed from five wells on May 16, 2012). Semi-annual groundwater monitoring will continue in the WT-01 vicinity following the recently revised program; and the Site-wide Long-Term Groundwater Monitoring (LTGWM) Plan will continue in accordance with the SMP. The WT-01 vicinity environmental conditions will be reevaluated in the future, following milestones described in GZA's May 9, 2012 letter to NYSDEC. Monitoring well WT01-05, which was noted as destroyed in Benchmark's May 2011 PRR, was replaced in May 2012 by GZA and is included in the semi-annual groundwater monitoring program.

The IC/EC (i.e., a soil cap and land use restrictions) are in compliance with the SMP. Minor areas of soil erosion, rutting and distressed vegetation were observed. Minor erosion from apparent storm events has slightly undermined the concrete base of monitoring well WT1-05. Repairs/maintenance to the soil cap and monitoring well WT1-05 are scheduled to be completed during summer 2014.

RECENT PROGRAM MODIFICATIONS

No changes to the SMP are recommended at this time. PRR evaluations should continue to be conducted on an annual basis, and GZA believes that the requirements for discontinuing site management have not yet been met.

SITE MANAGEMENT PLAN

A SMP was prepared for the Site and approved by NYSDEC in December 2007. The SMP includes an Operation, Monitoring, and Maintenance (OM&M) Plan, a Soil/Fill Management Plan (SFMP), and Environmental Easements. The OM&M Plan consists of three major

components: 1) the Site-wide LTGWM Plan and WT-01 Vicinity monitoring; 2) a WT-01 Vicinity ORC Monitoring and Maintenance Plan; and 3) the Annual Inspection & Certification Program. A brief description of the components of the SMP is presented below.

Groundwater Monitoring OM&M Plan

As a requirement of the SMP, LTGWM is being performed at nine (9) wells across the Site. The following semi-annual and annual groundwater reports have been prepared by GZA and submitted to NYSDEC in accordance with the SMP since our previous PRR submission in June 2012.

- "Annual-Semi-Annual Groundwater Monitoring Report, Steel Winds I Facility, Lackawanna, New York" prepared by GZA GeoEnvironmental of New York for First Wind Energy, LLC, dated, August 2012.

- "Semi-Annual Groundwater Monitoring Report, Steel Winds I Facility, Lackawanna, New York" prepared by GZA GeoEnvironmental of New York for First Wind Energy, LLC, dated, February 2013.

- "Annual-Semi-Annual Groundwater Monitoring Report, Steel Winds I Facility, Lackawanna, New York" prepared by GZA GeoEnvironmental of New York for First Wind Energy, LLC, dated, July 2013.

- "Semi-Annual Groundwater Monitoring Report, Steel Winds I Facility, Lackawanna, New York" prepared by GZA GeoEnvironmental of New York for First Wind Energy, LLC, dated, May 2014.

GZA is currently scheduled to conduct the next annual/semi-annual sampling event consisting of the nine (9) LTGWM wells and the six (6) WT-01 vicinity wells in June/July 2014. The four monitoring reports listed above are provided as Attachment B.

An *Operation, Monitoring and Maintenance Request for Modification*, dated November 2011, was submitted to NYSDEC by Benchmark. This report proposed ceasing operation of the ORC® groundwater remedy for the WT-01 vicinity because the remedy was not effective in reducing VOC concentrations, due primarily to the geochemical conditions (high baseline chemical oxygen demand, highly negative oxidation reduction potential and high pH) of the Site. NYSDEC provided comments to this report on April 10, 2012 and GZA provided a response letter on May 9, 2012. Based on this letter and recent correspondence with NYSDEC, the ORC® remedy has been terminated.

As discussed in the May 9, 2012 letter, six wells in the WT-01 vicinity (BCP-ORP-1, MWN-01, MWN-01B, WT1-02, WT1-04 and replacement well WT1-05) will be sampled on a semi-annual basis (January and June) for the following compounds:

- STARS list VOCs via EPA Method 8260B; and
- Base-Neutral semi-volatile organic compounds via EPA Method 8270C.

The LTGWM Plan will continue in accordance with the SMP.

As described in the May 9, 2012 letter, remedial alternatives have not yet been selected or implemented for the various Solid Waste Management Units (SMUs) which make up the former Bethlehem Steel Site (i.e., the Tecumseh Redevelopment property). Assessing the relative contaminant contribution from the Steel Winds Site is difficult. As such, GZA proposed that the recently agreed to semi-annual groundwater monitoring in the WT-01 vicinity continue until these remedies have been selected, implemented and their effectiveness evaluated. Once this has occurred, the relative impact of the contaminant contribution from the Steel Winds Site can be assessed.

On September 30, 2013, GZA submitted a Technical Impracticability Waiver Supplemental Field Studies Work Plan for the Site, detailing sampling, laboratory analysis, data evaluation and reporting to be conducted in support of a Technical Impracticability Waiver request for the Site. This Work Plan was approved by NYSDEC on February 24, 2014. Work Plan implementation is planned for summer 2014 and the Technical Impracticability Waiver Application will be submitted to NYSDEC by November 1, 2014. The proposed study includes an evaluation of the potential impact of groundwater discharges to adjacent water bodies and benthic invertebrates, a regional groundwater mass flux and contaminant mass loading evaluation, as well as an ecological risk assessment.

Engineered and Institutional Controls

An engineered control (EC) consisting of a soil cover system has been installed at the Site. Maintenance of the 12-inch soil and vegetated cover system is being performed in compliance with the SMP.

The Steel Winds Site is subject to the following institutional controls (ICs):

- Groundwater-Use Restriction – the use of groundwater for potable and non-potable purposes is prohibited;
- Land-Use Restriction - the controlled property may be used for commercial and/or industrial use;
- Implementation of the SMP including the OM&M Plan and SFMP.

The SFMP provides guidelines for the management of soil and fill material during any intrusive actives. No intrusive activities requiring management of on-Site soil or fill material, or the placement of backfill materials (beyond that required for minor cap repairs described in last year's report), are known to have occurred during the current monitoring period.

Annual Inspection and Certification Program

As a requirement of the SMP and in accordance with NYSDEC DER-10, this PRR is to provide the information necessary to document the basis for the IC/EC certification. The certification primarily consists of an annual Site inspection to complete NYSDEC's IC/EC Certification Form in order to confirm that:

- The IC/ECs are in place, performing properly, and remain effective;
- Nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for the IC/ECs; and
- Access is available to the Site to evaluate continued maintenance of the IC/ECs.

A Site visit of the property was conducted by GZA on May 29, 2014 and the IC/EC Certification Form has been signed by an engineer who meets the requirements of a Qualified Environmental Professional (QEP) and is a Professional Engineer registered in the State of New York. At the time of the inspection, the Site was observed to be in compliance with the IC/ECs. Minor surface damage (minor rutting and distressed vegetation) to the vegetated cover system in the vicinity of WT-01 through WT-08 was noted during the site visit. The minor surface damage was likely the result of vehicular traffic on the cap during moist to wet conditions. In general, the LTGWM network was noted to be in good condition. GZA noted some minor soil erosion around the concrete base of monitoring well WT1-05 likely caused by storm events. The minor grading, vegetative cover and monitoring well repairs will be conducted during the summer of 2014 as weather conditions permit.

The completed Institutional and Engineering Controls Form is included in Attachment C. A photographic log of the Site inspection is included in Attachment D.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions and recommendations are as follows:

- At the time of the Site inspection, the Site was in compliance with the IC/ECs including: groundwater monitoring, maintenance of the cover system, land-use restrictions, groundwater-use restrictions, and soil/fill management plan.

- Minor surface and vegetative cover damage was noted in the vicinity of WT-01 through WT-08. The cover system damages are currently being addressed, and repairs are expected to be completed by September 1, 2014.

- Site-wide LTGWM and WT-01 vicinity groundwater monitoring will be continued. The next semi-annual WT-01 and LTGWM event is scheduled for June/July 2014.

- The groundwater remedy for the WT-01 Vicinity will be re-evaluated as described above.

- No modifications to the current SMP are recommended at this time. PRR evaluations should continue to be conducted on an annual basis and GZA believes that the requirements for discontinuing site management have not yet been met.

We trust this letter report addresses your requirements. If you need any additional information, please feel free to contact Ed or Rick at (401) 421-4140 or via email at edward.summerly@gza.com or richard.carlone@gza.com.

Sincerely,

GZA GEOENVIRONMENTAL, INC.

Richard A. Carlone, P.E.
Project Manager

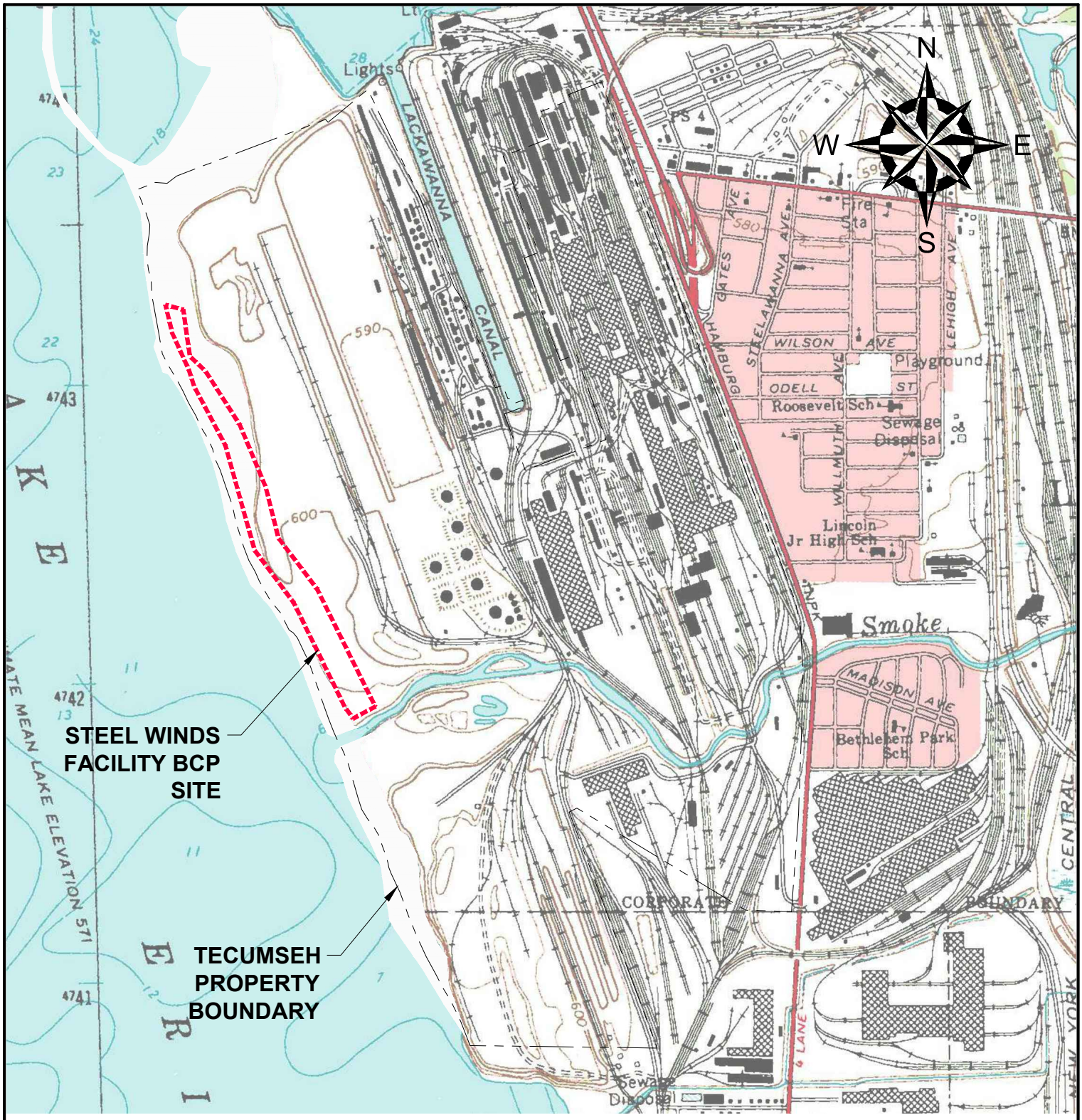
Daniel J. Troy, P.E.
Consultant/Reviewer

Edward A. Summerly, P.G.
Principal

RAC/EAS:blm
Attachments: Figures 1 through 3
Attachment A - Limitations
Attachment B - 2012/2013/2014 Groundwater Monitoring Reports
Attachment C - Institutional and Engineering Controls Form
Attachment D - Site Photographs

cc: Maurice Moore, NYSDEC
Josh Bagnato, First Wind Energy, LLC (electronic copy)
Claude Cote, First Wind Energy, LLC (electronic copy)
Elizabeth Weir, First Wind Energy, LLC (electronic copy)

FIGURES



NOTE:
BASE MAP ADAPTED FROM A 1965 U.S.G.S. TOPOGRAPHIC MAPS DOWNLOADED FROM http://store.usgs.gov

0 750 150 3000
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
FIRST WIND ENERGY, LLC.

STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

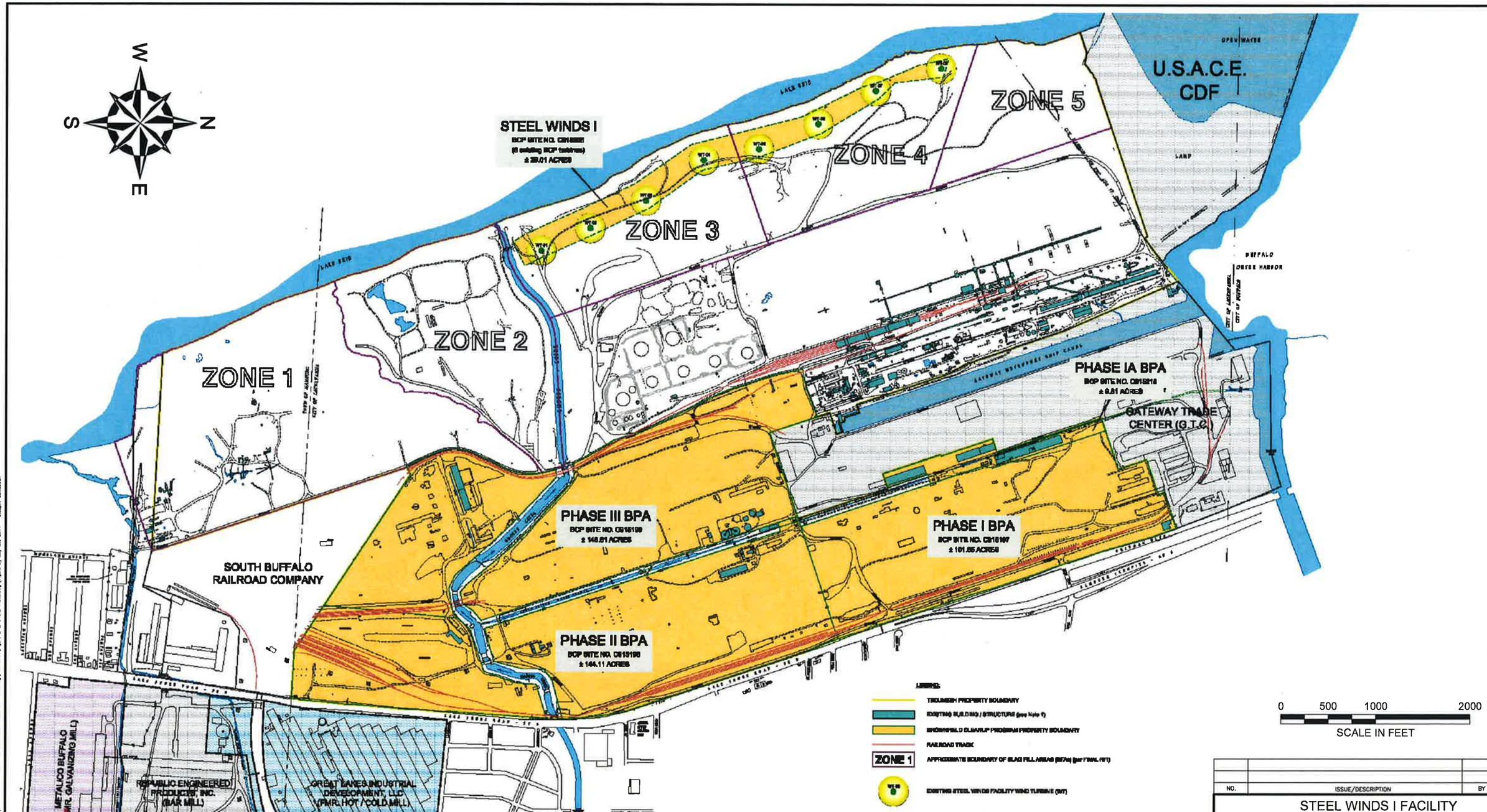
SITE MANAGEMENT PERIODIC REVIEW REPORT
MAY 2014

LOCUS PLAN

FIGURE
1

PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	DATE	PROJECT NO.	REVISION NO.
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	MAY 2014	03.0033579.04	

SHEET NO.
1 of 3



NOTES:

1. BASE MAP ADAPTED FROM A SITE PLAN PREPARED BY BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC, DATED MAY 2011.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

NO.	ISSUE/DESCRIPTION	BY	DATE

STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

SITE MANAGEMENT PERIODIC REVIEW REPORT
MAY 2014

TECUMSEH SITE PLAN

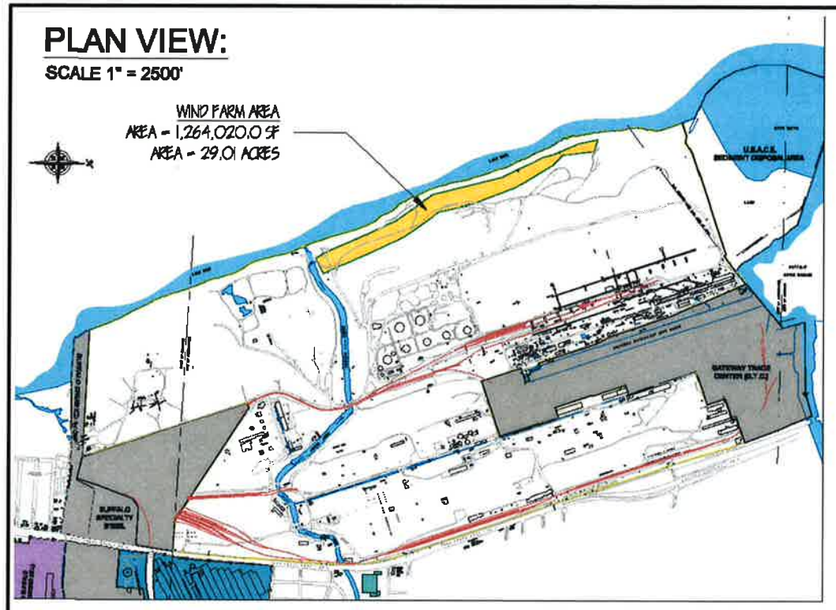
PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
FIRST WIND ENERGY, LLC.

PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	FIGURE 2
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	
DATE MAY 2014	PROJECT NO. 03.0033579.04	REVISION NO.	SHEET NO. 2 of 3

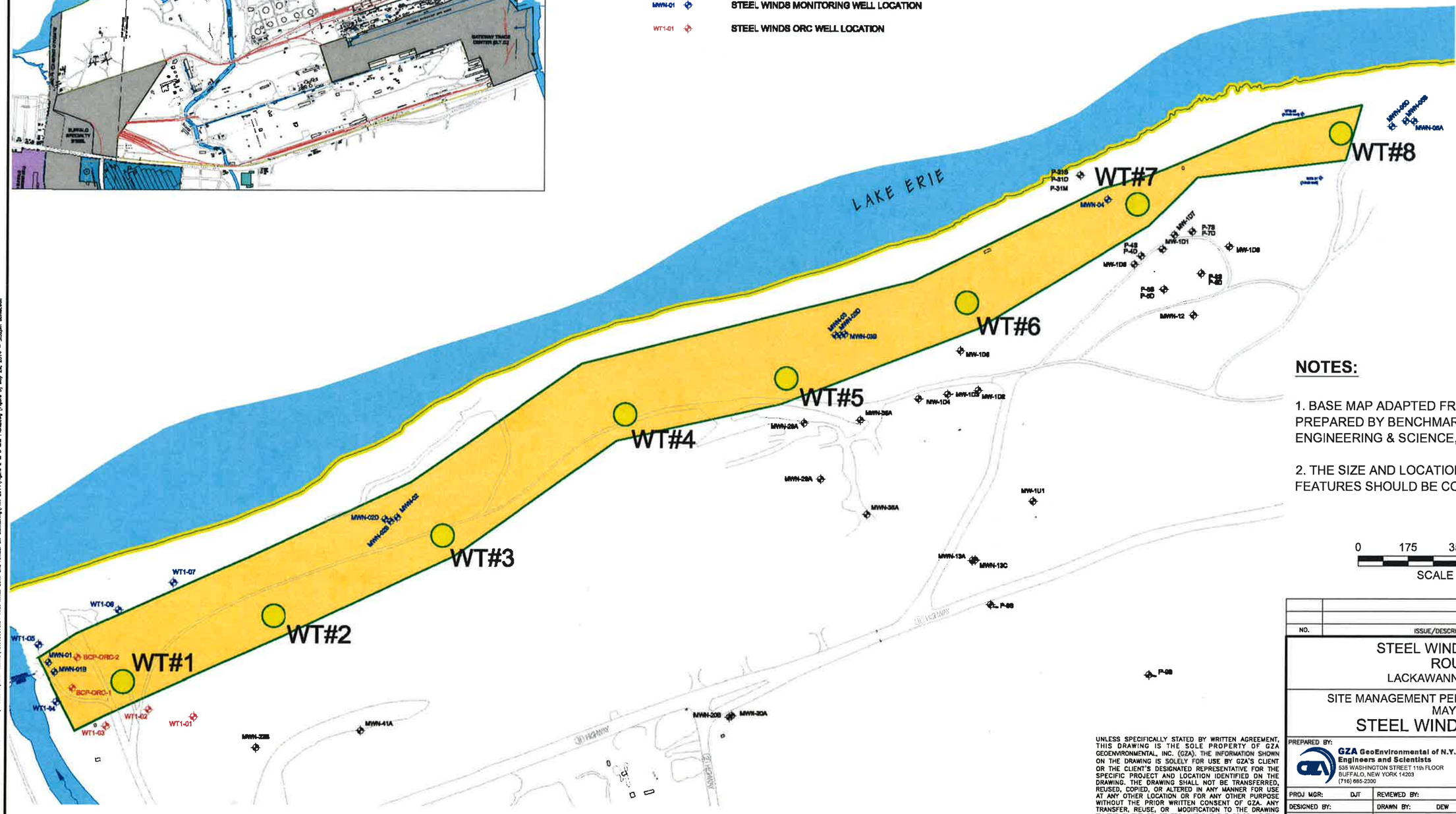
PLAN VIEW:

SCALE 1" = 2500'



LEGEND:

- TECUMSEH PROPERTY BOUNDARY
- EXISTING BUILDING / STRUCTURE
- RAILROAD TRACK
- STEEL WINDS FACILITY BCP SITE
- WT#1 — WIND TURBINE (WT) LOCATION (8)
- MWN-22B — EXISTING MONITORING WELL LOCATION
- MWN-01 — STEEL WINDS MONITORING WELL LOCATION
- WT1-01 — STEEL WINDS ORC WELL LOCATION



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2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

0 175 350 700

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

SITE MANAGEMENT PERIODIC REVIEW REPORT
MAY 2014

STEEL WINDS SITE PLAN

PREPARED BY: GZA GeoEnvironmental of N.Y. Engineers and Scientists, 535 WASHINGTON STREET 11th FLOOR, BUFFALO, NEW YORK 14203, (716) 885-2300		PREPARED FOR: FIRST WIND ENERGY, LLC.	
PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	FIGURE 3
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	SHEET NO. 3 of 3
DATE MAY 2014	PROJECT NO. 03.0033579.04	REVISION NO.	

ATTACHMENT A

LIMITATIONS

LIMITATIONS

1. The Objective of this Periodic Review Report was to observe whether physical conditions and activities at the Site are consistent with the approved institutional and engineering controls. The observations described in this report were made under the conditions stated at the time of the reconnaissance.

2. Observations were made of the site and of structures on the site as described within the report. Where access to portions of the site or to structures on the site was restricted or limited, GZA GeoEnvironmental, Inc. renders no opinion as to site conditions relative to the approved institutional and engineering controls.

3. In preparing this report, GZA GeoEnvironmental, Inc. may have relied on certain information provided by the site contact, key site manager and/or other parties referenced therein. GZA GeoEnvironmental, Inc. did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of preparing this Periodic Review Report.

4. The purpose of this report was to evaluate and document the condition of the engineered control caps and approved uses of the subject site soley with respect to the approved institutional and engineering controls. No specific attempt was made to evaluate the compliance of present or past owners or operators of the site with federal, state, or local laws and regulations, environmental or otherwise. In addition, GZA GeoEnvironmental, Inc. renders no opinion as to the presence of hazardous material or oil, or to the presence of indirect evidence relating to hazardous material or oil, at the site.

ATTACHMENT B

2012 / 2013 / 2014 GROUNDWATER MONITORING REPORTS

JUNE 2012
ANNUAL/SEMI-ANNUAL GROUNDWATER MONITORING REPORT
STEEL WINDS I FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR:
First Wind Energy, LLC
179 Lincoln Street
Boston, Massachusetts 02111

PREPARED BY:
GZA GeoEnvironmental, Inc
Buffalo, New York

August 2012
File No. 03.0033579.04

GZA
GeoEnvironmental
of New York

*Engineers and
Scientists*

August 21, 2012
File No. 03.0033579.04

Mr. Josh Bagnato
First Wind Energy, LLC
179 Lincoln Street
Boston, Massachusetts 02111

Re: June 2012 Annual/Semi-Annual Groundwater Monitoring Report
Steel Winds I Site
Lackawanna, NY

Dear Mr. Bagnato:

535 Washington Street
11th Floor
Buffalo, New York
14203
716-685-2300
Fax: 716-685-3629
www.gza.com

GZA GeoEnvironmental of New York (GZA) is pleased to submit this annual/semi-annual groundwater monitoring report to First Wind Energy, LLC (First Wind) summarizing the analytical results of the groundwater sampling event conducted June 2012 at the above referenced Site. The objective of the sampling event was to collect and analyze groundwater samples from the on-site monitoring wells in accordance with the Site Management Plan, dated September 2007, prepared by Benchmark Environmental Engineering and Science, PLLC (Benchmark) and approved by the New York State Department of Environmental Conservation (NYSDEC). In addition, the findings of our May 2012 oxygen releasing compound (ORC) sampling event (final event) and a brief summary of monitoring well WT-05 replacement are included in this report.

Should you have any questions or require additional information following your review, please contact Ed Summerly at 401-427-2707.

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

John Beninati
Project Manager

Bart Klettke, P.E.
Consultant Reviewer

For

Edward A. Summerly, P.G.
Principal

cc: Mr. Maurice Moore (NYSDEC)

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TABLES

FIGURES

APPENDICES

1.00 INTRODUCTION

In accordance with our May 2, 2012 proposal, GZA GeoEnvironmental, Inc. (GZA) collected and analyzed groundwater samples at the nine (9) annual site-wide groundwater monitoring well locations (designated in the Long-Term Groundwater Monitoring Plan (LTGWM)) and the six (6) semi-annual WT-1 vicinity groundwater monitoring well locations at the Steel Winds I facility located in Lackawanna, New York (Site). A Locus Plan and Site Plan are attached as Figure 1 and Figure 2, respectively. In addition, findings from our May 2012 final ORC monitoring event and a brief discussion of the replacement of monitoring well WT1-05 are discussed within.

1.10 BACKGROUND AND SITE HISTORY

Tecumseh Redevelopment, Inc. (Tecumseh) owns approximately 1,100 acres of land at 1951 Hamburg Turnpike, as shown attached Figure 1. The property was formerly used for the production of steel, coke and related products by Bethlehem Steel Corporation (BSC). Steel production on the Tecumseh property was discontinued in 1983 and the coke ovens ceased activity in 2000. Tecumseh acquired the property, along with other BSC assets, out of bankruptcy in 2003.

In September 2006, BQ Energy entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines and supporting power generation equipment and infrastructure on an approximately 29-acre parcel of the Tecumseh property, referred to as the Steel Winds I Site. BQ Energy and the NYSDEC also entered into a Brownfield Cleanup Agreement for the Steel Winds Site. The Site is wholly contained within the Slag Fill Area (SFA) Zones 3 and 4 of the Tecumseh property bordered by Lake Erie to the west, Smokes Creek to the south, and former industrial lands of BSC to the north and east. Niagara Wind Power, LLC (NWP), an affiliate of First Wind, operates the eight wind turbines installed at the Site.

The Brownfield Cleanup Program (BCP) was successful in achieving the remedial objectives for the Steel Winds Site. The Site Management Plan (SMP) and Final Engineering Report (FER) were approved by NYSDEC in December 2007. NYSDEC issued a Certificate of Completion (COC) for the Site on December 18, 2007.

The remedial activities conducted at the Site include:

- Excavation and off-site disposal of impacted slag fill from the eight wind turbine foundations and interconnecting utility trenches;
- In-situ enhanced biodegradation of residual volatile organic compounds (VOCs), including benzene, toluene, total xylenes, and naphthalene, using oxygen release compound (ORC®) socks within the saturated soil and groundwater in the vicinity of WT-01 and associated monitoring; and,
- Completion of a soil cover system.

As a requirement of the SMP, LTGWM is being performed at nine (9) wells across the Site. Additional groundwater monitoring was also performed to monitor the effectiveness of the ORC in-situ treatment in the vicinity of wind turbine WT-01. During 2011, both the LTGWM and WT-01 vicinity groundwater monitoring programs were performed on an annual basis and were done on July 13 and 14, 2011. The five ORC in-situ treatment wells were to be monitored semi-annually, in accordance with the SMP. However, only one ORC monitoring event (on May 4, 2011) was conducted because of the ineffectiveness of the remedy.

An *Operation, Monitoring and Maintenance Request for Modification* report, dated November 2011, was submitted to NYSDEC by Benchmark. This report proposed ceasing operation of ORC® groundwater remedy for the WT-01 Vicinity because the remedy was not effective in reducing VOC concentrations, due primarily to the geochemical conditions (i.e., high baseline chemical oxygen demand, highly negative oxidation reduction potential and high pH) of the Site. NYSDEC provided comments to this report on April 10, 2012 and GZA provided a response letter on May 9, 2012. Based on this letter and recent correspondence with NYSDEC, the ORC® remedy has been terminated (i.e., the ORC socks have been removed from the five treatment wells and disposed of as a solid waste).

In accordance with a letter from GZA to NYSDEC, dated June 22, 2012[1], semi-annual/annual groundwater monitoring will continue at the Site until a Technical Impracticability Waiver for groundwater treatment at the Site is submitted to and approved NYSDEC.

2.00 PURPOSE AND SCOPE OF WORK

The purpose of the May 2012 ORC final sampling event and June 2012 annual/semi-annual sampling event was to collect groundwater samples from the five (5) ORC monitoring well locations and the nine (9) annual site-wide and six (6) semi-annual WT-1 vicinity groundwater monitoring wells, respectively, in accordance with the routine monitoring protocol described in the September 2007 SMP. To accomplish this, the following activities were completed.

- Coordinated with our drilling subcontractor, Earth Dimensions, Inc., (Earth Dimensions) prior to the June 2012 semi-annual sampling event to re-install semi-annual monitoring well WT1-05.

- Collected one (1) groundwater sample from each ORC well location in accordance with SMP sampling protocols for laboratory analysis, conducted by Spectrum

[1]GZA's June 22, 2012 letter was prepared in response to NYSDEC's comments on GZA's May 9, 2012 Responses to NYSDEC's April 10, 2012 Comments on the November 2011 Operation, Monitoring and Maintenance Request for Modification, prepared by Benchmark.

Analytical Inc. (Spectrum) of Warwick, Rhode Island, as summarized in Table 1. Test parameters included the following:

- Soluble Iron and Manganese via EPA Method 6010;
- Biochemical Oxygen Demand via EPA Method 5210B; and
- Chemical Oxygen Demand via EPA Method 5220D.

- Collected one (1) groundwater sample from each annual/semi-annual well location for laboratory analysis (conducted by Spectrum) in accordance with the analytical testing summary provided in Table 1. Test parameters included the following:

  - STARS list VOCs via EPA Method 8260B;
  - Base-Neutral semi-volatile organic compounds (SVOCs) via EPA Method 8270C; and
  - Arsenic, barium, chromium, and/or manganese via EPA Method 6010B (select annual groundwater monitoring wells only).

- Prepared this report, which summarizes the data collected during each sampling event and compared the data to historic data and assessed contaminant concentration trends.

This report presents GZA's field observations, results, and opinions and is subject to the limitations presented in Appendix A and modifications if subsequent information is developed by GZA or any other party.

3.00 FIELD STUDIES

This section describes the field studies conducted as part of monitoring well WT1-05 replacement and GZA's groundwater annual/semi-annual sampling event.

3.10 MONITORING WELL INSTALLATION

On May 11th, 2012, Earth Dimensions installed semi-annual monitoring well WT1-05 in the general vicinity of the previous WT1-05 location, which was permanently damaged during construction activities, and no longer present. See attached Figure 2 for the approximate location of WT1-05.

The borehole was advanced using 4 ¼-inch hollow stem augers (HSAs) through slag and soil fill material to approximately 20 feet below ground surface (bgs). Overburden soil samples were collected in 5-foot intervals ahead of the HSAs by driving a 1-3/8-inch I.D. by 24-inch long split-spoon sampler with an automated 140-pound hammer falling approximately 30-inches, in general accordance with ASTM D1856 (Standard Penetration Test). Auger cuttings from the borehole were used as backfill following installation of well materials, sand pack and bentonite.

Soil samples from the test boring were classified in the field by visual observations in accordance with the Modified Burmister Classification System. The monitoring well installation log for WT1-05 including approximate stratification lines, blow-counts, sample identification, sample depth-interval and recovery, and date is included in Appendix B.

Monitoring well WT1-05 is constructed of 2-inch I.D. flush-coupled Schedule 40 polyvinyl chloride (PVC) well riser and a 10-foot long PVC well screen. Following placement of well screen and riser, the annular space around the well screen was backfilled with #0 Qrock sand to approximately 2 feet above the top-of screen. An approximately 4-foot thick layer of hydrated bentonite chips were placed above the sand filter. The remaining annular space was backfilled with drill spoils. A 5-foot protective steel casing was then installed to approximately 2 feet bgs with a 3-foot stick-up and cement grouted in place.

Following installation, monitoring well WT1-05 was developed using a polyethylene bailer to remove remaining PVC cuttings, develop the sand pack, and to verify the well was functioning properly. Approximately 10 well-volumes of groundwater were removed during well development.

3.20 GROUNDWATER DATA COLLECTION

GZA collected groundwater samples from the nine (9) annual Site-wide monitoring wells (including MWN-01, MWN-01B, MWN-02, MWN-02B, MWN-02D, MWN-03, MWN-03B, MWN-03D, and MWN-04), and six (6) WT-1 vicinity semi-annual monitoring wells (including MWN-01, MWN-01B, WT1-02, WT1-04, WT1-05, and BCP-ORC-1). Samples were collected beginning on June 5, 2012 and ending June 12, 2012. Note, when the monitoring programs contained duplicate wells, only one sample was collected for analysis and used for both programs.

The following tables show the volume of water purged and the number of well volumes removed from the respective well after a constant head was established. In general, groundwater purge rates were within 500(±) millimeter per minute (ml/min).

Annual Site-Wide Monitoring Well ID	Cumulative Volume Purged (gallons)	Well Volumes (#)
MWN-01	3.9	1
MWN-01B	6.5	2.5
MWN-02	4	1.4
MWN-02B	5	1.1
MWN-02D	4	0.5
MWN-03	6	1.1
MWN-03B	2	0.5
MWN-03D	2.5	0.2
MWN-04	3	1

WT-1 Vicinity Semi-Annual Monitoring Well ID	Cumulative Volume Purged (gallons)	Well Volumes (#)
MWN-01	3.9	1
MWN-01B	6.5	2.5
WT1-02	6.5	1.2
WT1-04	6.2	3.6
WT1-05	3.5	2.3
BCP-ORC-1	4.5	0.7

As part of the Annual/Semi-annual groundwater monitoring, static groundwater level measurements were made from top of riser of the monitoring wells listed in the table below prior to purging. Monitoring point elevation data was available from previous groundwater monitoring reports completed by Benchmark. From this data, groundwater flow directions were estimated and are shown on Figure 2. Based on the available information, groundwater flow is generally in a westerly direction towards Lake Erie.

Monitoring Well Location	Top of Riser Elevation (ft.)	Groundwater Depth (ft.)	Groundwater Elevation (ft.)
MWN-01	585.14	16.0	569.2
MWN-01B	587.13	16.9	570.2
MWN-02	601.01	29.1	571.9
MWN-02B	601.28	29.4	571.9
MWN-02D	602.95	30.3	572.6
MWN-03	611.96	40.4	571.6
MWN-03B	612.29	40.7	571.6
MWN-03D	613.51	41.2	572.3
MWN-04	623.45	53.5	569.9
WT1-02	600.78	28.4	572.4
WT1-04	586.45	14.4	572.0
WT1-05	584.41	13.1	571.3
BCP-ORC-1	591.97	19.8	572.2

4.00 ANALYTICAL LABORATORY TESTING

Five (5) ORC and thirteen (13) annual/semi-annual groundwater samples were submitted for analytical testing as part of the May 2012 and June 2012 sampling events, respectively. The samples were packed in an ice-filled cooler and, following typical chain-of-custody procedures, sent to Spectrum for analysis. Table 1 presents a summary of the samples collected and the analyses completed.

5.00 ANALYTICAL TEST RESULTS

A discussion of the laboratory results for the groundwater samples is presented below. The laboratory reports are provided in Appendix C and the analytical test results are summarized on Tables 2, 3 and 4.

The analytical test results for the groundwater samples were compared to NYSDEC Class GA criteria presented in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.), dated October 1993, revised June 1998, errata January 1999 and amended April 2000.

The analytical data generated as part of this sampling event has also been provided to NYSDEC electronically for their Environmental Information Management System (EIMS). The data was provided in a standardized electronic data deliverable (EDD) format that uses the database software application EQuIS™ (EQuIS) from EarthSoft® Inc. The laboratory data and required information were imported into the EQuIS Data Processor (EDP) and submitted to NYSDEC.

5.10 ANNUAL SITE-WIDE MONITORING WELLS

- MWN-01: Nine (9) VOCs were detected above method detection limits of which six (6) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 53 parts per billion (ppb);
    - Toluene at 11 ppb;
    - m,p-Xylene at 24 ppb;
    - o-Xylene at 17 ppb;
    - Total Xylene at 41 ppb; and
    - 1,2,4 Trimethylbenzene at 5.4 ppb

    Naphthalene was detected at a concentration of 460 ppb, which exceeds its respective guidance value of 10 ppb. There is no Class GA value for this compound. This concentration was obtained from a secondary dilution analysis.

    Ten (10) SVOCs were detected above method detection limits of which two (2) exceeded their respective guidance values, as follows.

    - Fluorene at 60 ppb; and
    - Phenanthrene at 97 ppb, which was obtained from a secondary dilution analysis.

- MWN-01B: Ten (10) VOCs were detected above method detection limits of which six (6) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 91 ppb;
    - Toluene at 22 ppb;
    - m,p-Xylene at 13 ppb;
    - o-Xylene at 8.1 ppb;
    - Total Xylene at 21 ppb; and
    - 1,2,4 Trimethylbenzene at 7.1 ppb

    Naphthalene was detected at a concentration of 1,600 ppb, which exceeds its respective guidance value of 10 ppb. This concentration was obtained from a secondary dilution analysis.

    Ten (10) SVOCs were detected above method detection limits of which one (1) exceeded its respective guidance value, as follows.

    - Phenanthrene at 51 ppb.

- MWN-02: Nine (9) VOCs were detected above method detection limits of which five (5) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 33 ppb;
    - Toluene at 7.5 ppb;
    - m,p-Xylene at 12 ppb;
    - o-Xylene at 10 ppb; and
    - Total Xylene at 23 ppb.

    Naphthalene was detected at a concentration of 56 ppb, which exceeds its respective guidance value of 10 ppb.

    Ten (10) SVOCs were detected above method detection limits but below their respective NYSDEC Class GA criteria or guidance values.

- MWN-02B: Nine (9) VOCs were detected above method detection limits of which four (4) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 100 ppb;
    - Toluene at 16 ppb;
    - o-Xylene at 11 ppb; and
    - Total Xylene at 20 ppb.

    Naphthalene was detected at a concentration of 250 ppb, which exceeds its respective guidance value of 10 ppb. This concentration was obtained from a secondary dilution analysis.

Ten (10) SVOCs were detected above method detection limits but below their respective NYSDEC Class GA criteria or guidance values.

One metal, arsenic, was detected above method detection limits at a concentration exceeding its Class GA criteria of 25 parts per million (ppm).

- MWN-02D: Three (3) metals were detected above method detection limits but below their respective Class GA criteria.

- MWN-03: Eight (8) VOCs were detected above method detection limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.

    - Benzene at 6.6 ppb.

  Naphthalene was detected at a concentration of 11 ppb, which exceeds its respective guidance value of 10 ppb.

  Ten (10) SVOCs were detected above method detection limits but below their respective NYSDEC Class GA criteria or guidance values.

- MWN-03B: Four (4) metals were detected above method detection limits of which three (3) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Arsenic at 45.8 ppm;
    - Barium at 1,180 ppm; and
    - Manganese at 436 ppm.

- MWN-03D: Five (5) VOCs were detected above method detection limits but below their respective NYSDEC Class GA criteria.

  Two (2) SVOCs were detected above method detection limits of which one (1) exceeded its respective Class GA criteria, as follows.

    - Bis(2-Ethylhexyl)phthalate at 6.6 ppb. However, based on previous data from the Site, this compound appears to be a laboratory induced contaminant.

  Two (2) metals were detected above method detection limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.

    - Barium at 1,270 ppm.

- MWN-04: VOCs were not detected above method detection limits.

One (1) SVOC, Bis(2-Ethylhexyl)Phthalate, was detected above method detection limits but not in exceedance of its respective Class GA criteria of 5 ppb. However, based on previous data from the Site, this compound appears to be a laboratory induced contaminant.

In general, VOC, SVOC, and metal concentrations were consistent with historical data collected during previous sampling events completed at the Site. A more detailed discussion, including trend analysis, is provided in Section 6.00 of this report.

5.20 SEMI-ANNUAL WT-1 VICINITY MONITORING WELLS

Monitoring well locations MWN-01 and MWN-01B are included in both annual and semi-annual sampling schedules. The analytical results for these monitoring locations are discussed in the previous Section 5.10.

- WT1-02: Nine (9) VOCs were detected above method detection limits of which four (4) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 25 ppb;
    - m,p-Xylene at 11 ppb;
    - o-Xylene at 8.6 ppb; and
    - Total Xylene at 20 ppb.

    Naphthalene was detected at a concentration of 51 ppb, which exceeds its respective guidance value of 10 ppb.

    Ten (10) SVOCs were detected above method detection limits but below their respective NYSDEC Class GA criteria or guidance values.

- WT1-04: Nine (9) VOCs were detected above method detection limits of which seven (7) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 39 ppb;
    - Toluene at 7.7 ppb;
    - m,p-Xylene at 21 ppb;
    - o-Xylene at 15 ppb;
    - Total Xylene at 36 ppb;
    - 1,3,5-Trimethylbenzene at 8.1 ppb; and
    - 1,2,4 Trimethylbenzene at 6.0 ppb.

    Naphthalene was detected at a concentration of 63 ppb, which exceeds its respective guidance value of 10 ppb.

    Eleven (11) SVOCs were detected above method detection limits but below their respective NYSDEC Class GA criteria or guidance values.

- WT1-05: Nine (9) VOCs were detected above method detection limits of which five (5) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 30 ppb;
    - Toluene at 7.0 ppb;
    - m,p-Xylene at 13 ppb;
    - o-Xylene at 9.4 ppb; and
    - Total Xylene at 22 ppb.

    Naphthalene was detected at a concentration of 120 ppb, which exceeds its respective guidance value of 10 ppb.

    Ten (10) SVOCs were detected above method detection limits but below their respective NYSDEC Class GA criteria or guidance values.

- BCP-ORC-1: Eight (8) VOCs were detected above method detection limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.

    - Benzene at 29 ppb.

    Naphthalene was detected at a concentration of 280 ppb, which exceeds its respective guidance value of 10 ppb. This concentration was obtained from a secondary dilution analysis.

    Ten (10) SVOCs were detected above method detection limits but below their respective NYSDEC Class GA criteria or guidance values.

In general, VOC and SVOC concentrations were consistent with historical data collected during previous sampling events by Benchmark. A more detailed discussion, including a trend analysis, is provided in Section 6.00 of this report.

5.30 ORC MONITORING WELLS

Iron (soluble) was detected above method detection limits in four of the five monitoring wells sampled at concentrations below Class GA criteria. Magnesium was not detected in the five samples collected. In general, these concentrations are consistent with the historical data provided by Benchmark.

Biochemical oxygen demand (BOD) concentrations ranged from non-detect to 6,000 ug/L. In general, when compared to historical data provided by Benchmark, these current concentrations are lower by up to one order of magnitude.

Chemical oxygen demand (COD) concentrations ranged from non-detect to 39,000 ug/L. With the exception for WT1-01, these concentrations are within the same order of magnitude; the concentration of COD at WT1-01 (ND) was significantly lower this sample round when compared to historical data.

This data supports ceasing the ORC® remedy, as the geochemical conditions, including high natural oxygen demand (as demonstrated by high BOD and COD) at the Site do not support continued use of ORC® at the Site as a groundwater remedy.

6.00 STATISTICAL ANALYSIS

As stated in Section 2.4 of Attachment A4 (LTGWM Plan) of the September 2007 Site Management Plan, a statistical analysis is required for all detected constituents (in groundwater) that are observed at concentrations above NYSDEC Class GA criteria or guidance values. In lieu of performing moving trend analysis, as described in the LTGWM Plan, GZA generated time series plots for parameters which exceeded the NYSDEC Class GA criteria, either during this monitoring round or in previous data (2007 through 2011) prepared by Benchmark. These plots were evaluated for trends (over a five year period at a 95% confidence interval) and outliers. Sen's Test for trends was performed to evaluate statistically significant trends in the data with respect to time. Time series plots were generated on a well by well basis and are presented in Appendix D.

Two statistically significant downwards trends in contaminant concentrations were identified by the Sen's Tests, benzo(a)anthracene in BCP-ORC-1 and toluene in MWN-01. No other statistically significant trends were identified. In addition, visual analysis of the time series plots identified visually decreasing trends for benzene and xylenes in BCP-ORC-1 and xylenes in MWN-01.

Time series plots were also visually evaluated for seasonality and outliers. There does not appear to be seasonal fluctuations of contaminant concentrations in the monitoring data. High end outliers identified in the June 2012 monitoring round include:

- WT1-04: benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene. These compounds were not detected during the June 2012 sampling round and were identified as outliers because of elevated detection limits
- BCP-ORC-1: chrysene and benzo(a)anthracene. These compounds were not detected during the June 2012 sampling round and were identified as outliers because of elevated detection limits;
- MWN-01: chrysene and benzo(a)anthracene. These compounds were not detected during the June 2012 sampling round and were identified as outliers because of elevated detection limits;
- MWN-01B: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and chrysene. These compounds were not detected during the June 2012 sampling round and were identified as outliers because of elevated detection limits;
- MWN-03: naphthalene;
- MWN-03D: barium.

These outliers will be reevaluated as part of the next monitoring report.

7.00 SUMMARY

GZA was retained to collect and analyze groundwater samples from five (5) ORC wells and thirteen (13) annual/semi-annual monitoring wells at the Steel Winds I facility in accordance with the Site Management Plan. A summary of our findings follows.

Annual Well Locations

- Static groundwater level measurements indicate that groundwater flows predominantly in a westerly direction at the Site, toward Lake Erie. Groundwater in the vicinity of WT-01 was observed to flow south towards Smokes Creek.

- VOCs were detected at concentrations above NYSDEC Class GA criteria in the groundwater samples collected from LTGWM wells MWN-01, MWN-01B, MWN-02, MWN-02B, and MWN-03.

- VOCs were not detected above NYSDEC Class GA criteria in LTGWM monitoring well locations MWN-03D and MWN-04.

- SVOCs were detected at concentrations above NYSDEC Class GA or their respective guidance criteria in the groundwater samples collected from LTGWM wells MWN-01, MWN-01B, and MWN-03D.

- Arsenic was detected at concentrations above NYSDEC Class GA criteria in LTGWM wells MWN-02B and MWN-03B.

- Barium was detected at concentrations above NYSDEC Class GA criteria in LTGWM wells MWN-03B and MWN-03D.

- Manganese was detected at a concentration above NYSDEC Class GA criteria in LTGWM well MWN-03B.

Semi-Annual Well Locations

- VOCs were detected at concentrations above NYSDEC Class GA criteria in the groundwater samples collected from the semi-annual WT1 vicinity wells MWN-01, MWN-01B, WT1-02, WT1-04, and WT1-05.

- SVOCs were detected at concentrations above NYSDEC Class GA or their respective guidance criteria in the groundwater samples collected from the semi-annual WT1 vicinity wells MWN-01 and MWN-01B.

ORC Wells

- Iron (soluble) was detected at concentrations below Class GA criteria, at ORC well locations WT1-01, WT-1-02, BCP-ORC-1, and BCP-ORC-2.

- Magnesium (soluble) was not detected in the five ORC well locations samples.

Based on our review of the historic and current analytical data, the analytical test results from the May and June 2012 round of sampling are generally consistent with historical data. Statistically significant downwards trends in contaminant concentrations were identified for benzo(a)anthracene in BCP-ORC-1 and toluene in MWN-01. Visually apparent (yet not statistically significant) decreasing trends for benzene and xylenes in BCP-ORC-1 and xylenes in MWN-01, were also noted. High end outliers for naphthalene in MWN-03 and barium in MWN-03D were noted in the June sampling round. These outliers will be further evaluated during the next monitoring event.

TABLES

TABLE 1
Analytical Testing Program Summary
June 2012 Annual/Semi-Annual Groundwater Monitoring Report
Steel Winds I Facility
Lackawanna, New York

Well Designation	Sample ID	Date Collected	Screened Interval (TOR)	STARS VOCs	SVOCs (BN)	Total Arsenic	Total Barium	Total Chromium	Total Manganese	Iron/Manganese - Soluble	Biochemical Oxygen Demand	Chemical Oxygen Demand
Annual Monitoring Well Sample Locations (LTGWM Network)												
MWN-01	MWN-01-061212	6/12/2012	9.15 - 19.15	X	X							
MWN-01B	MWN-01B-061212	6/12/2012	22.24 - 32.24	X	X							
MWN-02	MWN-02-060512	6/5/2012	23.62 - 33.62	X	X							
MWN-02B	MWN-02B-060512	6/5/2012	46.28 - 56.28	X	X	X						
MWN-02D	MWN-02D-060512	6/5/2012	74.34 - 79.34			X	X	X				
MWN-03	MWN-03-061112	6/11/2012	39.17 - 49.17	X	X							
MWN-03B	MWN-3B-061112	6/11/2012	60.72 - 70.72			X	X	X	X			
MWN-03D	MWN-03D-061112	6/11/2012	111.26 - 121.26	X	X		X		X			
MWN-04	MWN-04-061112	6/11/2012	48.53 - 58.53	X	X							
Semi-Annual Monitoring Well Sample Locations (WT-1 Vicinity Network)												
MWN-01	MWN-01-061212	6/12/2012	9.15 - 19.15	X	X							
MWN-01B	MWN-01B-061212	6/12/2012	22.24 - 32.24	X	X							
WT1-02	WT1-02-060512	6/5/2012	27.78 - 37.78	X	X							
WT1-04	WT1-04-061112	6/11/2012	15.52 - 25.52	X	X							
WT1-05	WT1-05-060512	6/5/2012	13.30 - 23.30	X	X							
BCP-ORC-1	BCP-ORC-1-061212	6/12/2012	24.68 - 34.68	X	X							
ORC Monitoring Well Sample Locations (Final Event)												
WT1-01	WT1-02-051612	5/16/2012	30.38 - 40.38							X	X	X
WT1-02	WT1-02-051612	5/16/2012	27.78 - 37.78							X	X	X
WT1-03	WT1-03-051612	5/16/2012	26.60 - 36.60							X	X	X
BCP-ORC-1	BCP-ORC-1-051612	5/16/2012	24.68 - 34.68							X	X	X
BCP-ORC-2	BCP-ORC-2-051612	5/16/2012	29.02 - 39.02							X	X	X

Notes:

1. VOCs = Volatile Organic Compounds STARS list via EPA Method 8260B.
2. SVOCs = Semi-Volatile Organic Compounds Base-Neutrals list via EPA Method 8270C.
3. Arsenic, Barium, Chromium, and Manganese via EPA Method 6010B.
4. "WT", "MWN", and "BCP-ORC" monitoring well information provided in Table 1 was referenced from Turnkey Environmental Restoration, LLC's *2009 Annual LTGWM & First Semi-Annual WT-1 Vicinity Monitoring Report.*
5. TOR = measurement recorded in feet below top-of-well riser.

Table 2
Analytical Testing Program Summary
June 2012 Annual Groundwater Analytical Data Summary
Steel Winds I Facility
Lackawanna, New York

Parameter	NYSDEC Class GA Crtieria	MWN-01 6/12/2012 Result	MWN-01B 6/12/2012 Result	MWN-02 6/5/2012 Result	MWN-02B 6/5/2012 Result	MWN-02D 6/5/2012 Result	MWN-03 6/11/2012 Result	MWN-03B 6/11/2012 Result	MWN-03D 6/11/2012 Result	MWN-04 6/11/2012 Result
Water Quality Field Measurements										
pH (units)	6.5 - 8.5	**11.12**	**10.72**	**11.71**	**10.95**	6.91	**11.56**	7.12	**5.89**	**11.45**
Temperature (˚C)	NV	13.33	12.73	13.36	13.58	13.58	15.16	17.19	18.73	17.71
Specific Conductance (uMhos/cm)	NV	0.848	0.614	1.426	0.789	1.028	1.981	2.295	2.035	1.957
Turbidity (NTU)	5	3.1	2.1	**6.6**	**8.2**	3.8	**8.9**	1.1	**5.9**	**9.3**
Oxygen Reduction Potential (mV)	NV	-228.6	-250.9	-231.7	-251.1	-188.4	-335.4	-208.7	-235.3	-181.8
Volatile Organic Compounds - EPA Method 8260 (ug/L)										
Benzene	1	**53**	**91**	**33**	**100**	NT	**6.6**	NT	<	<
Toluene	5	**11**	**22**	**7.5**	**16**	NT	1.7 J	NT	<	<
Ethylbenzene	5	1.6 J	0.69 J	1.2 J	0.85 J	NT	<	NT	1.7 J	<
m,p-Xylene	10	**24**	**13**	**12**	9.2	NT	2.0 J	NT	8.2	<
o-Xylene	5	**17**	**8.1**	**10**	**11**	NT	2.3 J	NT	<	<
Xylene (Total)	15	**41**	**21**	**23**	**20**	NT	4.4 J	NT	8.2	<
Isopropylbenzene	5	<	1.5 J	<	<	NT	<	NT	<	<
1,3,5-Trimethylbenzene	5	3.6 J	4.6 J	4.2 J	2.2 J	NT	1.6 J	NT	1.9 J	<
1,2,4-Trimethylbenzene	5	**5.4**	**7.1**	2.7 J	3.6 J	NT	0.63 J	NT	2.5 J	<
Naphthalene*	10	**460 D**	**1,600 D**	**56**	**250 D**	NT	**11**	NT	<	<
Semi-Volatile Organic Compounds - EPA Method 8270 (ug/L)										
Acenaphthylene	NV	42	28	4.1 J	3.6 J	NT	1.6 J	NT	<	<
2-Methylnaphthalene	NV	42	34	5.3 J	6.9 J	NT	2.5 J	NT	<	<
Acenaphthene*	20	13	9.3 J	2.0 J	5.3 J	NT	1.3 J	NT	<	<
Dibenzofuran	NV	48	23	5.3 J	4.8 J	NT	2.6 J	NT	<	<
Fluorene*	50	**60**	32	7.3 J	7.2 J	NT	4.4 J	NT	<	<
Phenanthrene*	50	**97 D**	**51**	10	13	NT	8.4 J	NT	<	<
Carbazole	NV	36	54	8.1 J	19	NT	3.4 J	NT	<	<
Anthracene*	50	11	5.1 J	1.7 J	2.1 J	NT	<	NT	<	<
Fluoranthene*	50	10	7.6 J	2.4 J	2.9 J	NT	2.9 J	NT	<	<
Pyrene*	50	6.9 J	5.0 J	1.6 J	1.7 J	NT	2.1 J	NT	<	<
Butylbenzylphthalate*	50	<	<	<	<	NT	<	NT	1.1 J	<
bis(2-Ethylhexyl)Phthalate	5	<	<	<	<	NT	2.5 J	NT	**6.6 J**	2.5 J
Metals - EPA Method 6010/7470 (ug/L)										
Arsenic	25	NT	NT	NT	**42.1**	<	NT	**45.8**	NT	NT
Barium	1,000	NT	NT	NT	NT	753	NT	**1,180**	**1,270**	NT
Chromium	50	NT	NT	NT	NT	1.4 B	NT	1.1 B	NT	NT
Manganese	300	NT	NT	NT	NT	NT	NT	**436**	159	NT

Notes:
1. Compounds detected in one or more sample are presented on this table. Refer to Appendix C for list of all compounds included in analysis.
2. Analytical testing completed by Spectrum Laboratory, Warwick, Rhode Island.
3. NYSDEC Groundwater Class GA criteria obtained from Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, errata January 1999 and amended April 2000 (Class GA).
4. ug/L = part per billion (ppb).
5. < indicates compound was not detected above method detection limits.
6. "J" qualifier = Analyte detected below quanititation limits.
7. "B" qualifier = indicates compound was detected in the method blank sample. For inorganics, "B" indiciates a "trace" concentration below the reporting limit and equal to or above the detection limit.
8. "D" qualifier = indicates the compound concentration was obtained from a secondary dilution analysis.
9. Value shown in **bold** indicate exceedance of respective Class GA Criteria or guidance value.
10. NV = no value.
11. * = value shown is a guidance value rather than a groundwater standard.
12. NT = not tested.
13. Dissolved Oxygen measurements were collected but not included as select results appeared to be erroneous and possibly the result of meter interferences or sensor malfunction.

Table 3

Analytical Testing Program Summary

June 2012 Semi-Annual Groundwater Analytical Data Summary

Steel Winds I Facility

Lackawanna, New York

Parameter	NYSDEC Class GA Crtieria	MWN-01 6/12/2012 Result	MWN-01B 6/12/2012 Result	WT1-02 6/5/2012 Result	WT1-04 6/11/2012 Result	WT1-05 6/5/2012 Result	BCP-ORC-1 6/12/2012 Result
Water Quality Field Measurements							
pH (units)	6.5 - 8.5	**11.12**	**10.72**	**11.75**	**11.34**	**11.24**	**11.04**
Temperature (˚C)	NV	13.33	12.73	13.32	12.31	12.88	13.64
Specific Conductance (uMhos/cm)	NV	0.848	0.614	1.524	1.151	0.901	0.832
Turbidity (NTU)	5	3.1	2.1	3.4	2.1	1.1	3.5
Oxygen Reduction Potential (mV)	NV	-228.6	-250.9	-246.2	-283.9	-227.6	-231.6
Volatile Organic Compounds - EPA Method 8260 (ug/L)							
Benzene	1	**53**	**91**	**25**	**39**	**30**	**29**
Toluene	5	**11**	**22**	4.9 J	**7.7**	**7**	2.7 J
Ethylbenzene	5	1.6 J	0.69 J	1.3 J	2.0 J	1.2 J	<
m,p-Xylene	10	**24**	**13**	**11**	**21**	**13**	1.1 J
o-Xylene	5	**17**	**8.1**	**8.6**	**15**	**9.4**	1.3 J
Xylene (Total)	15	**41**	**21**	**20**	**36**	**22**	2.4 J
Isopropylbenzene	5	<	1.5 J	<	<	<	<
1,3,5-Trimethylbenzene	5	3.6 J	4.6 J	4.8 J	**8.1**	2.3 J	1.2 J
1,2,4-Trimethylbenzene	5	**5.4**	**7.1**	3.3 J	**6.0**	3.0 J	1.4 J
Naphthalene*	10	**460 D**	**1,600 D**	**51**	**63**	**120**	**280 D**
Semi-Volatile Organic Compounds - EPA Method 8270 (ug/L)							
Acenaphthylene	NV	42	28	1.3 J	5.0 J	9.5 J	17
2-Methylnaphthalene	NV	42	34	4.6 J	12	8.7 J	13
Acenaphthene*	20	13	9.3 J	1.3 J	5.1 J	2.6 J	3.2 J
Dibenzofuran	NV	48	23	4.4 J	14	6.6 J	8.0 J
Fluorene*	50	**60**	32	6.6 J	22	9.3 J	13
Phenanthrene*	50	**97 D**	**51**	11	49	9.4 J	18
Carbazole	NV	36	54	4.3 J	12	11	20
Anthracene*	50	11	5.1 J	2.3 J	7.5 J	1.3 J	2.4 J
Fluoranthene*	50	10	7.6 J	4.0 J	9.3 J	1.5 J	2.7 J
Pyrene*	50	6.9 J	5.0 J	2.6 J	6.3 J	1.1 J	3.1 J
bis(2-Ethylhexyl)Phthalate	5	<	<	<	2.5 J	<	<
Metals - EPA Method 6010/7470 (ug/L)							
Arsenic	25	NT	NT	NT	NT	NT	NT
Barium	1,000	NT	NT	NT	NT	NT	NT
Chromium	50	NT	NT	NT	NT	NT	NT
Manganese	300	NT	NT	NT	NT	NT	NT

Notes:

1. Compounds detected in one or more sample are presented on this table. Refer to Appendix C for list of all compounds included in analysis.
2. Analytical testing completed by Spectrum Laboratory, Warwick, Rhode Island.
3. NYSDEC Groundwater Class GA criteria obtained from Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, errata January 1999 and amended April 2000 (Class GA).
4. ug/L = part per billion (ppb).
5. < indicates compound was not detected above method detection limits.
6. "J" qualifier = Analyte detected below quanititation limits.
7. "B" qualifier = indicates compound was detected in the method blank sample. For inorganics, "B" indiciates a "trace" concentration below the reporting limit and equal to or above the detection limit.
8. "D" qualifier = indicates the compound concentration was obtained from a secondary dilution analysis.
9. Value shown in **bold** indicate exceedance of respective Class GA Criteria or guidance value.
10. NV = no value.
11. * = value shown is a guidance value rather than a groundwater standard.
12. NT = not tested.
13. Dissolved Oxygen measurements were collected but not included as select results appeared to be erroneous and possibly the result of meter interferences or sensor malfunction.

Table 4

Analytical Testing Program Summary

May 2012 Final ORC Monitoring Event Groundwater Analytical Data Summary

Steel Winds I Facility

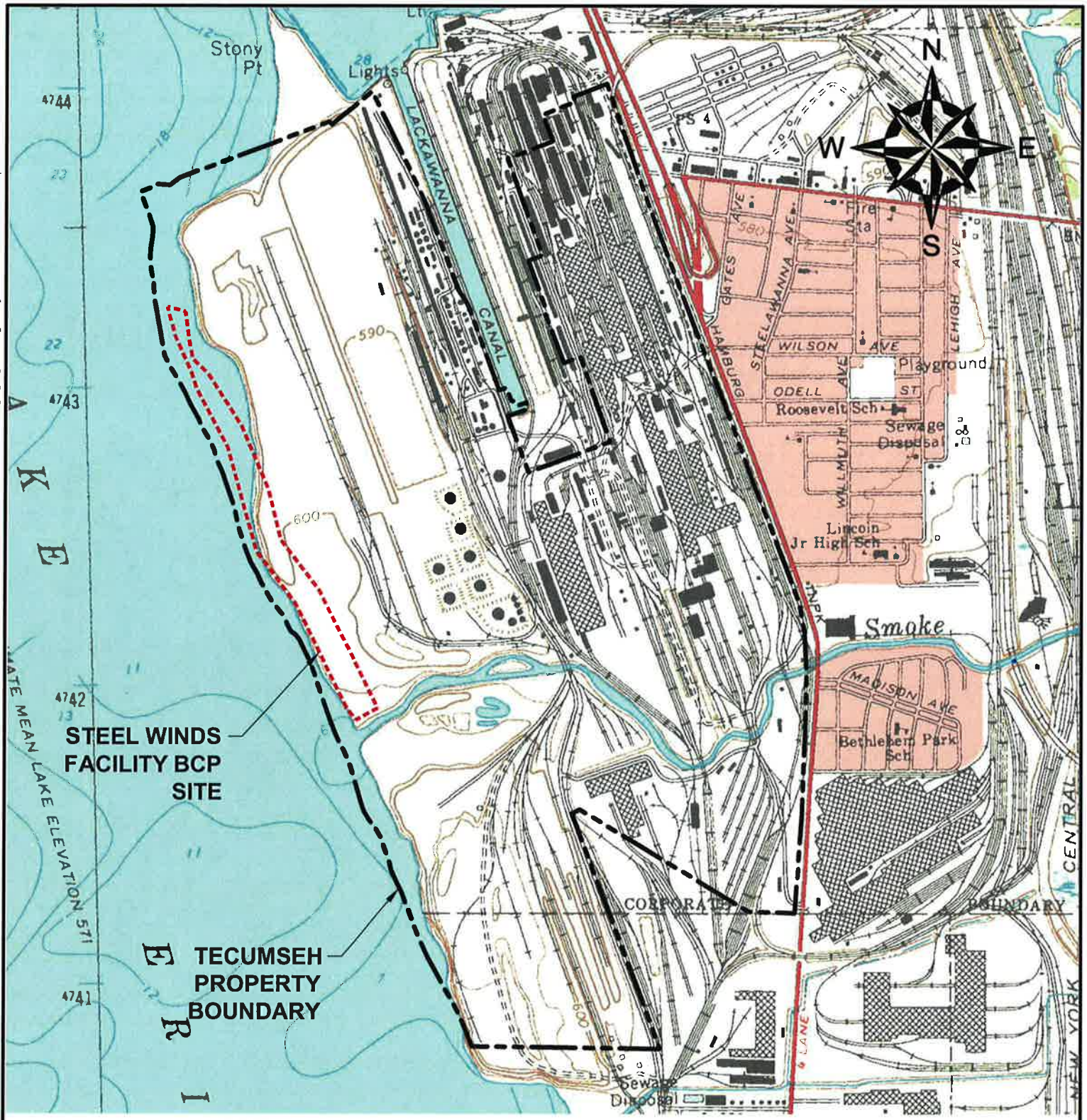
Lackawanna, New York

Parameter	NYSDEC Class GA Crtieria	WT1-01 6/12/2012 Result	WT1-02 6/12/2012 Result	WT1-03 6/5/2012 Result	BCP-ORC-1 6/11/2012 Result	BCP-ORC-2 6/12/2012 Result
Water Quality Field Measurements						
pH (units)	6.5 - 8.5	**11.73**	**11.43**	**11.43**	**11.18**	**11.55**
Temperature (˚C)	NV	13.51	12.93	13.36	12.81	14.21
Specific Conductance (uMhos/cm)	NV	2.253	2.105	1.753	1.238	1.468
Turbidity (NTU)	5	2.8	**6.6**	4.6	**16.6**	8.4
Oxygen Reduction Potential (mV)	NV	-113.6	-114.9	-101.6	-123.5	-93.8
Wet Chemistry (ug/L)						
Iron - Soluble	300	34.8 B	39.8 B	<	53.2 B	33.6 B
Manganese - Soluble	300	<	<	<	<	<
Iron and Manganese	500	34.8	39.8	<	53.2	33.6
Biochemical Oxygen Demand	NV	3,000	5,000	4,000	6,000	<
Chemical Oxygen Demand	NV	<	21,000	24,000	39,000	22,000

Notes:

1. Compounds detected in one or more sample are presented on this table. Refer to Appendix C for list of all compounds included in analysis.
2. Analytical testing completed by Spectrum Laboratory, Warwick, Rhode Island.
3. NYSDEC Groundwater Class GA criteria obtained from Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, errata January 1999 and amended April 2000 (Class GA).
4. mg/kg and mg/L = part per million (ppm).
5. < indicates compound was not detected above method detection limits.
6. "B" qualifier = indicates compound was detected in the method blank sample. For inorganics, "B" indiciates a "trace" concentration below the reporting limit and equal to or above the detection limit.
7. Value shown in **bold** indicate exceedance of respective Class GA Criteria or guidance value.
8. NV = no value.
9. Dissolved Oxygen measurements were collected but not included as select results appeared to be erroneous and possibly the result of meter interferences or sensor malfunction.

FIGURES



NOTE:
BASE MAP ADAPTED FROM A 1995
U.S.G.S. TOPOGRAPHIC MAPS
DOWNLOADED FROM http://store.usgs.gov

0 750 150 3000
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
FIRST WIND ENERGY, LLC.

STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

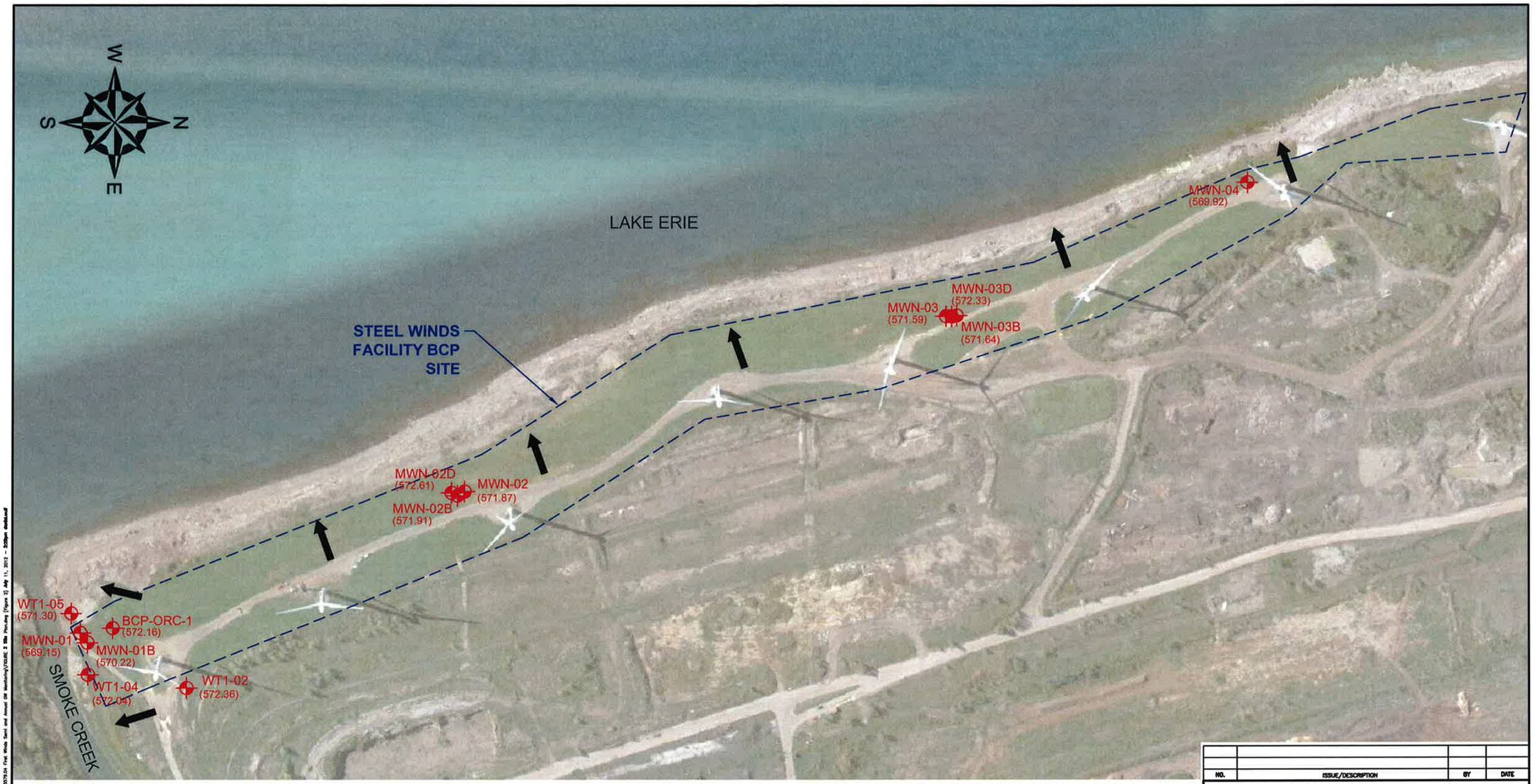
2012 ANNUAL/SEMI-ANNUAL GROUNDWATER MONITORING REPORT

LOCUS PLAN

FIGURE 1

PROJ MGR: OJT	REVIEWED BY:	CHECKED BY:	DATE	PROJECT NO.	REVISION NO.
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	JULY 2012	03.0033579.04	

SHEET NO. 1 of 2



LEGEND:

MWN-01 (569.15) — APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELLS SHOWN WITH GROUNDWATER ELEVATIONS MEASURED BY GZA IN JUNE 2012

PRESUMED GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTO DOWNLOADED FROM GOOGLE EARTH AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

0 150 300 600
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

2012 ANNUAL/SEMI-ANNUAL GROUNDWATER MONITORING REPORT
SITE PLAN

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
FIRST WIND ENERGY, LLC.

PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	FIGURE 2
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	
DATE JULY 2012	PROJECT NO. 03.0033579.04	REVISION NO.	SHEET NO. 2 of 2

APPENDIX A

LIMITATIONS

LIMITATIONS

1. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in this report was carried out in accordance with the Terms and Conditions of our Agreement.

2. The work contained in this report is based in part upon the data obtained from a limited number of groundwater samples obtained from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not be linear. If variations or other latent conditions appear evident based on further exploration, it will be necessary to reevaluate the conclusions and recommendations of this report.

3. Water level readings have been made in the observation wells at the times and under the conditions stated within our report. However, it must be noted that fluctuations in the level of groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time our measurements were made.

4. The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. As indicated within the report, some of these data are preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA and the conclusions and recommendations presented herein modified accordingly.

5. Chemical analyses have been performed for specific parameters during the course of this site assessment, as described in the text. However, it should be noted that additional chemical constituents not searched for during the current study may be present in soil and/or groundwater at the site.

APPENDIX B

MONITORING WELL INSTALLATION LOG (WT1-05)

Steel Winds 1 Site
Monitoring Well Installation Log
Lackawanna, New York

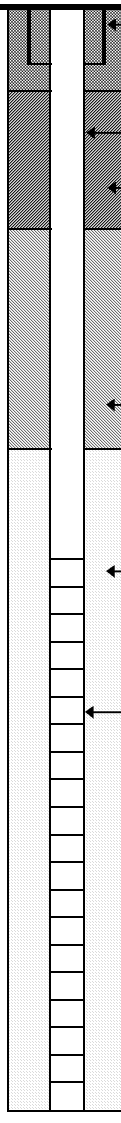
BORING No. WT1-05
SHEET 1 OF 1
FILE No. 03.0033579.04
Checked By: DJT

CONTRACTOR	Earth Dimensions	BORING LOCATION	WT1-05
DRILLER	Andrew Morris	TOP OF RISER ELEVATION	582.4 DATUM See Note 2
START DATE: 5/11/12	END DATE: 5/11/12	GZA GEOENVIRONMENTAL REPRESENTATIVE	John Beninati

WATER LEVEL DATA				
DATE	TIME	WATER	CASING	NOTES
5/11/12	11:30	11.5' bgs		Through augers

TYPE OF DRILL RIG	Diedrich D-120
CASING SIZE AND DIAMETER	4 1/4" I.D. HSA
OVERBURDEN SAMPLING METHOD	2" Diameter Split Spoon
ROCK DRILLING METHOD	NA

DEPTH	SAMPLE BLOWS (/6")	NO.	DEPTH (FT)	N-VALUES /RQD	RECOVERY (%)	SAMPLE DESCRIPTION	OVM (ppm)
						Continously augered through fill material	
1						to 3 feet bgs.	
2							
3							
	26	S-1	3 - 5	21	50	(SLAG FILL) Medium dense, dark reddish	
4	16					brown, SAND and GRAVEL, trace Silt,	1.2
	5					moist to wet.	
5	2						0.6
						Continously augered through fill material	
6						from 5 to 8 feet bgs.	
7							
8							
	15	S-2	8 - 10	26	50	(SLAG FILL) Medium dense, dark reddish	
9	14					brown and light green, fine to coarse SAND,	0.2
	12					little fine to medium Gravel, trace Silt,	
10	15					moist to wet.	0
						(SOIL FILL) Very stiff, dark reddish brown	
11						to dark gray, SILT and CLAY, little fine	
						to coarse Sand, trace Gravel, moist.	
12						Continously augered through fill material	
						from 10 to 13 feet bgs.	
13							
	89	S-3	13 - 15	113	80	(SLAG FILL) Very dense, dark brown, fine	0
14	60					to coarse SAND, trace fine Gravel, trace	
	53					Silt, wet.	0
15	65					Grades to:..dark gray.	
						Continously augered through fill material	
16						from 15 to 18 feet bgs.	
17							
18							
	20	S-4	18 - 20	34	40	(SOIL FILL) Dense, dark gray, fine SAND,	0
19	16					trace Silt, wet.	
	18					(SLAG FILL) Dense, dark gray, SAND and	0
20	28					GRAVEL, trace Silt, wet.	
						End of Boring at 20.0 feet bgs.	



WELL INSTALLATION DIAGRAM

WELL INSTALLATION DESCRIPTION

- Steel casing and Concrete seal
- 2" I.D. Schedule 40 PVC Riser to 10.0'
- Auger spoils to 4.0'.
- 8" Borehole 0' to 20.0'
- Bentonite pellet seal, 4.0' to 8.0'.
- #0 QRock Sand 8.0' to 20.0'.
- 2" I.D. Schedule 40 PVC well screen 10.0' to 20.0'

S - Split Spoon Sample
C - Rock Core Sample

NOTES:
1) Water level data referenced to ground surface.
2) Datum for elevation of WT1-05 top of riser was elevation of monitoring well MWN-01 top of riser which was measured by others.

General Notes:
1) Stratification lines represent approximate boundary between soil types; transitions may be gradual.
2) Water level readings have been made at times and under conditions stated; fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

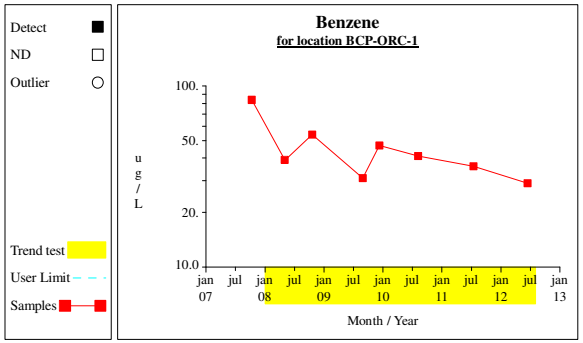
APPENDIX C

ANALYTICAL TEST RESULTS
(Not included as part of this 2014 PRR Submittal)

APPENDIX D

TIME SERIES PLOTS

Time Series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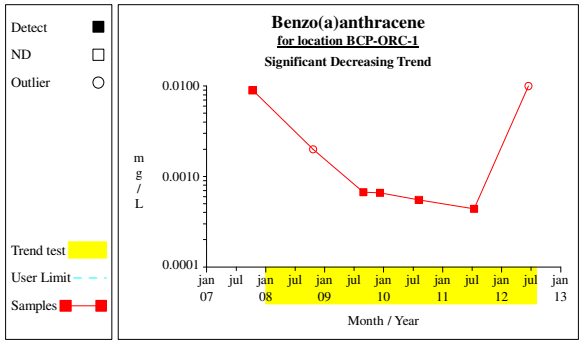
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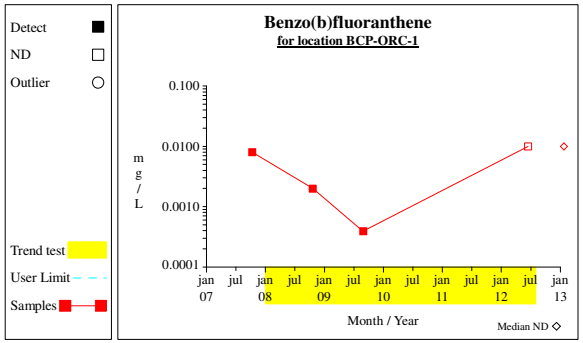
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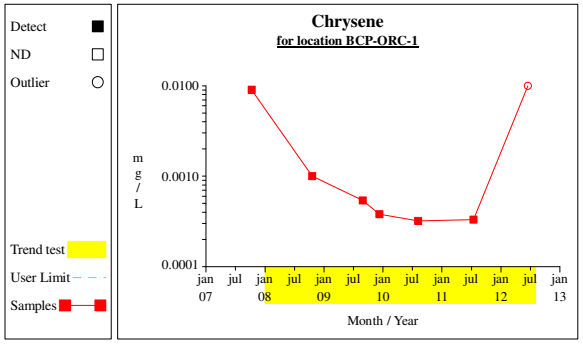
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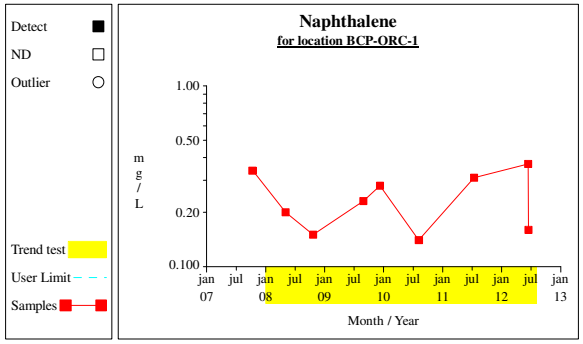
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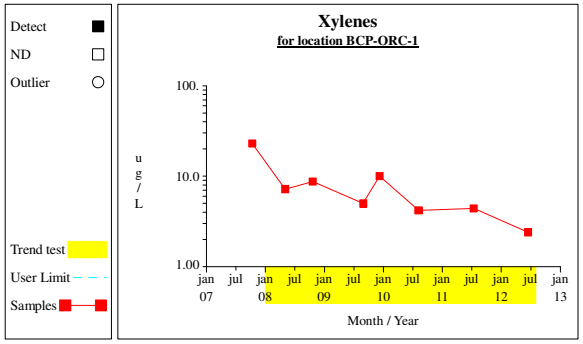
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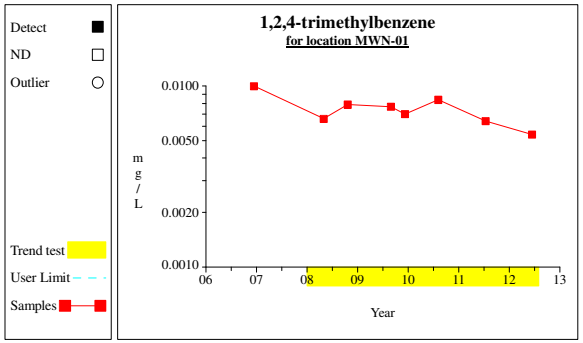
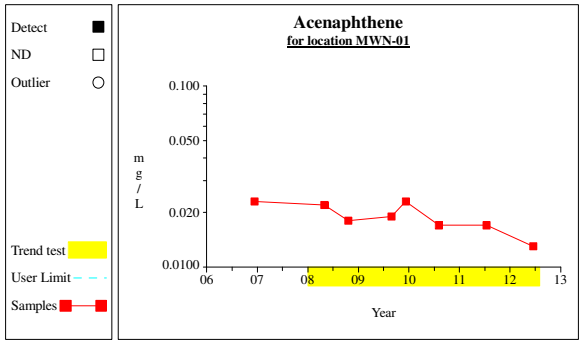
Month / Year

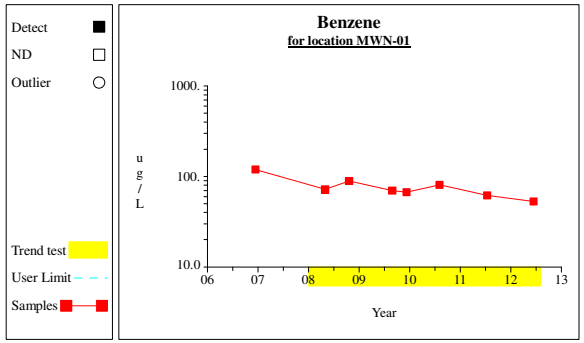
Steel Winds

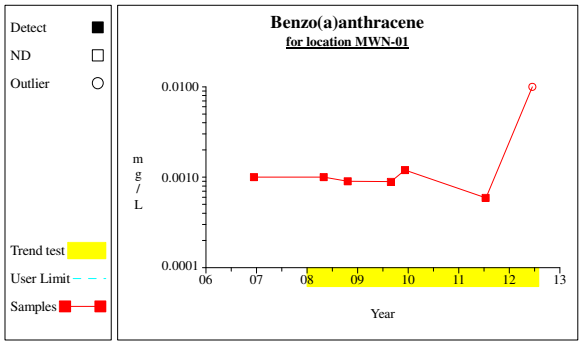
Analysis prepared on: 8/9/2012

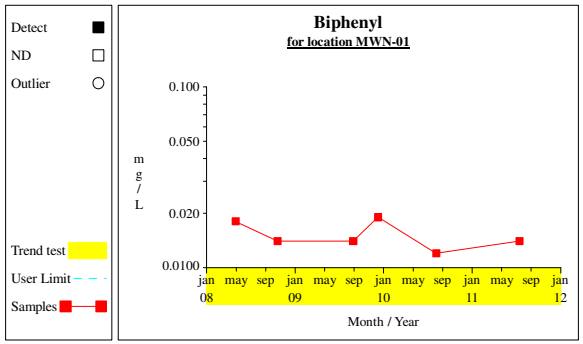
Time Series

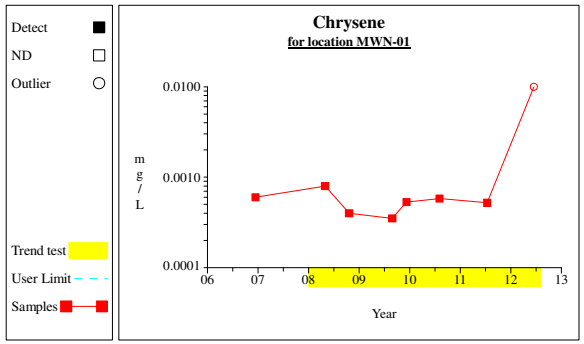


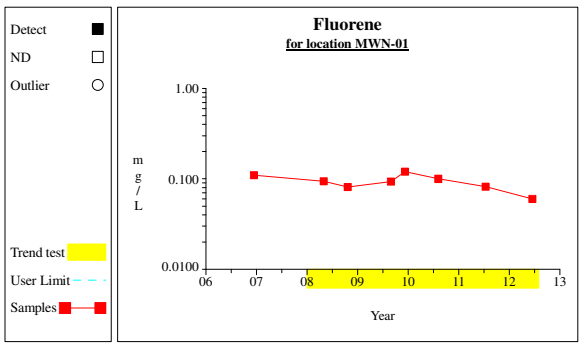


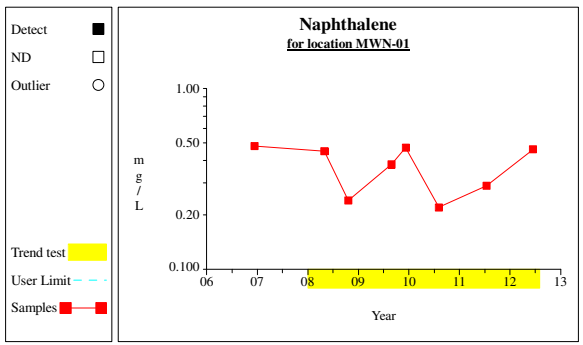


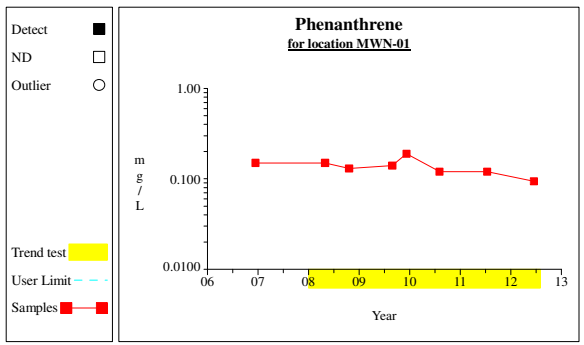






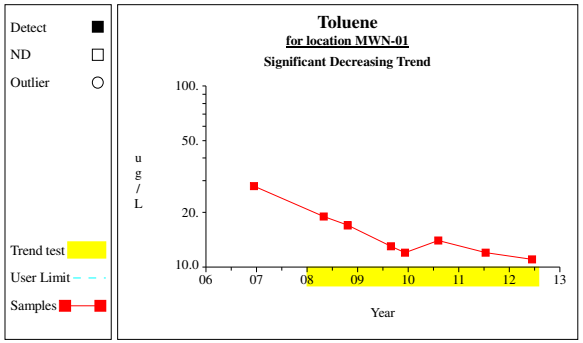






Prepared by: GZA GeoEnvironmental Inc.

Time Series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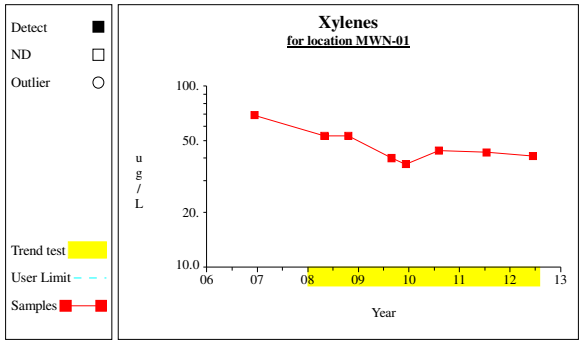
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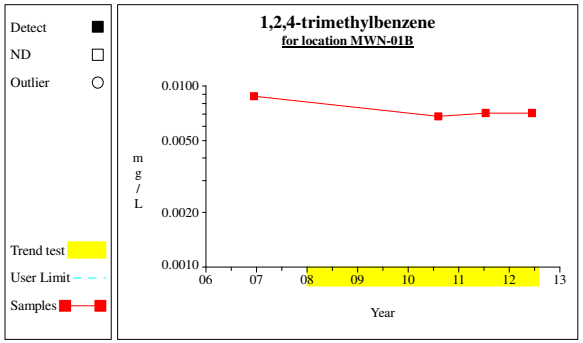
Time Series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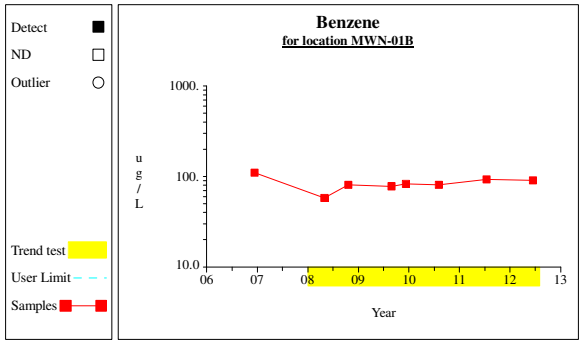
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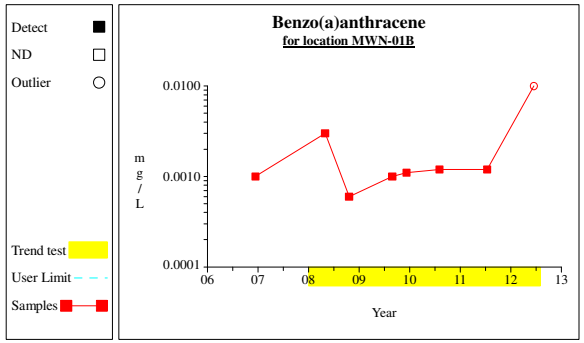
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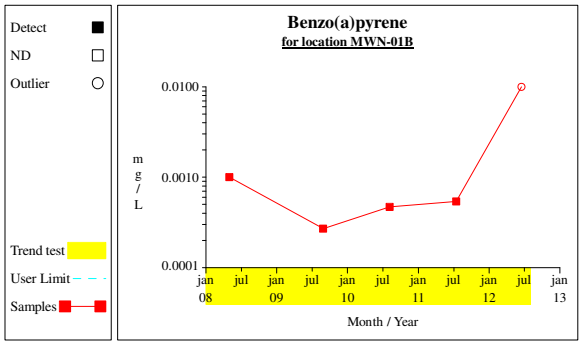
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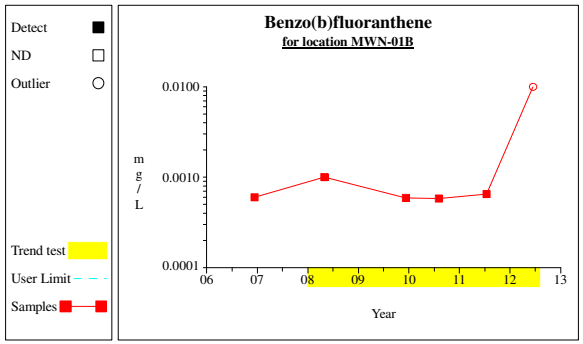
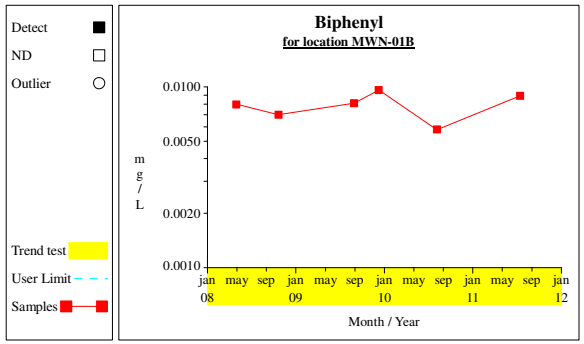
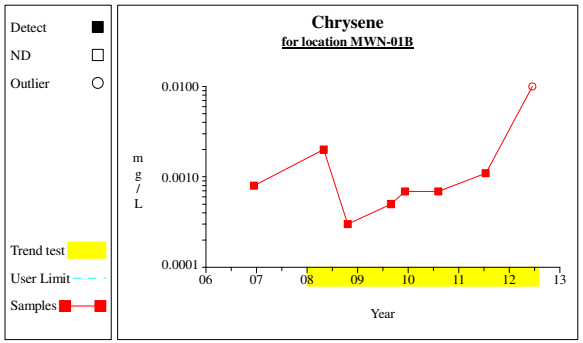
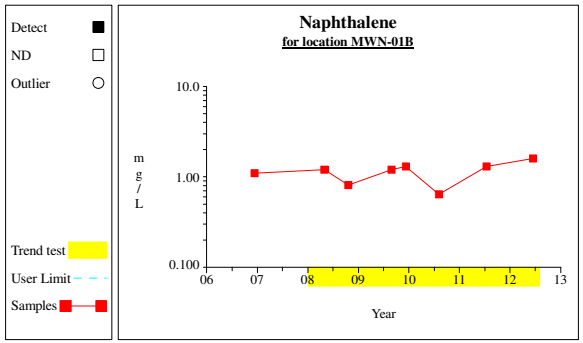
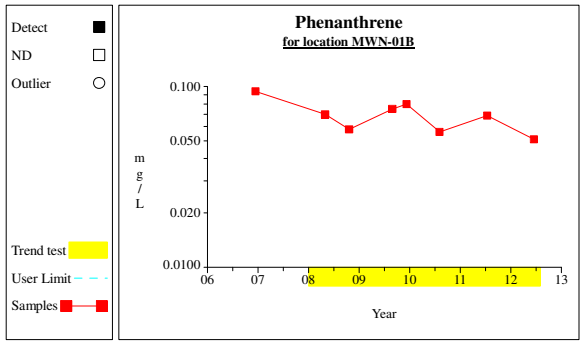
08 09 10 11 12 13
Month / Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(b)fluoranthene
for location MWN-01B
0.0100
0.0010
0.0001
mg/L
06 07 08 09 10 11 12 13
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Biphenyl
for location MWN-01B
0.0100
0.0050
0.0020
0.0010
mg/L
jan may sep jan may sep jan may sep jan may sep jan
08 09 10 11 12
Month / Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Chrysene
for location MWN-01B
0.0100
0.0010
0.0001
mg/L
06 07 08 09 10 11 12 13
Year

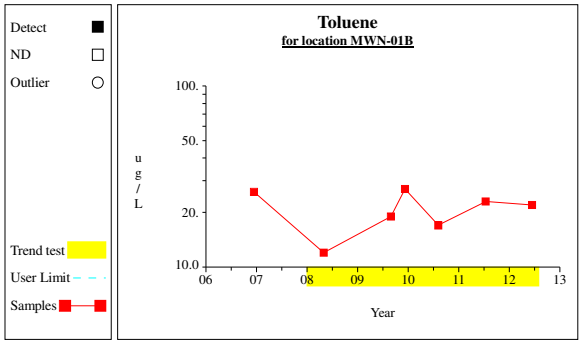

Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location MWN-01B
10.0
1.00
0.100
mg/L
06 07 08 09 10 11 12 13
Year

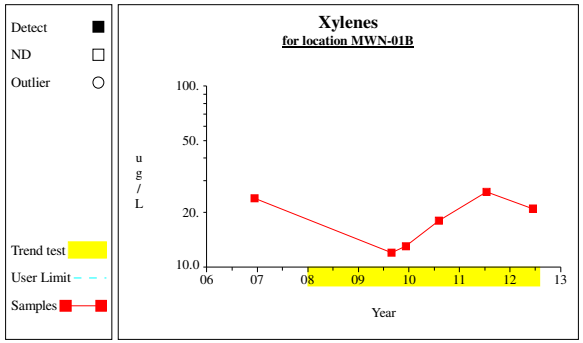

Detect
ND
Outlier
Trend test
User Limit
Samples
Phenanthrene
for location MWN-01B
0.100
0.050
0.020
0.0100
mg/L
06 07 08 09 10 11 12 13
Year

Steel Winds

Analysis prepared on: 8/9/2012

Time Series



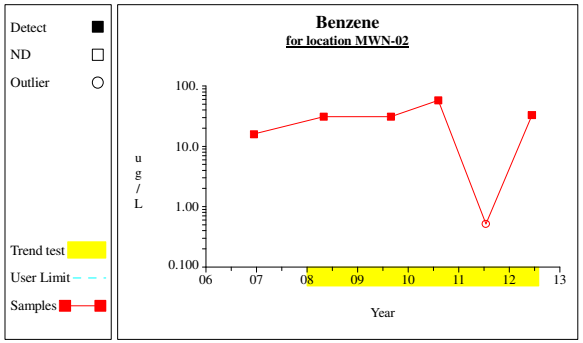


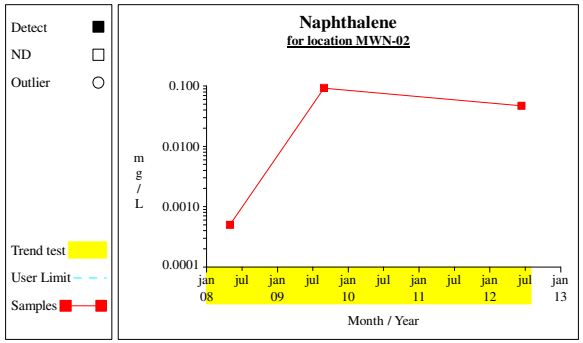
Prepared by: GZA GeoEnvironmental Inc.

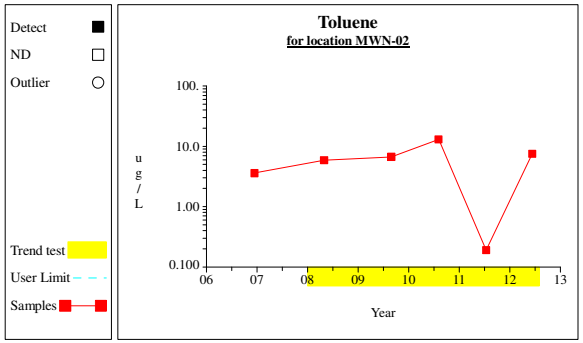
Steel Winds

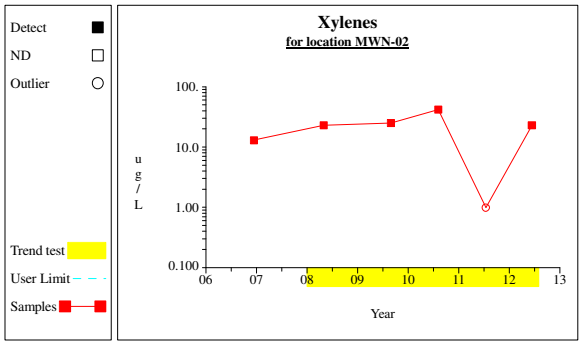
Analysis prepared on: 8/9/2012

Time Series







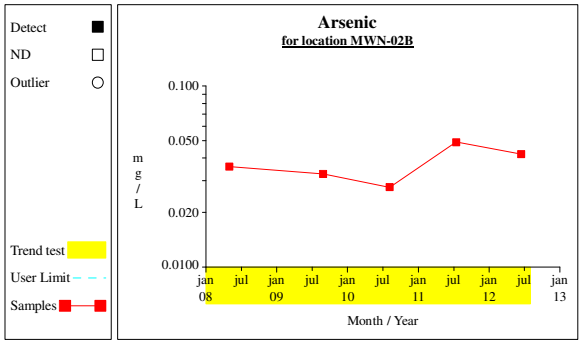


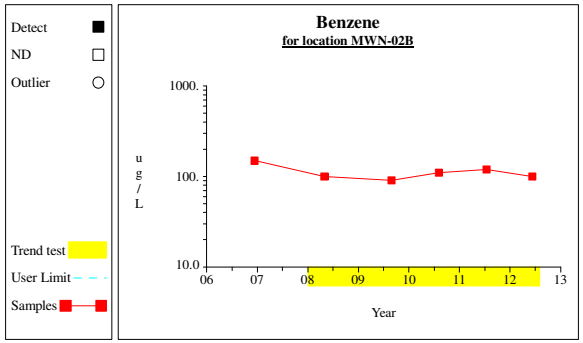
Prepared by: GZA GeoEnvironmental Inc.

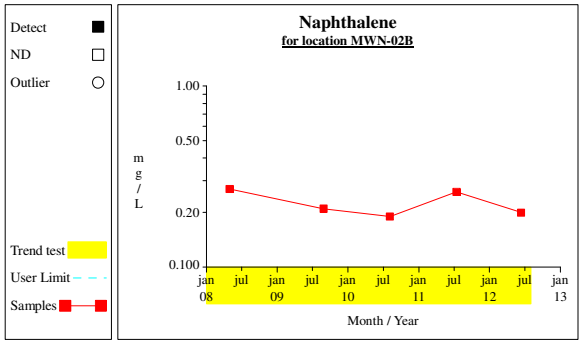
Steel Winds

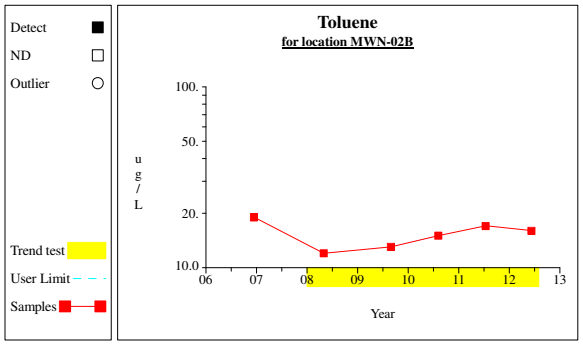
Analysis prepared on: 8/9/2012

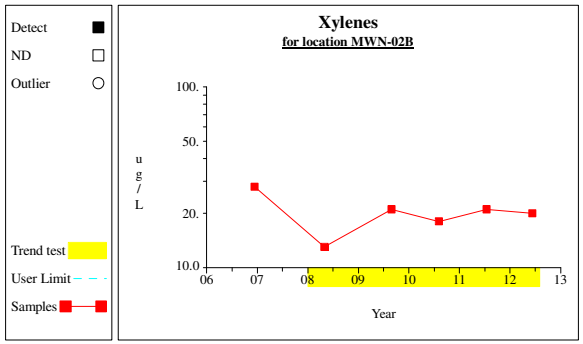
Time Series





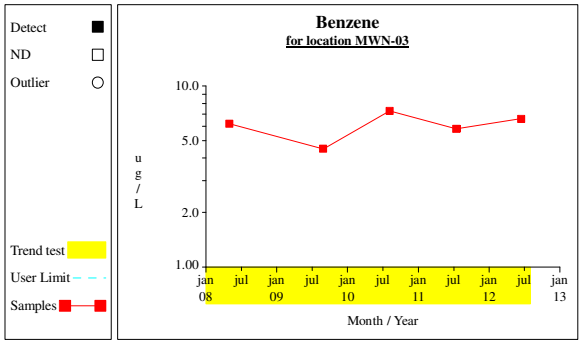


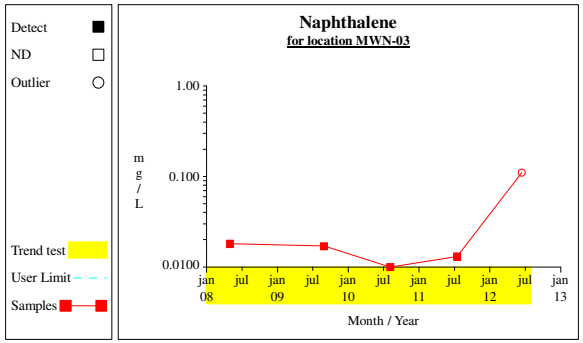




Prepared by: GZA GeoEnvironmental Inc.

Time Series

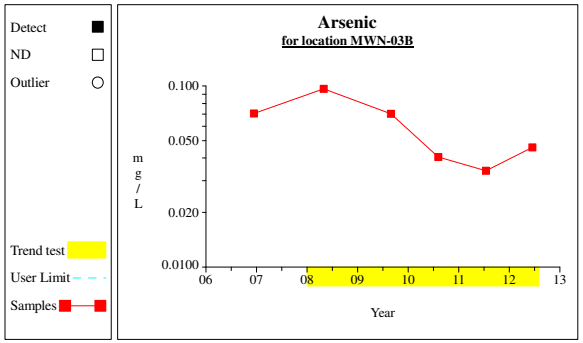

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location MWN-03
10.0
5.0
2.0
1.00
u
g
/
L
jan 08
jul
jan 09
jul
jan 10
jul
jan 11
jul
jan 12
jul
jan 13
Month / Year

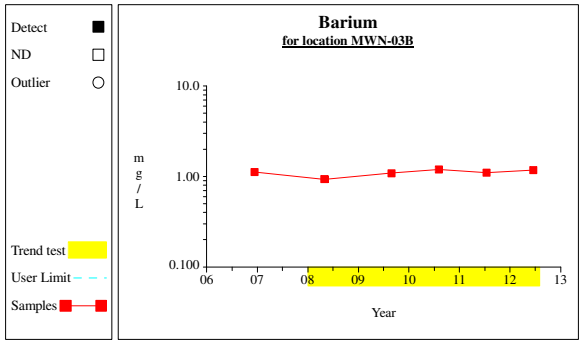

Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location MWN-03
1.00
0.100
0.0100
m
g
/
L
jan 08
jul
jan 09
jul
jan 10
jul
jan 11
jul
jan 12
jul
jan 13
Month / Year

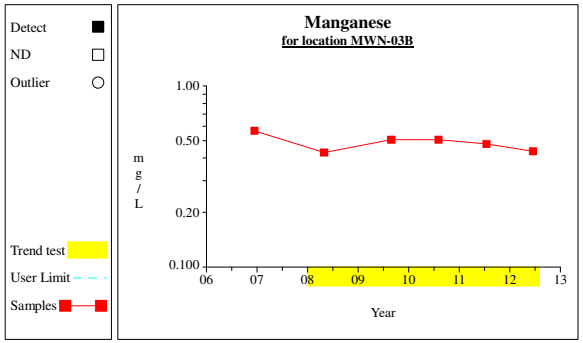
Steel Winds

Analysis prepared on: 8/9/2012

Time Series





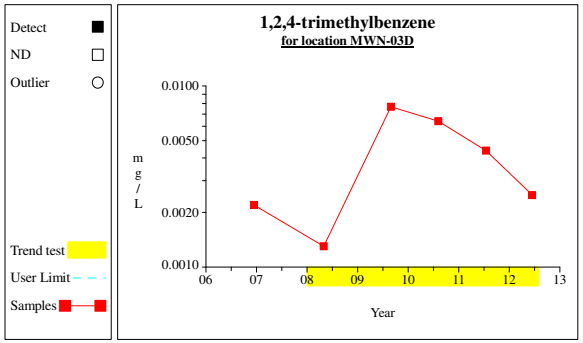


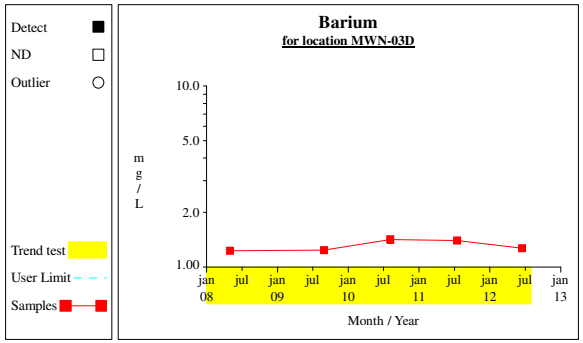
Prepared by: GZA GeoEnvironmental Inc.

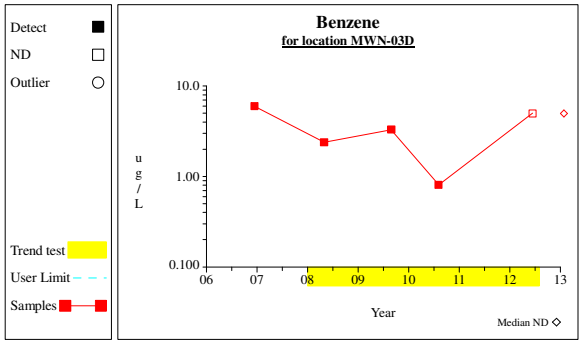
Steel Winds

Analysis prepared on: 8/9/2012

Time Series

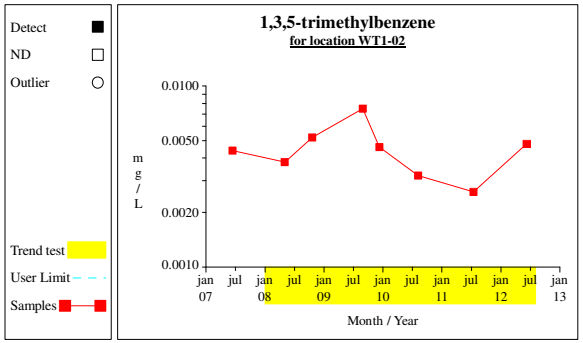


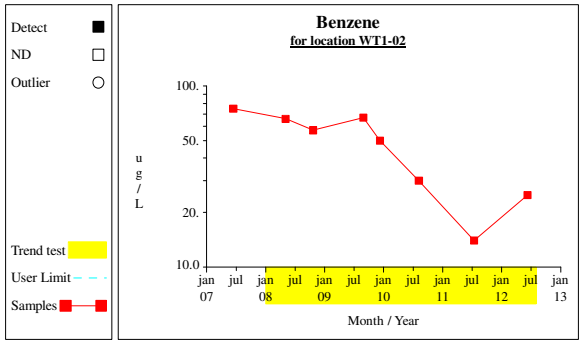


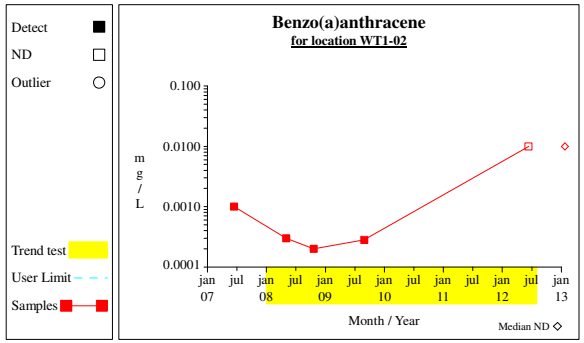


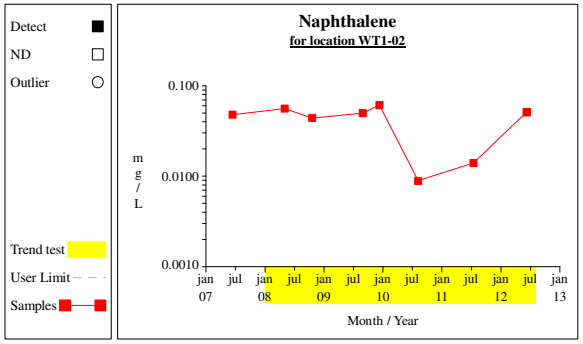
Prepared by: GZA GeoEnvironmental Inc.

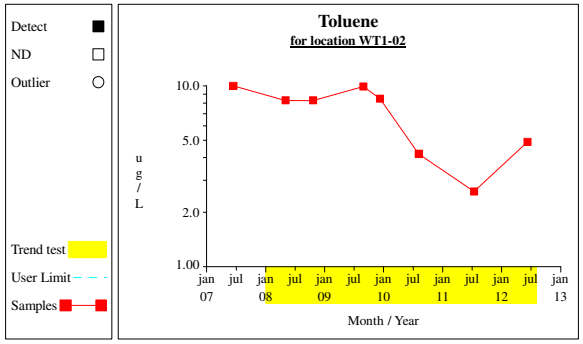
Time Series

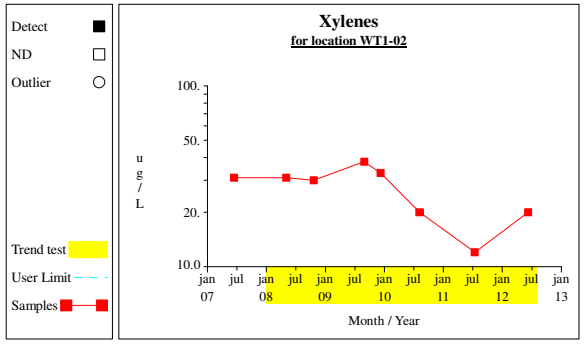

Detect
ND
Outlier
Trend test
User Limit
Samples
1,3,5-trimethylbenzene
for location WT1-02
0.0100
0.0050
0.0020
0.0010
m g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location WT1-02
100.
50.
20.
10.0
u g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)anthracene
for location WT1-02
0.100
0.0100
0.0010
0.0001
m g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year
Median ND ◇


Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location WT1-02
0.100
0.0100
0.0010
m g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year

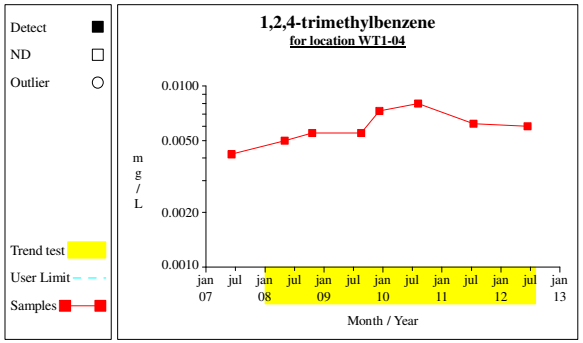

Detect
ND
Outlier
Trend test
User Limit
Samples
Toluene
for location WT1-02
10.0
5.0
2.0
1.00
u g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year

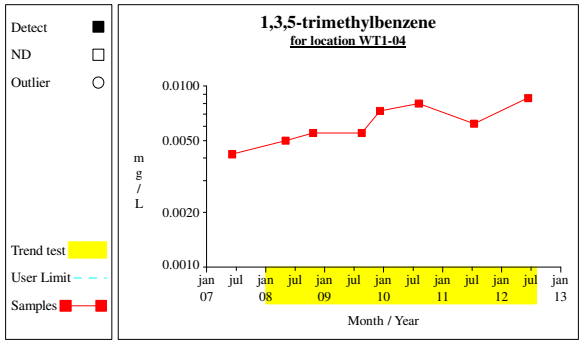

Detect
ND
Outlier
Trend test
User Limit
Samples
Xylenes
for location WT1-02
100.
50.
20.
10.0
u g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year

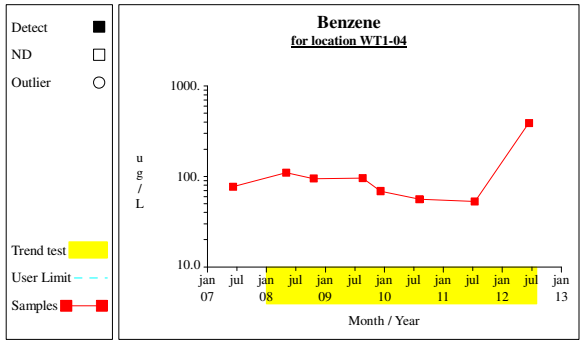
Steel Winds

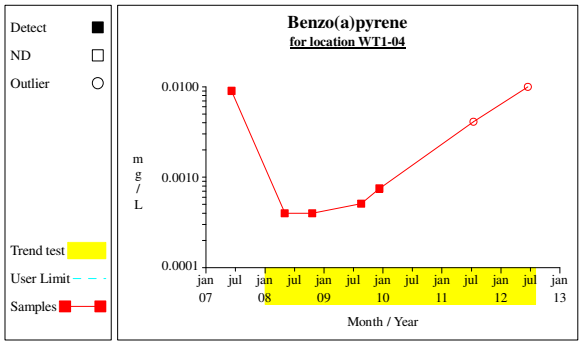
Analysis prepared on: 8/9/2012

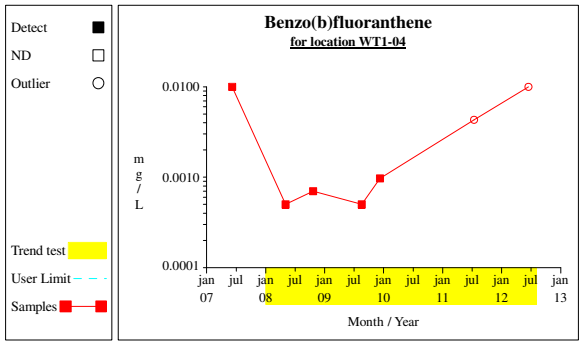
Time Series

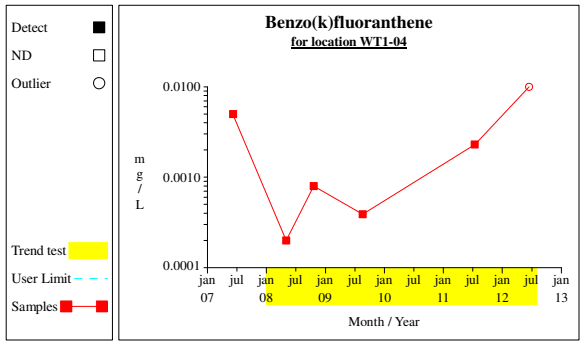


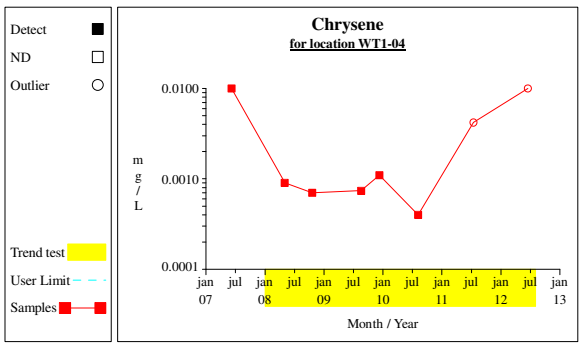


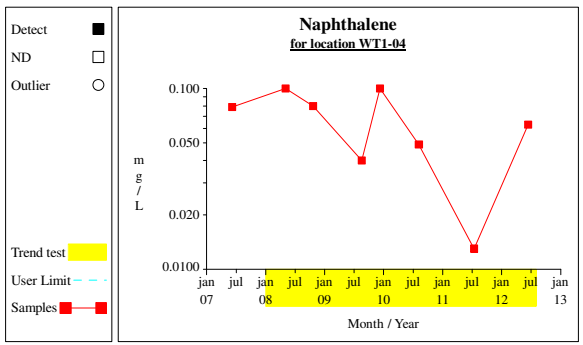


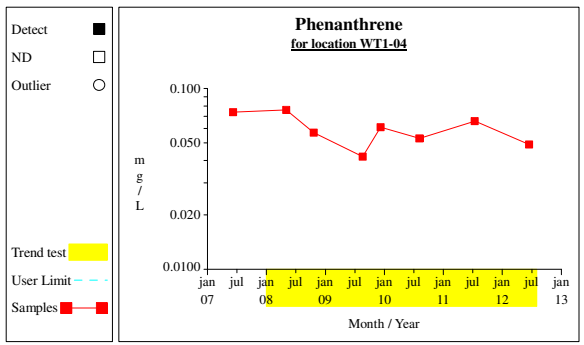






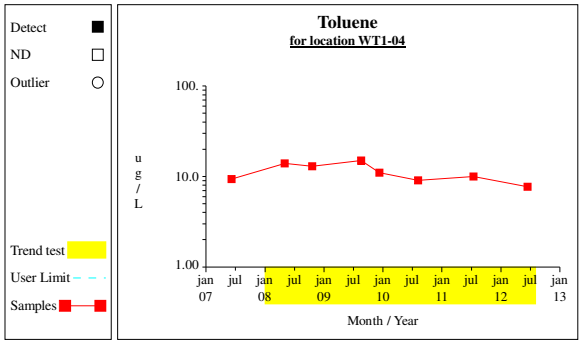


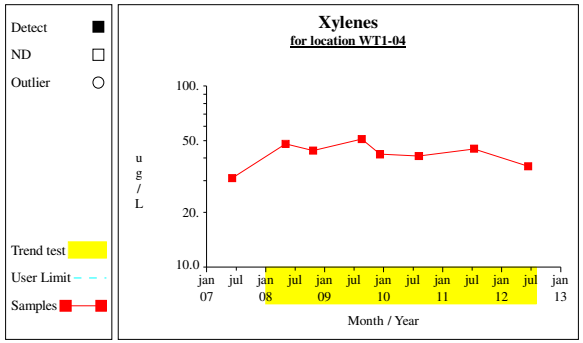




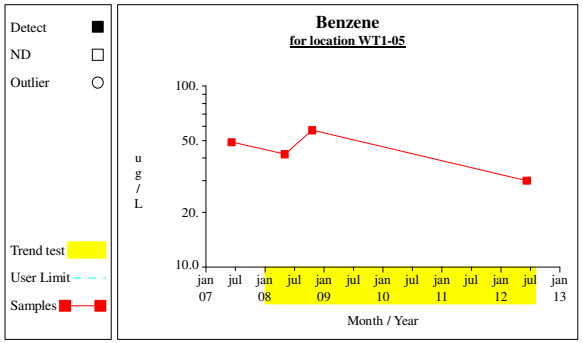
Prepared by: GZA GeoEnvironmental Inc.

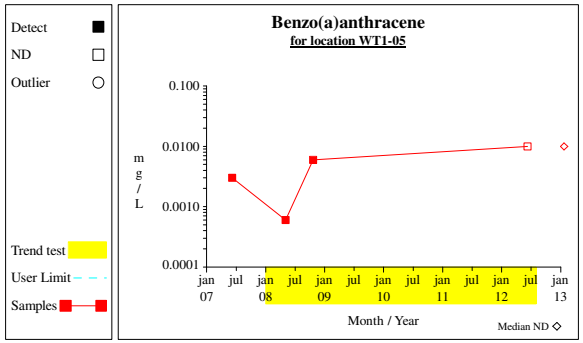
Time Series

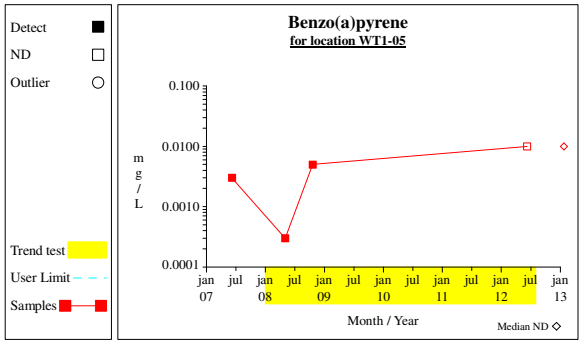

Detect
ND
Outlier
Trend test
User Limit
Samples
Toluene
for location WT1-04
100.
10.0
1.00
u
g
/
L
jan 07
jul
jan 08
jul
jan 09
jul
jan 10
jul
jan 11
jul
jan 12
jul
jan 13
Month / Year

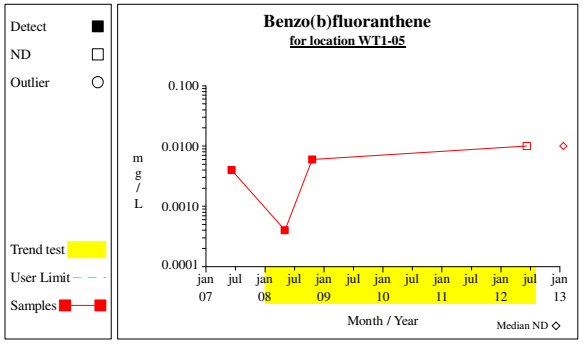

Detect
ND
Outlier
Trend test
User Limit
Samples
Xylenes
for location WT1-04
100.
50.
20.
10.0
u
g
/
L
jan 07
jul
jan 08
jul
jan 09
jul
jan 10
jul
jan 11
jul
jan 12
jul
jan 13
Month / Year

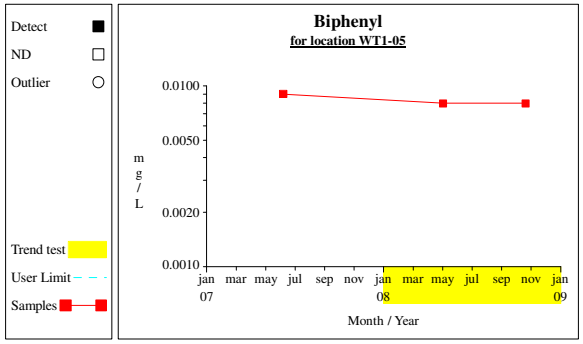
Time Series

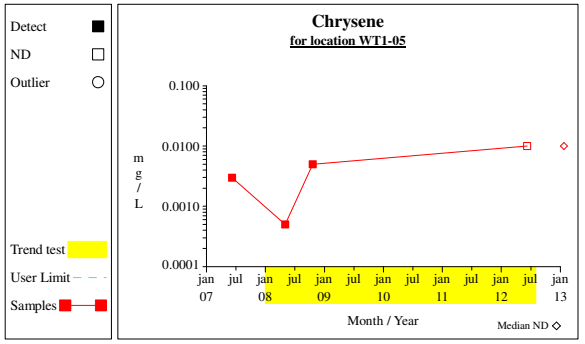

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location WT1-05
100.
50.
20.
10.0
u g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)anthracene
for location WT1-05
0.100
0.0100
0.0010
0.0001
m g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)pyrene
for location WT1-05
0.100
0.0100
0.0010
0.0001
m g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(b)fluoranthene
for location WT1-05
0.100
0.0100
0.0010
0.0001
m g / L
jan 07 jul jan 08 jul jan 09 jul jan 10 jul jan 11 jul jan 12 jul jan 13
Month / Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Biphenyl
for location WT1-05
0.0100
0.0050
0.0020
0.0010
m g / L
jan 07 mar may jul sep nov jan 08 mar may jul sep nov jan 09
Month / Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Chrysene
for location WT1-05
0.100
0.0100
0.0010
0.0001
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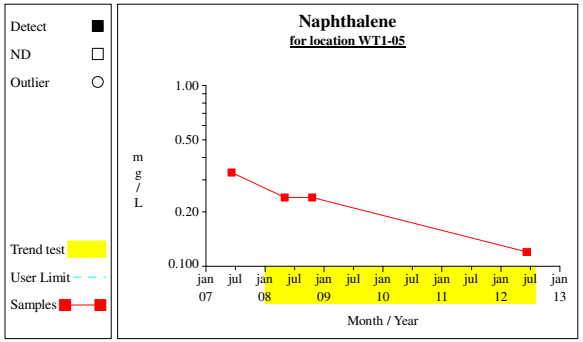
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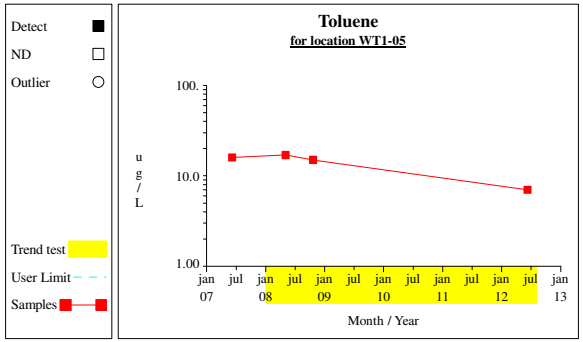
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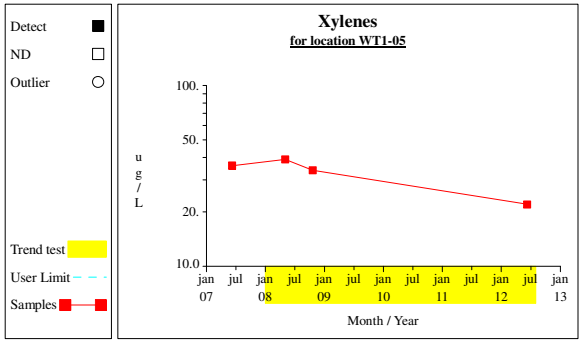
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JANUARY 2013
SEMI-ANNUAL GROUNDWATER MONITORING REPORT
STEEL WINDS I FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR:
First Wind Energy, LLC
179 Lincoln Street
Boston, Massachusetts 02111

PREPARED BY:
GZA GeoEnvironmental, Inc
Buffalo, New York

February 2013
File No. 03.0033579.04

GZA
GeoEnvironmental
of New York

*Engineers and
Scientists*

February 28, 2013
File No. 03.0033579.04

Mr. Josh Bagnato
First Wind Energy, LLC
179 Lincoln Street
Boston, Massachusetts 02111

Re: January 2013 Semi-Annual Groundwater Monitoring Report
Steel Winds I Site
Lackawanna, NY

Dear Mr. Bagnato:

535 Washington Street
11th Floor
Buffalo, New York
14203
716-685-2300
Fax: 716-685-3629
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GZA GeoEnvironmental of New York (GZA) submits this semi-annual groundwater monitoring report to First Wind Energy, LLC (First Wind) summarizing the analytical results of the groundwater monitoring event conducted in January 2013 at the above referenced Site. The objective of the monitoring event was to collect and analyze groundwater samples from the on-site monitoring wells in accordance with the Site Management Plan, dated September 2007, prepared by Benchmark Environmental Engineering and Science, PLLC (Benchmark) and approved by the New York State Department of Environmental Conservation (NYSDEC).

Should you have any questions or require additional information following your review, please contact Ed Summerly at 401-427-2707.

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

John Beninati
Project Manager

Bart A. Klettke, P.E.
Consultant Reviewer

Bart A. Klettke For
Edward A. Summerly, P.G.
Principal

cc: Mr. Maurice Moore (NYSDEC)
Mr. Dave Szymanski (NYSDEC)
Mr. Claude Cote (First Wind)

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1.00 INTRODUCTION

In accordance with our May 2, 2012 proposal, GZA GeoEnvironmental, Inc. (GZA) collected and analyzed groundwater samples at the six (6) semi-annual WT-1 vicinity groundwater monitoring wells located at the Steel Winds I facility in Lackawanna, New York (Site). A Locus Plan and Site Plan are attached as Figures 1 and 2, respectively.

1.10 BACKGROUND AND SITE HISTORY

Tecumseh Redevelopment, Inc. (Tecumseh) owns approximately 1,100 acres of land at 1951 Hamburg Turnpike, as shown on attached Figure 1. The property was formerly used for the production of steel, coke and related products by Bethlehem Steel Corporation (BSC). Steel production on the Tecumseh property was discontinued in 1983 and the coke ovens ceased activity in 2000. Tecumseh acquired the property, along with other BSC assets, out of bankruptcy in 2003.

In September 2006, BQ Energy entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines and supporting power generation equipment and infrastructure on an approximately 29-acre parcel of the Tecumseh property, referred to as the Steel Winds I Site. BQ Energy and NYSDEC also entered into a Brownfield Cleanup Agreement for the Steel Winds Site. The Site is wholly contained within the Slag Fill Area (SFA) Zones 3 and 4 of the Tecumseh property bordered by Lake Erie to the west, Smokes Creek to the south, and former industrial lands of BSC to the north and east. Niagara Wind Power, LLC (NWP), an affiliate of First Wind, operates the eight wind turbines installed at the Site.

The Brownfield Cleanup Program (BCP) was successful in achieving the remedial objectives for the Steel Winds Site. The Site Management Plan (SMP) and Final Engineering Report (FER) were approved by NYSDEC in December 2007. NYSDEC issued a Certificate of Completion (COC) for the Site on December 18, 2007.

The remedial activities conducted at the Site include:

- Excavation and off-site disposal of impacted slag fill from the eight wind turbine foundations and interconnecting utility trenches;
- In-situ enhanced biodegradation of residual volatile organic compounds (VOCs), including benzene, toluene, total xylenes, and naphthalene, using oxygen release compound (ORC®) socks within the saturated soil and groundwater in the vicinity of WT-01 and associated monitoring; and,
- Completion of a soil cover system.

As a requirement of the SMP, LTGWM is being performed at nine (9) wells across the Site. Additional groundwater monitoring was also performed to monitor the effectiveness of the ORC in-situ treatment in the vicinity of wind turbine WT-01. During 2011, both the LTGWM and WT-01 vicinity groundwater monitoring programs were performed on an

annual basis and were done on July 13 and 14, 2011. The five ORC in-situ treatment wells were to be monitored semi-annually, in accordance with the SMP. However, only one ORC monitoring event (on May 4, 2011) was conducted because of the ineffectiveness of the remedy.

An *Operation, Monitoring and Maintenance Request for Modification* report, dated November 2011, was submitted to NYSDEC by Benchmark. This report proposed ceasing operation of the ORC® groundwater remedy for the WT-01 Vicinity because the remedy was not effective in reducing VOC concentrations, due primarily to the geochemical conditions (i.e., high baseline chemical oxygen demand, highly negative oxidation reduction potential and high pH) of the Site. NYSDEC provided comments to this report on April 10, 2012 and GZA provided a response letter on May 9, 2012. Based on this letter and subsequent correspondence with NYSDEC, the ORC® remedy has been terminated (i.e., the ORC socks have been removed from the five treatment wells and disposed of as solid waste).

In accordance with a letter from GZA to NYSDEC, dated June 22, 2012[1], semi-annual/annual groundwater monitoring will continue at the Site until a Technical Impracticability Waiver for groundwater treatment at the Site is submitted to and approved by NYSDEC.

2.00 PURPOSE AND SCOPE OF WORK

The purpose of the January 2013 semi-annual monitoring event was to collect groundwater samples from the six (6) semi-annual WT-1 vicinity groundwater monitoring wells in accordance with the routine monitoring program described in the September 2007 SMP. To accomplish this, GZA completed the following activities.

- Collected one (1) groundwater sample from each semi-annual well location for laboratory analysis conducted by Spectrum Analytical Inc. (Spectrum) of North Kingstown, Rhode Island in accordance with the analytical testing summary provided in Table 1. Test parameters included the following:
  - STARS list VOCs via EPA Method 8260B; and
  - Base-Neutral semi-volatile organic compounds (SVOCs) via EPA Method 8270C.
- Prepared this report, which summarizes the data collected during the sampling event and compared the data to historic data and assessed contaminant concentration trends, if any.

[1]GZA's June 22, 2012 letter was prepared in response to NYSDEC's comments on GZA's May 9, 2012 Responses to NYSDEC's April 10, 2012 Comments on the November 2011 Operation, Monitoring and Maintenance Request for Modification, prepared by Benchmark.

This report presents GZA's field observations, results, and opinions and is subject to the limitations presented in Appendix A and modifications if subsequent information is developed by GZA or any other party.

3.00 FIELD STUDIES

3.10 GROUNDWATER DATA COLLECTION

GZA collected groundwater samples from the six (6) WT-1 vicinity semi-annual monitoring wells (including MWN-01, MWN-01B, WT1-02, WT1-04, WT1-05, and BCP-ORC-1). Samples were collected on January 9, 2013.

The following tables show the volume of water purged and the number of well volumes removed from the respective well after a constant head was established. In general, groundwater purge rates were 500(±) milliliters per minute (ml/min). Purging continued until field parameters stabilized within acceptable limits established in EPA's Low Flow Sampling SOP. Stabilized field screening parameter readings are presented in Table 2, attached.

WT-1 Vicinity Semi-Annual Monitoring Well ID	Cumulative Volume Purged (gallons)	Well Volumes (#)
MWN-01	4.1	1.2
MWN-01B	4.3	1.7
WT1-02	3.5	0.6
WT1-04	4.5	3.0
WT1-05	4.3	3.3
BCP-ORC-1	3.5	0.4

As part of the semi-annual groundwater monitoring, static groundwater level measurements were made from top of riser of the monitoring wells listed in the table below prior to purging. With the exception of WT1-05 (replaced in May 2012), monitoring point elevation data was available from previous groundwater monitoring reports completed by Benchmark. From this data, groundwater flow directions were estimated and are shown on Figure 2. Based on the available information, groundwater flow is generally in a southwesterly direction towards Smoke Creek and Lake Erie.

Monitoring Well Location	Top of Riser Elevation (ft.)	Groundwater Depth (ft.)	Groundwater Elevation (ft.)
MWN-01	585.14	16.8	568.3
MWN-01B	587.13	17.7	569.4
WT1-02	600.78	29.2	571.6
WT1-04	586.45	15.2	571.3

Monitoring Well Location	Top of Riser Elevation (ft.)	Groundwater Depth (ft.)	Groundwater Elevation (ft.)
WT1-05	No Survey Data Available		
BCP-ORC-1	591.97	20.6	571.3

4.00 ANALYTICAL LABORATORY TESTING

Six (6) semi-annual groundwater samples were submitted for analytical testing as part of the January 2013 monitoring event. The samples were packed in an ice-filled cooler and, following typical chain-of-custody procedures, sent to Spectrum for analysis. Table 1 presents a summary of the samples collected and the analyses completed.

5.00 ANALYTICAL TEST RESULTS

A discussion of the laboratory results for the groundwater samples is presented below. The laboratory reports are provided in Appendix B and the analytical test results are summarized on Table 2.

The analytical test results for the groundwater samples were compared to NYSDEC Class GA criteria presented in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, errata January 1999 and amended April 2000.

The analytical data generated as part of this monitoring event will be provided to NYSDEC electronically for their Environmental Information Management System (EIMS). The data is currently being prepared by Spectrum in a standardized electronic data deliverable (EDD) format that uses the database software application EQuIS™ (EQuIS) from EarthSoft® Inc. Upon receipt of the EDD, the laboratory data and required information will be imported into the EQuIS Data Processor (EDP) by GZA and submitted to NYSDEC.

5.10 SEMI-ANNUAL WT-1 VICINITY MONITORING WELLS

- MWN-01: Five (5) VOCs were detected above method detection limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.
  - Benzene at 2.1 parts per billion (ppb).

  Eleven (11) SVOCs were detected above method detection limits of which three (3) exceeded their respective guidance values, as follows.
  - Fluorene at 57 ppb;

- Naphthalene at 180 ppb, which was obtained from a secondary dilution analysis; and
- Phenanthrene at 75 ppb, which was obtained from a secondary dilution analysis.

- MWN-01B: Ten (10) VOCs were detected above method detection limits of which seven (7) exceeded their respective NYSDEC Class GA criteria, as follows.

  - Benzene at 93 ppb;
  - Toluene at 24 ppb;
  - m,p-Xylene at 14 ppb;
  - o-Xylene at 9.1 ppb;
  - Total Xylene at 24 ppb;
  - 1,3,5 Trimethylbenzene at 6.2 ppb; and
  - 1,2,4 Trimethylbenzene at 9 ppb

  Naphthalene was detected at a concentration of 1,800 ppb, which exceeds its respective guidance value of 10 ppb. This concentration was obtained from a secondary dilution analysis.

  Twelve (12) SVOCs were detected above method detection limits of which one (1) exceeded its respective guidance value, as follows.

  - Naphthalene at 940 ppb, which was obtained from a secondary dilution analysis.

- WT1-02: Nine (9) VOCs were detected above method detection limits of which six (6) exceeded their respective NYSDEC Class GA criteria, as follows.

  - Benzene at 26 ppb;
  - Toluene at 5.9 ppb;
  - m,p-Xylene at 12 ppb;
  - o-Xylene at 11 ppb;
  - Total Xylene at 24 ppb: and
  - 1,3,5 Trimethylbenzene at 5.5 ppb.

  Eleven (11) SVOCs were detected above method detection limits of which one (1) exceeded its respective guidance value, as follows.

  - Naphthalene at 38 ppb, which was obtained from a secondary dilution analysis.

- WT1-04: Nine (9) VOCs were detected above method detection limits of which seven (7) exceeded their respective NYSDEC Class GA criteria, as follows.

- Benzene at 33 ppb;
- Toluene at 6.3 ppb;
- m,p-Xylene at 15 ppb;
- o-Xylene at 12 ppb;
- Total Xylene at 27 ppb;
- 1,3,5-Trimethylbenzene at 5.8 ppb; and
- 1,2,4 Trimethylbenzene at 4.5 ppb.

Naphthalene was detected at a concentration of 95 ppb, which exceeds its respective guidance value of 10 ppb.

Eleven (11) SVOCs were detected above method detection limits of which one (1) exceeded its respective guidance value, as follows.

- Naphthalene at 55 ppb.

- WT1-05: Five (5) VOCs were detected above method detection limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.

  - Benzene at 1.3 ppb.

  Eight (8) SVOCs were detected above method detection limits but below their respective NYSDEC Class GA criteria or guidance values.

- BCP-ORC-1: Seven (7) VOCs were detected above method detection limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.

  - Benzene at 29 ppb.

  Naphthalene was detected at a concentration of 310 ppb, which exceeds its respective guidance value of 10 ppb. This concentration was obtained from a secondary dilution analysis.

  Eleven (11) SVOCs were detected above method detection limits of which one (1) exceeded its respective guidance value, as follows.

  - Naphthalene at 230 ppb, which was obtained from a secondary dilution analysis.

In general, VOC and SVOC concentrations were consistent with historical data collected during previous sampling events performed by Benchmark and GZA (June 2012) at monitoring well locations MWN-01B, WT1-02, WT1-04, and BCP-ORC-1. The concentrations and total number of VOCs exceeding NYSDEC Class GA criteria at monitoring well locations MWN-01 and WT1-05 decreased significantly during this event from six (6) VOCs and five (5) VOCs to one (1) VOC, benzene, at each

respective location. A more detailed discussion, including a trend analysis, is provided in Section 6.00 of this report.

6.00 STATISTICAL ANALYSIS

As stated in Section 2.4 of Attachment A4 (LTGWM Plan) of the September 2007 Site Management Plan, a statistical analysis is required for all detected constituents (in groundwater) that are observed at concentrations above NYSDEC Class GA criteria or guidance values. In lieu of performing moving trend analysis, as described in the LTGWM Plan, GZA generated time series plots for parameters which exceeded the NYSDEC Class GA criteria, either during this monitoring round or in previous data. These plots were evaluated for trends (over a five year period at a 95% confidence interval) and outliers. Sen's Test for trends was performed to evaluate statistically significant trends in the data with respect to time. Time series plots were generated on a well-by-well basis and are presented in Appendix D. This is the first monitoring round where 1,3,5-trimethylbenzene was detected above the NYSDEC Class GA criteria of 5 ppb (the detected concentration was 6.2 ppb) in MWN-01B and trend analysis was not performed for this constituent, for this monitoring location. During the next monitoring round, if this constituent again exceeds the NYSDEC Class GA criteria, GZA will either visually assess contaminant trends or prepare a time series plot for this constituent, at this monitoring location.

Five statistically significant downwards trends in contaminant concentrations were identified by the Sen's Tests; benzo(a)anthracene in BCP-ORC-1 (also identified in the June 2012 monitoring report), toluene in MWN-01 (also identified in the June 2012 monitoring report), toluene in WT1-04 and toluene and xylenes in WT1-05. The Sen's Tests also identified a statistically significant increasing trend for benzo(a)pyrene in WT1-04; however, this constituent was not detected the last two monitoring rounds and this trend may be the result of higher laboratory reporting limits for the last two rounds. No other statistically significant trends were identified. In addition, visual analysis of the time series plots identified visually decreasing trends for benzene and xylenes in BCP-ORC-1, acenaphthene, fluorene, phenanthrene and xylenes in MWN-01, phenanthrene in WT1-04 and benzene and naphthalene in WT1-05.

Time series plots were also visually evaluated for seasonality and outliers. No apparent seasonal fluctuations of contaminant concentrations were noted in the monitoring data. Low end outliers for benzene, toluene and xylenes were identified in MWN-01. High end outliers identified in the January 2013 monitoring round include:

- WT1-04: benzo(k)fluoranthene. This compound was not detected during the January 2013 and June 2012 sampling rounds, and was identified as an outlier in both rounds because of higher reporting limits;
- BCP-ORC-1: chrysene and benzo(a)anthracene. These compounds were not detected during the January 2013 and June 2012 sampling rounds, and were identified as outliers in both rounds because of higher reporting;

- MWN-01: chrysene and benzo(a)anthracene. These compounds were not detected during the January 2012 and June 2012 sampling rounds and were identified as outliers in both rounds because of elevated detection limits;
- MWN-01B: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and chrysene. These compounds were not detected during the January 2013 and June 2012 sampling rounds and were identified as outliers in both rounds because of higher reporting limits;
- WT1-02 benzo(a)anthracene. This compound was not detected during the January 2013 and June 2012 sampling rounds and was identified as an outlier in the January 2013 round because of higher reporting limit;

These outliers will be reevaluated as part of the next monitoring report.

7.00 SUMMARY

GZA was retained to collect and analyze groundwater samples from six (6) semi-annual monitoring wells at the Steel Winds I facility in accordance with the Site Management Plan. A summary of our findings follows.

- VOCs were detected at concentrations above NYSDEC Class GA criteria in the groundwater samples collected from the semi-annual WT1 vicinity wells BCP-ORC-1, MWN-01, MWN-01B, WT1-02, WT1-04 and WT1-05.

- SVOCs were detected at concentrations above NYSDEC Class GA or their respective guidance criteria in the groundwater samples collected from the semi-annual WT1 vicinity wells BCP-ORC-1, MWN-01, MWN-01B, WT1-02 and WT1-04.

Based on our review of the historic and current analytical data, the analytical test results from the January 2013 round of sampling are generally consistent with historical data, although a significant reduction of VOC concentrations were observed in the January 2013 sample wells MW11-01 and WTI-05. Statistically significant downward trends in contaminant concentrations were identified for benzo(a)anthracene in BCP-ORC-1, toluene in MWN-01, toluene in WT1-04 and toluene and xylenes in WT1-05. A statistically significant increasing trend for benzo(a)pyrene was identified in WT1-04; however, this constituent was not-detected the last two monitoring rounds and this trend may be the result of elevated laboratory detection limits. Visually apparent, (yet not statistically significant, decreasing trends for benzene and xylenes in BCP-ORC-1, acenaphthene, fluorene, phenanthrene and xylenes in MWN-01, phenanthrene in WT1-04 and benzene and naphthalene in WT1-05, were also noted. Low-end outliers for benzene, toluene and xylenes in MWN-01 were noted in the January sampling round. These outliers will be further evaluated during the next monitoring event.

TABLES

TABLE 1

Analytical Testing Program Summary

January 2013 Semi-Annual Groundwater Monitoring Report

Steel Winds I Facility

Lackawanna, New York

Well Designation	Sample ID	Date Collected	Screened Interval (TOR)	STARS VOCs	SVOCs (BN)
Semi-Annual Monitoring Well Sample Locations (WT-1 Vicinity Network)					
MWN-01	MWN-01-010913	1/9/2013	9.2 - 19.2	X	X
MWN-01B	MWN-01B-010913	1/9/2013	22.2 - 32.2	X	X
WT1-02	WT1-02-010913	1/9/2013	27.8 - 37.8	X	X
WT1-04	WT1-04-010913	1/9/2013	15.5 - 25.5	X	X
WT1-05	WT1-05-010913	1/9/2013	13.3 - 23.3	X	X
BCP-ORC-1	BCP-ORC-1-010913	1/9/2013	24.7 - 34.7	X	X

Notes:

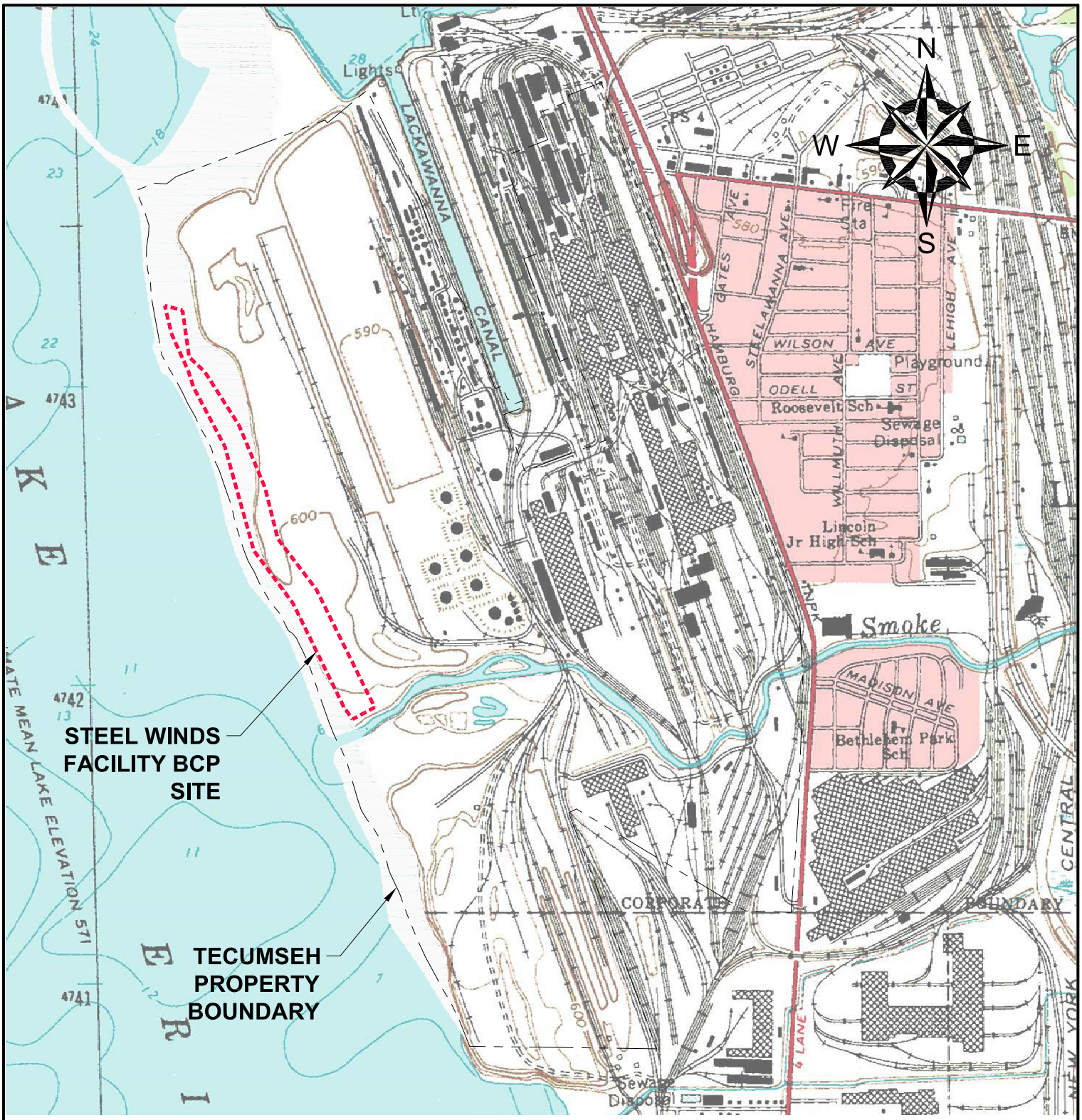
1. VOCs = Volatile Organic Compounds STARS list via EPA Method 8260B.
2. SVOCs = Semi-Volatile Organic Compounds Base-Neutrals list via EPA Method 8270C.
3. "WT", "MWN", and "BCP-ORC" monitoring well information provided in Table 1 was referenced from Benchmark Environmental Engineering & Science, PLLC*., 2009 Annual LTGWM & First Semi-Annual WT-1 Vicinity Monitoring Report.*
4. TOR = measurement recorded in feet below top-of-well riser.

Table 2
Analytical Testing Program Summary
January 2013 Semi-Annual Groundwater Analytical Data Summary
Steel Winds I Facility
Lackawanna, New York

Parameter	NYSDEC Class GA Crtieria	MWN-01		MWN-01B		WT1-02		WT1-04		WT1-05		BCP-ORC-1	
		6/12/2012 Result	1/9/2013 Result	6/12/2012 Result	1/9/2013 Result	6/5/2012 Result	1/9/2013 Result	6/11/2012 Result	1/9/2013 Result	6/5/2012 Result	1/9/2013 Result	6/12/2012 Result	1/9/2013 Result
Water Quality Field Measurements													
pH (units)	6.5 - 8.5	**11.12**	**12.36**	**10.72**	**11.93**	**11.75**	**12.76**	**11.34**	**12.55**	**11.24**	**12.38**	**11.04**	**12.21**
Temperature (˚C)	NV	13.33	13.11	12.73	12.25	13.32	12.81	12.31	12.92	12.88	14.42	13.64	12.75
Specific Conductance (uS/cm)	NV	848	1,272	614	896	1,524	2,203	1,151	1,740	901	1,196	832	1,268
Turbidity (NTU)	5	3.1	0.1	2.1	0.3	3.4	1.8	2.1	0.1	1.1	4.3	3.5	2.1
Dissolved Oxygen (mg/L)	NV	See Note 13	0.26	See Note 13	0.19	See Note 13	0.72	See Note 13	0.11	See Note 13	0.19	See Note 13	3.09
Oxygen Reduction Potential (mV)	NV	-228.6	-336.4	-250.9	-363.7	-246.2	-207.2	-283.9	-285.4	-227.6	-268.8	-231.6	-200.3
Volatile Organic Compounds - EPA Method 8260 (ug/L)													
Benzene	1	**53**	**2.1 J**	**91**	**93**	**25**	**26**	**39**	**33**	**30**	**1.3 J**	**29**	**29**
Toluene	5	**11**	0.59 J	**22**	**24**	4.9 J	**5.9**	**7.7**	**6.3**	**7**	0.53 J	2.7 J	2.9 J
Ethylbenzene	5	1.6 J	<	0.69 J	0.83 J	1.3 J	1.7 J	2.0 J	1.5 J	1.2 J	<	<	<
m,p-Xylene	10	**24**	<	**13**	**14**	**11**	**12**	**21**	**15**	**13**	<	1.1 J	<
o-Xylene	5	**17**	0.82	**8.1**	**9.1**	**8.6**	**11**	**15**	**12**	**9.4**	0.93 J	1.3 J	2.1 J
Xylene (Total)	15	**41**	0.82	**21**	**24**	**20**	**24**	**36**	**27**	**22**	0.93 J	2.4 J	2.1 J
Isopropylbenzene	5	<	<	1.5 J	1.9 J	<	<	<	<	<	<	<	<
1,3,5-Trimethylbenzene	5	3.6 J	<	4.6 J	**6.2**	4.8 J	**5.5**	**8.1**	**5.8**	2.3 J	1.5 J	1.2 J	1.9 J
1,2,4-Trimethylbenzene	5	**5.4**	<	**7.1**	**9**	3.3 J	3.3 J	**6.0**	**4.5 J**	3.0 J	<	1.4 J	1.8 J
Naphthalene*	10	**460 D**	2.8 J	**1,600 D**	**1,800 D**	**51**	10	**63**	**95**	**120**	<	**280 D**	**310 D**
Semi-Volatile Organic Compounds - EPA Method 8270 (ug/L)													
Acenaphthylene	NV	42	32	28	29	1.3 J	1.8 J	5.0 J	3.6 J	9.5 J	3.8 J	17	17
Naphthalene*	10	**250 D**	**180 D**	**900 D**	**940 D**	**15**	**38**	**57**	**55**	**74 D**	<	**150 D**	**230 D**
2-Methylnaphthalene	NV	42	41	34	38	4.6 J	7.4 J	12	11	8.7 J	1.1 J	13	17
Acenaphthene*	20	13	12	9.3 J	8.7 J	1.3 J	1.8 J	5.1 J	3.4 J	2.6 J	1.6 J	3.2 J	3.9 J
Dibenzofuran	NV	48	42	23	24	4.4 J	7.1 J	14	11	6.6 J	1.1 J	8.0 J	8.9 J
Fluorene*	50	**60**	**57**	32	32	6.6 J	9.7 J	22	17	9.3 J	5.4 J	13	15
Phenanthrene*	50	**97 D**	**75 D**	**51**	49	11	20	49	39	9.4 J	<	18	21
Carbazole	NV	36	27	54	53	4.3 J	6.4 J	12	7.6 J	11	2.1 J	20	23
Anthracene*	50	11	10	5.1 J	4.3 J	2.3 J	3.3 J	7.5 J	6.0 J	1.3 J	<	2.4 J	2.4 J
Fluoranthene*	50	10	11	7.6 J	6.9 J	4.0 J	5.6 J	9.3 J	8.3 J	1.5 J	2.0 J	2.7 J	3.5 J
Pyrene*	50	6.9 J	6.0 J	5.0 J	3.7 J	2.6 J	3.5 J	6.3 J	4.7 J	1.1 J	1.7 J	3.1 J	3.5 J
Butylbenzylphthalate	NV	<	<	<	0.53 J	<	<	<	<	<	<	<	<
bis(2-Ethylhexyl)Phthalate	5	<	<	<	<	<	<	2.5 J	<	<	<	<	<

Notes:
1. Compounds detected in one or more sample are presented on this table. Refer to Appendix C for list of all compounds included in analysis.
2. Analytical testing completed by Spectrum Laboratory, North Kingstown, Rhode Island.
3. NYSDEC Groundwater Class GA criteria obtained from Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, errata January 1999 and amended April 2000 (Class GA).
4. ug/L = part per billion (ppb).
5. < indicates compound was not detected above method detection limits.
6. "J" qualifier = Analyte detected below quanititation limits.
7. "B" qualifier = indicates compound was detected in the method blank sample.
8. "D" qualifier = indicates the compound concentration was obtained from a secondary dilution analysis.
9. Value shown in **bold** indicate exceedance of respective Class GA Criteria or guidance value.
10. NV = no value.
11. * = value shown is a guidance value rather than a groundwater standard.
12. NT = not tested.
13. The equipment used to collect water quality data was calibrated prior to and during use in accordance with the manufacturer's recommendations. However, dissolved oxygen measurements collected in June 2012, were not included as select results appeared to be erroneous and possibly the result of meter interferences or sensor malfunction. Additionally, elevated pH measurements recorded during the January 2013 monitoring may also be similarly influenced.

FIGURES



NEW YORK

NOTE:
BASE MAP ADAPTED FROM A 1965
U.S.G.S. TOPOGRAPHIC MAPS
DOWNLOADED FROM http://store.usgs.gov

0 750 150 3000
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
FIRST WIND ENERGY, LLC.

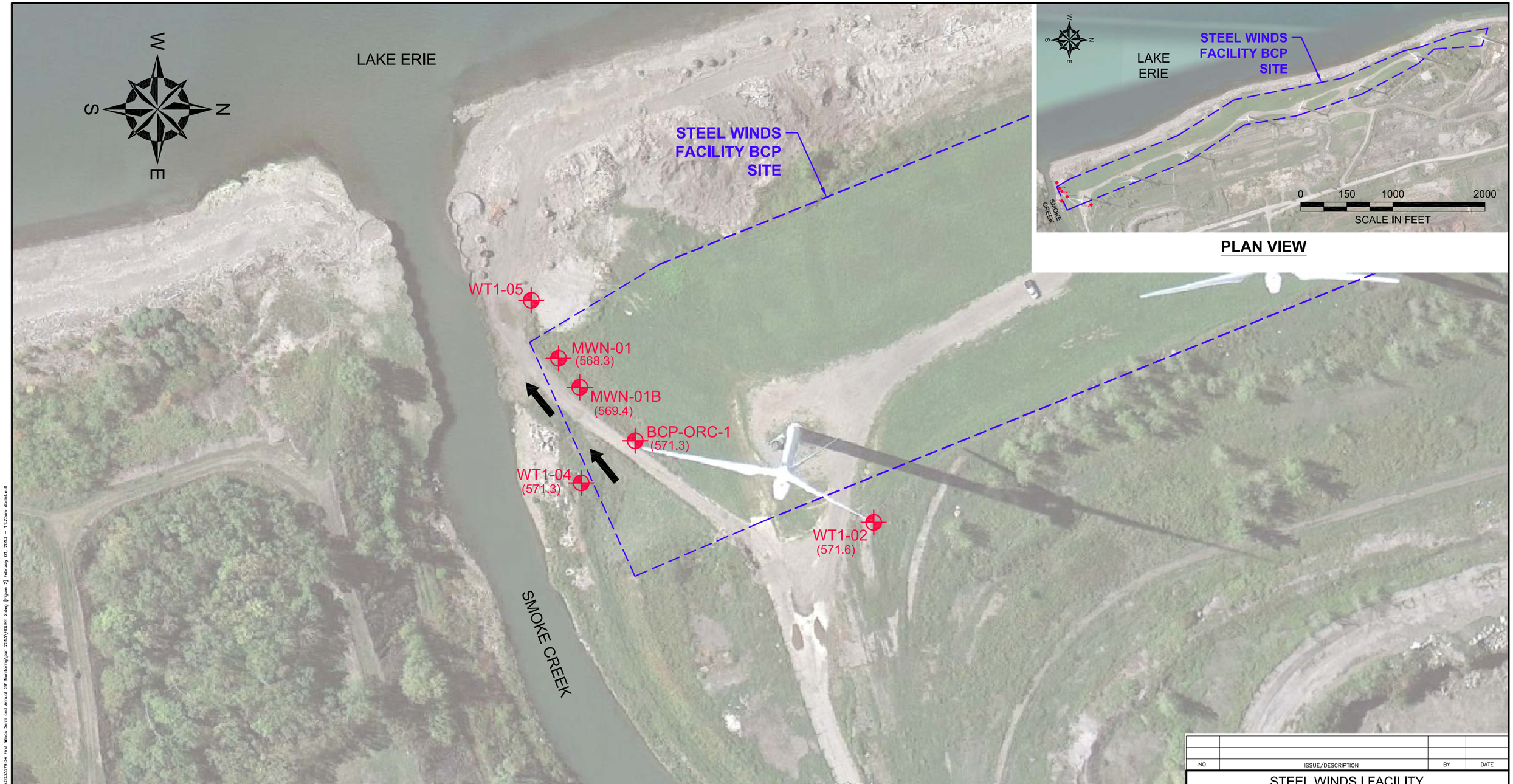
STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

JANUARY 2013 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

LOCUS PLAN

FIGURE 1

PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	DATE	PROJECT NO.	REVISION NO.	SHEET NO.
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	FEBRUARY 2013	03.0033579.04		1 of 2



PLAN VIEW

LEGEND:

MWN-01 (568.3) — APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELLS SHOWN WITH GROUNDWATER ELEVATIONS MEASURED BY GZA IN JANUARY 2013

PRESUMED GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTO DOWNLOADED FROM GOOGLE EARTH AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

0 50 100 200
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

JANUARY 2013 SEMI-ANNUAL GROUNDWATER MONITORING REPORT
SITE PLAN

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
FIRST WIND ENERGY, LLC.

PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	FIGURE 2
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	
DATE FEBRUARY 2013	PROJECT NO. 03.0033579.04	REVISION NO.	SHEET NO. 2 of 2

APPENDIX A

LIMITATIONS

LIMITATIONS

1. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in this report was carried out in accordance with the Terms and Conditions of our Agreement.

2. The work contained in this report is based in part upon the data obtained from a limited number of groundwater samples obtained from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not be linear. If variations or other latent conditions appear evident based on further exploration, it will be necessary to reevaluate the conclusions and recommendations of this report.

3. Water level readings have been made in the observation wells at the times and under the conditions stated within our report. However, it must be noted that fluctuations in the level of groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time our measurements were made.

4. The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. As indicated within the report, some of these data are preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA and the conclusions and recommendations presented herein modified accordingly.

5. Chemical analyses have been performed for specific parameters during the course of this site assessment, as described in the text. However, it should be noted that additional chemical constituents not searched for during the current study may be present in soil and/or groundwater at the site.

APPENDIX B

ANALYTICAL TEST RESULTS
(Not included as part of this 2014 PRR submittal)

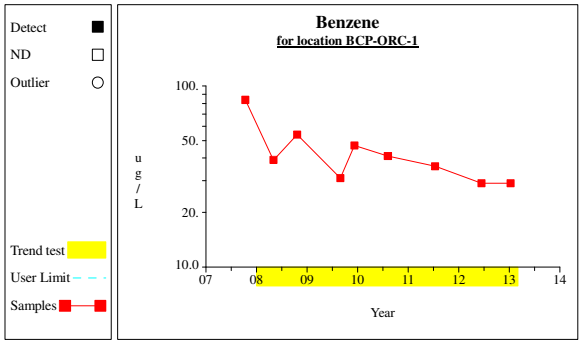
APPENDIX C

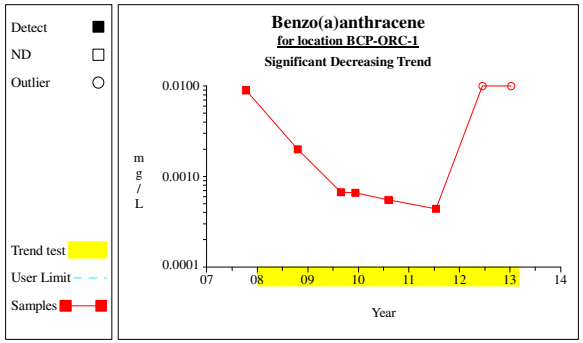
TIME SERIES PLOTS

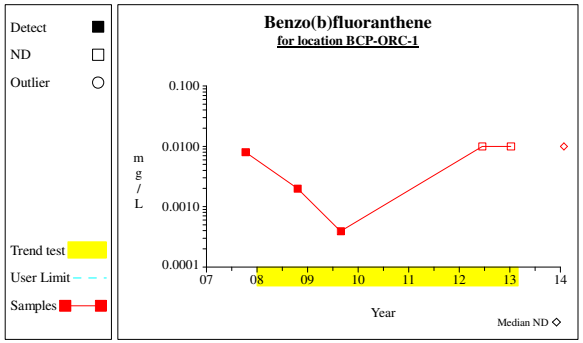
Steel Winds

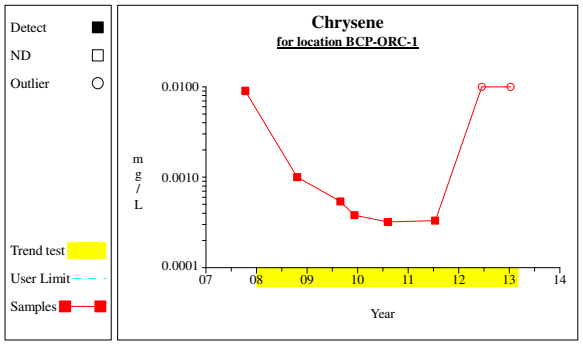
Analysis prepared on: 2/1/2013

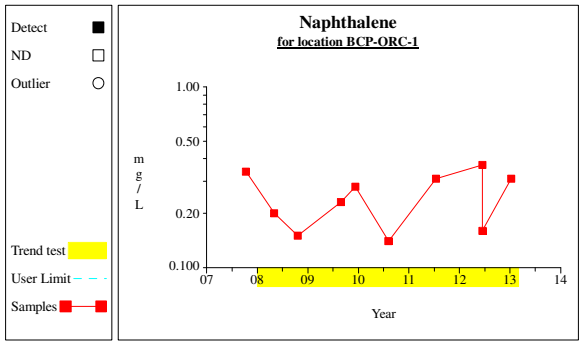
Time Series

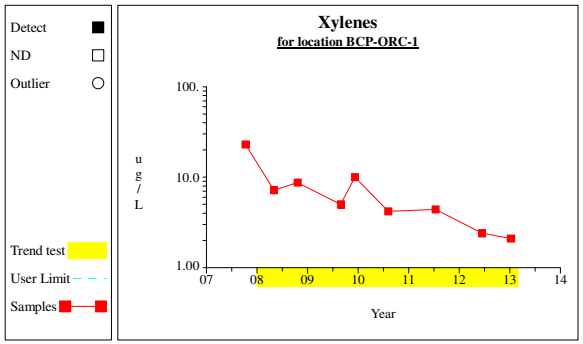










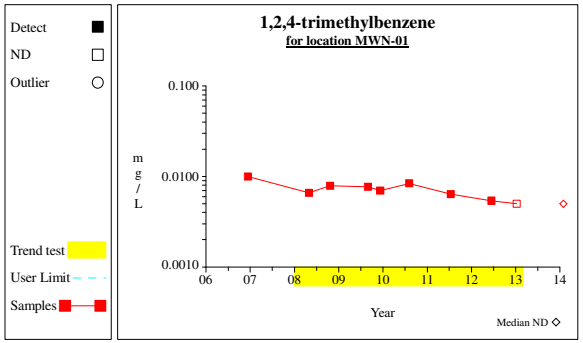


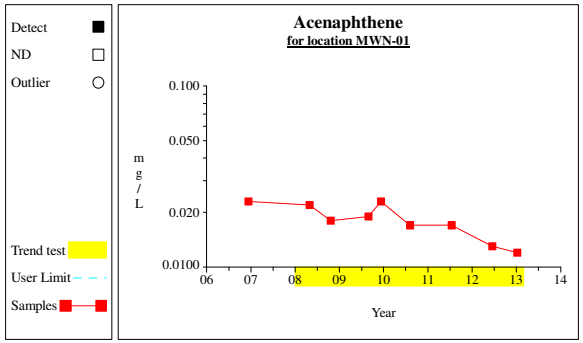
Prepared by: GZA GeoEnvironmental Inc.

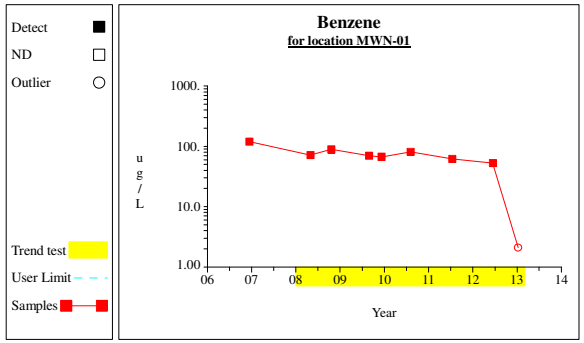
Steel Winds

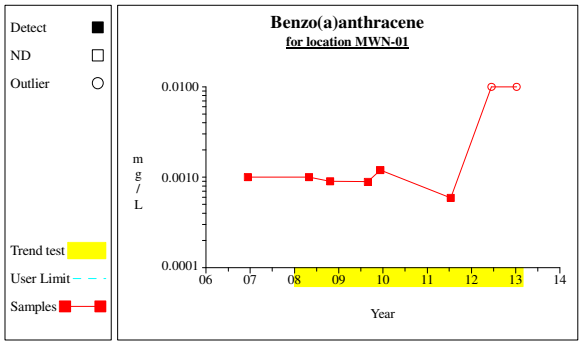
Analysis prepared on: 2/1/2013

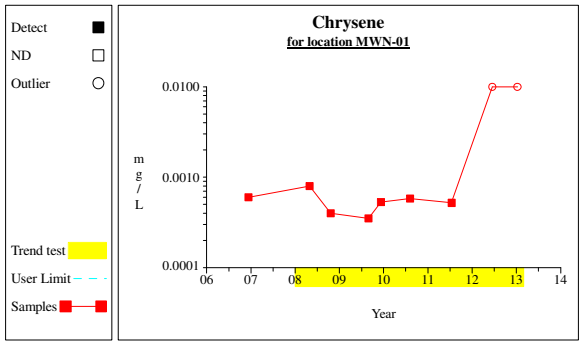
Time Series

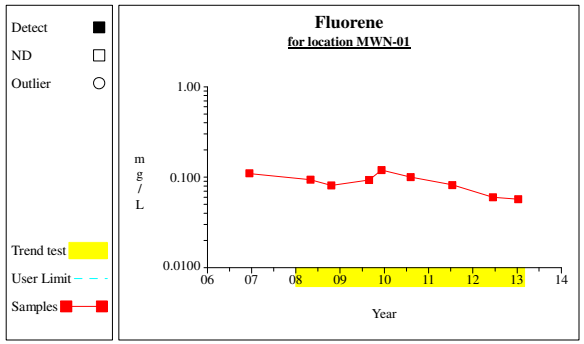


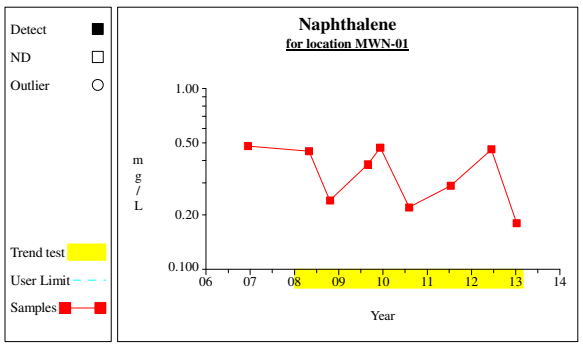


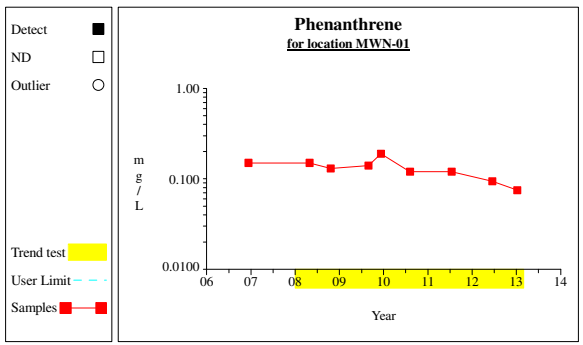


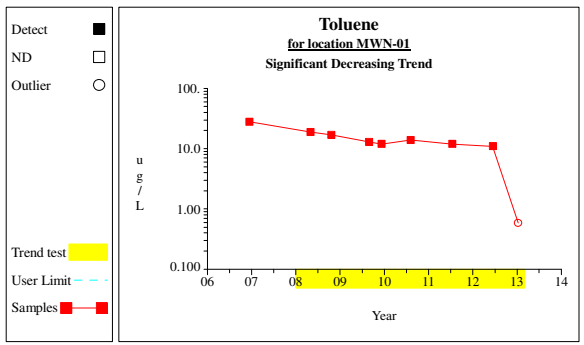






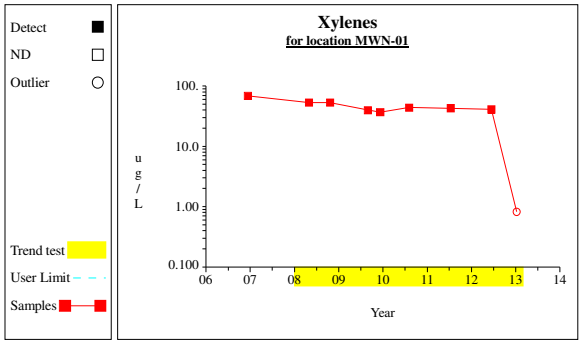






Prepared by: GZA GeoEnvironmental Inc.

Time Series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Outlier
Trend test
User Limit
Samples
Xylenes
for location MWN-01
100.
10.0
1.00
0.100
u
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06
07
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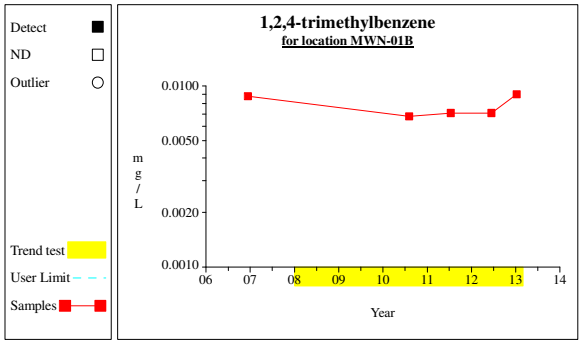
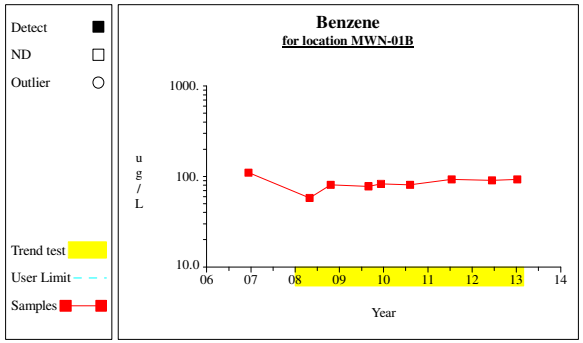
Year

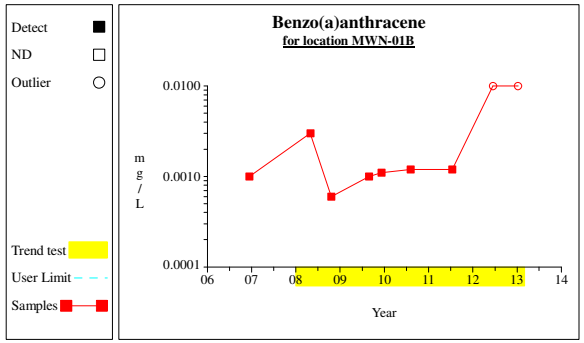
Steel Winds

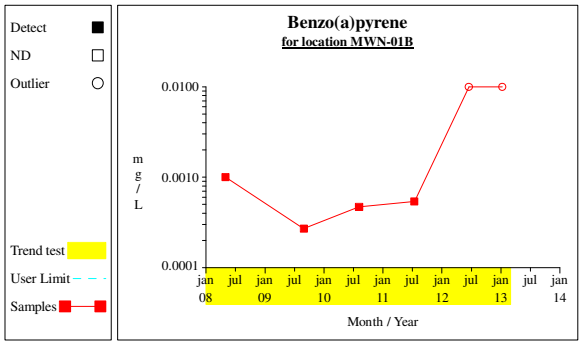
Analysis prepared on: 2/1/2013

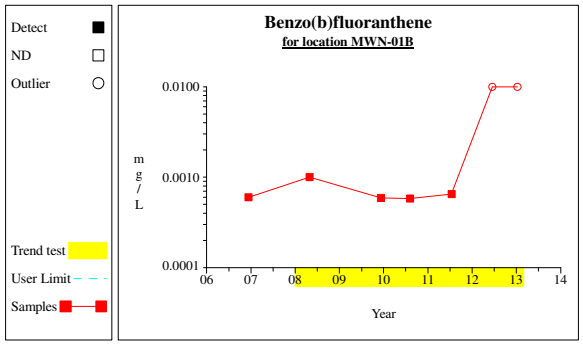
Time Series

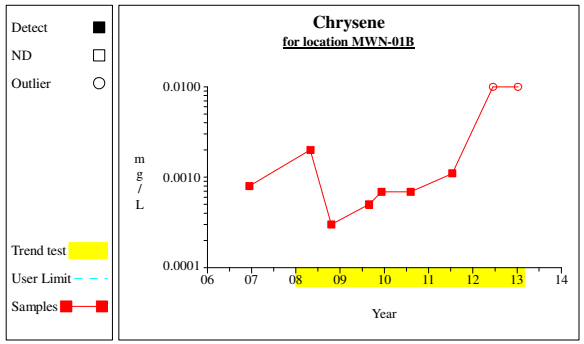


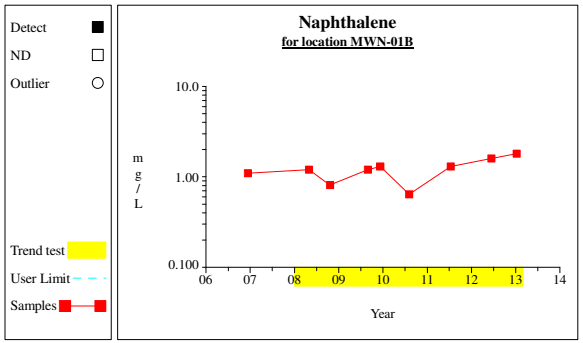


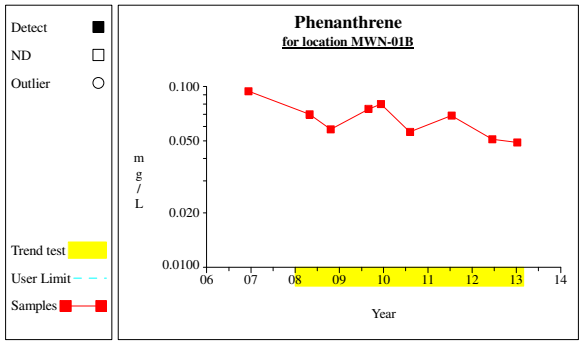


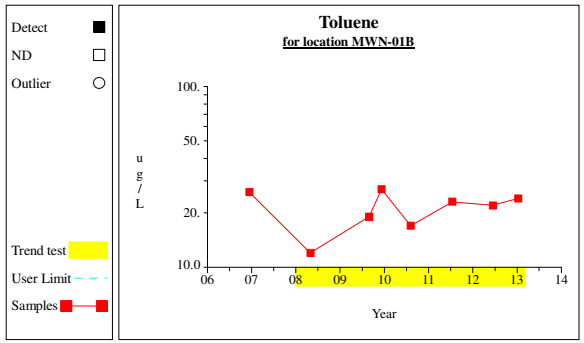






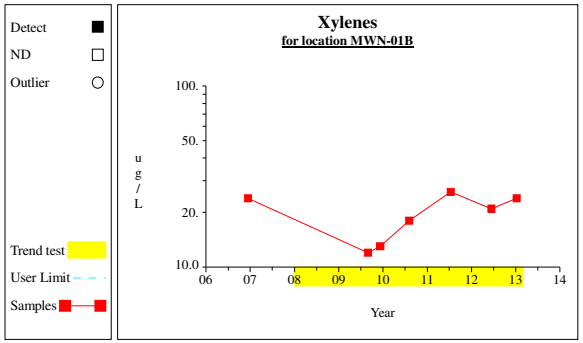






Prepared by: GZA GeoEnvironmental Inc.

Time Series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Trend test
User Limit
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100.
50.
20.
10.0
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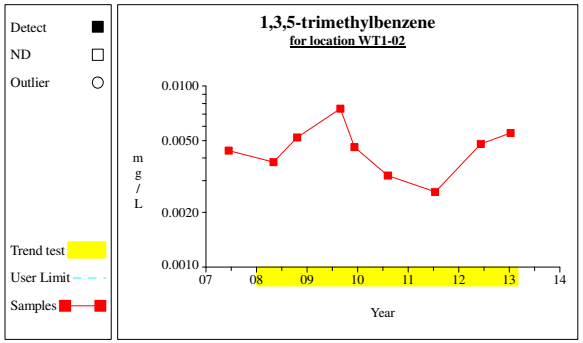
Year

Time Series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m
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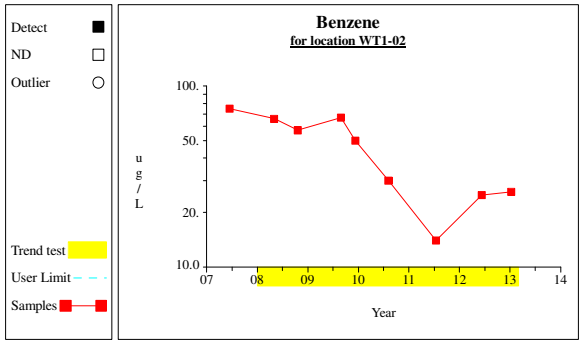
Year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Trend test
User Limit
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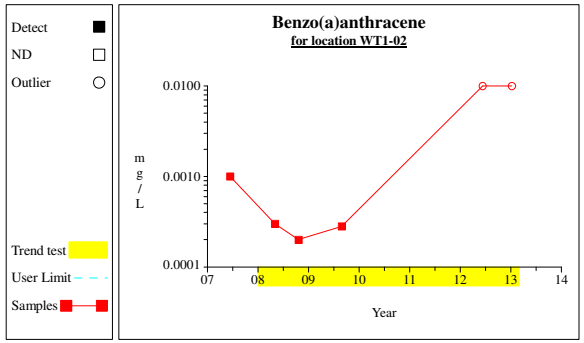
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Trend test
User Limit
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m
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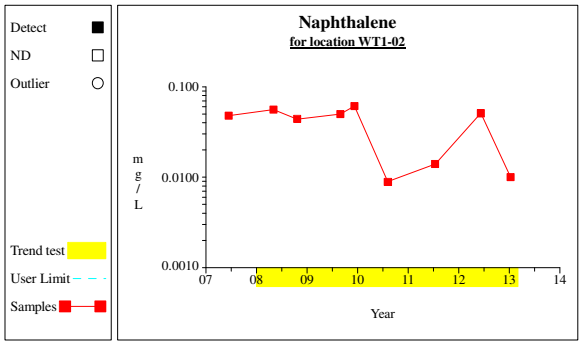
Year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Outlier
Trend test
User Limit
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0.0010
m
g
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L
07
08
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12
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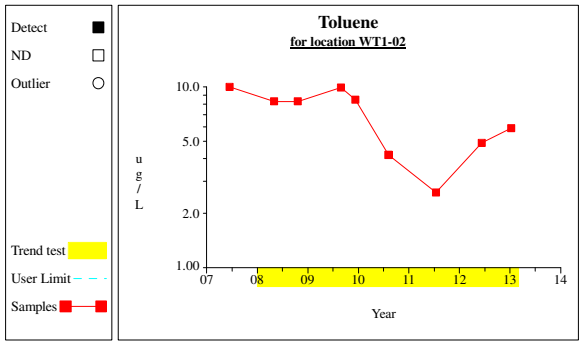
14
Year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Outlier
Trend test
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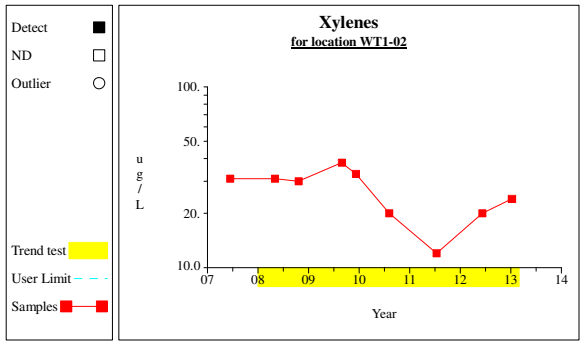
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Xylenes
for location WT1-02
100.
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10.0
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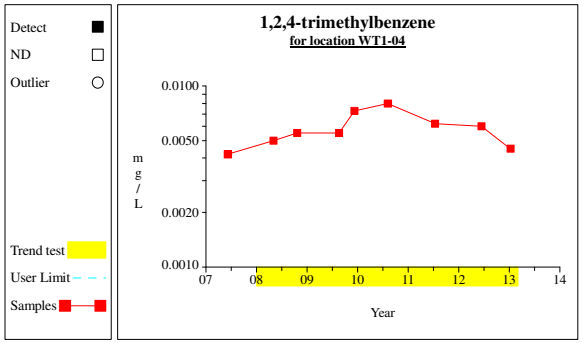
Year

Time Series


Detect
ND
Outlier
Trend test
User Limit
Samples
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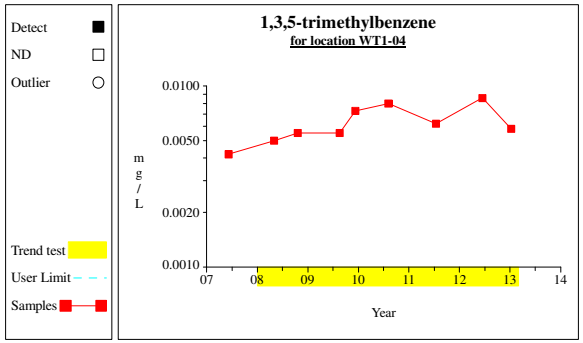
0.0050
0.0020
0.0010
mg/L
07 08 09 10 11 12 13 14
Year


Detect
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Outlier
Trend test
User Limit
Samples
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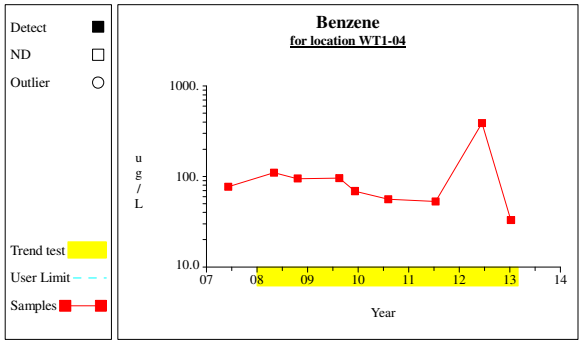
for location WT1-04
0.0100
0.0050
0.0020
0.0010
mg/L
07 08 09 10 11 12 13 14
Year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Outlier
Trend test
User Limit
Samples
Benzene
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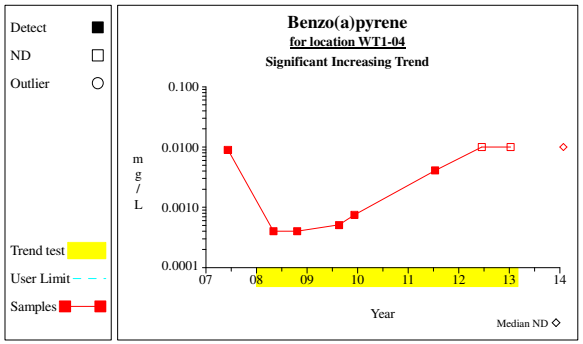
1000.
100.
10.0
ug/L
07 08 09 10 11 12 13 14
Year


Detect
ND
Outlier
Trend test
User Limit
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Significant Increasing Trend
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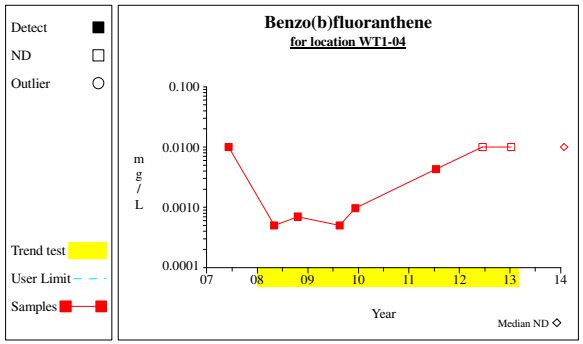
mg/L
07 08 09 10 11 12 13 14
Year
Median ND


Detect
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Outlier
Trend test
User Limit
Samples
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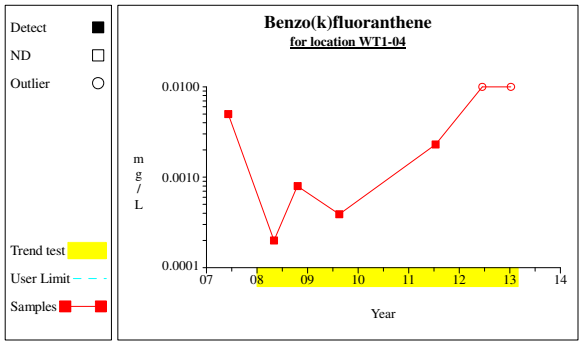
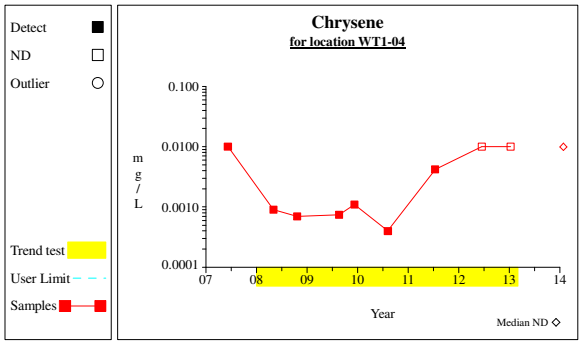
0.0010
0.0001
mg/L
07 08 09 10 11 12 13 14
Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(k)fluoranthene
for location WT1-04
0.0100
0.0010
0.0001
mg/L
07 08 09 10 11 12 13 14
Year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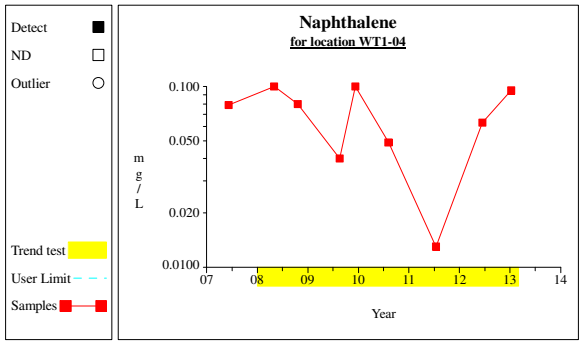
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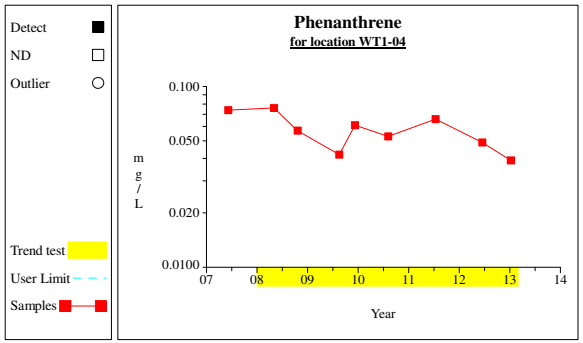
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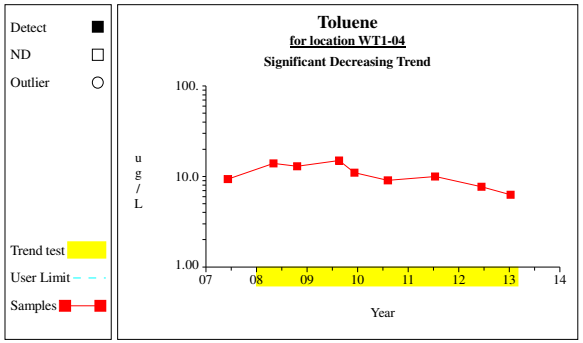
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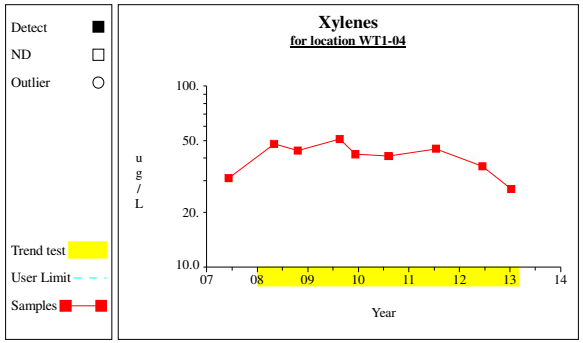
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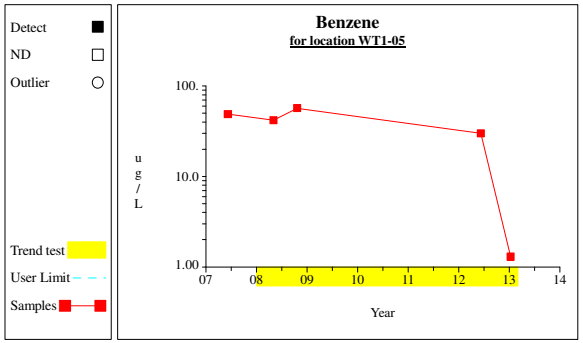
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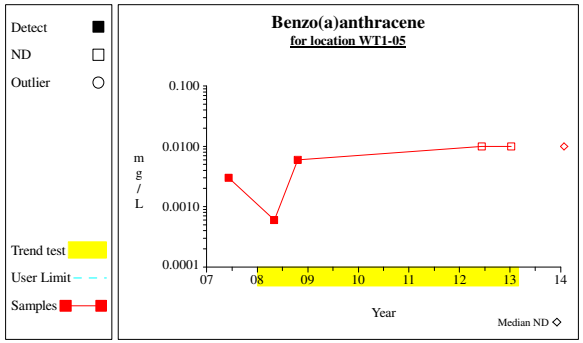
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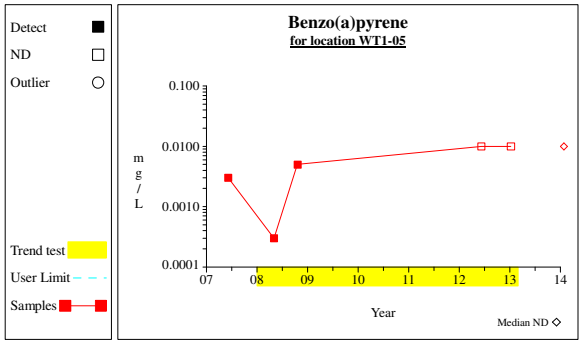
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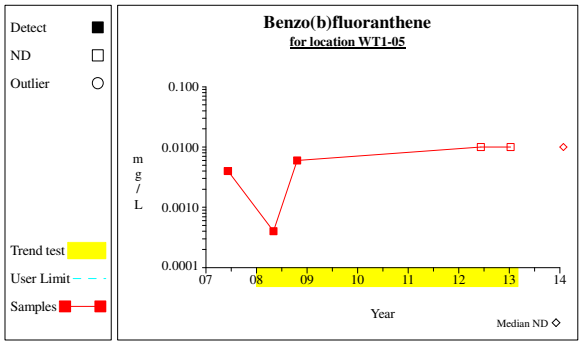
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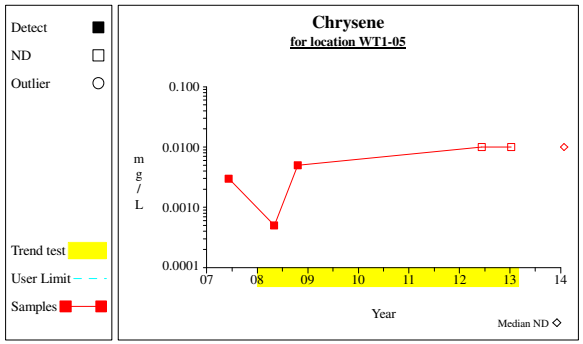
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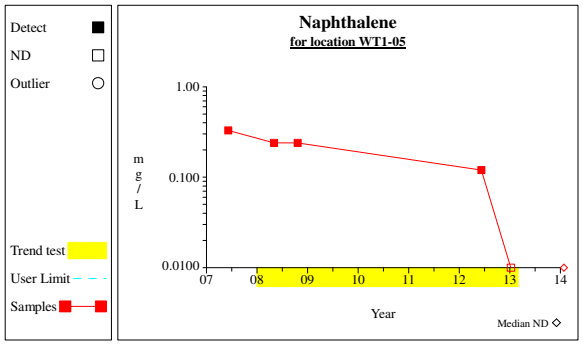
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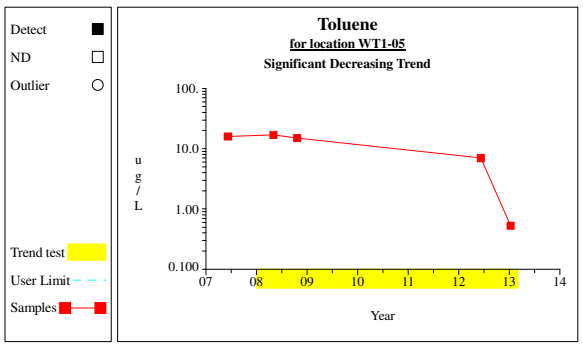
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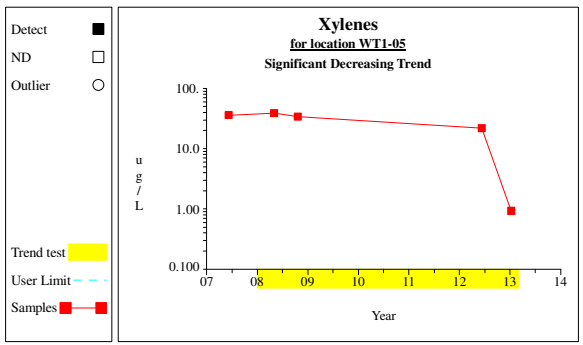
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JUNE 2013
ANNUAL/SEMI-ANNUAL GROUNDWATER MONITORING REPORT
STEEL WINDS I FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR:
First Wind Energy, LLC
179 Lincoln Street
Boston, Massachusetts 02111

PREPARED BY:
GZA GeoEnvironmental, Inc
Buffalo, New York

August 2013
File No. 03.0033579.04

GZA
GeoEnvironmental
of New York

Engineers and Scientists

August 7, 2013
File No. 03.0033579.04

Mr. Josh Bagnato
First Wind Energy, LLC
179 Lincoln Street
Boston, Massachusetts 02111

Re: June 2013 Annual/Semi-Annual Groundwater Monitoring Report
Steel Winds I Site
Lackawanna, NY

Dear Mr. Bagnato:

535 Washington Street
11th Floor
Buffalo, New York
14203
716-685-2300
Fax: 716-685-3629
www.gza.com

GZA GeoEnvironmental of New York (GZA) is pleased to submit this annual/semi-annual groundwater monitoring report to First Wind Energy, LLC (First Wind) summarizing the analytical results of the groundwater sampling event conducted in June 2013 at the above referenced Site. The objective of the sampling event was to collect and analyze groundwater samples from the on-site monitoring wells in accordance with the Site Management Plan, dated September 2007, prepared by Benchmark Environmental Engineering and Science, PLLC (Benchmark) and approved by the New York State Department of Environmental Conservation (NYSDEC).

Should you have any questions or require additional information following your review, please contact Ed Summerly at 401-427-2707.

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

Thomas Bohlen
Project Geologist

Daniel J. Troy, P.E.
Consultant Reviewer

Edward A. Summerly, P.G.
Principal

cc: Mr. Maurice Moore (NYSDEC)

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1.00 INTRODUCTION

In accordance with our May 2, 2012 proposal, GZA GeoEnvironmental, Inc. (GZA) collected and analyzed groundwater samples at the nine (9) annual site-wide groundwater monitoring well locations (designated in the Long-Term Groundwater Monitoring Plan (LTGWM)) and the six (6) semi-annual WT-1 vicinity groundwater monitoring well locations at the Steel Winds I facility located in Lackawanna, New York (Site). A Locus Plan and Site Plan are attached as Figures 1 and 2, respectively.

1.10 BACKGROUND AND SITE HISTORY

Tecumseh Redevelopment, Inc. (Tecumseh) owns approximately 1,100 acres of land at 1951 Hamburg Turnpike, as shown attached Figure 1. The property was formerly used for the production of steel, coke and related products by Bethlehem Steel Corporation (BSC). Steel production on the Tecumseh property was discontinued in 1983 and the coke ovens ceased activity in 2000. Tecumseh acquired the property, along with other BSC assets, out of bankruptcy in 2003.

In September 2006, BQ Energy entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines, supporting power generation equipment and infrastructure on an approximately 29-acre parcel of the Tecumseh property, referred to as the Steel Winds I Site. BQ Energy and the NYSDEC also entered into a Brownfield Cleanup Agreement for the Steel Winds Site. The Site is wholly contained within the Slag Fill Area (SFA) Zones 3 and 4 of the Tecumseh property bordered by Lake Erie to the west, Smokes Creek to the south, and former industrial lands of BSC to the north and east. Niagara Wind Power, LLC (NWP), an affiliate of First Wind, operates the eight wind turbines installed at the Site.

The Brownfield Cleanup Program (BCP) was successful in achieving the remedial objectives for the Steel Winds Site. The Site Management Plan (SMP) and Final Engineering Report (FER) were approved by NYSDEC in December 2007. NYSDEC issued a Certificate of Completion (COC) for the Site on December 18, 2007.

The remedial activities conducted at the Site include:

- Excavation and off-site disposal of impacted slag fill from the eight wind turbine foundations and interconnecting utility trenches;
- In-situ enhanced biodegradation of residual volatile organic compounds (VOCs), including benzene, toluene, total xylenes, and naphthalene, using oxygen release compound (ORC®) socks within the saturated soil and groundwater in the vicinity of WT-01 and associated monitoring; and,
- Completion of a soil cover system.

As a requirement of the SMP, LTGWM is being performed at nine (9) wells across the Site. Additional groundwater monitoring was also performed to monitor the effectiveness

of the ORC in-situ treatment in the vicinity of wind turbine WT-01. During 2011, both the LTGWM and WT-01 vicinity groundwater monitoring programs were performed on an annual basis and were done on July 13 and 14, 2011. The five ORC in-situ treatment wells were to be monitored semi-annually, in accordance with the SMP. However, only one ORC monitoring event (on May 4, 2011) was conducted because of the ineffectiveness of the remedy.

An *Operation, Monitoring and Maintenance Request for Modification* report, dated November 2011, was submitted to NYSDEC by Benchmark. This report proposed ceasing operation of ORC® groundwater remedy for the WT-01 Vicinity because the remedy was not effective in reducing VOC concentrations, due primarily to the geochemical conditions (i.e., high baseline chemical oxygen demand, highly negative oxidation reduction potential and high pH) of the Site. NYSDEC provided comments to this report on April 10, 2012 and GZA provided a response letter on May 9, 2012. Based on this letter and correspondence with NYSDEC, the ORC® remedy has been terminated (i.e., the ORC socks have been removed from the five treatment wells and disposed of as a solid waste).

In accordance with a letter from GZA to NYSDEC, dated June 22, 2012[1], semi-annual/annual groundwater monitoring will continue at the Site until a Technical Impracticability (TI) Waiver for groundwater treatment at the Site is submitted to and approved NYSDEC. Submission of the TI waiver to NYSDEC is due by the end of November 2014.

2.00 PURPOSE AND SCOPE OF WORK

The purpose of the June 2013 annual/semi-annual sampling event was to collect groundwater samples from the nine (9) annual site-wide and six (6) semi-annual WT-1 vicinity groundwater monitoring wells, respectively, in accordance with the routine monitoring protocol described in the September 2007 SMP. To accomplish this, the following activities were completed.

- Collected one (1) groundwater sample from each annual/semi-annual well location for laboratory analysis (conducted by Spectrum) in accordance with the analytical testing summary provided in Table 1. Test parameters included the following:

    - STARS list VOCs via EPA Method 8260B;
    - Base-Neutral semi-volatile organic compounds (SVOCs) via EPA Method 8270C; and
    - Arsenic, barium, chromium, and/or manganese via EPA Method 6010B (select annual groundwater monitoring wells only).

[1]GZA's June 22, 2012 letter was prepared in response to NYSDEC's comments on GZA's May 9, 2012 Responses to NYSDEC's April 10, 2012 Comments on the November 2011 Operation, Monitoring and Maintenance Request for Modification report, prepared by Benchmark.

- Prepared this report, which summarizes the data collected during each sampling event and compared the data to historic data and assessed contaminant concentration trends.

This report presents GZA's field observations, results, and opinions and is subject to the limitations presented in Appendix A and modifications if subsequent information is developed by GZA or any other party.

3.00 FIELD STUDIES

This section describes the field studies conducted as part of GZA's groundwater annual/semi-annual sampling event.

3.10 GROUNDWATER DATA COLLECTION

GZA collected groundwater samples from the nine (9) annual Site-wide monitoring wells (including MWN-01, MWN-01B, MWN-02, MWN-02B, MWN-02D, MWN-03, MWN-03B, MWN-03D, and MWN-04), and six (6) WT-1 vicinity semi-annual monitoring wells (including MWN-01, MWN-01B, WT1-02, WT1-04, WT1-05, and BCP-ORC-1). Samples were collected beginning on June 17, 2013 and ending June 20, 2013. Note, when the monitoring programs contained duplicate wells, only one sample was collected for analysis and used for both programs.

The following tables show the volume of water purged and the number of well volumes removed from the respective well, after a constant head was established, to achieve screening parameter stabilization. In general, groundwater purge rates were within 500(±) millimeter per minute (ml/min).

Annual Site-Wide Monitoring Well ID	Cumulative Volume Purged (gallons)	Well Volumes (#)
MWN-01	14.4	3.5
MWN-01B	10.8	3.9
MWN-02	7.0	1.9
MWN-02B	6.3	1.3
MWN-02D	14.8	1.8
MWN-03	6.8	1.2
MWN-03B	3.1	0.7
MWN-03D	3.2	0.3
MWN-04	5.8	1.5

WT-1 Vicinity Semi-Annual Monitoring Well ID	Cumulative Volume Purged (gallons)	Well Volumes (#)
MWN-01	14.4	3.5
MWN-01B	10.8	3.9
WT1-02	6.6	1.0
WT1-04	20.8	11.6
WT1-05	28.5	20.4
BCP-ORC-1	4.0	0.4

As part of the Annual/Semi-annual groundwater monitoring, static groundwater level measurements were made from top of riser of the monitoring wells listed in the table below prior to purging. Monitoring point elevation data was available from previous groundwater monitoring reports completed by Benchmark. From this data, groundwater flow directions were estimated and are shown on Figure 2. Based on the available information, groundwater flow is generally in a westerly direction towards Lake Erie.

Monitoring Well Location	Top of Riser Elevation (ft.)	Groundwater Depth (ft.)	Groundwater Elevation (ft.)
MWN-01	585.14	15.61	569.53
MWN-01B	587.13	16.43	570.70
MWN-02	601.01	28.88	572.13
MWN-02B	601.28	29.14	572.14
MWN-02D	602.95	30.11	572.84
MWN-03	611.96	40.16	571.80
MWN-03B	612.29	41.13	571.16
MWN-03D	613.51	43.19	570.32
MWN-04	623.45	52.12	571.33
WT1-02	600.78	27.85	572.93
WT1-04	586.45	13.90	572.55
WT1-05	584.41	13.89	570.52
BCP-ORC-1	591.97	19.45	572.52

4.00 ANALYTICAL LABORATORY TESTING

Thirteen (13) annual/semi-annual groundwater samples were submitted for analytical testing as part of the June 2013 sampling event. The samples were packed in an ice-filled cooler and, following typical chain-of-custody procedures, sent to Spectrum for analysis. Table 1 presents a summary of the samples collected and the analyses completed.

5.00 ANALYTICAL TEST RESULTS

A discussion of the laboratory results for the groundwater samples is presented below. The laboratory reports are provided in Appendix B and the analytical test results are summarized on Tables 2 and 3.

The analytical test results for the groundwater samples were compared to NYSDEC Class GA criteria presented in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.), dated October 1993, revised June 1998, errata January 1999 and amended April 2000.

The analytical data generated as part of this sampling event has also been provided to NYSDEC electronically for their Environmental Information Management System (EIMS). The data was provided in a standardized electronic data deliverable (EDD) format that uses the database software application EQuIS™ (EQuIS) from EarthSoft® Inc. The laboratory data and required information were imported into the EQuIS Data Processor (EDP) and submitted to NYSDEC.

5.10 ANNUAL SITE-WIDE MONITORING WELLS

- MWN-01: Nine (9) VOCs were detected above method reporting limits of which seven (7) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 43 parts per billion (ppb);
    - Toluene at 9.5 ppb;
    - m,p-Xylene at 21 ppb;
    - o-Xylene at 16 ppb;
    - Total Xylene at 37 ppb;
    - 1,3,5 Trimethylbenzene at 5.2 ppb; and
    - 1,2,4 Trimethylbenzene at 7.1 ppb.

    Naphthalene was also detected at a concentration of 370 ppb, which exceeds its respective guidance value of 10 ppb. There is no Class GA standard value for this compound. This concentration was obtained from a secondary dilution analysis.

    Eleven (11) SVOCs were detected above method reporting limits of which two (2) exceeded their respective guidance values, as follows.

    - Fluorene at 75 ppb; and
    - Phenanthrene at 120 ppb, which was obtained from a secondary dilution analysis.

- MWN-01B: Ten (10) VOCs were detected above method reporting limits of which seven (7) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 91 ppb;
    - Toluene at 26 ppb;
    - m,p-Xylene at 18 ppb;
    - o-Xylene at 11 ppb;
    - Total Xylene at 29 ppb;
    - 1,3,5 Trimethylbenzene at 6.7 ppb; and
    - 1,2,4 Trimethylbenzene at 9.6 ppb.

  Naphthalene was also detected at a concentration of 1,500 ppb, which exceeds its respective guidance value of 10 ppb. This concentration was obtained from a secondary dilution analysis.

  Eleven (11) SVOCs were detected above method reporting limits of which one (1) exceeded its respective guidance value, as follows.

    - Phenanthrene at 72 ppb.

- MWN-02: Nine (9) VOCs were detected above method reporting limits of which two (2) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 15 ppb; and
    - o-Xylene at 6.4 ppb.

  Naphthalene was also detected at a concentration of 40 ppb, which exceeds its respective guidance value of 10 ppb.

  Ten (10) SVOCs were detected above method reporting limits but below their respective NYSDEC Class GA criteria or guidance values.

- MWN-02B: Nine (9) VOCs were detected above method reporting limits of which five (5) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 110 ppb;
    - Toluene at 19 ppb;
    - m,p-Xylene at 14 ppb;
    - o-Xylene at 16 ppb; and
    - Total Xylene at 30 ppb.

  Naphthalene was also detected at a concentration of 290 ppb, which exceeds its respective guidance value of 10 ppb. This concentration was obtained from a secondary dilution analysis.

Ten (10) SVOCs were detected above method reporting limits but below their respective NYSDEC Class GA criteria or guidance values.

One metal, arsenic, was detected at a concentration of 50.4 ppb, which exceeds its Class GA criteria of 25 ppb.

- MWN-02D: Three (3) metals were detected above method reporting limits but below their respective Class GA criteria.

- MWN-03: Eight (8) VOCs were detected above method reporting limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.

    - Benzene at 5.1 ppb.

  Naphthalene was also detected at a concentration of 12 ppb, which exceeds its respective guidance value of 10 ppb.

  Nine (9) SVOCs were detected above method reporting limits but below their respective NYSDEC Class GA criteria or guidance values.

- MWN-03B: Four (4) metals were detected above method reporting limits of which three (3) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Arsenic at 53.2 ppb;
    - Barium at 1,270 ppb; and
    - Manganese at 417 ppb.

- MWN-03D: Six (6) VOCs were detected above method reporting limits of which one (1) exceeded its NYSDEC Class GA criteria, as follows.

    - m,p-Xylene at 14 ppb;

  One (1) SVOC, bis(2-Ethylhexyl)Phthalate, was detected above method reporting limits, but not in exceedance of its respective Class GA criteria of 5 ppb. Based on previous data from the Site, this compound appears to be a laboratory induced contaminant.

  Two (2) metals were detected above method reporting limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.

    - Barium at 1,370 ppm.

- MWN-04: VOCs were not detected above method reporting limits.

  One (1) SVOC, bis(2-Ethylhexyl)Phthalate, was detected above method reporting limit but not in exceedance of its respective Class GA criteria of 5 ppb. Based on

previous data from the Site, this compound appears to be a laboratory induced contaminant.

In general, VOC, SVOC, and metal concentrations were consistent with historical data collected during previous sampling events completed at the Site (refer to the Time Series plots provided in Appendix C). A more detailed discussion, including trend analysis, is provided in Section 6.00 of this report.

5.20 SEMI-ANNUAL WT-1 VICINITY MONITORING WELLS

Monitoring well locations MWN-01 and MWN-01B are included in both annual and semi-annual sampling schedules. The analytical results for these monitoring locations are discussed in the previous Section 5.10.

- WT1-02: Nine (9) VOCs were detected above method reporting limits of which six (6) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 39 ppb;
    - Toluene at 7.7 ppb;
    - m,p-Xylene at 16 ppb;
    - o-Xylene at 13 ppb;
    - Total Xylene at 29 ppb; and
    - 1,3,5-Trimethylbenzene at 5.7 ppb.

    Naphthalene was also detected at a concentration of 73 ppb, which exceeds its respective guidance value of 10 ppb.

    Nine (9) SVOCs were detected above method reporting limits but below their respective NYSDEC Class GA criteria or guidance values.

- WT1-04: Nine (9) VOCs were detected above method reporting limits of which six (6) exceeded their respective NYSDEC Class GA criteria, as follows.

    - Benzene at 28 ppb;
    - Toluene at 5.4 ppb;
    - m,p-Xylene at 13 ppb;
    - o-Xylene at 10 ppb;
    - Total Xylene at 23 ppb; and
    - 1,3,5-Trimethylbenzene at 5 ppb.

    Naphthalene was also detected at a concentration of 71 ppb, which exceeds its respective guidance value of 10 ppb.

    Eleven (11) SVOCs were detected above method reporting limits but below their respective NYSDEC Class GA criteria or guidance values.

- WT1-05: Eight (8) VOCs were detected above method reporting limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.

    - Benzene at 6.3 ppb;

    Naphthalene was also detected at a concentration of 52 ppb, which exceeds its respective guidance value of 10 ppb.

    Nine (9) SVOCs were detected above method reporting limits but below their respective NYSDEC Class GA criteria or guidance values.

- BCP-ORC-1: Eight (8) VOCs were detected above method reporting limits of which one (1) exceeded its respective NYSDEC Class GA criteria, as follows.

    - Benzene at 41 ppb.

    Naphthalene was detected at a concentration of 460 ppb, which exceeds its respective guidance value of 10 ppb. This concentration was obtained from a secondary dilution analysis.

    Eleven (11) SVOCs were detected above method reporting limits but below their respective NYSDEC Class GA criteria or guidance values.

In general, VOC and SVOC concentrations were consistent with historical data collected during previous sampling events by Benchmark. A more detailed discussion, including a trend analysis, is provided in Section 6.00 of this report and Time Series plots are provided in Appendix C.

6.00 STATISTICAL ANALYSIS

As stated in Section 2.4 of Attachment A4 (LTGWM Plan) of the September 2007 Site Management Plan, a statistical analysis is required for all detected constituents (in groundwater) that are observed at concentrations above NYSDEC Class GA criteria or guidance values. In lieu of performing moving trend analysis, as described in the LTGWM Plan, GZA generated time series plots for parameters which exceeded the NYSDEC Class GA criteria, either during this monitoring round or in previous data (2007 through 2011) prepared by Benchmark. These plots were evaluated for trends in contaminant concentrations (over a five year period at a 95% confidence interval) and outliers. Sen's Test for trends was performed to evaluate statistically significant trends in the data with respect to time. Time series plots were generated on a well by well basis and are presented in Appendix C.

Four statistically significant downwards trends in contaminant concentrations were identified by the Sen's Tests: benzo(a)anthracene in samples from BCP-ORC-1; toluene in samples from MWN-01 and WT1-04; and xylene in samples from WT1-04. There was

one statistically significant increasing trend in contaminant concentrations identified for benzo(a)pyrene in samples from WT1-04. However, this appears to be a function of an increase in the reporting, as the last two results were non-detect. No other statistically significant trends were identified. In addition, visual analysis of the time series plots identified visually decreasing trends for benzene and xylenes in samples from BCP-ORC-1.

Time series plots were also visually evaluated for seasonality and outliers. There do not appear to be seasonal fluctuations of contaminant concentrations in the monitoring data. High end outliers identified in the June 2013 monitoring round include:

- WT1-02: benzo(a)anthracene. This compound was not detected during the June 2013 sampling round and was identified as an outlier because of the elevated reporting limit.
- WT1-04: benzo(k)fluoranthene. This compound was not detected during the June 2013 sampling round and was identified as an outlier because of the elevated reporting limit;
- BCP-ORC-1: chrysene and benzo(a)anthracene. These compounds were not detected during the June 2013 sampling round and were identified as outliers because of elevated reporting limits;
- MWN-01: chrysene and benzo(a)anthracene. These compounds were not detected during the June 2013 sampling round and were identified as outliers because of elevated reporting limits; and
- MWN-01B: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and chrysene. These compounds were not detected during the June 2013 sampling round and were identified as outliers because of elevated reporting limits.

These outliers will be reevaluated as part of the next monitoring report.

7.00 SUMMARY

GZA was retained to collect and analyze groundwater samples from thirteen (13) annual/semi-annual monitoring wells at the Steel Winds I facility in accordance with the Site Management Plan. A summary of our findings follows.

Annual Well Locations

- Static groundwater level measurements indicate that groundwater flows predominantly in a westerly direction at the Site, toward Lake Erie. Groundwater in the vicinity of WT-01 was observed to flow south towards Smokes Creek.

- VOCs were detected at concentrations above NYSDEC Class GA criteria or guidance criteria in the groundwater samples collected from LTGWM wells MWN-01, MWN-01B, MWN-02, MWN-02B, MWN-03 and MWN-03D.

- VOCs were not detected above NYSDEC Class GA criteria in LTGWM monitoring well location MWN-04.

- SVOCs were detected at concentrations above NYSDEC Class GA or their respective guidance criteria in the groundwater samples collected from LTGWM wells MWN-01 and MWN-01B.

- Arsenic was detected at concentrations above NYSDEC Class GA criteria in LTGWM wells MWN-02B and MWN-03B.

- Barium was detected at concentrations above NYSDEC Class GA criteria in LTGWM wells MWN-03B and MWN-03D.

- Manganese was detected at a concentration above NYSDEC Class GA criteria in LTGWM well MWN-03B.

Semi-Annual Well Locations

- VOCs were detected at concentrations above NYSDEC Class GA criteria or guidance criteria in the groundwater samples collected from the semi-annual WT1 vicinity wells MWN-01, MWN-01B, WT1-02, WT1-04, WT1-05 and BCP-ORC-1.

- SVOCs were detected at concentrations above NYSDEC Class GA or their respective guidance criteria in the groundwater samples collected from the semi-annual WT1 vicinity wells MWN-01 and MWN-01B.

Based on our review of the historic and current analytical data, the analytical test results from the June 2013 round of sampling are generally consistent with historical data. Statistically significant downwards trends in contaminant concentrations were identified for benzo(a)pyrene, benzo(a)anthracene, xylene and toluene in several monitoring wells. Visually apparent (yet not statistically significant) decreasing trends for benzene and xylenes in samples from well BCP-ORC-1.Numerous statistical outliers were identified for several SVOCs due to a recent increase in analytical reporting limits.

TABLES

TABLE 1
2013 Analytical Testing Program Summary
Steel Winds I Facility
Lackawanna, New York

Well Designation	Sample ID	Date Collected	Screened Interval (TOR)	STARS VOCs	SVOCs (BN)	Total Arsenic	Total Barium	Total Chromium	Total Manganese
Annual Monitoring Well Sample Locations (LTGWM Network)									
MWN-01	MWN-01-061813	6/18/2013	9.15 - 19.15	X	X				
MWN-01B	MWN-01B-061713	6/17/2013	22.24 - 32.24	X	X				
MWN-02	MWN-02-061813	6/20/2013	23.62 - 33.62	X	X				
MWN-02B	MWN-02B-061813	6/18/2013	46.28 - 56.28	X	X	X			
MWN-02D	MWN-02D-061813	6/18/2013	74.34 - 79.34			X	X	X	
MWN-03	MWN-03-062013	6/20/2013	39.17 - 49.17	X	X				
MWN-03B	MWN-3B-062013	6/20/2013	60.72 - 70.72			X	X	X	X
MWN-03D	MWN-03D-062013	6/20/2013	111.26 - 121.26	X	X		X		X
MWN-04	MWN-04-062013	6/20/2013	48.53 - 58.53	X	X				
Semi-Annual Monitoring Well Sample Locations (WT-1 Vicinity Network)									
MWN-01	MWN-01-061813	6/18/2013	9.15 - 19.15	X	X				
MWN-01B	MWN-01B-061713	6/17/2013	22.24 - 32.24	X	X				
WT1-02	WT1-02-061713	6/17/2013	27.78 - 37.78	X	X				
WT1-04	WT1-04-061713	6/17/2013	15.52 - 25.52	X	X				
WT1-05	WT1-05-061813	6/18/2013	13.30 - 23.30	X	X				
BCP-ORC-1	BCP-ORC-1-061713	6/17/2013	24.68 - 34.68	X	X				

Notes:

1. VOCs = Volatile Organic Compounds STARS list via EPA Method 8260B.
2. SVOCs = Semi-Volatile Organic Compounds Base-Neutrals list via EPA Method 8270C.
3. Arsenic, Barium, Chromium, and Manganese via EPA Method 6010B.
4. "WT", "MWN", and "BCP-ORC" monitoring well information provided in Table 1 was referenced from Turnkey Environmental Restoration, LLC's *2009 Annual LTGWM & First Semi-Annual WT-1 Vicinity Monitoring Report.*
5. TOR = measurement recorded in feet below top-of-well riser.

Table 2

June 2013 Annual Groundwater Analytical Data Summary
Steel Winds I Facility
Lackawanna, New York

Parameter	NYSDEC Class GA Crtieria	MWN-01 6/18/2013 Result	MWN-01B 6/17/2013 Result	MWN-02 6/20/2013 Result	MWN-02B 6/18/2013 Result	MWN-02D 6/18/2013 Result	MWN-03 6/20/2013 Result	MWN-03B 6/20/2013 Result	MWN-03D 6/20/2013 Result	MWN-04 6/20/2013 Result
Water Quality Field Measurements										
pH (units)	6.5 - 8.5	**11.60**	**11.29**	**12.11**	**11.64**	6.94	**12.18**	7.49	**6.1**	**11.86**
Temperature (˚C)	NV	12.40	12.60	13.1	13.2	13.1	14	14.9	14.1	16.9
Specific Conductance (uMhos/cm)	NV	1.31	0.89	1.71	1.28	1.63	2.76	3.17	26.09	3.09
Turbidity (NTU)	5	1.35	2.52	**6.95**	2.12	2.15	3.15	**7.48**	**13.42**	4.31
Dissolved Oxygen	NV	0.14	0.11	1.27	0.11	0.11	0.12	0.1	0.12	5.15
Oxygen Reduction Potential (mV)	NV	-338.7	-388.6	-178.2	-350.2	-98.9	-422.6	-196.9	-30.8	-89.7
Volatile Organic Compounds - EPA Method 8260 (ug/L)										
Benzene	1	**43**	**91**	**15**	**110**	NT	**5.1**	NT	0.56 J	<
Toluene	5	**9.5**	**26**	4.0 J	**19**	NT	1.6 J	NT	<	<
Ethylbenzene	5	1.9 J	1.2 J	0.79 J	1.2 J	NT	<	NT	3.5 J	<
m,p-Xylene	10	**21**	**18**	6.8	**14**	NT	1.8 J	NT	**14**	<
o-Xylene	5	**16**	**11**	**6.4**	**16**	NT	2.1 J	NT	<	<
Xylene (Total)	15	**37**	**29**	13	**30**	NT	3.8 J	NT	14	<
Isopropylbenzene	5	<	2.2 J	<	<	NT	<	NT	<	<
1,3,5-Trimethylbenzene	5	**5.2**	**6.7**	3.1 J	3.2 J	NT	1.5 J	NT	1.8 J	<
1,2,4-Trimethylbenzene	5	**7.1**	**9.6**	1.6 J	4.6 J	NT	0.56 J	NT	4.1 J	<
Naphthalene*	10	**370 D**	**1,500 D**	**40**	**290 D**	NT	**12**	NT	<	<
Semi-Volatile Organic Compounds - EPA Method 8270 (ug/L)										
Acenaphthylene	NV	41	60	2.7 J	4.5 J	NT	<	NT	<	<
2-Methylnaphthalene	NV	54	54	2.4 J	12	NT	2.4 J	NT	<	<
Acenaphthene*	20	14	12	1.5 J	7.3 J	NT	1.2 J	NT	<	<
Dibenzofuran	NV	56	34	3.4	8.2 J	NT	1.9 J	NT	<	<
Fluorene*	50	**75**	47	5.7 J	12	NT	3.7 J	NT	<	<
Phenanthrene*	50	**120 D**	**72**	7.1 J	19	NT	7.0 J	NT	<	<
Carbazole	NV	36	71	1.9 J	23	NT	2.6 J	NT	<	<
Anthracene*	50	13	14	1.3 J	1.5 J	NT	0.92 J	NT	<	<
Fluoranthene*	50	14	11	2.3 J	4.2 J	NT	2.7 J	NT	<	<
Pyrene*	50	8.8 J	6.6 J	2.0 J	<	NT	<	NT	<	<
bis(2-Ethylhexyl)Phthalate	5	1.4 J	1.6 J	<	2.0 J	NT	1.4 J	NT	2.4 J	1.4 BJ
Metals - EPA Method 6010/7470 (ug/L)										
Arsenic	25	NT	NT	NT	**50.4**	5.1 B	NT	**53.2**	NT	NT
Barium	1,000	NT	NT	NT	NT	823	NT	**1,270**	**1,370**	NT
Chromium	50	NT	NT	NT	NT	1.5 B	NT	1.1 B	NT	NT
Manganese	300	NT	NT	NT	NT	NT	NT	**417**	204	NT

Notes:
1. Compounds detected in one or more sample are presented on this table. Refer to Appendix B for list of all compounds included in analysis.
2. Analytical testing completed by Spectrum Laboratory, North Kingstown, Rhode Island.
3. NYSDEC Groundwater Class GA criteria obtained from Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, errata January 1999 and amended April 2000 (Class GA).
4. ug/L = part per billion (ppb).
5. < indicates compound was not detected above method detection limits.
6. "J" qualifier = Analyte detected below quanititation limits.
7. "B" qualifier = indicates compound was detected in the method blank sample. For inorganics, "B" indiciates a "trace" concentration below the reporting limit and equal to or above the detection limit.
8. "D" qualifier = indicates the compound concentration was obtained from a secondary dilution analysis.
9. Value shown in **bold** indicate exceedance of respective Class GA Criteria or guidance value.
10. NV = no value.
11. * = value shown is a guidance value rather than a groundwater standard.
12. NT = not tested.

Table 3

June 2013 Semi-Annual Groundwater Analytical Data Summary
Steel Winds I Facility
Lackawanna, New York

Parameter	NYSDEC Class GA Crtieria	MWN-01 6/18/2013 Result	MWN-01B 6/17/2013 Result	WT1-02 6/17/2013 Result	WT1-04 6/17/2013 Result	WT1-05 6/18/2013 Result	BCP-ORC-1 6/17/2013 Result
Water Quality Field Measurements							
pH (units)	6.5 - 8.5	**11.6**	**11.29**	**12.06**	**11.85**	**11.55**	**11.46**
Temperature (˚C)	NV	12.4	12.6	13.1	11.7	11.9	13.7
Specific Conductance (uMhos/cm)	NV	1.31	0.89	2.23	1.45	0.84	1.07
Turbidity (NTU)	5	1.35	2.52	**7.53**	**5.12**	2.26	**5.08**
Dissolved Oxygen	NV	0.14	0.11	1.82	0.14	2.73	2.26
Oxygen Reduction Potential (mV)	NV	-338.7	-388.6	-221.7	-331.3	-172.4	-226.4
Volatile Organic Compounds - EPA Method 8260 (ug/L)							
Benzene	1	**43**	**91**	**39**	**28**	**6.3**	**41**
Toluene	5	**9.5**	**26**	**7.7**	**5.4**	1.6 J	4.4 J
Ethylbenzene	5	1.9 J	1.2 J	1.8 J	1.2 J	<	<
m,p-Xylene	10	**21**	**18**	**16**	**13**	3.1 J	2.4 J
o-Xylene	5	**16**	**11**	**13**	**10**	2.5 J	3.0 J
Xylene (Total)	15	**37**	**29**	**29**	**23**	5.7	5.4
Isopropylbenzene	5	<	2.2 J	<	<	<	<
1,3,5-Trimethylbenzene	5	**5.2**	**6.7**	**5.7**	**5**	1.2 J	2.7 J
1,2,4-Trimethylbenzene	5	**7.1**	**9.6**	4.5 J	4.1 J	1.2 J	3.2 J
Naphthalene*	10	**370 D**	**1,500 D**	**73**	**71**	**52**	**460 D**
Semi-Volatile Organic Compounds - EPA Method 8270 (ug/L)							
Acenaphthylene	NV	41	60	<	3.8 J	4.6 J	21
2-Methylnaphthalene	NV	54	54	8.1 J	10	3.9 J	24
Acenaphthene*	20	14	12	2.4 J	3.7 J	1.9 J	5.3 J
Dibenzofuran	NV	56	34	4.4 J	12	2.0 J	13
Fluorene*	50	**75**	47	9.4 J	18	6.9 J	20
Phenanthrene*	50	**120 D**	**72**	14	42	1.9 J	29
Carbazole	NV	36	71	6.0 J	8.6 J	1.4 J	33
Anthracene*	50	13	14	2.5 J	5.6 J	<	2.8 J
Fluoranthene*	50	14	11	5.6 J	10	1.7 J	4.8 J
Pyrene*	50	8.8 J	6.6 J	<	6.1 J	1.6 J	4.7 J
bis(2-Ethylhexyl)Phthalate	5	1.4 J	1.6 J	1.4 J	1.4 J	<	1.4 J

Notes:
1. Compounds detected in one or more sample are presented on this table. Refer to Appendix B for list of all compounds included in analysis.
2. Analytical testing completed by Spectrum Laboratory, North Kingstown, Rhode Island.
3. NYSDEC Groundwater Class GA criteria obtained from Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, errata January 1999 and amended April 2000 (Class GA).
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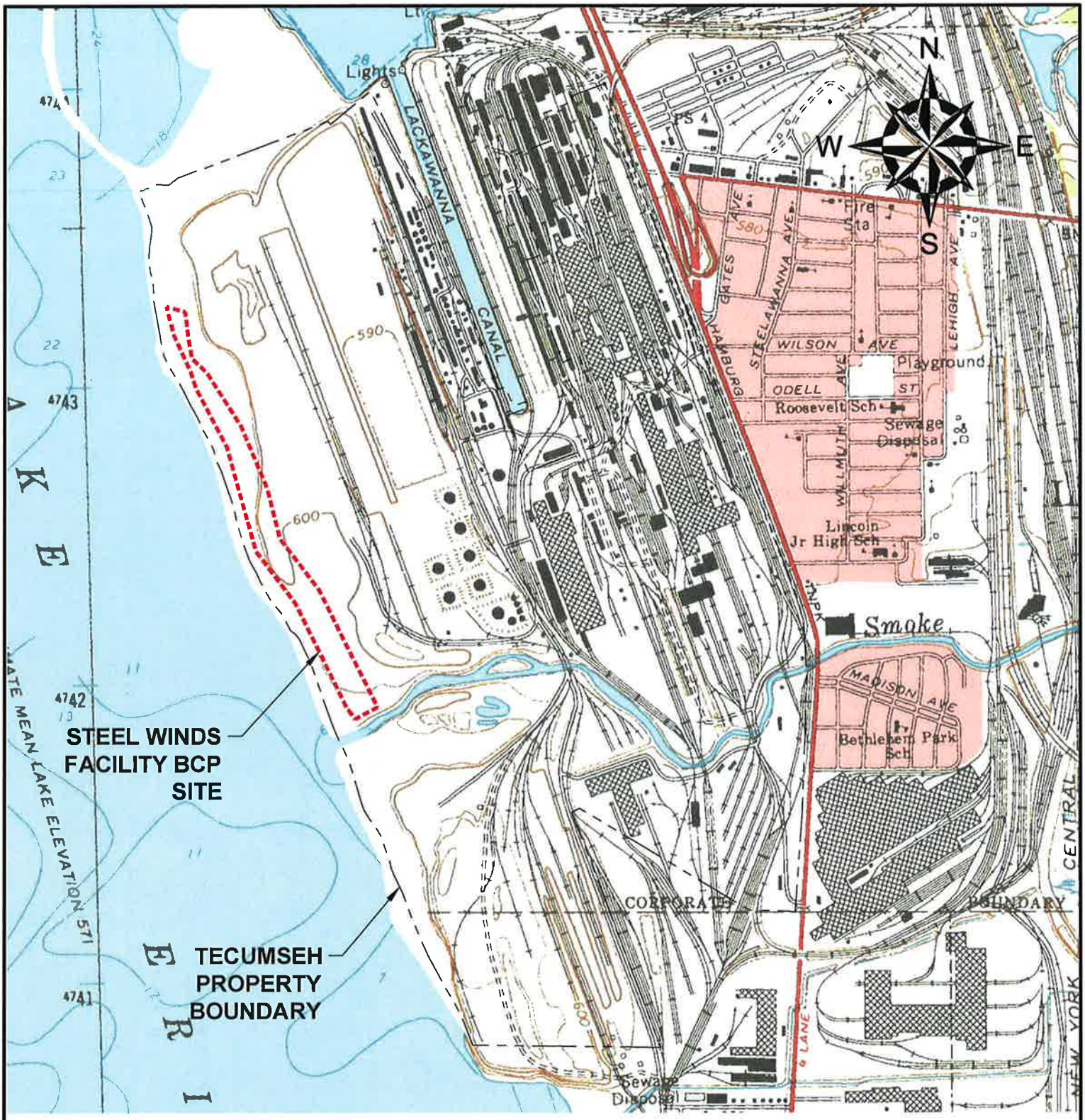
8. "D" qualifier = indicates the compound concentration was obtained from a secondary dilution analysis.
9. Value shown in **bold** indicate exceedance of respective Class GA Criteria or guidance value.
10. NV = no value.
11. * = value shown is a guidance value rather than a groundwater standard.
12. NT = not tested.

FIGURES



NEW YORK

NOTE:
BASE MAP ADAPTED FROM A 1965
U.S.G.S. TOPOGRAPHIC MAPS
DOWNLOADED FROM http://store.usgs.gov

0 750 150 3000
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
FIRST WIND ENERGY, LLC.

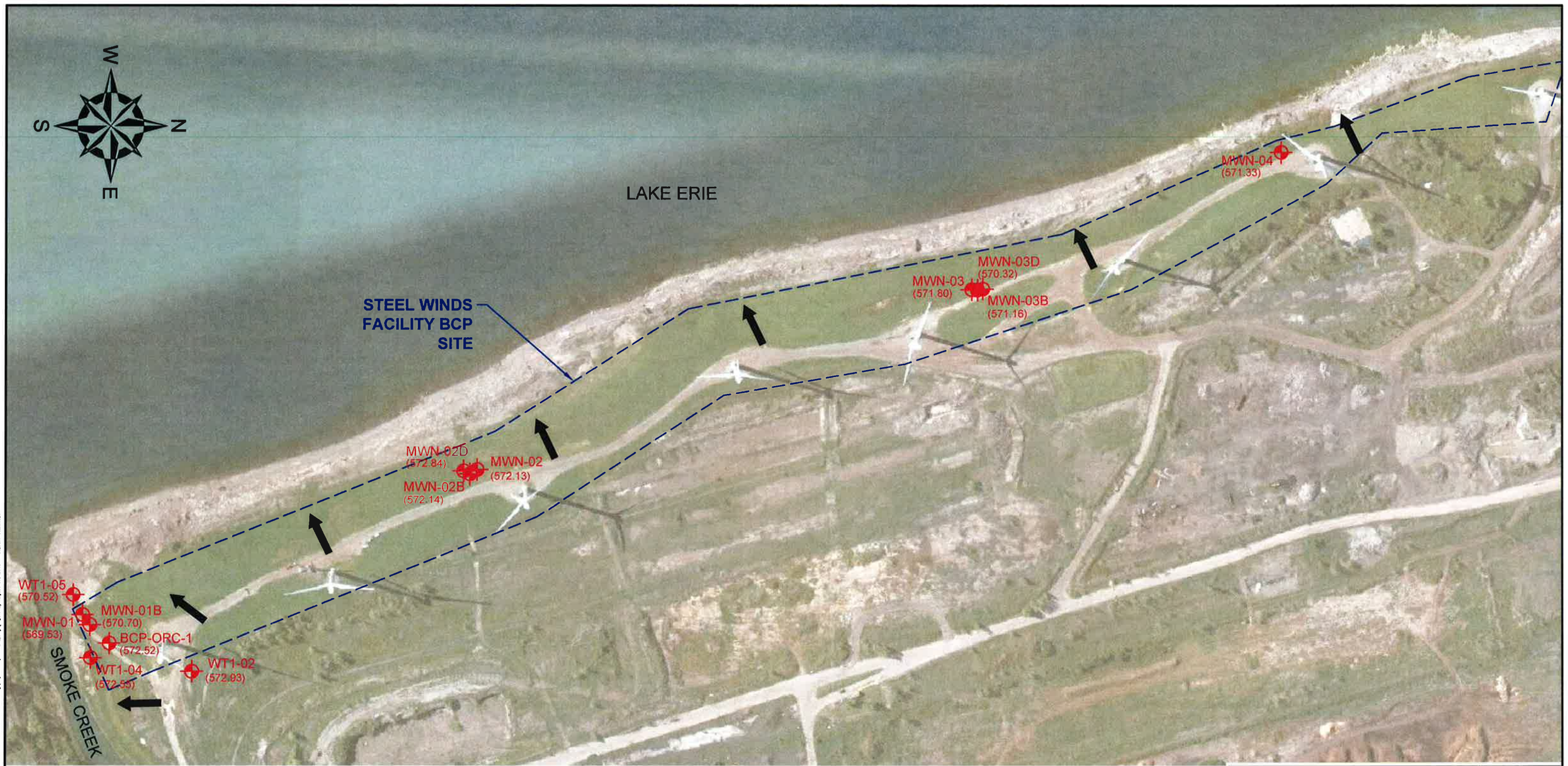
STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

JULY 2013 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

LOCUS PLAN

FIGURE 1

PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	DATE	PROJECT NO.	REVISION NO.	SHEET NO.
DESIGNED BY:	DRAWN BY: MDK	SCALE: AS SHOWN	AUGUST 2013	03.0033579.04		



LEGEND:

MWN-01 (569.53) — APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELLS SHOWN WITH GROUNDWATER ELEVATIONS MEASURED BY GZA IN JUNE 2013

PRESUMED GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTO DOWNLOADED FROM GOOGLE EARTH AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

0 150 300 600
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

2013 ANNUAL/SEMI-ANNUAL GROUNDWATER MONITORING REPORT
SITE PLAN

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
FIRST WIND ENERGY, LLC.

PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	FIGURE 2
DESIGNED BY:	DRAWN BY: MDK	SCALE: AS SHOWN	
DATE AUGUST 2013	PROJECT NO. 03.0033579.04	REVISION NO.	SHEET NO.

APPENDIX A

LIMITATIONS

GEOHYDROLOGICAL LIMITATIONS

Use of Report

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

Standard of Care

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).

3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.

4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

Subsurface Conditions

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs.

6. Water level readings have been made in test holes (as described in the Report) and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level

of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

Compliance with Codes and Regulations

7. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.

Screening and Analytical Testing

8. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.

9. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.

10. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

Interpretation of Data

11. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

Additional Information

12. In the event that the Client or others authorized to use this report obtain information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

Additional Services

13. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

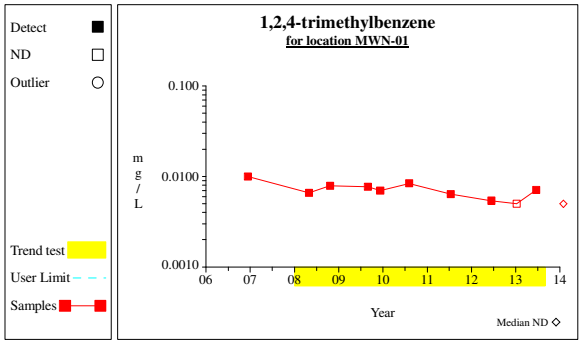
APPENDIX B

ANALYTICAL TEST RESULTS
(Not included as part of this 2014 PRR submittal)

APPENDIX C

TIME SERIES PLOTS

Time Series


Detect
ND
Outlier
Trend test
User Limit
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for location MWN-01
mg/L
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0.0100
0.0010
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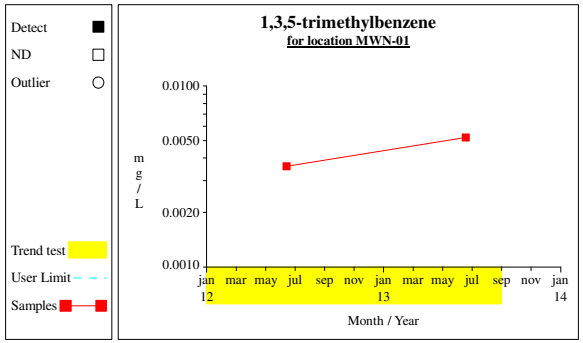
Year
Median ND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ND
Outlier
Trend test
User Limit
Samples
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for location MWN-01
mg/L
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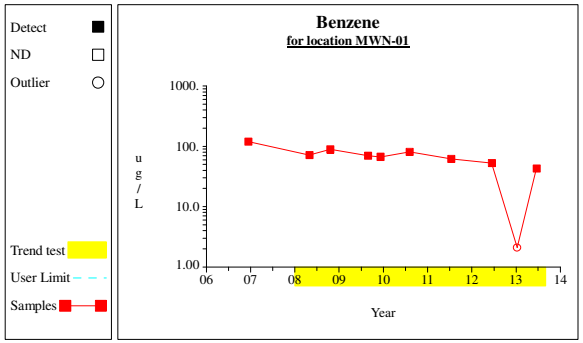
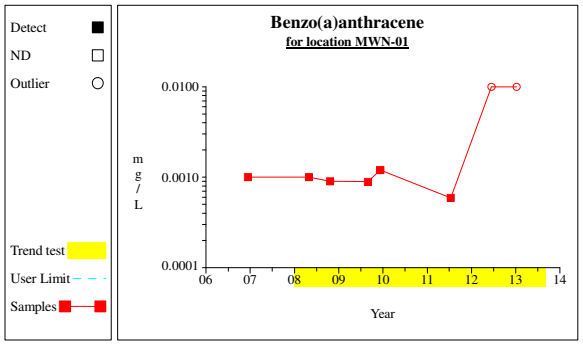
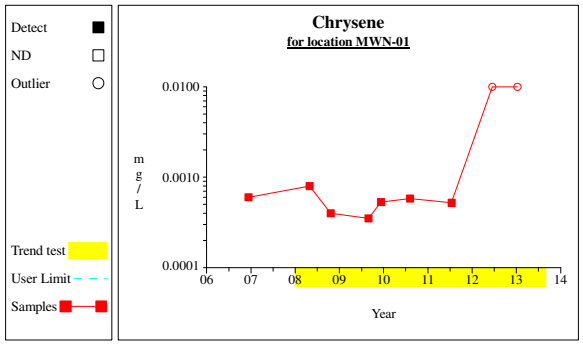
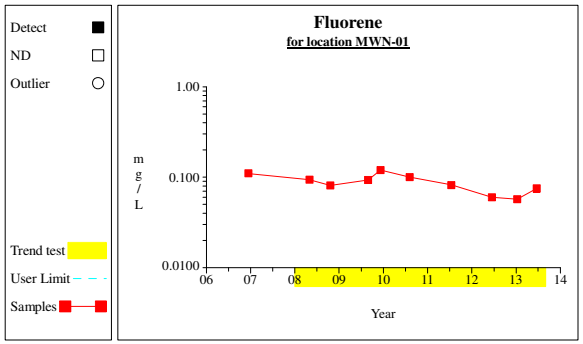
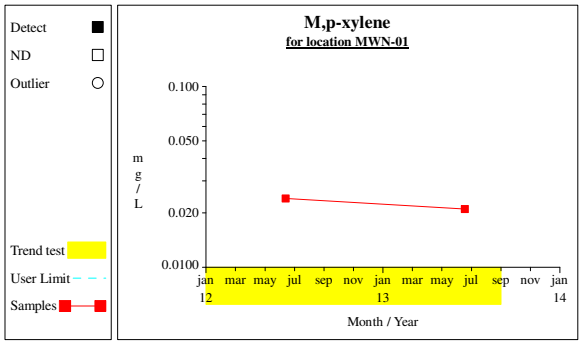
12 13 14
Month / Year

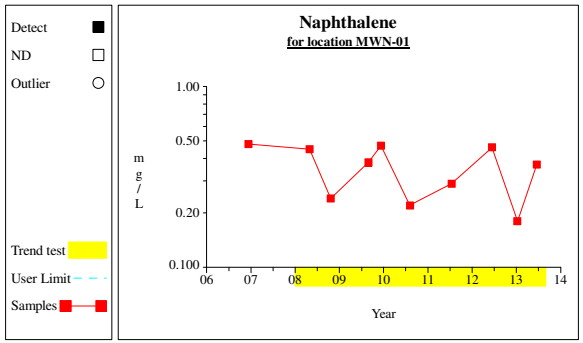

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location MWN-01
ug/L
1000.
100.
10.0
1.00
06 07 08 09 10 11 12 13 14
Year

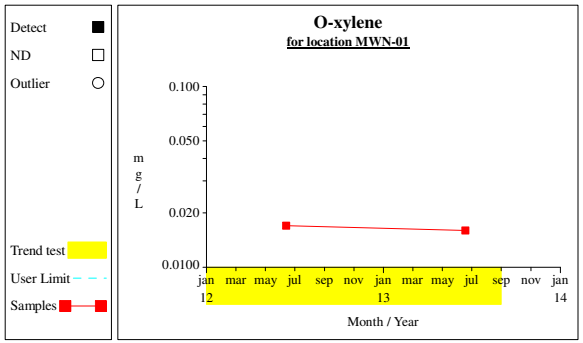

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)anthracene
for location MWN-01
mg/L
0.0100
0.0010
0.0001
06 07 08 09 10 11 12 13 14
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Chrysene
for location MWN-01
mg/L
0.0100
0.0010
0.0001
06 07 08 09 10 11 12 13 14
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Fluorene
for location MWN-01
mg/L
1.00
0.100
0.0100
06 07 08 09 10 11 12 13 14
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
M,p-xylene
for location MWN-01
mg/L
0.100
0.050
0.020
0.0100
jan mar may jul sep nov jan mar may jul sep nov jan
12 13 14
Month / Year

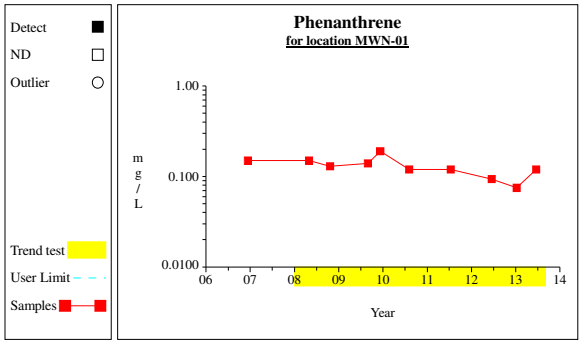

Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location MWN-01
mg/L
1.00
0.50
0.20
0.100
06 07 08 09 10 11 12 13 14
Year

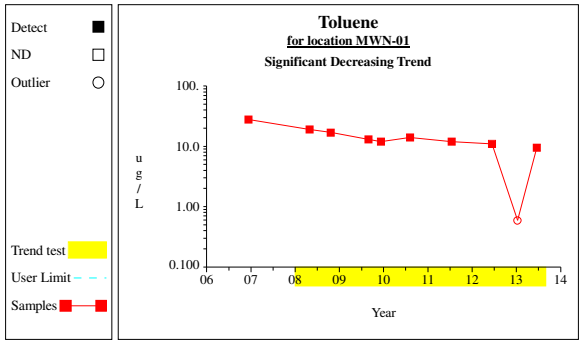

Detect
ND
Outlier
Trend test
User Limit
Samples
O-xylene
for location MWN-01
mg/L
0.100
0.050
0.020
0.0100
jan mar may jul sep nov jan mar may jul sep nov jan
12 13 14
Month / Year

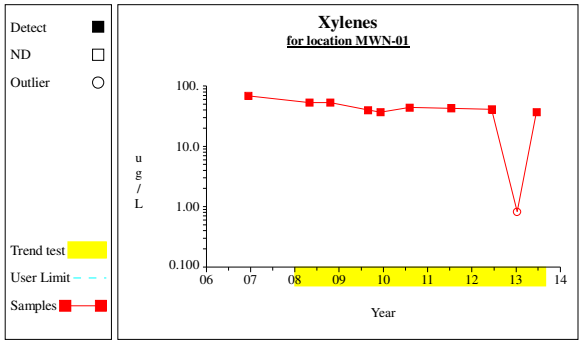
Steel Winds

Analysis prepared on: 7/30/2013

Time Series

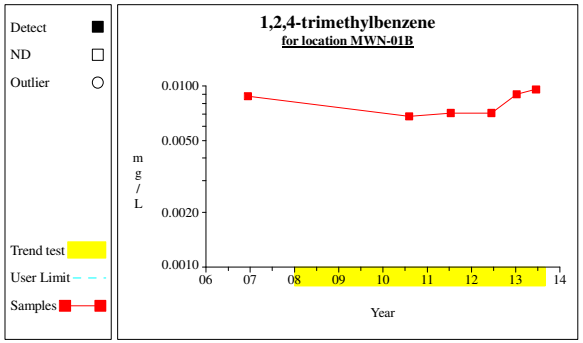


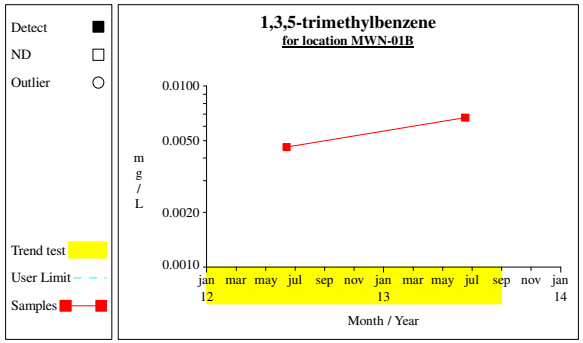


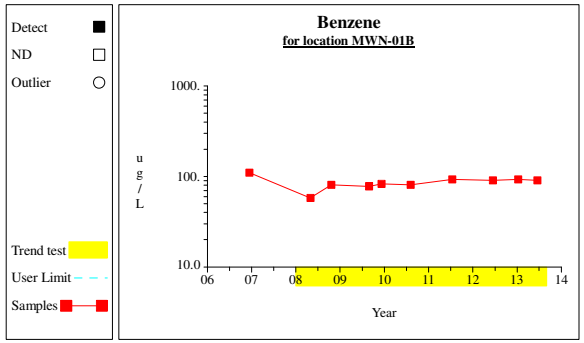


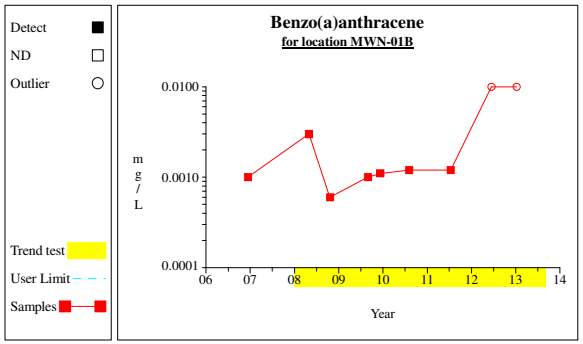
Prepared by: GZA GeoEnvironmental Inc.

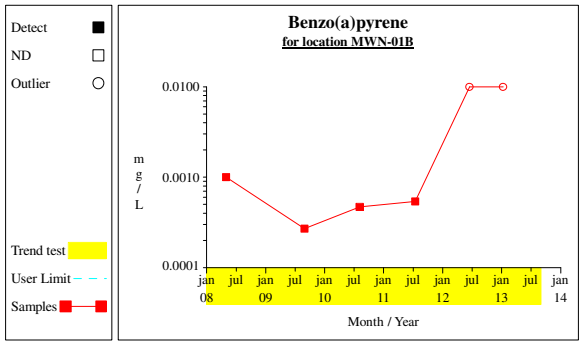
Time Series

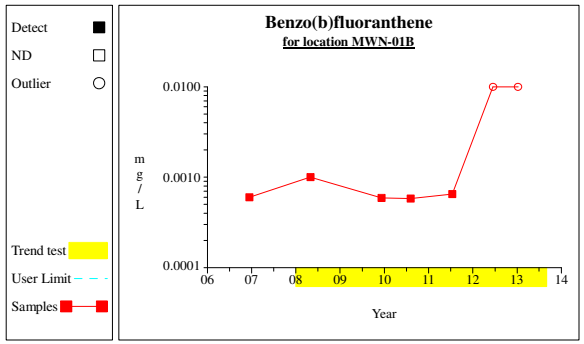

Detect
ND
Outlier
Trend test
User Limit
Samples
1,2,4-trimethylbenzene
for location MWN-01B
0.0100
0.0050
0.0020
0.0010
m g / L
06 07 08 09 10 11 12 13 14
Year

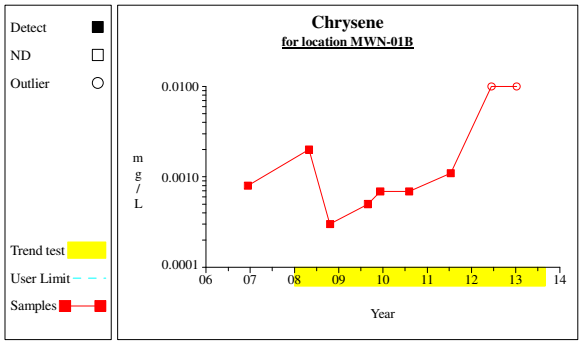

Detect
ND
Outlier
Trend test
User Limit
Samples
1,3,5-trimethylbenzene
for location MWN-01B
0.0100
0.0050
0.0020
0.0010
m g / L
jan mar may jul sep nov jan mar may jul sep nov jan
12 13 14
Month / Year

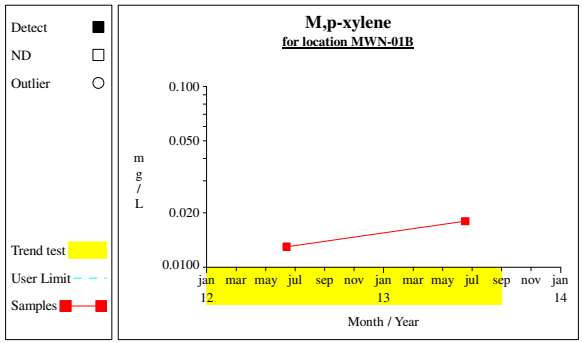

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location MWN-01B
1000.
100.
10.0
u g / L
06 07 08 09 10 11 12 13 14
Year

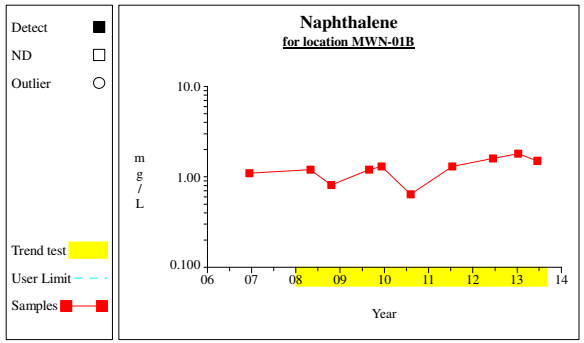

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)anthracene
for location MWN-01B
0.0100
0.0010
0.0001
m g / L
06 07 08 09 10 11 12 13 14
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)pyrene
for location MWN-01B
0.0100
0.0010
0.0001
m g / L
jan jul jan jul jan jul jan jul jan jul jan jul jan
08 09 10 11 12 13 14
Month / Year

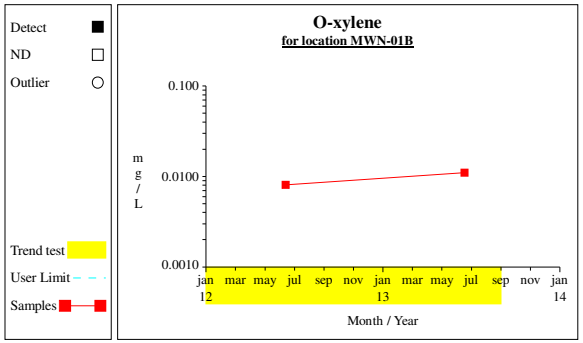

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(b)fluoranthene
for location MWN-01B
0.0100
0.0010
0.0001
m g / L
06 07 08 09 10 11 12 13 14
Year

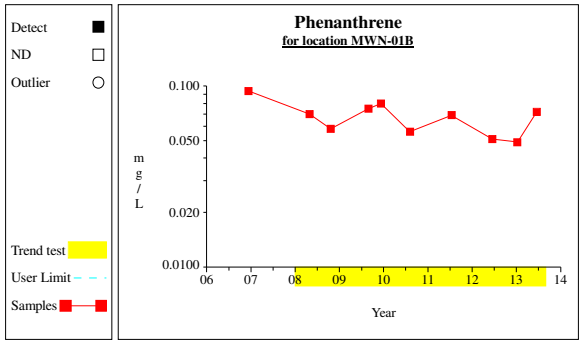

Detect
ND
Outlier
Trend test
User Limit
Samples
Chrysene
for location MWN-01B
0.0100
0.0010
0.0001
m g / L
06 07 08 09 10 11 12 13 14
Year

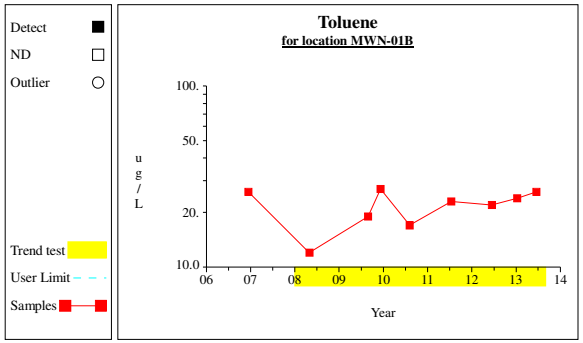

Detect
ND
Outlier
Trend test
User Limit
Samples
M,p-xylene
for location MWN-01B
0.100
0.050
0.020
0.0100
m g / L
jan mar may jul sep nov jan mar may jul sep nov jan
12 13 14
Month / Year

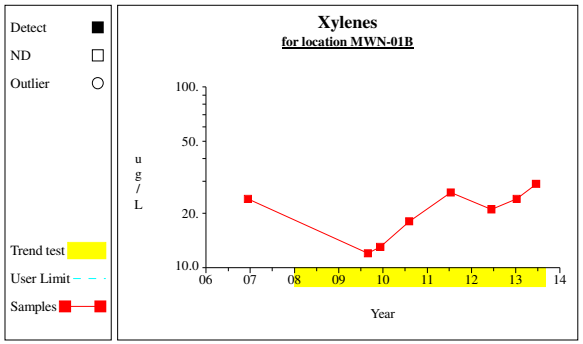

Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location MWN-01B
10.0
1.00
0.100
m g / L
06 07 08 09 10 11 12 13 14
Year

Time Series


Detect
ND
Outlier
Trend test
User Limit
Samples
O-xylene
for location MWN-01B
m
g
/
L
0.100
0.0100
0.0010
jan mar may jul sep nov jan mar may jul sep nov jan
12 13 14
Month / Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Phenanthrene
for location MWN-01B
m
g
/
L
0.100
0.050
0.020
0.0100
06 07 08 09 10 11 12 13 14
Year

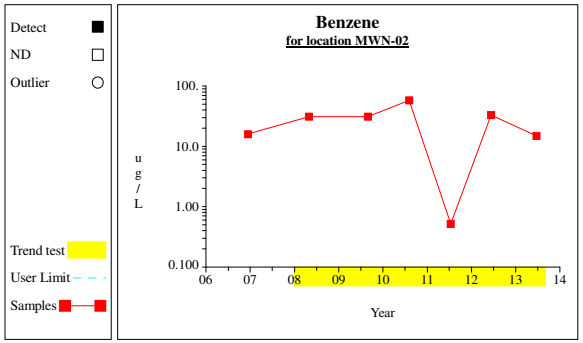

Detect
ND
Outlier
Trend test
User Limit
Samples
Toluene
for location MWN-01B
u
g
/
L
100.
50.
20.
10.0
06 07 08 09 10 11 12 13 14
Year

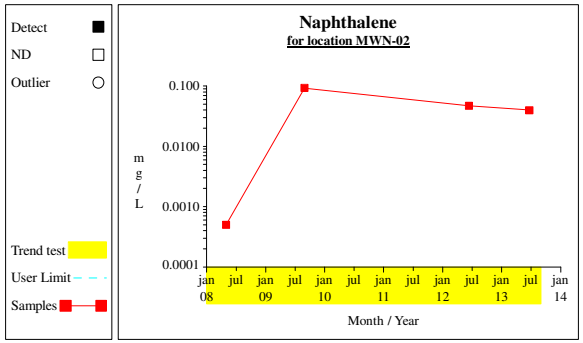

Detect
ND
Outlier
Trend test
User Limit
Samples
Xylenes
for location MWN-01B
u
g
/
L
100.
50.
20.
10.0
06 07 08 09 10 11 12 13 14
Year

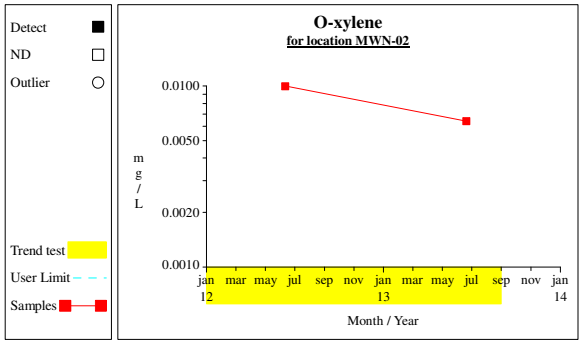
Steel Winds

Analysis prepared on: 7/30/2013

Time Series

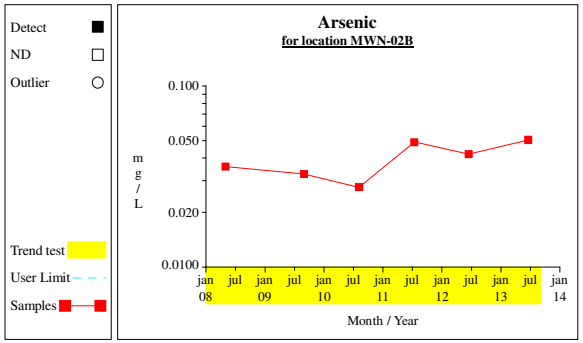


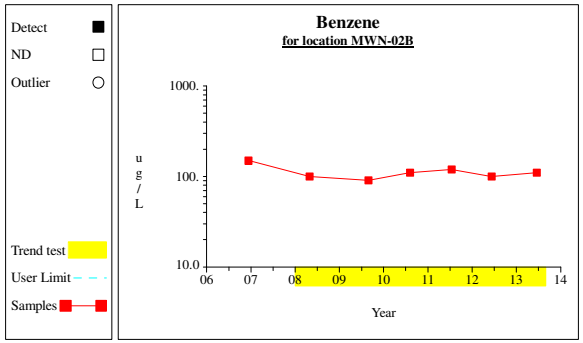


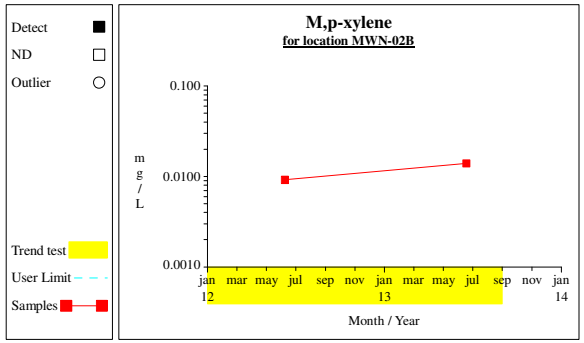


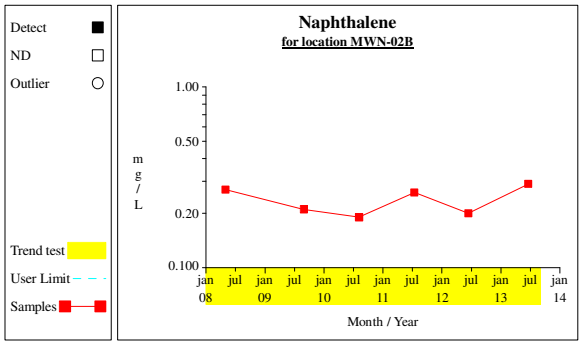
Prepared by: GZA GeoEnvironmental Inc.

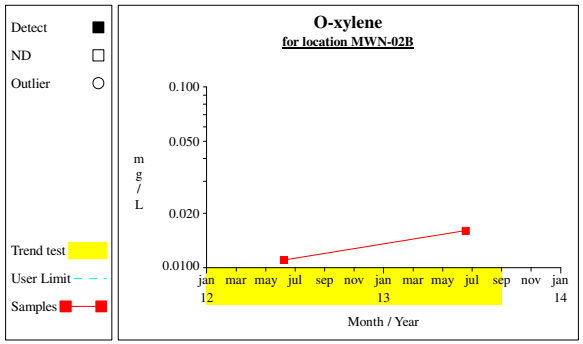
Time Series

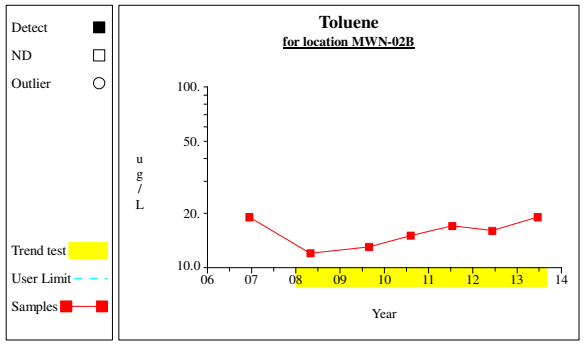

Detect
ND
Outlier
Trend test
User Limit
Samples
Arsenic
for location MWN-02B
m g / L
0.100
0.050
0.020
0.0100
jan jul jan jul jan jul jan jul jan jul jan
08 09 10 11 12 13 14
Month / Year

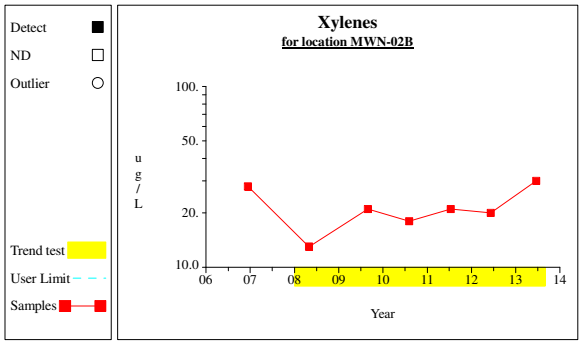

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location MWN-02B
u g / L
1000.
100.
10.0
06 07 08 09 10 11 12 13 14
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
M,p-xylene
for location MWN-02B
m g / L
0.100
0.0100
0.0010
jan mar may jul sep nov jan mar may jul sep nov jan
12 13 14
Month / Year

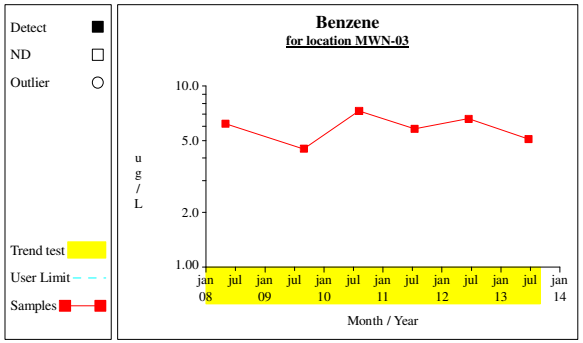

Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location MWN-02B
m g / L
1.00
0.50
0.20
0.100
jan jul jan jul jan jul jan jul jan jul jan
08 09 10 11 12 13 14
Month / Year

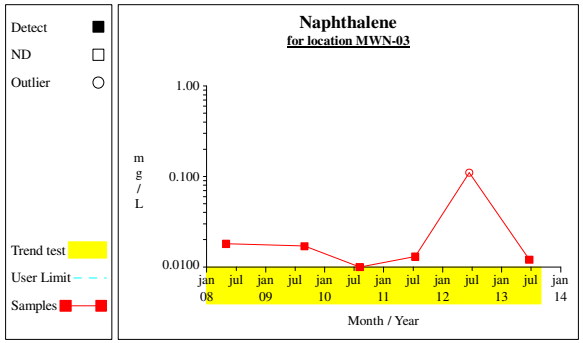

Detect
ND
Outlier
Trend test
User Limit
Samples
O-xylene
for location MWN-02B
m g / L
0.100
0.050
0.020
0.0100
jan mar may jul sep nov jan mar may jul sep nov jan
12 13 14
Month / Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Toluene
for location MWN-02B
u g / L
100.
50.
20.
10.0
06 07 08 09 10 11 12 13 14
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Xylenes
for location MWN-02B
u g / L
100.
50.
20.
10.0
06 07 08 09 10 11 12 13 14
Year

Time Series

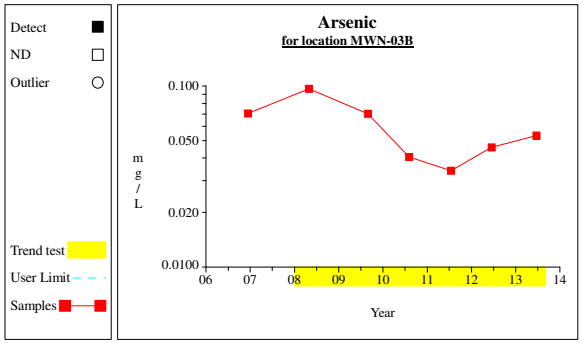

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location MWN-03
10.0
5.0
2.0
1.00
u
g
/
L
jan 08
jul
jan 09
jul
jan 10
jul
jan 11
jul
jan 12
jul
jan 13
jul
jan 14
Month / Year

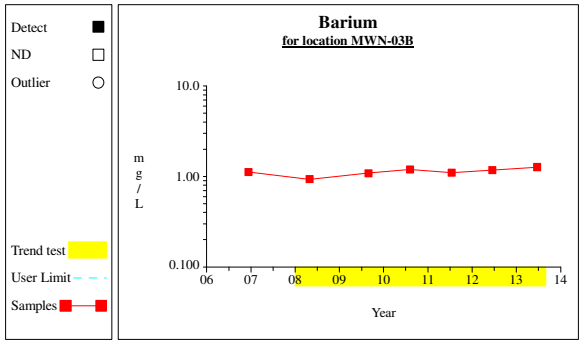

Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location MWN-03
1.00
0.100
0.0100
m
g
/
L
jan 08
jul
jan 09
jul
jan 10
jul
jan 11
jul
jan 12
jul
jan 13
jul
jan 14
Month / Year

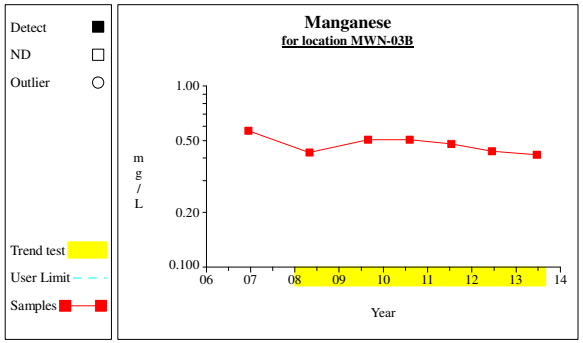
Steel Winds

Analysis prepared on: 7/30/2013

Time Series

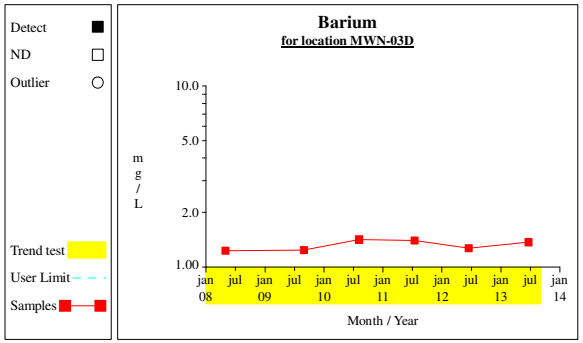


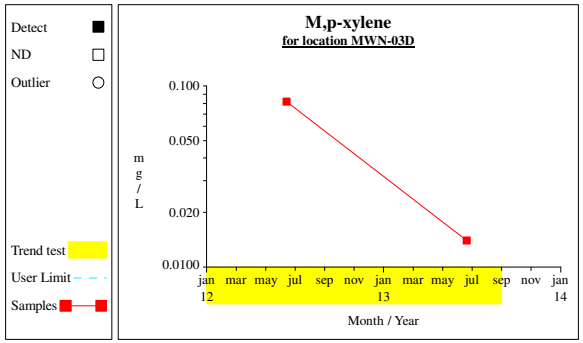




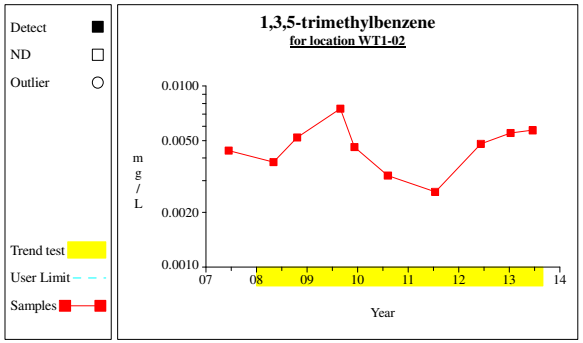
Prepared by: GZA GeoEnvironmental Inc.

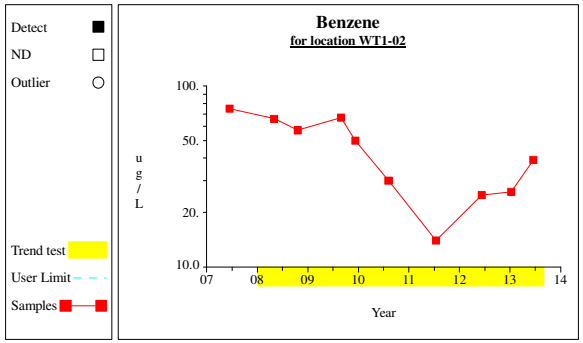
Time Series

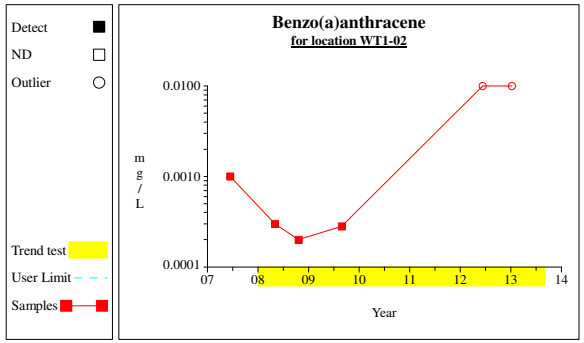

Detect
ND
Outlier
Trend test
User Limit
Samples
Barium
for location MWN-03D
10.0
5.0
2.0
1.00
m
g
/
L
jan 08
jul
jan 09
jul
jan 10
jul
jan 11
jul
jan 12
jul
jan 13
jul
jan 14
Month / Year

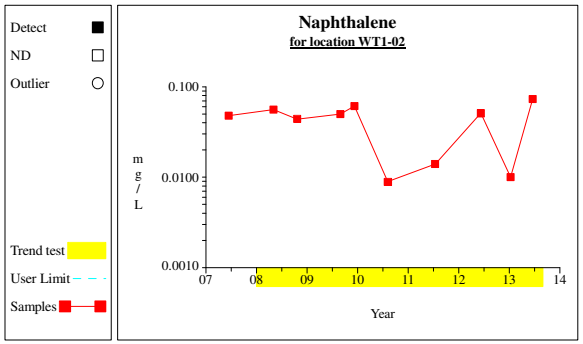

Detect
ND
Outlier
Trend test
User Limit
Samples
M,p-xylene
for location MWN-03D
0.100
0.050
0.020
0.0100
m
g
/
L
jan 12
mar
may
jul
sep
nov
jan 13
mar
may
jul
sep
nov
jan 14
Month / Year

Time Series


Detect
ND
Outlier
Trend test
User Limit
Samples
1,3,5-trimethylbenzene
for location WT1-02
0.0100
0.0050
0.0020
0.0010
m g / L
07 08 09 10 11 12 13 14
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location WT1-02
100.
50.
20.
10.0
u g / L
07 08 09 10 11 12 13 14
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)anthracene
for location WT1-02
0.0100
0.0010
0.0001
m g / L
07 08 09 10 11 12 13 14
Year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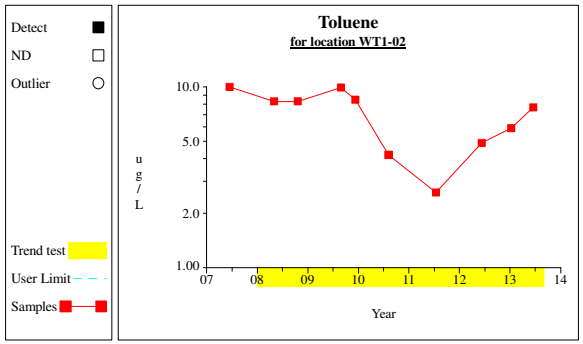
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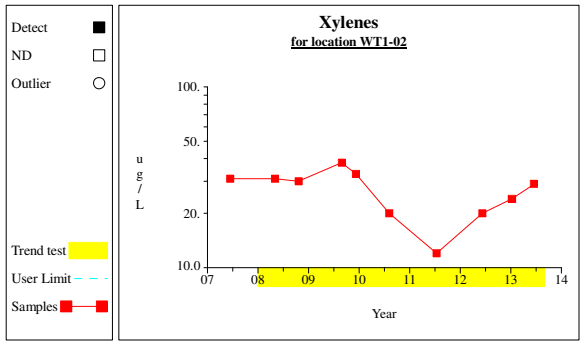
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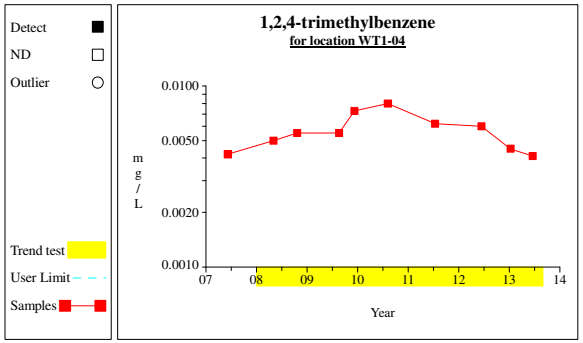
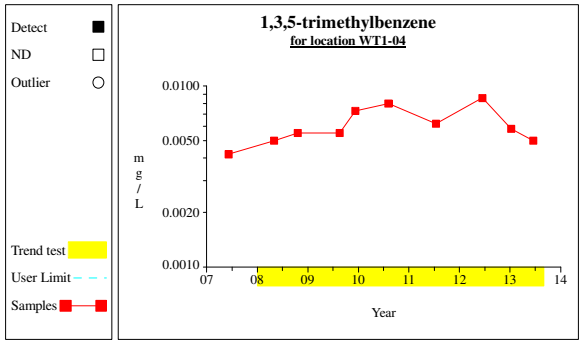
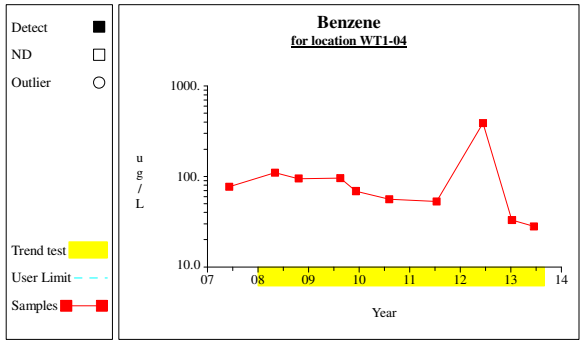
Steel Winds

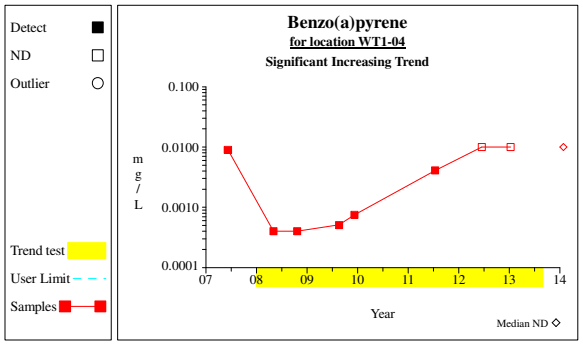
Analysis prepared on: 7/30/2013

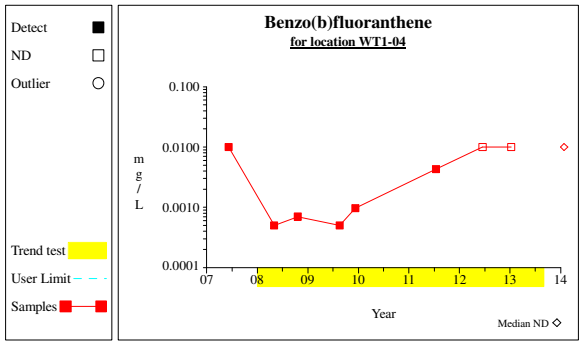
Time Series

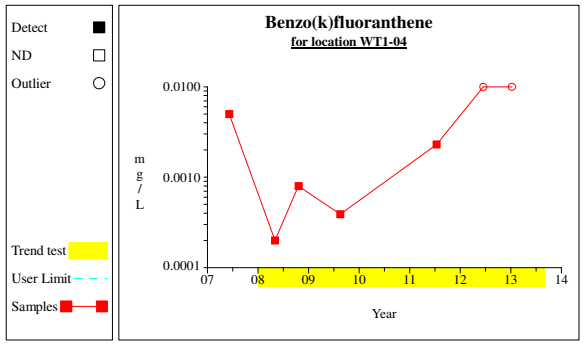


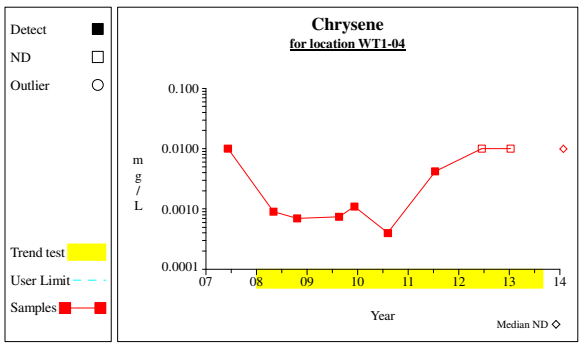


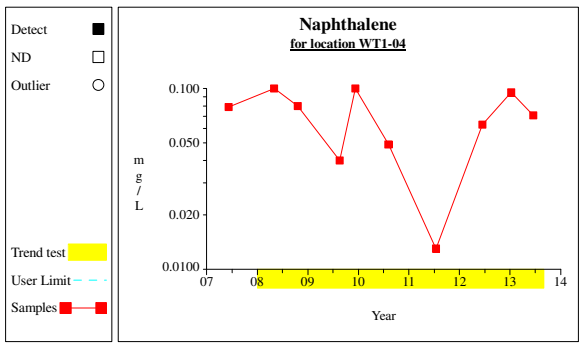


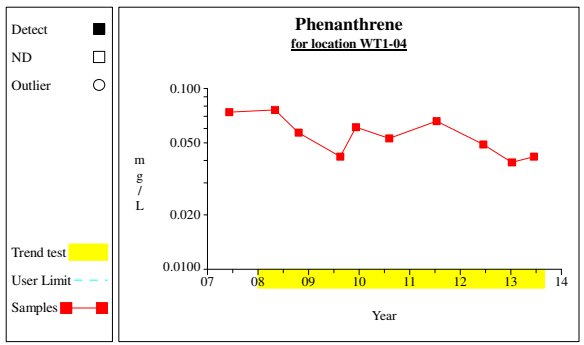






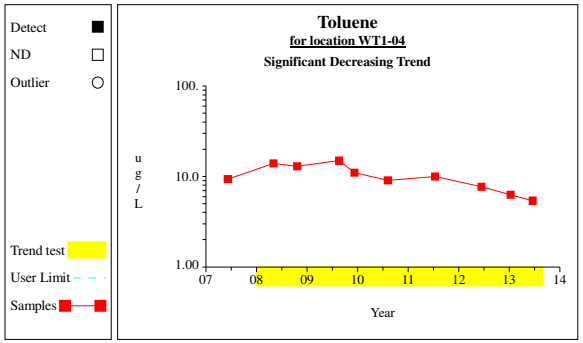






Prepared by: GZA GeoEnvironmental Inc.

Time Series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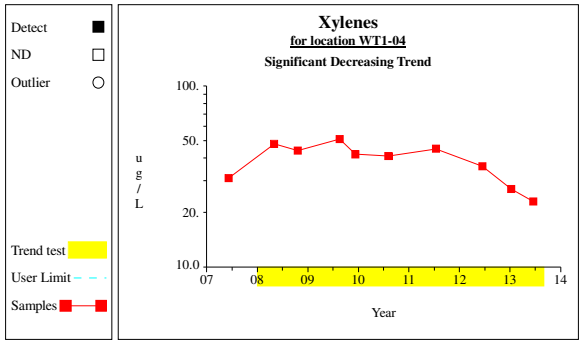
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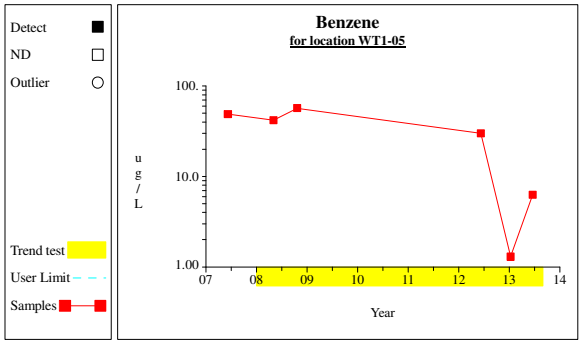
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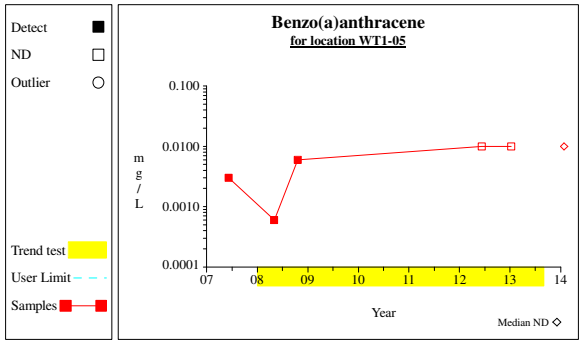
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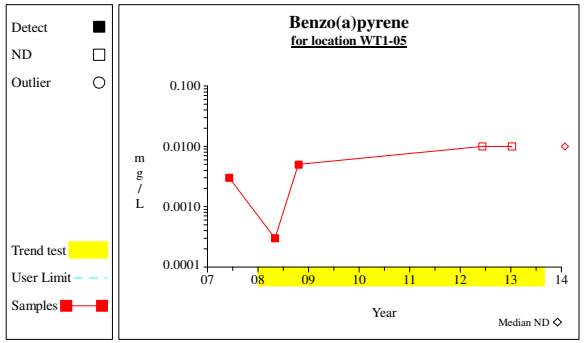
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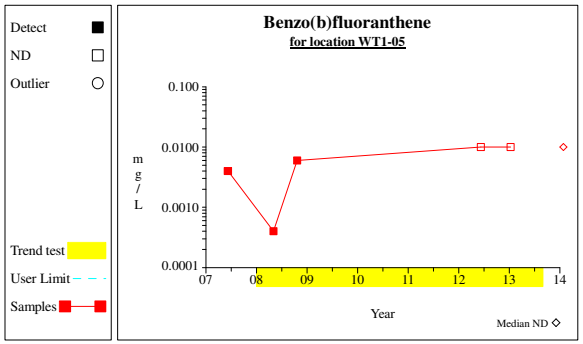
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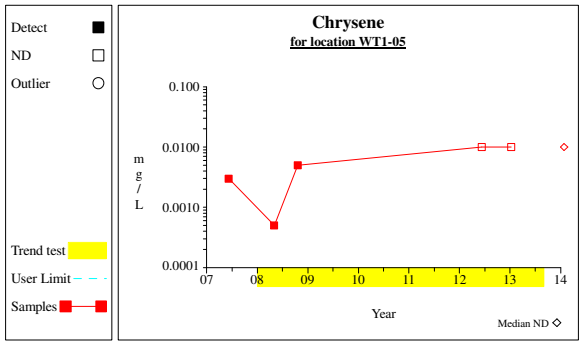
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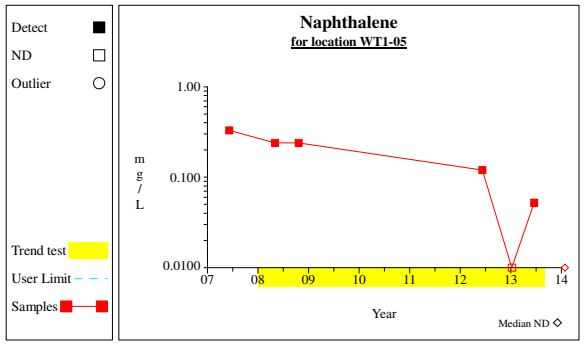
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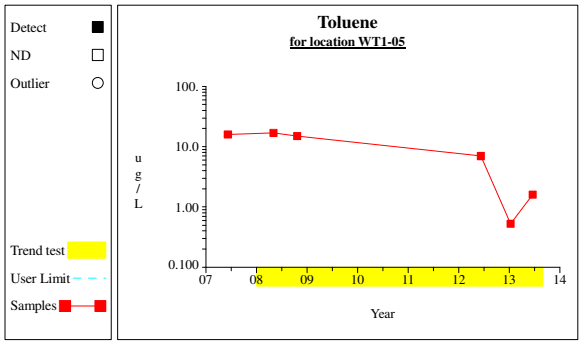
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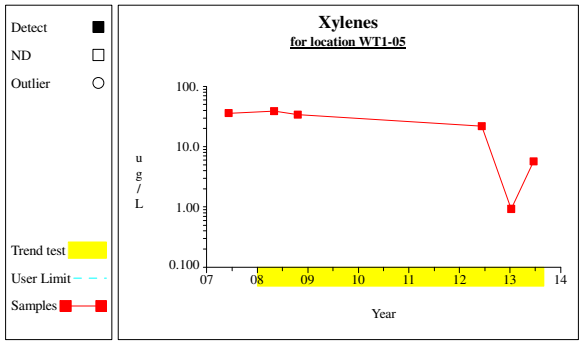
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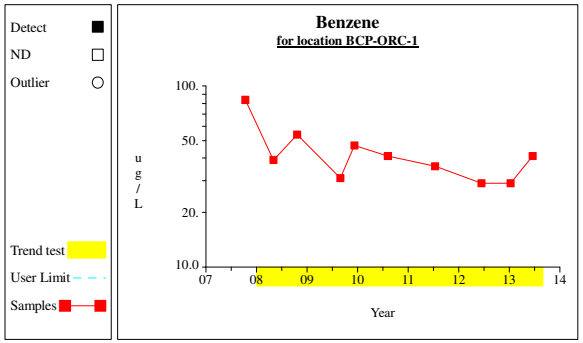
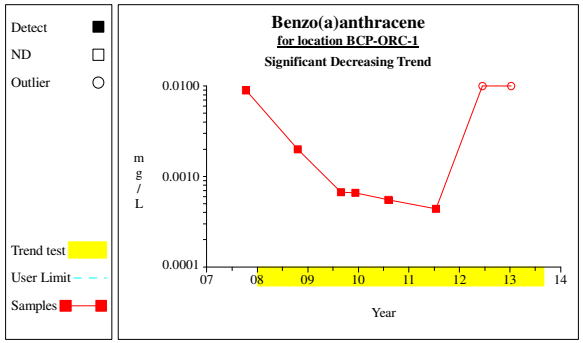
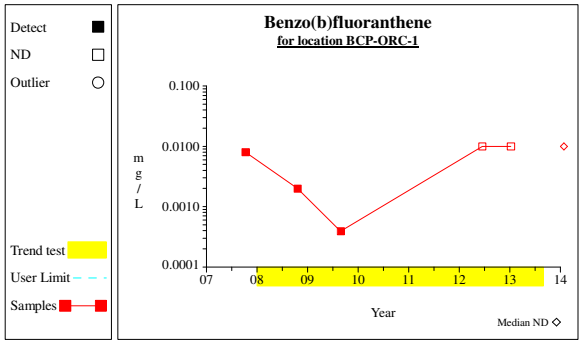
Steel Winds

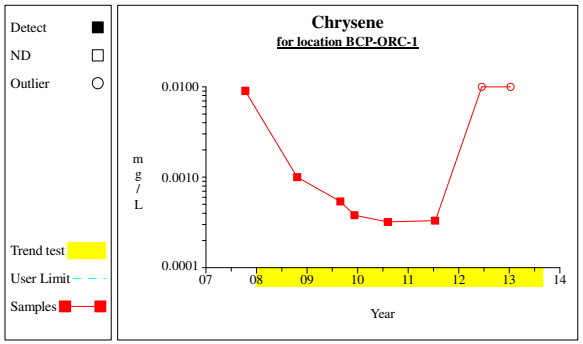
Analysis prepared on: 7/30/2013

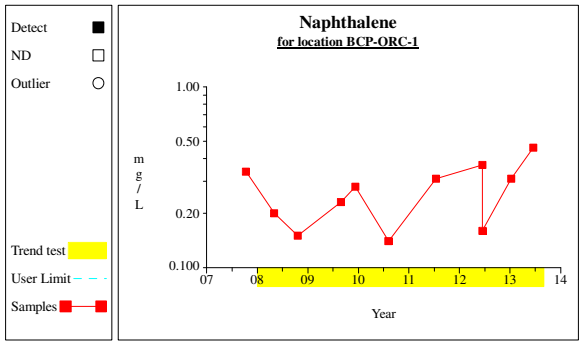
Time Series

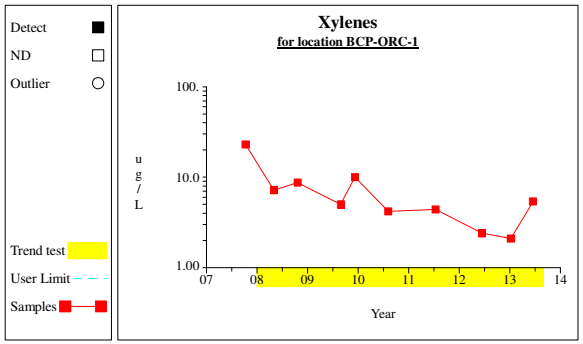












Prepared by: GZA GeoEnvironmental Inc.

FEBRUARY 2014
SEMI-ANNUAL GROUNDWATER MONITORING REPORT
STEEL WINDS I FACILITY
LACKAWANNA, NEW YORK

PREPARED FOR:
First Wind Energy, LLC
179 Lincoln Street
Boston, Massachusetts 02111

PREPARED BY:
GZA GeoEnvironmental, Inc
Buffalo, New York

May 2014
File No. 03.0033579.04

GZA
GeoEnvironmental
of New York

*Engineers and
Scientists*

May 27, 2014
File No. 03.0033579.04

Mr. Claude Cote
First Wind Energy, LLC
179 Lincoln Street
Boston, Massachusetts 02111

Re: February 2014 Semi-Annual Groundwater Monitoring Report
Steel Winds I Site
Lackawanna, NY

Dear Mr. Cote:

535 Washington Street
11th Floor
Buffalo, New York
14203
716-685-2300
Fax: 716-685-3629
www.gza.com

GZA GeoEnvironmental of New York (GZA) submits this semi-annual groundwater monitoring report to First Wind Energy, LLC (First Wind) summarizing the analytical results of the groundwater monitoring event conducted in February 2014 at the above referenced Site. The objective of the monitoring event was to collect and analyze groundwater samples from the on-site monitoring wells in accordance with the Site Management Plan, dated September 2007, prepared by Benchmark Environmental Engineering and Science, PLLC (Benchmark) and approved by the New York State Department of Environmental Conservation (NYSDEC).

Should you have any questions or require additional information following your review, please contact Ed Summerly at (401) 427-2707.

Sincerely,

GZA GEOENVIRONMENTAL OF NEW YORK

John Beninati
Project Manager

Bart A. Klettke, P.E.
Consultant Reviewer

Edward A. Summerly, P.G.
Principal

cc: Mr. Maurice Moore (NYSDEC)
Mr. Dave Szymanski (NYSDEC)
Mr. Claude Cote (First Wind)
Mr. Mike Andrzejczak (First Wind)

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APPENDICES

1.00 INTRODUCTION

In accordance with our May 2, 2012 proposal, GZA GeoEnvironmental, Inc. (GZA) collected and analyzed groundwater samples at the six (6) semi-annual WT-1 vicinity groundwater monitoring wells located at the Steel Winds I facility in Lackawanna, New York (Site). A Locus Plan and Site Plan are attached as Figures 1 and 2, respectively.

1.10 BACKGROUND AND SITE HISTORY

Tecumseh Redevelopment, Inc. (Tecumseh) owns approximately 1,100 acres of land at 1951 Hamburg Turnpike, as shown on attached Figure 1. The property was formerly used for the production of steel, coke and related products by Bethlehem Steel Corporation (BSC). Steel production on the Tecumseh property was discontinued in 1983 and the coke ovens ceased activity in 2000. Tecumseh acquired the property, along with other BSC assets, out of bankruptcy, in 2003.

In September 2006, BQ Energy entered into a long-term lease agreement with Tecumseh to construct and operate wind turbines and supporting power generation equipment and infrastructure on an approximately 29-acre parcel of the Tecumseh property, referred to as the Steel Winds I Site. BQ Energy and NYSDEC also entered into a Brownfield Cleanup Agreement for the Steel Winds Site. The Site is wholly contained within the Slag Fill Area (SFA) Zones 3 and 4 of the Tecumseh property bordered by Lake Erie to the west, Smokes Creek to the south, and former industrial lands of BSC to the north and east. Niagara Wind Power, LLC (NWP), an affiliate of First Wind, operates the eight wind turbines installed at the Site.

The Brownfield Cleanup Program (BCP) was successful in achieving the remedial objectives for the Steel Winds Site. The Site Management Plan (SMP) and Final Engineering Report (FER) were approved by NYSDEC in December 2007. NYSDEC issued a Certificate of Completion (COC) for the Site on December 18, 2007.

The remedial activities conducted at the Site include:

- Excavation and off-site disposal of impacted slag fill from the eight wind turbine foundations and interconnecting utility trenches;
- In-situ enhanced biodegradation of residual volatile organic compounds (VOCs), including benzene, toluene, total xylenes, and naphthalene, using oxygen release compound (ORC®) socks within the saturated soil and groundwater in the vicinity of WT-01 and associated monitoring; and,
- Completion of a soil cover system.

As a requirement of the SMP, Long-Term Groundwater Monitoring (LTGWM) is being performed at nine (9) wells across the Site. Additional groundwater monitoring was also performed to monitor the effectiveness of the ORC in-situ treatment in the vicinity of wind turbine WT-01. During 2011, both the LTGWM and WT-01 vicinity groundwater

monitoring programs were performed on an annual basis and were done on July 13 and 14, 2011. The five ORC in-situ treatment wells were to be monitored semi-annually, in accordance with the SMP. However, only one ORC monitoring event (on May 4, 2011) was conducted because of the ineffectiveness of the remedy.

An *Operation, Monitoring and Maintenance Request for Modification* report, dated November 2011, was submitted to NYSDEC by Benchmark. This report proposed ceasing operation of the ORC® groundwater remedy for the WT-01 Vicinity because the remedy was not effective in reducing VOC concentrations, due primarily to the geochemical conditions (i.e., high baseline chemical oxygen demand, highly negative oxidation reduction potential and high pH) of the Site. NYSDEC provided comments to this report on April 10, 2012 and GZA provided a response letter on May 9, 2012. Based on this letter and subsequent correspondence with NYSDEC, the ORC® remedy has been terminated (i.e., the ORC socks have been removed from the five treatment wells and disposed of as solid waste).

In accordance with a letter from GZA to NYSDEC, dated June 22, 2012[1], semi-annual/annual groundwater monitoring will continue at the Site until a Technical Impracticability Waiver for groundwater treatment at the Site is submitted to and approved by NYSDEC. On September 30, 2013, GZA submitted a Technical Impracticability Waiver Supplemental Field Studies Work Plan for the Site, detailing sampling, laboratory analysis, data evaluation and reporting to be conducted in support of a Technical Impracticability Waiver request for the Site. This Work Plan was approved by NYSDEC on February 24, 2014. Work Plan implementation is planned for summer 2014 and the Technical Impracticability Waiver Application will be submitted to NYSDEC by November 1, 2014.

2.00 PURPOSE AND SCOPE OF WORK

The purpose of the February 2014 semi-annual monitoring event was to collect groundwater samples from the six (6) semi-annual WT-1 vicinity groundwater monitoring wells in accordance with the routine monitoring program described in the September 2007 SMP. To accomplish this, GZA completed the following activities.

- Collected one (1) groundwater sample from each semi-annual well location for laboratory analysis conducted by Spectrum Analytical Inc. (Spectrum) of North Kingstown, Rhode Island in accordance with the analytical testing summary provided in Table 1. Test parameters included the following:

    - STARS list VOCs via EPA Method 8260B; and
    - Base-Neutral semi-volatile organic compounds (SVOCs) via EPA Method 8270C.

[1]GZA's June 22, 2012 letter was prepared in response to NYSDEC's comments on GZA's May 9, 2012 Responses to NYSDEC's April 10, 2012 Comments on the November 2011 Operation, Monitoring and Maintenance Request for Modification, prepared by Benchmark.

- Prepared this report, which summarizes the data collected during the sampling event and compared the data to historic data and assessed contaminant concentration trends, if any.

This report presents GZA's field observations, results, and opinions and is subject to the limitations presented in Appendix A.

3.00 FIELD STUDIES

3.10 GROUNDWATER DATA COLLECTION

GZA collected groundwater samples from the six (6) WT-1 vicinity semi-annual monitoring wells (MWN-01, MWN-01B, WT1-02, WT1-04, WT1-05, and BCP-ORC-1). Samples were collected on February 20, 2014. GZA planned on collecting the groundwater samples in January 2014, in accordance with our May 9, 2012 letter; however, sampling was delayed until February 20, 2014 due to extremely cold weather.

The following tables show the volume of water purged and the number of well volumes removed from the respective well after a constant head was established. In general, groundwater purge rates were 500(±) milliliters per minute (ml/min). Purging continued until field parameters stabilized within acceptable limits established in EPA's Low Flow Sampling SOP. Stabilized field screening parameter readings are presented in Table 2, attached.

WT-1 Vicinity Semi-Annual Monitoring Well ID	Cumulative Volume Purged (gallons)	Well Volumes (#)
MWN-01	1.5	1.9
MWN-01B	3.5	1.4
WT1-02	3.0	2.1
WT1-04	3.25	2.0
WT1-05	3.0	2.2
BCP-ORC-1	2.75	1.3

As part of the semi-annual groundwater monitoring, static groundwater level measurements were made from top of riser of the monitoring wells listed in the table below prior to purging. Groundwater measurements referenced in this report were made on February 26, 2014. Groundwater measurements were not collected during the February 20, 2014 sampling event due to equipment malfunction. With the exception of WT1-05 (replaced in May 2012), monitoring point elevation data was available from previous groundwater monitoring reports completed by Benchmark. From the elevation and depth to groundwater data, groundwater flow directions were estimated and are shown on Figure 2.

Based on the available information, groundwater flow is generally in a southwesterly direction towards Smoke Creek and Lake Erie.

Monitoring Well Location	Top of Riser Elevation (ft.)	Groundwater Depth (ft.)	Groundwater Elevation (ft.)
MWN-01	585.14	16.64	568.5
MWN-01B	587.13	17.56	569.6
WT1-02	600.78	28.95	571.8
WT1-04	586.45	14.96	571.5
WT1-05	584.41	15.98	568.4
BCP-ORC-1	591.97	20.48	571.5

4.00 ANALYTICAL LABORATORY TESTING

Six (6) semi-annual groundwater samples were submitted for analytical testing as part of the February 2014 monitoring event. The samples were packed in an ice-filled cooler and, following typical chain-of-custody procedures, sent to Spectrum for analysis. Table 1 presents a summary of the samples collected and the analyses completed.

5.00 ANALYTICAL TEST RESULTS

A discussion of the laboratory results for the groundwater samples is presented below. The laboratory reports are provided in Appendix B and the analytical test results are summarized on Table 2.

The analytical test results for the groundwater samples were compared to NYSDEC Class GA criteria presented in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, errata January 1999 and amended April 2000.

The analytical data generated as part of this monitoring event was electronically submitted to NYSDEC via their EQuIS Data Processor (EDP) as part of their Environmental Information Management System (EIMS) on March 12, 2014. The data was prepared by Spectrum in a standardized electronic data deliverable (EDD) format that uses the database software application EQuIS™ (EQuIS) from EarthSoft® Inc.

5.10 SEMI-ANNUAL WT-1 VICINITY MONITORING WELLS

- MWN-01: Nine (9) VOCs were detected above method detection limits of which seven (7) exceeded their respective NYSDEC Class GA criteria:
  - Benzene at 44 parts per billion (ppb);

- Toluene at 8.9 ppb;
- m,p-Xylene at 20 ppb;
- o-Xylene at 15 ppb;
- Total Xylene at 35 ppb;
- 1,2,4-Trimethylbenzene at 6.2 ppb; and
- Naphthalene at 390 ppb, which was obtained from a secondary dilution analysis.

Eleven (11) SVOCs were detected above method detection limits of which three (3) exceeded their respective guidance values:

- Fluorene at 68 ppb;
- Naphthalene at 270 ppb, which was obtained from a secondary dilution analysis; and
- Phenanthrene at 140 ppb, which was obtained from a secondary dilution analysis.

- MWN-01B: Ten (10) VOCs were detected above method detection limits of which eight (8) exceeded their respective NYSDEC Class GA criteria, as follows.

  - Benzene at 89 ppb;
  - Toluene at 24 ppb;
  - m,p-Xylene at 16 ppb;
  - o-Xylene at 9.9 ppb;
  - Total Xylene at 25.9 ppb;
  - 1,3,5 Trimethylbenzene at 5.1 ppb;
  - 1,2,4 Trimethylbenzene at 7.7 ppb; and
  - Naphthalene at 1,500 ppb, which was obtained from a secondary dilution analysis.

  Eleven (11) SVOCs were detected above method detection limits of which two (2) exceeded their respective NYSDEC GA guidance values, as follows.

  - Naphthalene at 1,300 ppb, which was obtained from a secondary dilution analysis.
  - Phenanthrene at 62 ppb, which was obtained from a secondary dilution analysis.

- WT1-02: Nine (9) VOCs were detected above method detection limits of which six (6) exceeded their respective NYSDEC Class GA criteria, as follows.

  - Benzene at 29 ppb;
  - Toluene at 5.6 ppb;
  - m,p-Xylene at 12 ppb;
  - o-Xylene at 9.7 ppb;
  - Total Xylene at 21.7 ppb; and

- Naphthalene at 63 ppb.

Eleven (11) SVOCs were detected above method detection limits of which one (1) exceeded its respective NYSDEC GA guidance value, as follows.

- Naphthalene at 31ppb.

- WT1-04: Nine (9) VOCs were detected above method detection limits of which eight (8) exceeded their respective NYSDEC Class GA criteria, as follows.

  - Benzene at 43 ppb;
  - Toluene at 8.4 ppb;
  - m,p-Xylene at 18 ppb;
  - o-Xylene at 15 ppb;
  - Total Xylene at 33 ppb;
  - 1,3,5-Trimethylbenzene at 6.4 ppb;
  - 1,2,4 Trimethylbenzene at 4.8 ppb; and
  - Naphthalene at 140 ppb.

  Ten (10) SVOCs were detected above method detection limits of which one (1) exceeded its NYSDEC GA respective guidance value, as follows.

  - Naphthalene at 61 ppb.

- WT1-05: Eight (8) VOCs were detected above method detection limits of which two (2) exceeded their respective NYSDEC Class GA criteria, as follows.

  - Benzene at 7.4 ppb; and
  - Naphthalene at 41 ppb.

  Five (5) SVOCs were detected above method detection limits, but below their respective NYSDEC Class GA criteria or guidance values.

- BCP-ORC-1: Eight (8) VOCs were detected above method detection limits of which two (2) exceeded their respective NYSDEC Class GA criteria, as follows.

  - Benzene at 29 ppb; and
  - Naphthalene at 300 ppb, which was obtained from a secondary dilution analysis.

  Eleven (11) SVOCs were detected above method detection limits of which one (1) exceeded its respective NYSDEC GA guidance value, as follows.

  - Naphthalene at 230 ppb, which was obtained from a secondary dilution analysis.

In general, VOC and SVOC concentrations were consistent with historical data collected during previous sampling events performed by Benchmark and GZA from the six (6) WT-1 vicinity semi-annual monitoring wells. A more detailed discussion, including a trend analysis, is provided in Section 6.00 of this report.

6.00 STATISTICAL ANALYSIS

As stated in Section 2.4 of Attachment A4 (LTGWM Plan) of the September 2007 Site Management Plan, a statistical analysis is required for all detected constituents (in groundwater) that are observed at concentrations above NYSDEC Class GA criteria or guidance values. In lieu of performing moving trend analysis, as described in the LTGWM Plan, GZA generated time series plots for parameters which exceeded the NYSDEC Class GA criteria, either during this monitoring round or in previous routine monitoring rounds (routine monitoring started in 2008). These plots were evaluated for trends over the routine monitoring period time, which started in 2008 (approximately 6 years) at a 95% confidence interval) and outliers. Sen's Test for trends was performed to evaluate statistically significant trends in the data with respect to time. Time series plots were generated on a well-by-well basis and are presented in Appendix D. During future monitoring rounds, the time series plots may be evaluated over the most recent five year period, rather than the entire routine monitoring period

Four statistically significant downwards trends in contaminant concentrations were identified by the Sen's Tests; benzene in samples from well MWN-01, toluene in samples from well MWN-01 (also identified in the June 2012, January 2013 and June 2013 monitoring reports) toluene in samples from well WT1-04 (also identified in the January 2013 and June 2013 monitoring reports) and xylene in samples from well WT01-04 (also identified in the June 2013 monitoring report). The Sen's Tests also identified a statistically significant increasing trend for benzo(a)pyrene in samples from well WT1-04; however, this constituent was not detected the last four monitoring rounds and this trend appears to be the result of higher laboratory reporting limits for the last four rounds. No other statistically significant trends were identified. In addition, visual analysis of the time series plots identified visually decreasing trends for benzene and xylenes in samples from well BCP-ORC-1, 1,2,4-trimethylbenzene, fluorene, phenanthrene and xylenes in samples from well MWN-01, phenanthrene in samples from well WT1-04 and naphthalene and toluene in samples from well WT1-05 and a visually apparent increasing trend for 1,3,5-trimethylbenzene in samples from well MWN-01B.

Time series plots were also visually evaluated for seasonality and outliers. No apparent seasonal fluctuations of contaminant concentrations were noted in the monitoring data. Low end outliers for benzene, toluene and xylenes were identified in MWN-01. One high end outlier was identified in the February 2014 monitoring round, benzo(a)pyrene WT1-05; this compound was not detected during the February 2014 monitoring round and was identified as an outlier because of a higher reporting limit.

7.00 SUMMARY

GZA was retained to collect and analyze groundwater samples from six (6) semi-annual monitoring wells at the Steel Winds I facility in accordance with the Site Management Plan. A summary of our findings follows.

- VOCs were detected at concentrations above NYSDEC Class GA criteria in the groundwater samples collected from each of the six semi-annual WT1 vicinity wells tested (BCP-ORC-1, MWN-01, MWN-01B, WT1-02, WT1-04 and WT1-05).

- SVOCs were detected at concentrations above NYSDEC Class GA or their respective guidance criteria in five of the six groundwater samples collected from the semi-annual WT1 vicinity wells (BCP-ORC-1, MWN-01, MWN-01B, WT1-02 and WT1-04).

Based on our review of the historic and current analytical data, the analytical test results from the February 2014 sampling round are generally consistent with historical data. Statistically significant downward trends in contaminant concentrations were identified for benzene and toluene in samples from well MWN-01 and toluene and xylene in samples from well WT1-04. Visually apparent, yet not statistically validated, decreasing trends for benzene and xylenes were observed in samples from well BCP-ORC-1, 1,2,4-trimethylbenzene, fluorene, phenanthrene and xylenes in samples from well MWN-01, phenanthrene in samples from well WT1-04 and naphthalene and toluene in samples from well WT1-05 and a visually increasing trend for 1,3,5-trimethylbenzene in MWN-01B, were also noted. One high end outlier was identified, benzo(a)pyrene WT1-05; this compound was not detected during the February 2014 monitoring round and was identified as an outlier because of high reporting limit.

TABLES

TABLE 1

Analytical Testing Program Summary
February 2014 Semi-Annual Groundwater Monitoring Report
Steel Winds I Facility
Lackawanna, New York

Well Designation	Sample ID	Date Collected	Screened Interval (TOR)	STARS VOCs	SVOCs (BN)
Semi-Annual Monitoring Well Sample Locations (WT-1 Vicinity Network)					
MWN-01	MWN-01-022014	2/20/2014	9.2 - 19.2	X	X
MWN-01B	MWN-01B-022014	2/20/2014	22.2 - 32.2	X	X
WT1-02	WT1-02-022014	2/20/2014	27.8 - 37.8	X	X
WT1-04	WT1-04-022014	2/20/2014	15.5 - 25.5	X	X
WT1-05	WT1-05-022014	2/20/2014	13.3 - 23.3	X	X
BCP-ORC-1	BCP-ORC-1-022014	2/20/2014	24.7 - 34.7	X	X

Notes:

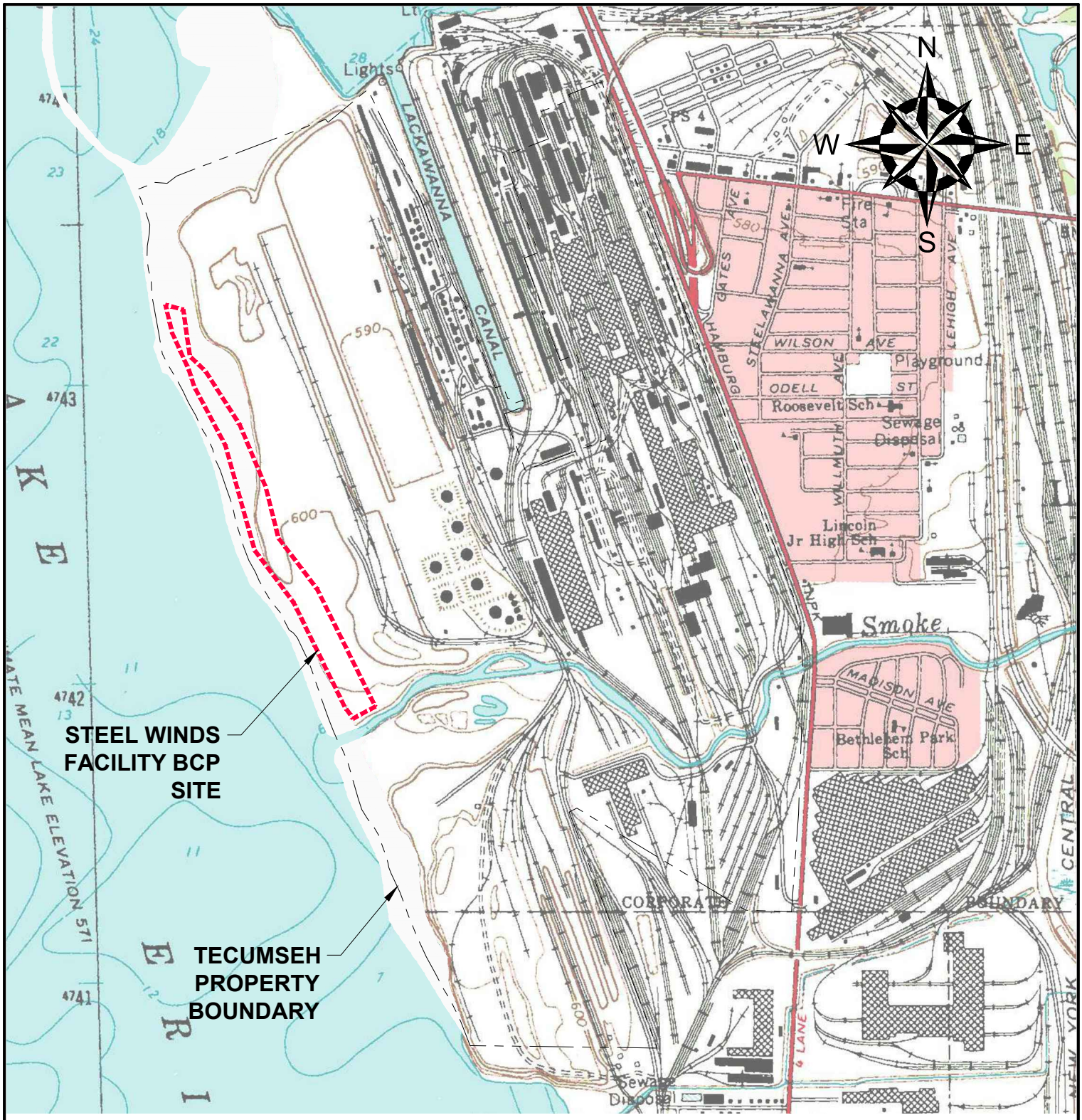
1. VOCs = Volatile Organic Compounds STARS list via EPA Method 8260B.
2. SVOCs = Semi-Volatile Organic Compounds Base-Neutrals list via EPA Method 8270C.
3. "WT", "MWN", and "BCP-ORC" monitoring well information provided in Table 1 was referenced from Benchmark Environmental Engineering & Science, PLLC*., 2009 Annual LTGWM & First Semi-Annual WT-1 Vicinity Monitoring Report.*
4. TOR = measurement recorded in feet below top-of-well riser.

Table 2
Analytical Testing Program Summary
February 2014 Semi-Annual Groundwater Analytical Data Summary
Steel Winds I Facility
Lackawanna, New York

Parameter	NYSDEC Class GA Crtieria	MWN-01				MWN-01B				WT1-02				WT1-04				WT1-05				BCP-ORC-1			
		6/12/2012 Result	1/9/2013 Result	6/18/2013 Result	2/20/2014 Result	6/12/2012 Result	1/9/2013 Result	6/17/2013 Result	2/20/2014 Result	6/5/2012 Result	1/9/2013 Result	6/17/2013 Result	2/20/2014 Result	6/11/2012 Result	1/9/2013 Result	6/17/2013 Result	2/20/2014 Result	6/5/2012 Result	1/9/2013 Result	6/18/2013 Result	2/20/2014 Result	6/12/2012 Result	1/9/2013 Result	6/17/2013 Result	2/20/2014 Result
Water Quality Field Measurements																									
pH (units)	6.5 - 8.5	**11.12**	**12.36**	**11.6**	**11.8**	**10.72**	**11.93**	**11.29**	**11.41**	**11.75**	**12.76**	**12.06**	**12.31**	**11.34**	**12.55**	**11.85**	**11.89**	**11.24**	**12.38**	**11.55**	**11.73**	**11.04**	**12.21**	**11.46**	**11.68**
Temperature (˚C)	NV	13.33	13.11	12.4	12.7	12.73	12.25	12.6	13.0	13.32	12.81	13.1	12.7	12.31	12.92	11.7	11.6	12.88	14.42	11.9	11.4	13.64	12.75	13.7	12.8
Specific Conductance (uS/cm)	NV	848	1,272	1,310	1,290	614	896	890	910	1,524	2,203	2,230	2,120	1,151	1,740	1,450	1,820	901	1,196	840	1,090	832	1,268	1,070	1,170
Turbidity (NTU)	5	3.1	0.1	1.35	2	2.1	0.3	2.52	**6**	3.4	1.8	**7.53**	**6.68**	2.1	0.1	**5.12**	3	1.1	4.3	2.26	2.1	3.5	2.1	**5.08**	2.2
Dissolved Oxygen (mg/L)	NV	See Note 13	0.26	0.14	0.01	See Note 13	0.19	0.11	0.08	See Note 13	0.72	1.82	1.32	See Note 13	0.11	0.14	0.19	See Note 13	0.19	2.73	1.32	See Note 13	3.09	2.26	1.86
Oxygen Reduction Potential (mV)	NV	-228.6	-336.4	-338.7	-284.2	-250.9	-363.7	-388.6	-324.8	-246.2	-207.2	-221.7	-228.1	-283.9	-285.4	-331.3	-292.1	-227.6	-268.8	-172.4	-188.4	-231.6	-200.3	-226.4	-230.1
Volatile Organic Compounds - EPA Method 8260 (ug/L)																									
Benzene	1	**53**	**2.1 J**	**43**	**44**	**91**	**93**	**91**	**89**	**25**	**26**	**39**	**29**	**39**	**33**	**28**	**43**	**30**	**1.3 J**	**6.3**	**7.4**	**29**	**29**	**41**	**29**
Toluene	5	**11**	0.59 J	**9.5**	**8.9**	**22**	**24**	**26**	**24**	4.9 J	**5.9**	**7.7**	**5.6**	**7.7**	**6.3**	**5.4**	**8.4**	**7**	0.53 J	1.6 J	1.9 J	2.7 J	2.9 J	4.4 J	2.8 J
Ethylbenzene	5	1.6 J	<	1.9 J	1.7 J	0.69 J	0.83 J	1.2 J	0.93 J	1.3 J	1.7 J	1.8 J	1.3 J	2.0 J	1.5 J	1.2 J	1.6 J	1.2 J	<	<	<	<	<	<	<
m,p-Xylene	10	**24**	<	**21**	**20**	**13**	**14**	**18**	**16**	**11**	**12**	**16**	**12**	**21**	**15**	**13**	**18**	**13**	<	3.1 J	4.2 J	1.1 J	<	2.4 J	1.5 J
o-Xylene	5	**17**	0.82	**16**	**15**	**8.1**	**9.1**	**11**	**9.9**	**8.6**	**11**	**13**	**9.7**	**15**	**12**	**10**	**15**	**9.4**	0.93 J	2.5 J	3.4 J	1.3 J	2.1 J	3.0 J	2.0 J
Xylene (Total)	15	**41**	0.82	**37**	**35**	**21**	**24**	**29**	**25.9**	**20**	**24**	**29**	**21.7**	**36**	**27**	**23**	**33**	**22**	0.93 J	5.7	7.6	2.4 J	2.1 J	5.4	3.5 J
Isopropylbenzene	5	<	<	<	<	1.5 J	1.9 J	2.2 J	1.8 J	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<
1,3,5-Trimethylbenzene	5	3.6 J	<	**5.2**	4.7 J	4.6 J	**6.2**	**6.7**	**5.1**	4.8 J	**5.5**	**5.7**	4.3 J	**8.1**	**5.8**	**5**	**6.4**	2.3 J	1.5 J	1.2 J	1.5 J	1.2 J	1.9 J	2.7 J	1.7 J
1,2,4-Trimethylbenzene	5	**5.4**	<	**7.1**	**6.2**	**7.1**	**9**	**9.6**	**7.7**	3.3 J	3.3 J	4.5 J	2.9 J	**6.0**	**4.5 J**	**4.1 J**	**4.8 J**	3.0 J	<	1.2 J	1.2 J	1.4 J	1.8 J	3.2 J	2.0 J
Naphthalene*	10	**460 D**	2.8 J	**370 D**	**390 D**	**1,600 D**	**1,800 D**	**1,500 D**	**1,500 D**	**51**	10	**73**	**63**	**63**	**95**	**71**	**140**	**120**	<	**52**	**41**	**280 D**	**310 D**	**460 D**	**300 D**
Semi-Volatile Organic Compounds - EPA Method 8270 (ug/L)																									
Acenaphthylene	NV	42	32	41	41	28	29	60	43	1.3 J	1.8 J	<	2.1 J	5.0 J	3.6 J	3.8 J	4.7 J	9.5 J	3.8 J	4.6 J	2.1 J	17	17	21	14
Naphthalene*	10	**250 D**	**180 D**	**250 D**	**270 D**	**900 D**	**940 D**	**1,300 D**	**1,300 D**	**15**	**38**	**33**	**31**	**57**	**55**	**37**	**61**	**74 D**	<	**14**	<	**150 D**	**230 D**	**290 D**	**230 D**
2-Methylnaphthalene	NV	42	41	54	49	34	38	54	44	4.6 J	7.4 J	8.1 J	6.6 J	12	11	10	12	8.7 J	1.1 J	3.9 J	<	13	17	24	14
Acenaphthene*	20	13	12	14	17	9.3 J	8.7 J	12	10	1.3 J	1.8 J	2.4 J	2.1 J	5.1 J	3.4 J	3.7 J	5.1 J	2.6 J	1.6 J	1.9 J	<	3.2 J	3.9 J	5.3 J	5.5 J
Dibenzofuran	NV	48	42	56	49	23	24	34	27	4.4 J	7.1 J	4.4 J	6.7 J	14	11	12	12	6.6 J	1.1 J	2.0 J	<	8.0 J	8.9 J	13	8.1 J
Fluorene*	50	**60**	**57**	**75**	**68**	32	32	47	36	6.6 J	9.7 J	9.4 J	8.6 J	22	17	18	<	9.3 J	5.4 J	6.9 J	4.1 J	13	15	20	14
Phenanthrene*	50	**97 D**	**75 D**	**120 D**	**140 D**	**51**	49	**72**	**62**	11	20	14	19	49	39	42	44	9.4 J	<	1.9 J	1.2 J	18	21	29	19
Carbazole	NV	36	27	36	36	54	53	71	63	4.3 J	6.4 J	6.0 J	6.0 J	12	7.6 J	8.6 J	11	11	2.1 J	1.4 J	<	20	23	33	20
Anthracene*	50	11	10	13	13	5.1 J	4.3 J	14	8.8 J	2.3 J	3.3 J	2.5 J	2.3 J	7.5 J	6.0 J	5.6 J	5.8 J	1.3 J	<	<	<	2.4 J	2.4 J	2.8 J	1.5 J
Fluoranthene*	50	10	11	14	12	7.6 J	6.9 J	11	7.7 J	4.0 J	5.6 J	5.6 J	4.8 J	9.3 J	8.3 J	10	8.5 J	1.5 J	2.0 J	1.7 J	2.0 J	2.7 J	3.5 J	4.8 J	3.1 J
Pyrene*	50	6.9 J	6.0 J	8.8 J	7.5 J	5.0 J	3.7 J	6.6 J	5.0 J	2.6 J	3.5 J	<	4.0 J	6.3 J	4.7 J	6.1 J	5.8 J	1.1 J	1.7 J	1.6 J	1.6 J	3.1 J	3.5 J	4.7 J	3.0 J
Butylbenzylphthalate	NV	<	<	<	<	<	0.53 J	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<
bis(2-Ethylhexyl)Phthalate	5	<	<	1.4 J	<	<	<	1.6 J	<	<	<	1.4 J	<	2.5 J	<	<	<	<	<	<	<	<	<	1.4 J	<

Notes:
1. Compounds detected in one or more sample are presented on this table. Refer to Appendix C for list of all compounds included in analysis.
2. Analytical testing completed by Spectrum Laboratory, North Kingstown, Rhode Island.
3. NYSDEC Groundwater Class GA criteria obtained from Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), dated October 1993, revised June 1998, errata January 1999 and amended April 2000 (Class GA).
4. ug/L = part per billion (ppb).
5. < indicates compound was not detected above method detection limits.
6. "J" qualifier = Analyte detected below quanititation limits.
7. "B" qualifier = indicates compound was detected in the method blank sample.
8. "D" qualifier = indicates the compound concentration was obtained from a secondary dilution analysis.
9. Value shown in **bold** indicate exceedance of respective Class GA Criteria or guidance value.
10. NV = no value.
11. * = value shown is a guidance value rather than a groundwater standard.
12. NT = not tested.
13. The equipment used to collect water quality data was calibrated prior to and during use in accordance with the manufacturer's recommendations. However, dissolved oxygen measurements collected in June 2012, were not included as select results appeared to be erroneous and possibly the result of meter interferences or sensor malfunction. Additionally, elevated pH measurements recorded during the January 2013 monitoring may also be similarly influenced.

FIGURES



NEW YORK

NOTE:
BASE MAP ADAPTED FROM A 1965 U.S.G.S. TOPOGRAPHIC MAPS DOWNLOADED FROM http://store.usgs.gov

0 750 150 3000
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
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PREPARED FOR:
FIRST WIND ENERGY, LLC.

STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

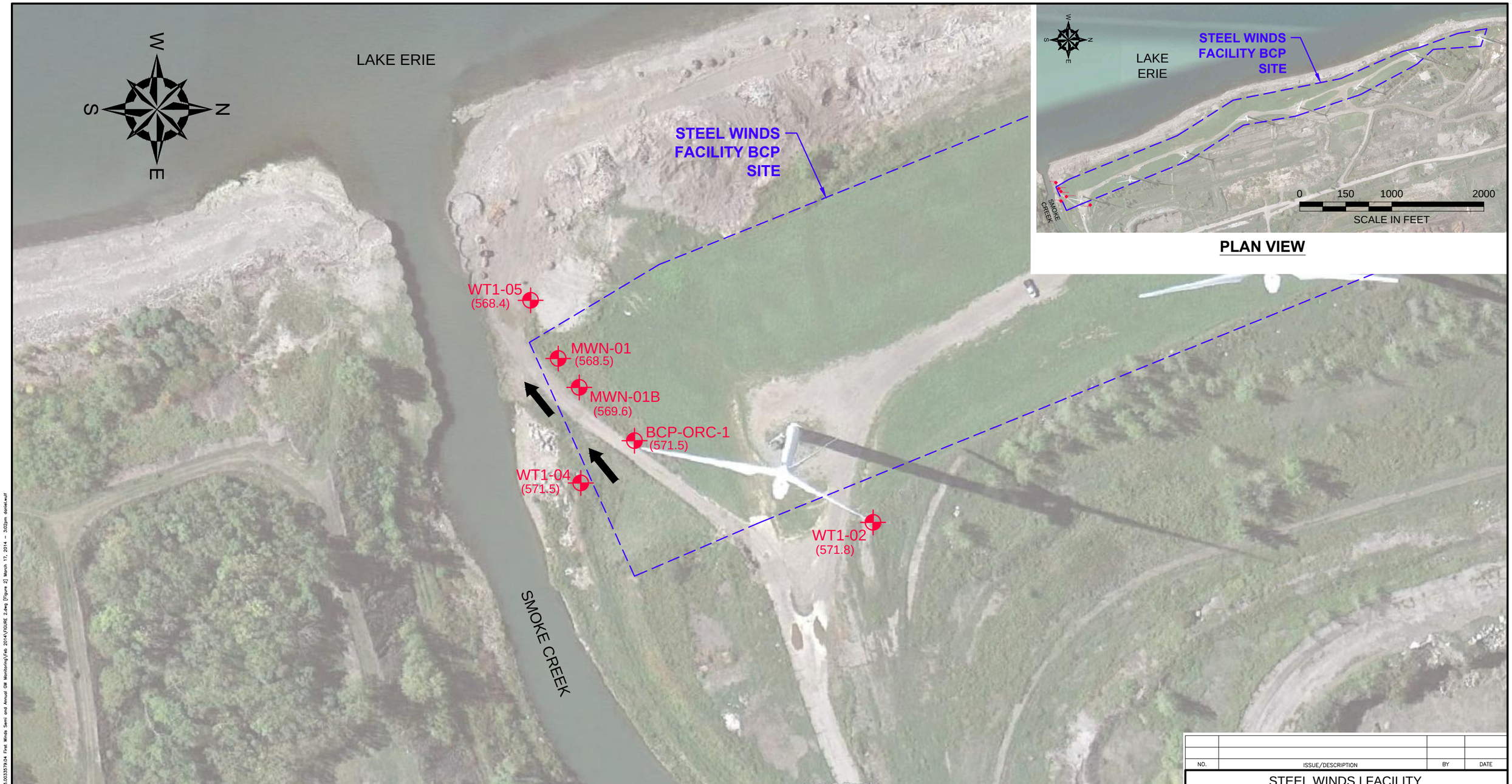
FEBRUARY 2014 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

LOCUS PLAN

FIGURE 1

PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	DATE	PROJECT NO.	REVISION NO.
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	MARCH 2014	03.0033579.04	

SHEET NO. 1 of 2



PLAN VIEW

LEGEND:

MWN-01 (568.5) — APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELLS SHOWN WITH GROUNDWATER ELEVATIONS MEASURED BY GZA IN FEBRUARY 2014

PRESUMED GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP ADAPTED FROM AN AERIAL PHOTO DOWNLOADED FROM GOOGLE EARTH AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

0 50 100 200
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

STEEL WINDS I FACILITY
ROUTE 5
LACKAWANNA, NEW YORK

FEBRUARY 2014 SEMI-ANNUAL GROUNDWATER MONITORING REPORT
SITE PLAN

PREPARED BY:
GZA GeoEnvironmental of N.Y.
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PREPARED FOR:
FIRST WIND ENERGY, LLC.

PROJ MGR: DJT	REVIEWED BY:	CHECKED BY:	FIGURE 2
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	
DATE MARCH 2014	PROJECT NO. 03.0033579.04	REVISION NO.	SHEET NO. 2 of 2

APPENDIX A

LIMITATIONS

GEOHYDROLOGICAL LIMITATIONS

Use of Report

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

Standard of Care

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).

3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.

4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

Subsurface Conditions

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.

6. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

Compliance with Codes and Regulations

7. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.

Screening and Analytical Testing

8. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.

9. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.

10. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

Interpretation of Data

11. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

Additional Information

12. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

Additional Services

13. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

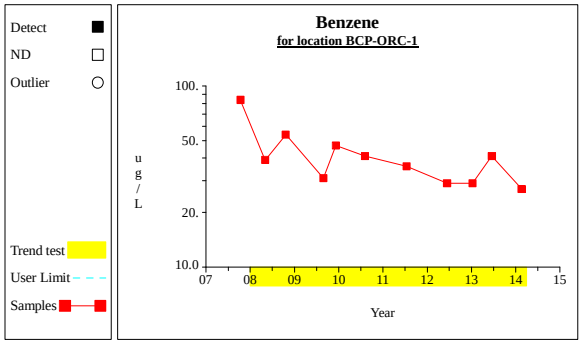
APPENDIX B

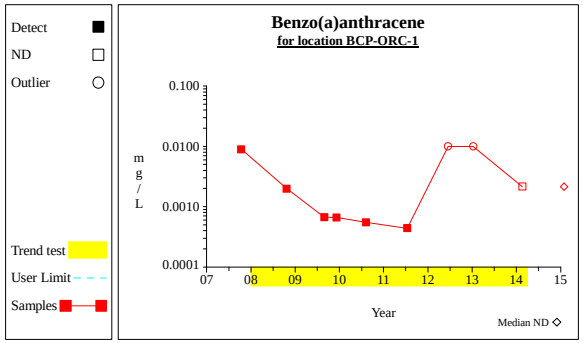
ANALYTICAL TEST RESULTS
(Not included as part of this 2014 PRR submittal)

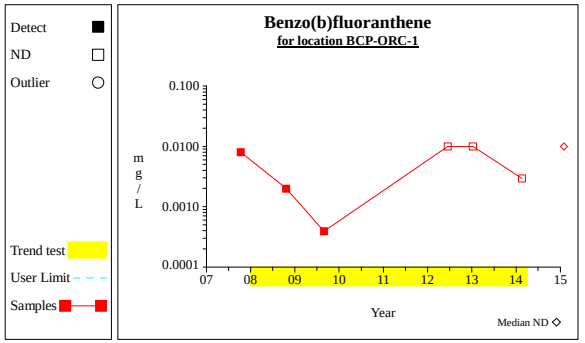
APPENDIX C

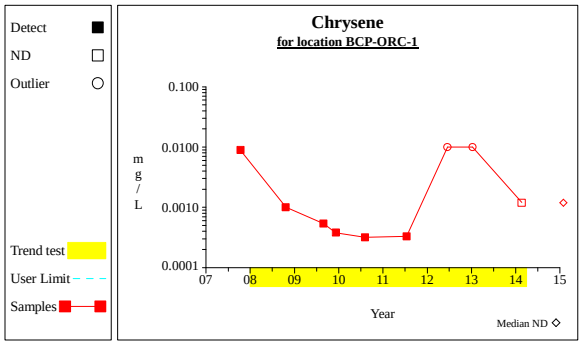
TIME SERIES PLOTS

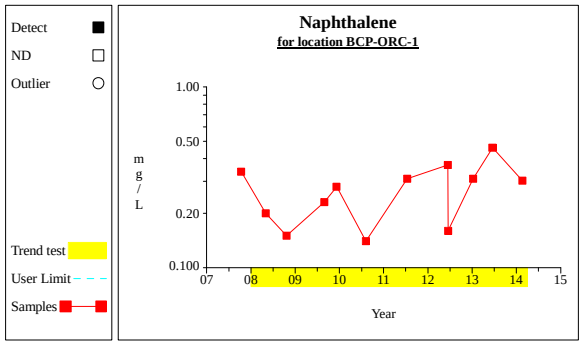
Time Series

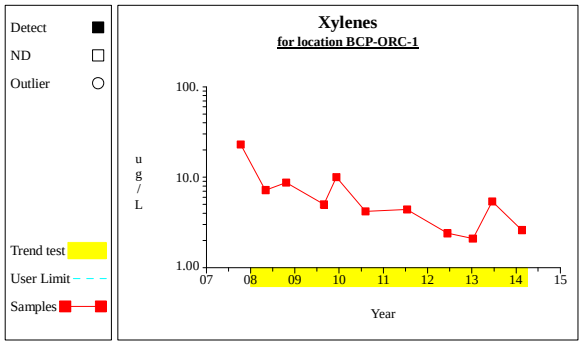

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location BCP-ORC-1
100.
50.
20.
10.0
u
g
/
L
07
08
09
10
11
12
13
14
15
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)anthracene
for location BCP-ORC-1
0.100
0.0100
0.0010
0.0001
m
g
/
L
07
08
09
10
11
12
13
14
15
Year
Median ND

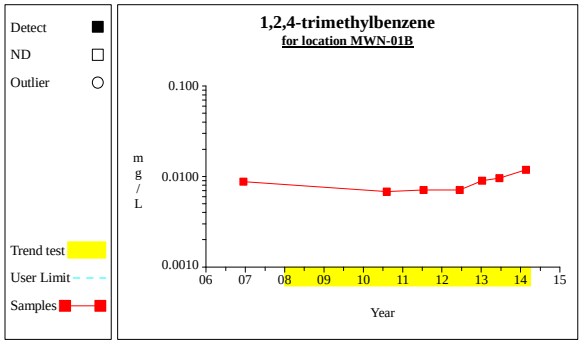

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(b)fluoranthene
for location BCP-ORC-1
0.100
0.0100
0.0010
0.0001
m
g
/
L
07
08
09
10
11
12
13
14
15
Year
Median ND

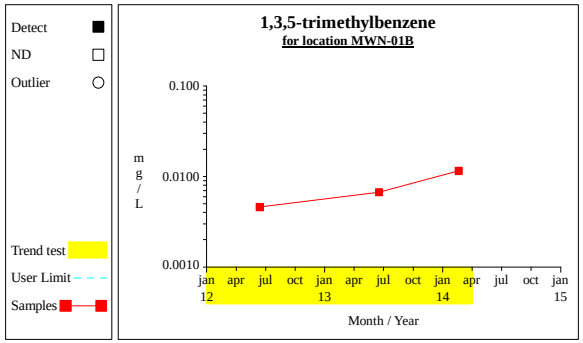

Detect
ND
Outlier
Trend test
User Limit
Samples
Chrysene
for location BCP-ORC-1
0.100
0.0100
0.0010
0.0001
m
g
/
L
07
08
09
10
11
12
13
14
15
Year
Median ND

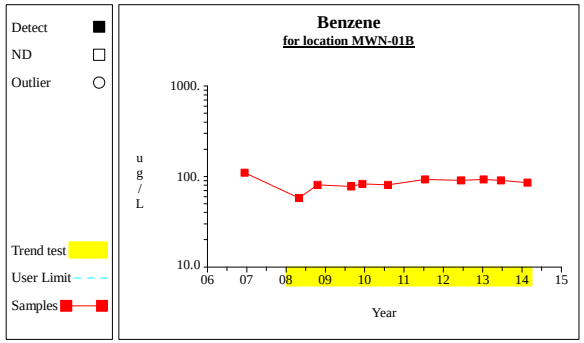

Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location BCP-ORC-1
1.00
0.50
0.20
0.100
m
g
/
L
07
08
09
10
11
12
13
14
15
Year

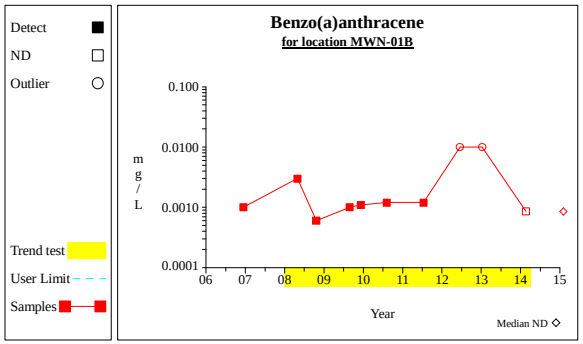

Detect
ND
Outlier
Trend test
User Limit
Samples
Xylenes
for location BCP-ORC-1
100.
10.0
1.00
u
g
/
L
07
08
09
10
11
12
13
14
15
Year

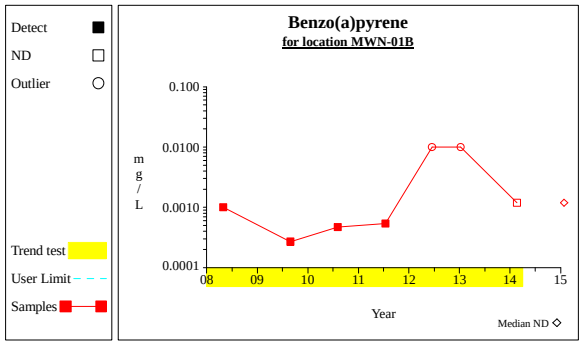
Time Series

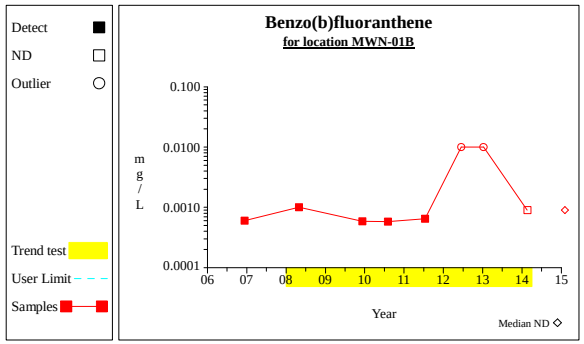

Detect
ND
Outlier
Trend test
User Limit
Samples
1,2,4-trimethylbenzene
for location MWN-01B
mg/L
0.100
0.0100
0.0010
06 07 08 09 10 11 12 13 14 15
Year

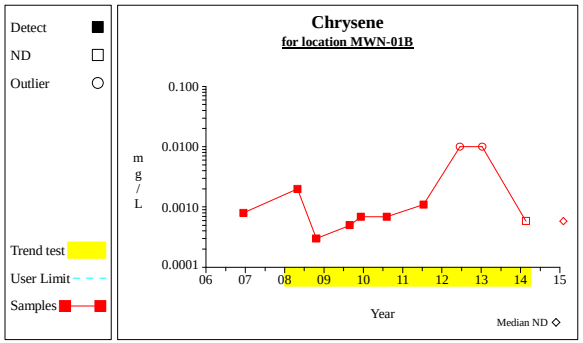

Detect
ND
Outlier
Trend test
User Limit
Samples
1,3,5-trimethylbenzene
for location MWN-01B
mg/L
0.100
0.0100
0.0010
jan apr jul oct jan apr jul oct jan apr jul oct jan
12 13 14 15
Month / Year

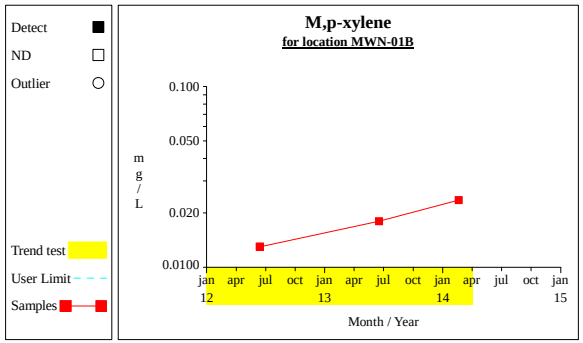

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location MWN-01B
ug/L
1000.
100.
10.0
06 07 08 09 10 11 12 13 14 15
Year

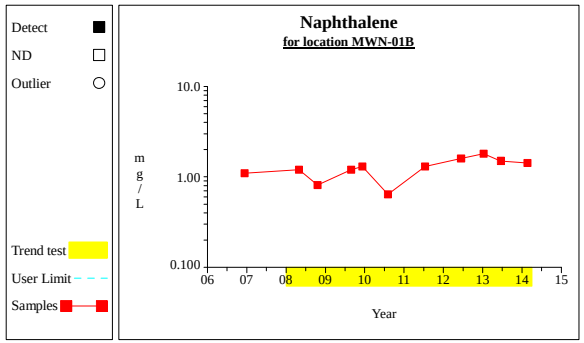

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)anthracene
for location MWN-01B
mg/L
0.100
0.0100
0.0010
0.0001
06 07 08 09 10 11 12 13 14 15
Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)pyrene
for location MWN-01B
mg/L
0.100
0.0100
0.0010
0.0001
08 09 10 11 12 13 14 15
Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(b)fluoranthene
for location MWN-01B
mg/L
0.100
0.0100
0.0010
0.0001
06 07 08 09 10 11 12 13 14 15
Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Chrysene
for location MWN-01B
mg/L
0.100
0.0100
0.0010
0.0001
06 07 08 09 10 11 12 13 14 15
Year
Median ND

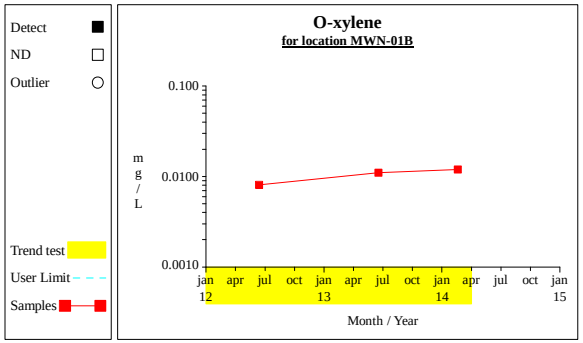

Detect
ND
Outlier
Trend test
User Limit
Samples
M,p-xylene
for location MWN-01B
mg/L
0.100
0.050
0.020
0.0100
jan apr jul oct jan apr jul oct jan apr jul oct jan
12 13 14 15
Month / Year

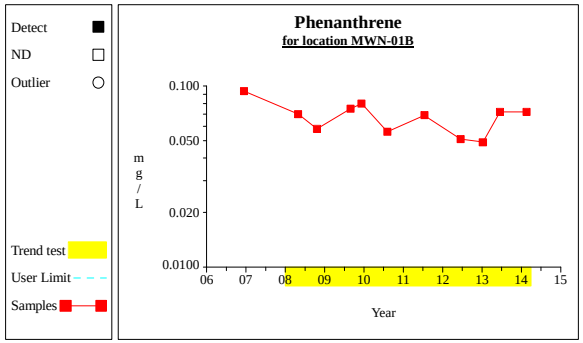

Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location MWN-01B
mg/L
10.0
1.00
0.100
06 07 08 09 10 11 12 13 14 15
Year

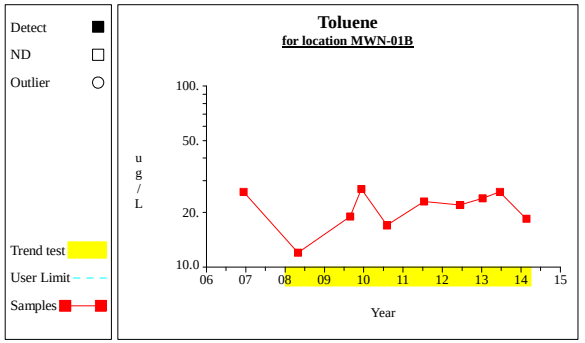
Steel Winds

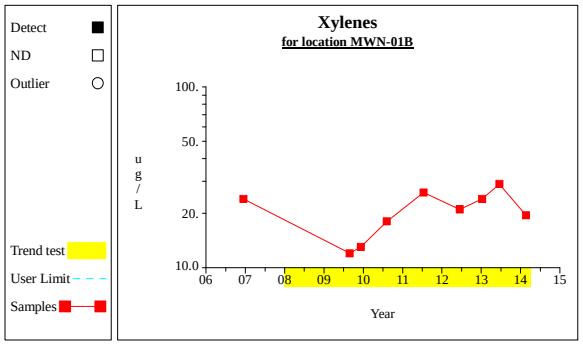
Analysis prepared on: 4/2/2014

Time Series



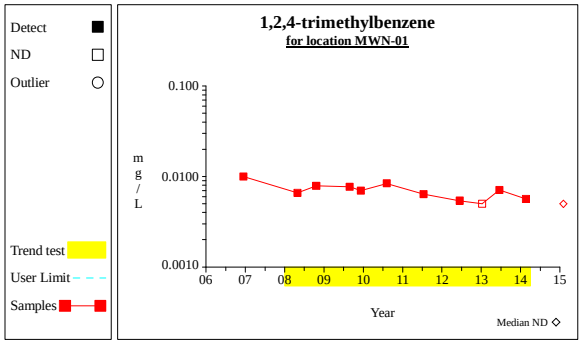


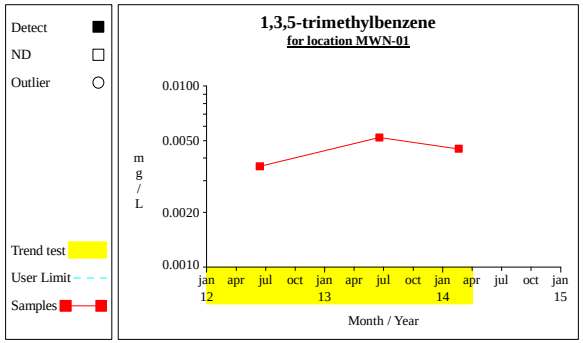


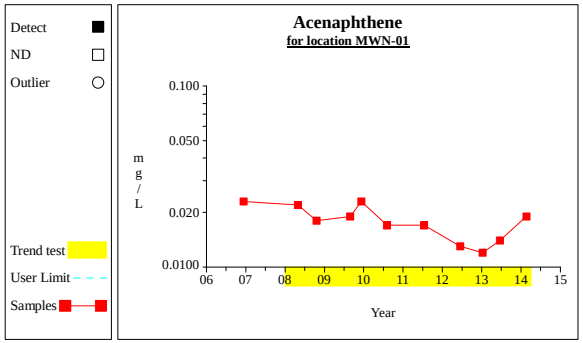


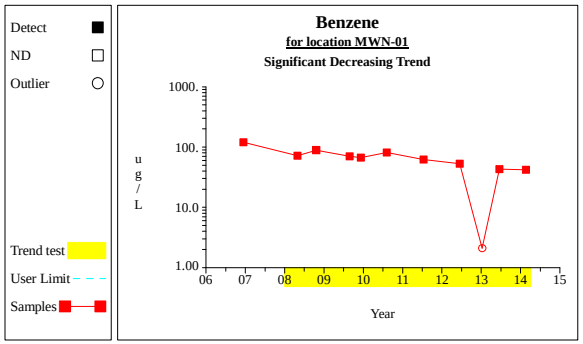
Prepared by: GZA GeoEnvironmental Inc.

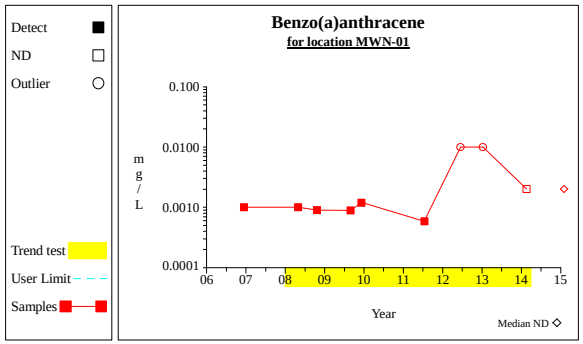
Time Series

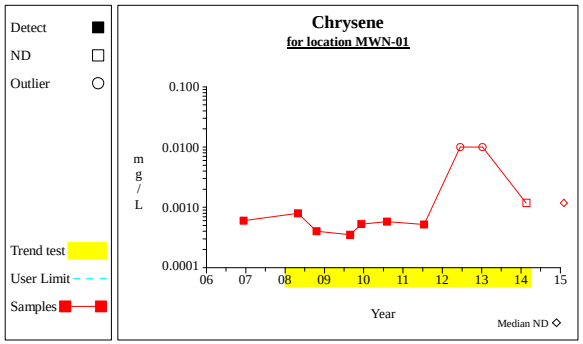

Detect
ND
Outlier
Trend test
User Limit
Samples
1,2,4-trimethylbenzene
for location MWN-01
mg/L
0.100
0.0100
0.0010
06 07 08 09 10 11 12 13 14 15
Year
Median ND

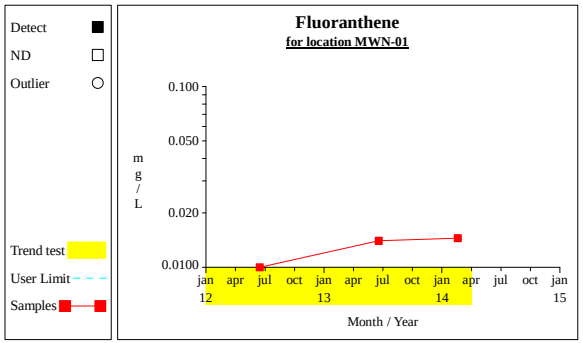

Detect
ND
Outlier
Trend test
User Limit
Samples
1,3,5-trimethylbenzene
for location MWN-01
mg/L
0.0100
0.0050
0.0020
0.0010
jan apr jul oct jan apr jul oct jan apr jul oct jan
12 13 14 15
Month / Year

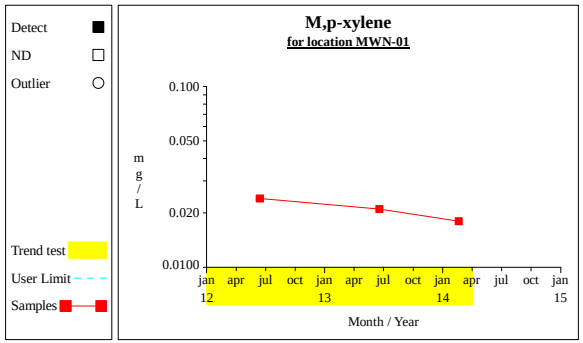

Detect
ND
Outlier
Trend test
User Limit
Samples
Acenaphthene
for location MWN-01
mg/L
0.100
0.050
0.020
0.0100
06 07 08 09 10 11 12 13 14 15
Year

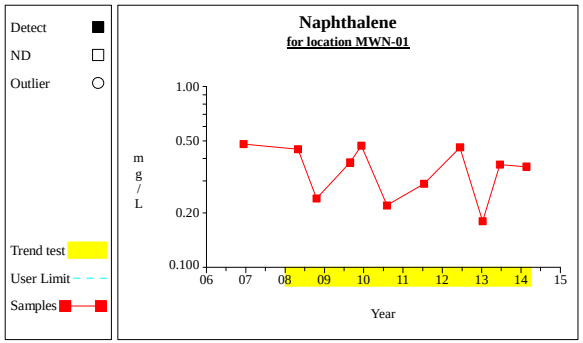

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location MWN-01
Significant Decreasing Trend
ug/L
1000.
100.
10.0
1.00
06 07 08 09 10 11 12 13 14 15
Year


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)anthracene
for location MWN-01
mg/L
0.100
0.0100
0.0010
0.0001
06 07 08 09 10 11 12 13 14 15
Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Chrysene
for location MWN-01
mg/L
0.100
0.0100
0.0010
0.0001
06 07 08 09 10 11 12 13 14 15
Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Fluoranthene
for location MWN-01
mg/L
0.100
0.050
0.020
0.0100
jan apr jul oct jan apr jul oct jan apr jul oct jan
12 13 14 15
Month / Year

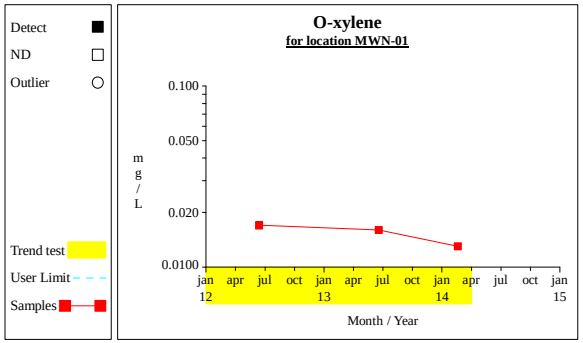

Detect
ND
Outlier
Trend test
User Limit
Samples
M,p-xylene
for location MWN-01
mg/L
0.100
0.050
0.020
0.0100
jan apr jul oct jan apr jul oct jan apr jul oct jan
12 13 14 15
Month / Year

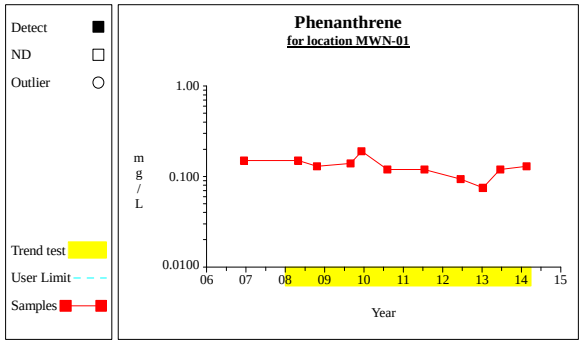

Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location MWN-01
mg/L
1.00
0.50
0.20
0.100
06 07 08 09 10 11 12 13 14 15
Year

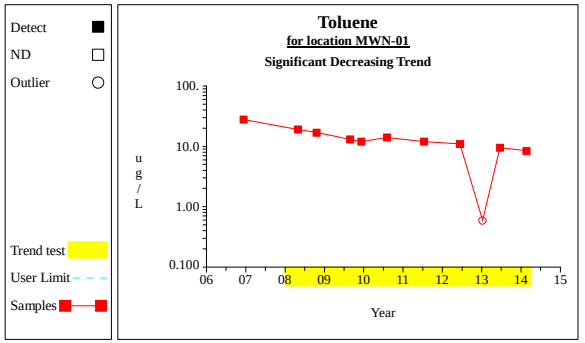
Steel Winds

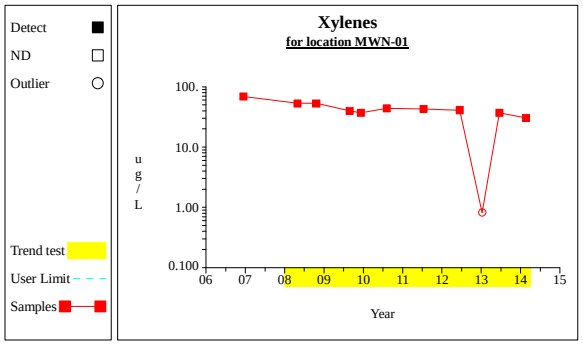
Analysis prepared on: 4/2/2014

Time Series



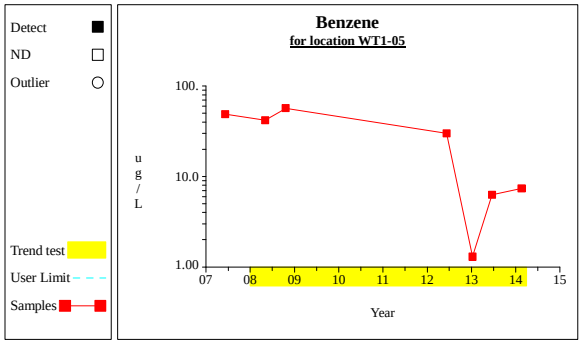


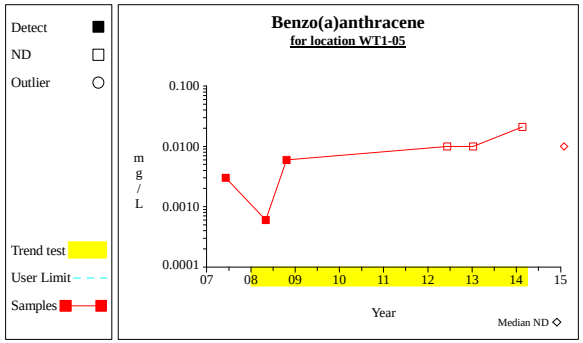


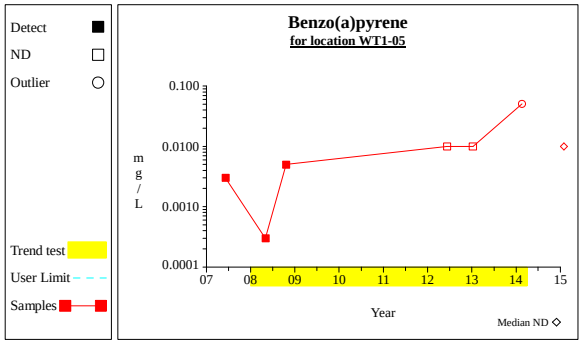


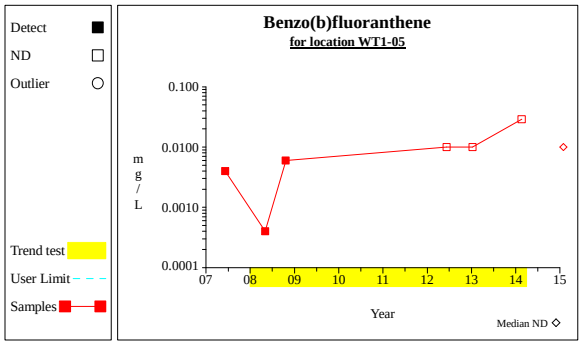
Prepared by: GZA GeoEnvironmental Inc.

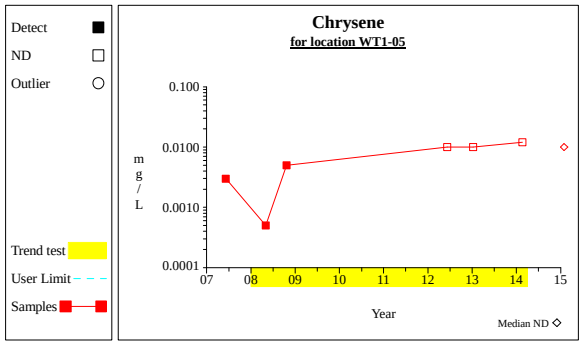
Time Series

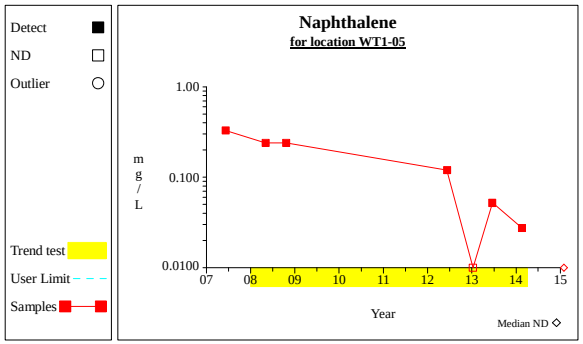

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzene
for location WT1-05
100.
10.0
1.00
u
g
/
L
07
08
09
10
11
12
13
14
15
Year

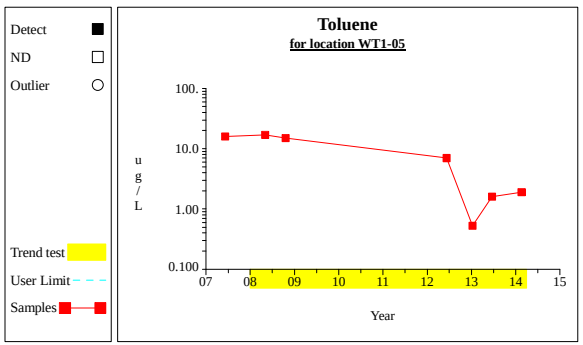

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)anthracene
for location WT1-05
0.100
0.0100
0.0010
0.0001
m
g
/
L
07
08
09
10
11
12
13
14
15
Year
Median ND

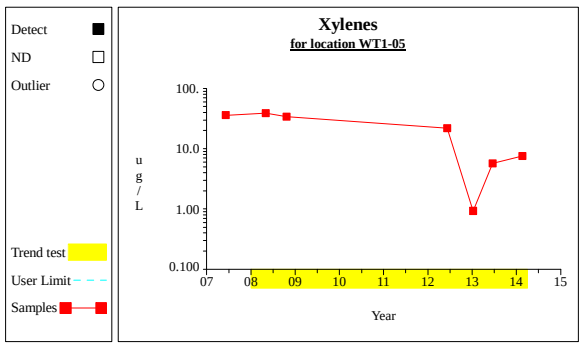

Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(a)pyrene
for location WT1-05
0.100
0.0100
0.0010
0.0001
m
g
/
L
07
08
09
10
11
12
13
14
15
Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Benzo(b)fluoranthene
for location WT1-05
0.100
0.0100
0.0010
0.0001
m
g
/
L
07
08
09
10
11
12
13
14
15
Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Chrysene
for location WT1-05
0.100
0.0100
0.0010
0.0001
m
g
/
L
07
08
09
10
11
12
13
14
15
Year
Median ND


Detect
ND
Outlier
Trend test
User Limit
Samples
Naphthalene
for location WT1-05
1.00
0.100
0.0100
m
g
/
L
07
08
09
10
11
12
13
14
15
Year
Median ND

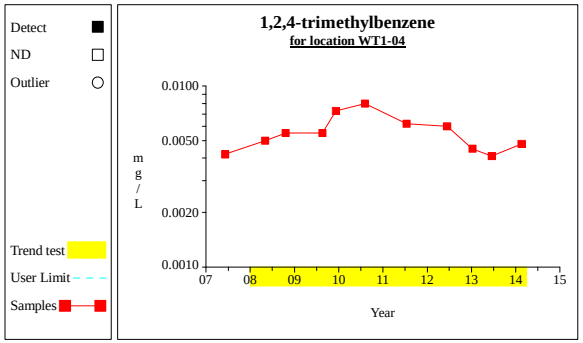

Detect
ND
Outlier
Trend test
User Limit
Samples
Toluene
for location WT1-05
100.
10.0
1.00
0.100
u
g
/
L
07
08
09
10
11
12
13
14
15
Year

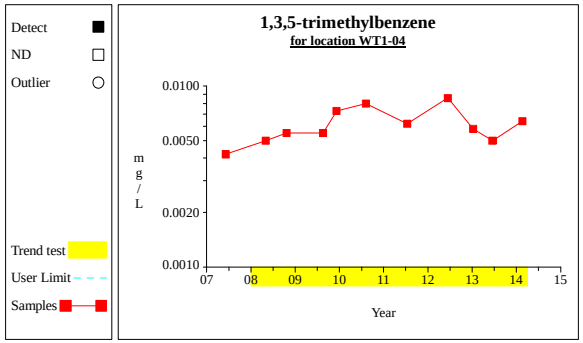

Detect
ND
Outlier
Trend test
User Limit
Samples
Xylenes
for location WT1-05
100.
10.0
1.00
0.100
u
g
/
L
07
08
09
10
11
12
13
14
15
Year

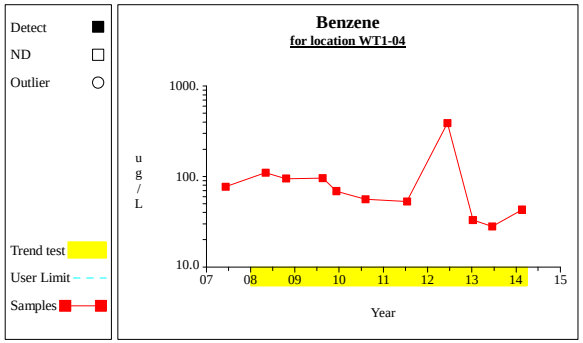
Steel Winds

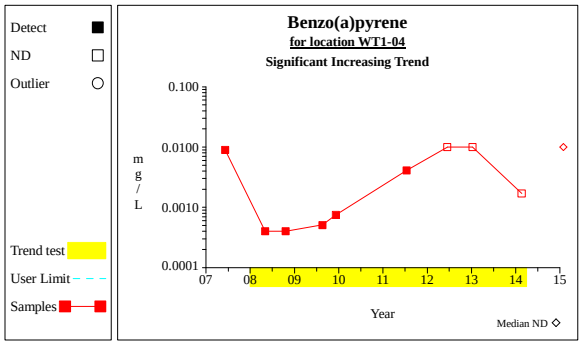
Analysis prepared on: 4/1/2014

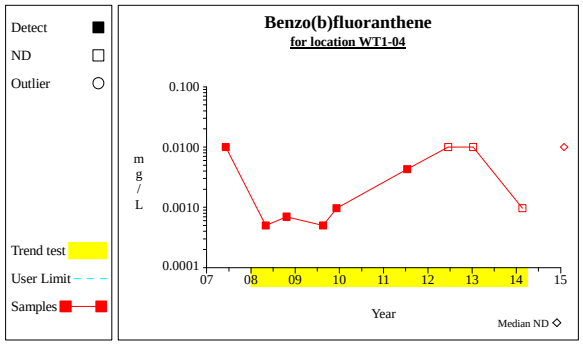
Time Series

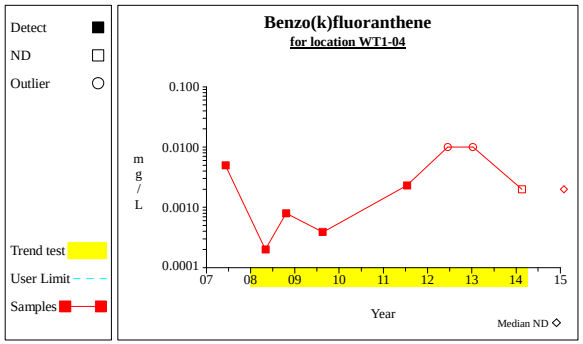


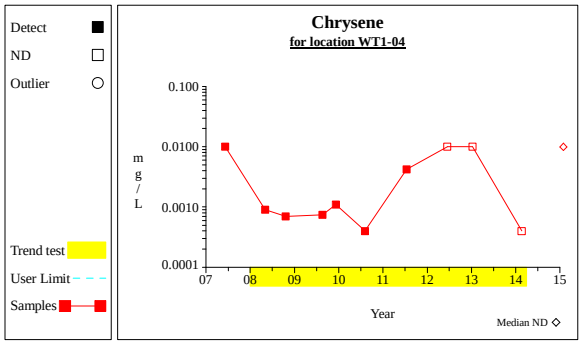


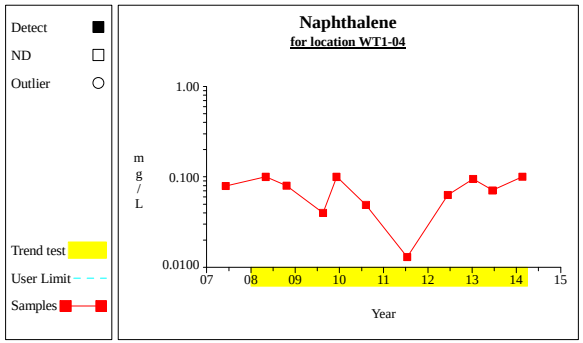


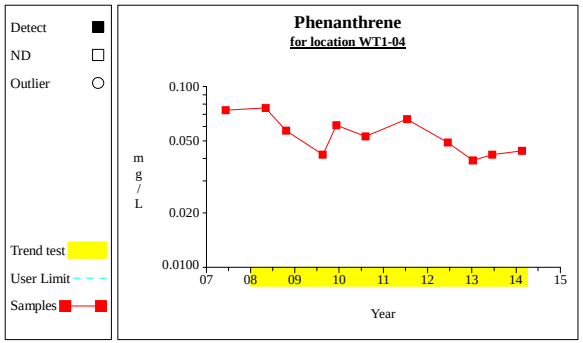






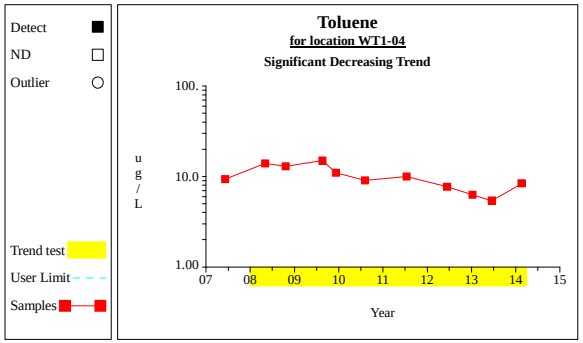






Prepared by: GZA GeoEnvironmental Inc.

Time Series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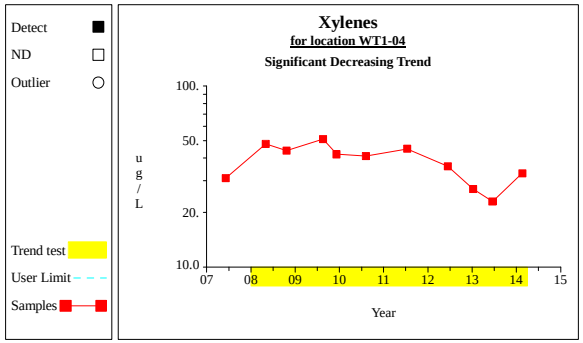
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Steel Winds

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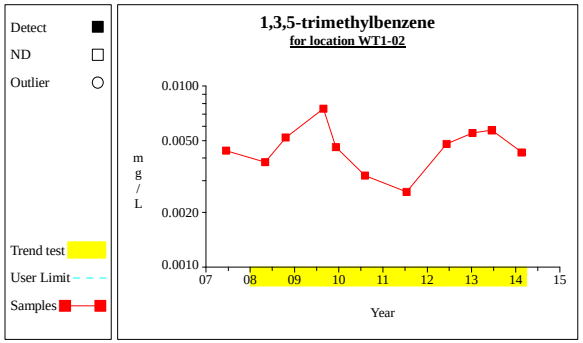

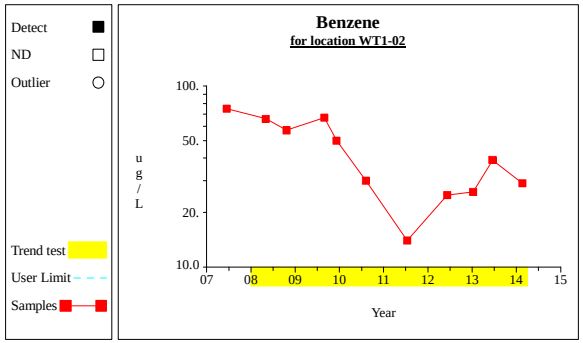

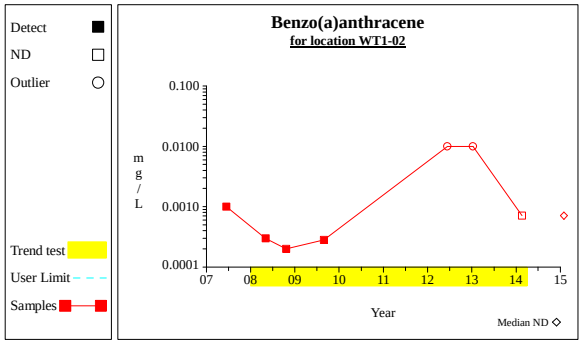

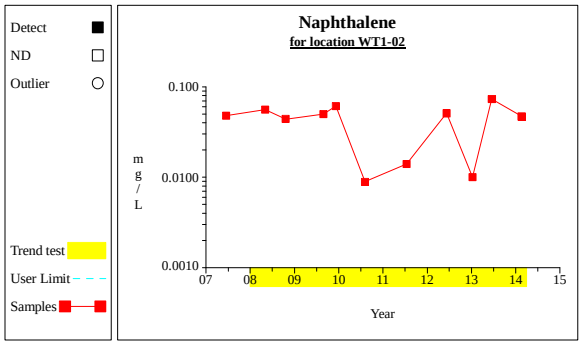

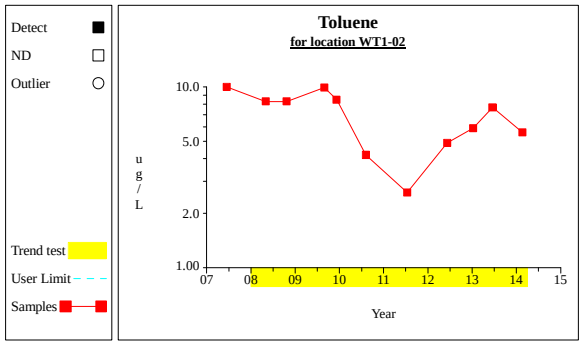

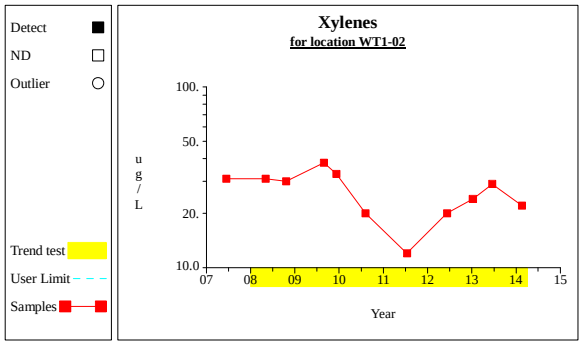

Prepared by: GZA GeoEnvironmental Inc.

ATTACHMENT C

INSTITUTIONAL AND ENGINEERING CONTROLS FORM

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **C915205**

Site Name Tecumseh Redevelopment, Inc.-Steelwinds

Site Address: 1951 Hamburg Turnpike Zip Code: 14218
City/Town: Lackawanna
County: Erie
Site Acreage: 29.1

Reporting Period: May 05, 2013 to May 05, 2014

	YES	NO
1. Is the information above correct?	☑	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☑
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☑
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☑
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☑

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☑	☐
7. Are all ICs/ECs in place and functioning as designed?	☑	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☑
If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.		
9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	☑	☐
If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.		

SITE NO. C915205

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
141.11-1-1.111	Tecumseh Redevelopment, Inc.	Site Management Plan Ground Water Use Restriction Soil Management Plan Landuse Restriction

(i) Compliance with the Site Management Plan ("SMP") for the implemented remedy;

(ii) Maintenance of the 12 inch soil cover system and vegetation over the Site;

(iii) The groundwater beneath the Site cannot be used as a potable water source or for any other use without the prior written permission of the Department;

(iv) Groundwater monitoring as specified in the SMP;

(v) In the event that buildings are constructed, a Department approved evaluation of potential sub-slab vapor impacts will be required.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
141.11-1-1.111	Cover System

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☑	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☑	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C915205

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Claude A. Cote (print name) at 179 Lincoln ST. Boston MA (print business address)

am certifying as Remedial Party Representative (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

C Claude A Cote
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

July 1, 2014
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I DANIEL TROY (print name) at GZA GEOENVIRONMENTAL OF NY 535 WASHINGTON ST 11TH FL. BUFFALO, NY 14203 (print business address)

am certifying as a Professional Engineer for the STEELWINDS (NIAGARA WIND POWER LLC) (Owner or Remedial Party)

STATE OF NEW YORK
DANIEL JOHN TROY
LICENSED PROFESSIONAL ENGINEER
Stamp (Required for PE)

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

6/16/14
Date

ATTACHMENT D

SITE PHOTOGRAPHS

View of soil erosion at monitoring well WT1-05.

View of turbine array looking north.

View of typical Site cap conditions.

Typical rut/animal burrow approx. 3-inches deep near WT-2 and WT-3.

Area of sporadic vegetation between WT-3 and WT-4 looking north.

View at WT-4 looking north.

Minor vegetated tire ruts in vicinity of WT-04.

Area of light vegetation south and west of WT-5 on slope.

Area of light vegetation west of WT-5.

Light vegetation due to vehicle traffic between WT-7 and WT-8.

View of WT-8 looking north.

Minor rutting west side of access road between WT-6 and WT-7.