FINAL CORRECTIVE MEASURES
AND
RESPONSE TO COMMENTS ON THE STATEMENT OF BASIS

Tarkett Site (Former Vails Gate Manufacturing)
Vails Gate, Orange County
EPA NYD 041770629 / Site No. 336065
March 2014

INTRODUCTION

This document presents the final corrective measures for the Tarkett Site**.** The final corrective measures were selected in accordance with 6 NYCRR 373. This decision is based on the Administrative Record for the New York State Department of Environmental Conservation (the Department) for the Tarkett Site (see Attachment A) and the public's input to the proposed corrective measures presented in the Statement of Basis (SB).

PUBLIC PARTICIPATION AND RESPONSE TO COMMENTS

The public comment period for the SB started on January 16, 2014 and ended on March 5, 2014. All comments and/or requests for public hearing were required to be submitted no later than March 5, 2014.

There were no comments received from the public on the corrective measures proposed in the SB.

FINAL CORRECTIVE MEASURES

The elements of the final corrective measure are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

    - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
    - Reducing direct and indirect greenhouse gas and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;
    - Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. In-situ enhanced biodegradation will be employed to treat the volatile organic contaminants in groundwater in the area of the former oil/water separator located to the west of the plant building. The biological breakdown of contaminants through anaerobic reductive dechlorination will be enhanced by the introduction of a hydrogen release compound (HRC) or similar material into the subsurface. The compound will be delivered to the subsurface at a depth of approximately 16' through a series of direct push temporary points. The treatment area is estimated to be 900 square feet.

3. A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one foot of soil meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

4. Imposition of an institutional control in the form of an environmental easement for the controlled property that:

   - requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
   - allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
   - restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
   - requires compliance with the Department approved Site Management Plan.

5. A Site Management Plan is required, which includes the following:

   a.) An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

      Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.
      Engineering Controls: Maintenance of the site cover, the currently installed sub-slab depressurization system and any future systems installed at the site.
      This plan includes, but may not be limited to:

      - descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
      - an Excavation Plan which details the provisions for management of future excavation activities

- a provision for evaluation of the potential for soil vapor intrusion for any buildings reused or developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b.) Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater, soil vapor, sub-slab vapor, and indoor air to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c.) Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

Declaration

The proposed corrective measure(s) is/are protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant, appropriate to the remedial action to the extent practicable, and is/are cost effective. This remedy utilizes permanent solutions and alternative treatment, or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 10, 2014
Date

Robert W. Schick, P.E., Director
Division of Environmental Remediation

FINAL STATEMENT OF BASIS

Tarkett Site (Former Vails Gate Manufacturing)
Vails Gate, Orange County
EPA NYD 041770629 / Site No. 336065

March 2014

SECTION 1: INTRODUCTION

The New York State Department of Environmental Conservation (Department) has determined that hazardous wastes and/or hazardous constituents were released into the environment at the facility. The Department, in consultation with the New York State Department of Health (NYSDOH), is proposing final corrective measures for the aforementioned facility. The proposed corrective measures are intended to attain the cleanup objectives identified for this facility for the protection of public health and the environment. This Statement of Basis (SB) identifies the proposed corrective measures, summarizes the other alternatives considered, explains the reasons for selecting the proposed remedy, and solicits public involvement in the selection of corrective measures. The Department will select final corrective measures only after the public comment period has ended and the information submitted during this time is reviewed and considered in the decision-making process.

The purpose of this SB is to provide an opportunity for the public to be informed of and to participate in the development of the remedial program for the facility. Public input on all potential remedial alternatives, and on the information that supports the alternatives, is an important contribution to the corrective measure selection process. The Department may modify the proposed remedy or select another remedy based on new information and/or public comments. The Statement of Basis summarizes and highlights key information from the RCRA Facility Investigation (RFI) and the Corrective Measures Study (CMS) reports, but is not a substitute for these documents. The RFI and CMS reports and the administrative record are more complete sources of information regarding the corrective measure(s).

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site related reports and documents were made available for review by the public at the following document repositories:

Cornwall Public Library
395 Hudson Street
Cornwall, NY 12518
Ph: (845)534-8282
Hrs: Mon-Th. 10AM-8PM
Fri. 10AM -6PM
Sa. 10AM-4PM
Su. 1PM-4PM

Department of Environmental Conservation
Division of Environmental Remediation, 11th floor
625 Broadway
Albany, NY 12233
Ph: (518) 402-9662
Contact Person: John Miller
Call for appointment

NYSDEC Region 3 Office
21 South Putt Corners Road
New Paltz, NY 12561
Ph: (845) 256-3154
Contact Person: Michael Knipfing
Call for appointment

Information about the comment period and citizen participation actions for this site is summarized in the responsiveness summary section of the Statement of Basis (see Appendix A).

Receive Site Citizen Participation Information by Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html.

SECTION 3: FACILITY BACKGROUND

Site Description and History

Location: The Tarkett site is located at 1073 Route 94 in a suburban area of the Town of Vails Gate, Orange County.

Site Features: The site is an approximately 36 acre parcel of land located to the east of the NYS Thruway. The site contains three buildings: a former research facility (14,326 sq. ft.), former plant building (227,000 sq. ft.) and a smaller storage building on the southern portion of the site. Most of the remainder of the site is paved. Limited grassy areas are located adjacent to the former research facility and three debris piles are located in the southwest corner of the site. Wetland areas are present to the south and east of the site and commercial/residential properties are located to the north.

Current Zoning and Land Use: The local zoning of the site is highway commercial use. The plant building houses several operations including distribution centers and small scale industrial manufacturers. The former research building is currently used for commercial purposes including a plumbing business.

Past Use of the Site: The site was formerly a manufacturing facility for vinyl floor tiles. The operations occurred from the mid 1960s until 2005. Various chemicals were used in the process and stored at the property. Underground storage tanks and an oil-water separator also existed on-site.

Several investigations have been completed at the site, including a Phase I Environmental Site Assessment (ESA) in 1998, a Phase II ESA in 1999 and additional subsurface investigations in 2003. As a result, several areas of concern (AOCs) were identified, including the former drum storage areas (AOCs 1,2,3), a former 1,000 gallon underground storage tank (UST) (AOC 4), a former 20,000 gallon UST (AOC 5), an oil-water separator (AOC 6), the former septic system (AOC 7), the former research building

(AOC 8) and the former plant building (AOC 9). Two petroleum spills are associated with the site (Spill # 0600056 and Spill # 0610679), both of which have been closed.

A portion of the site, excluding the drum storage areas and oil water separator area, was accepted into the Brownfield Cleanup Program (BCP) in 2005. Several Interim Remedial Measures were implemented under the program, but the Participant elected to terminate the BCP agreement in 2009 and complete the remaining site activities under the RCRA program, as a single operable unit.

Site Geology and Hydrogeology: The site generally consists of several feet of fill overlying the site's natural lacustrine deposits. The fill consists of silt, wood, plastic and also vinyl tile. The natural deposits include sand, silt and clay. The clay is generally found at a depth of seven to ten feet. Groundwater was found at the site at depths of 2.5 to 6 feet and generally flows to the southeast across the site. A southwestern component to groundwater flow was also observed at some locations.

Site location and boundary figures are included as Figure 1 and 2, respectively. The AOCs are shown on Figure 3.

SECTION 4: ENFORCEMENT STATUS

6NYCRR Part 373 Hazardous Waste Management Permits include RCRA Corrective Action. This requires owners and/or operators of hazardous waste treatment, storage and disposal facilities to investigate and, when appropriate, remediate releases of hazardous wastes and/or constituents to the environment. For this facility, the Department executed an Order on Consent [identification number C0 3-20060308-1] with Vails Gate Manufacturing, LLC (VGM) in June of 2006.

SECTION 5: RCRA FACILITY INVESTIGATION (RFI)

The RCRA Corrective Action process began with investigations to evaluate potential areas of the facility that may have been impacted by hazardous wastes and/or hazardous constituents. Based on the results of investigations, the Department has determined that hazardous wastes and/or hazardous constituents have been released at the facility. The impact of releases of hazardous wastes and/or hazardous constituents at the facility were characterized and evaluated.

The analytical data collected for the facility includes data for:

-groundwater
-soil
-sub-slab soil vapor
-indoor air

The data have identified contaminants of concern. A “contaminant of concern” is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Based on the results, the Department determined that corrective measures were required to address some of the areas investigated. The RCRA Facility Investigation (RFI) Report contains a full discussion of the data. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A.

The contaminant(s) of concern identified at this facility are:

1,1,1 Trichloroethane 1,1 Dichloroethane

Chloroethane	1,1, Dichloroethene
Tetrachlorothene	1,4 Dioxane
Trichloroethene	cis-1,2-Dichloroethene
Cadmium	Chromium
Lead	

As illustrated in Exhibit A, the contaminant(s) of concern exceed the cleanup objectives for:

-soil
-groundwater
-sub-slab soil vapor

5.1: <u>Summary of Environmental Assessment</u>

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RFI report presents more a detailed discussion of any existing and potential impacts from the site.

Nature and Extent of Contamination: Based upon investigations conducted to date, the primary contaminants of concern include volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), specifically: 1,1-dichloroethane (1,1 DCA), 1,1,1trichloroethane (1,1,1 TCA), chloroethane, 1,1-dichloroethene (1,1 DCE), tetrachlorothene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE) and 1,4- dioxane.

Surface Soil – Surface soil was sampled for VOCs, SVOCs, Metals and PCBs. In total, twenty three surface soil samples were collected. One of the samples exceeded soil cleanup objectives (SCO) for mercury, containing 3.2 parts per million (ppm) compared to the commercial use SCO of 2.8 ppm.

Subsurface Soil - Subsurface soil was sampled for VOCs, SVOCs, Metals and PCBs. VOCs were detected in subsurface soil in several locations. 1,1,1-TCA was detected up to 23 ppm, below the commercial use SCO of 500 ppm. 1,1-DCA was detected up to 1.1 ppm, below the commercial use SCO of 240 ppm. The metals chromium and cadmium were detected in numerous subsurface soil samples. However, none of the samples exceeded commercial SCOs for metals. In addition, the SVOC benzo(a)pyrene was detected in one subsurface soil sample at 2.2 ppm which exceeds the commercial use SCO of 1 ppm.

Groundwater – Several VOCs were detected above the groundwater standard of 5 parts per billion (ppb), including: 1,1,1-TCA detected up to 3,000 ppb, 1,1-DCA detected up to 1,000 ppb, chloroethane detected up to 290 ppb, and 1,1-DCE detected up to 110 ppb. 1,4-dioxane was detected up to 1,200 ppb which is above the SCG of 50 ppb. VOC contamination is limited to the location of the former oil/water separator and an area immediately downgradient.

Sub-Slab Soil Vapor – Site related contamination was detected in soil vapor beneath the southern portion of the building. Specifically, 1,1,1-TCA was detected up to 81,000 ug/m^3, PCE was detected up to 7,600 ug/m^3, TCE was detected up to 1,000 ug/m^3 and cis-1,2-DCE was detected up to 520 ug/m^3.

Significant Resources Impacted/Threatened: Wetlands are located adjacent to the site but are unlikely to be impacted by current site conditions since wells indicate that impacted groundwater does not migrate off-site.

5.2: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

People are not drinking the contaminated groundwater because the area is served by a municipal water supply that is not affected by this contamination. The majority of the site is covered by pavement and buildings, people are not expected to come into contact with contaminated groundwater or contaminated soil unless they dig below the surface. Volatile organic compounds in the groundwater and soil may move into the soil vapor (air spaces within the soil), which in turn, may move into overlying buildings and affect indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. A sub-slab depressurization system was installed in one rental space located in the former plant building to prevent indoor air quality from being affected by soil vapor intrusion. The potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion in two other rental spaces located in the on-site former plant building. Sampling indicates soil vapor intrusion is not a concern for the remaining rental spaces in the on-site former plant building. In addition, sampling indicates that soil vapor intrusion is not a concern for off-site buildings.

5.3 Summary of the Remediation Objectives

The objectives for the corrective measures have been established through the remedy selection process. The goal of the corrective measures is to protect public health and the environment through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

Human Health

Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

Prevent direct contact with, or inhalation of volatiles, from contaminated groundwater.

Environment

Prevent the discharge of contaminants to surface water.

Remove the source of ground or surface water contamination.

Soil

Human Health

Prevent the ingestion and/or direct contact with contaminated soil.

Prevent the inhalation of, or exposure from contaminants, volatilizing from contaminants in soil.

Environment

Prevent migration of contaminants that would result in groundwater or surface water contamination.

Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Soil Vapor

Human Health

Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a facility.

SECTION 6: INTERIM CORRECTIVE MEASURES

If at any time during an investigation, it becomes apparent that corrective actions should be taken to immediately address the spread of contamination, interim corrective measures must be taken. The design emphasis is to construct an Interim Corrective Measure (ICM) as close to a permanent system or final remedy as possible. The Department has determined that the ICMs are protective of human health and the environment, and could serve as part of the Final Corrective Measures at the facility.

The following ICMs have been completed at the facility to address identified AOCs based on conditions observed during the RFI.

20,000 Gallon UST (AOC 5)

Historic reports had documented the existence of a 20,000 gallon petroleum UST and evidence of petroleum contaminated soil related to this tank. An ICM work plan was approved by the Department in December of 2006 to remove the 20,000 gallon UST.

The field work was carried out in January of 2007. Approximately 8,000 gallons of impacted water was pumped from the tank and sent off-site for proper disposal. In addition, approximately 451 tons of contaminated soil was excavated and disposed of at an approved landfill. The tank was then cleaned, removed and the excavation was backfilled with clean soil. The soil confirmation samples indicate that one of the samples exceeded unrestricted cleanup goals for ethylbenzene and xylene. However, the concentrations are below commercial use cleanup goals for these contaminants.

Oil/Water Separator (AOC 6)

Based upon the field conditions identified, an Interim Corrective Measure (ICM) Work Plan was submitted to the Department in October of 2006. The purpose of the work plan was to address the apparent source of the solvent contamination in the groundwater, the 1,000 gallon oil/water separator.

The ICM activities included cleaning of the junction vaults, ancillary piping and settling chamber associated with the oil/water separator. Any oil or water was vacuumed from the tank and its components. The liquid was properly disposed of at a treatment facility. The oil/water separator tank was closed by means of excavation, cleaning and removal. In total approximately 363 tons of contaminated soil were also removed. The soil confirmation samples indicate that one of the samples exceeded unrestricted cleanup numbers for 1,1,1 TCA. However, the concentration is below commercial use cleanup goals for this contaminant.

Soil Vapor ICM (AOC 9)

As part of the RFI, soil vapor intrusion sampling was performed to assess the potential indoor air impacts to the tenant spaces in the plant building. Elevated levels of chlorinated VOCs were detected beneath the slab of the Former Creative Touch tenant space. To address the soil vapor intrusion concerns, an ICM in the form of a sub-slab depressurization system (SSDS) was implemented in February of 2010. Prior to installation, pressure field extension testing was performed to determine the number of extraction points necessary for system operation to effectively mitigate potential exposures via soil vapor intrusion. After

the system was installed, system readings indicated that the system was operating as designed, and was effectively mitigating potential indoor air impacts in the building.

SECTION 7: CORRECTIVE MEASURES STUDY (CMS)

Potential final corrective action measures for the facility were identified, screened, and evaluated in the CMS report. To be selected, the proposed final corrective measures must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies, or resource recovery technologies to the maximum extent practicable. The final corrective action measures for the facility must address potential routes of exposure to humans and the environment and attain the cleanup objectives identified for the facility, which are presented in Exhibit B.

A summary of the corrective measure alternatives that were considered for the facility is presented in Exhibit C. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. An estimated time frame of 30 years has been used to evaluate present worth maintenance. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Proposed Corrective Measure Alternatives Costs is included as Exhibit D.

7.1: Evaluation of Corrective Measure Alternatives

A detailed discussion of the evaluation criteria and comparative analysis is included in the final CMS report.

The general performance standards for corrective measures that must be satisfied in order for an alternative to be considered for selection are listed below.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

2. Achieve Cleanup Objectives for the Contaminated Media. – This criterion evaluates the ability of alternatives to achieve the cleanup objectives established for the facility.

3. Remediate the Sources of Releases. – This criterion evaluates the ability of the alternatives to reduce or eliminate to the maximum extent possible further releases.

4. Comply with Standards for Management of Wastes. – This criterion evaluates how alternatives assure that management of wastes during corrective measures is conducted in a protective manner.

The next five selection criteria are used to compare the positive and negative aspects of each of the remedial alternatives.

5. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

6. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the facility.

7. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the cleanup objectives is also estimated and compared against the other alternatives.

8. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

9. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

SECTION 8: ELEMENTS OF THE SELECTED CORRECTIVE MEASURE(S)

The basis for the Department's selected corrective measure is set forth in Exhibit E.

The estimated present worth cost to implement the remedy is $375,000. The cost to construct the remedy is estimated to be $27,500 and the estimated average annual cost is $15,500.

The elements of the selected corrective measure are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

    - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
    - Reducing direct and indirect greenhouse gas and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;
    - Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.
    - Maximizing habitat value and creating habitat when possible;
    - Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
    - Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. In-situ enhanced biodegradation will be employed to treat the volatile organic contaminants in groundwater in the area of the former oil/water separator located to the west of the plant building. The biological breakdown of contaminants through anaerobic reductive dechlorination will be

enhanced by the introduction of a hydrogen release compound (HRC) or similar material into the subsurface. The compound will be delivered to the subsurface at a depth of approximately 16' through a series of direct push temporary points. The treatment area is estimated to be 900 square feet.

3. A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one foot of soil meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

4. Imposition of an institutional control in the form of an environmental easement for the controlled property that:

   - requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
   - allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
   - restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
   - requires compliance with the Department approved Site Management Plan.

5. A Site Management Plan is required, which includes the following:

   a.) An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

   Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.
   Engineering Controls: Maintenance of the site cover, the currently installed sub-slab depressurization system and any future systems installed at the site.
   This plan includes, but may not be limited to:

   - descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
   - an Excavation Plan which details the provisions for management of future excavation activities
   - a provision for evaluation of the potential for soil vapor intrusion for any buildings reused or developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
   - descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
   - provisions for the management and inspection of the identified engineering controls;
   - maintaining site access controls and Department notification; and
   - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b.) Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater, soil vapor, sub-slab vapor, and indoor air to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c.) Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

FINAL STATEMENT OF BASIS

Tarkett Site (Former Vails Gate Manufacturing)
Vails Gate, Orange County
EPA NYD 041770629 / Site No. 336065

March 2014

Exhibits A through E

Exhibit A

Nature and Extent of Contamination

AOC(s)

An AOC is an area at the facility, or an off-site area, where hazardous wastes and/or constituents are present or are suspected to be present as a result of a release from the facility. Solid wastes are defined in 6 NYCRR Part 371.1(c) and hazardous wastes are defined in 6 NYCRR Part 371.1(d).

As described in the RFI report, several AOC(s) were identified at the facility. AOCs 1, 2, 3, 4, 5, 7 and 8 were either determined not to be sources of contamination, or were addressed through ICMs. AOCs 6 and 9 were found to be impacting groundwater, soil and soil vapor.

The nine site AOCs are shown on Figure 3 and the results of the RFI are summarized below.

AOCs 1,2,3 – Former Drum Storage Areas

The drum storage areas are located along the southern portion of the site. Storage Areas 1 and 3 consist of vacant grassy areas. Three piles of miscellaneous debris are located in Storage Area 1. Storage Area 2 is a one story metal sided structure where floor tiles and equipment parts were stored. Based upon soil and groundwater sampling, a source of contamination did not appear to be associated with any of the AOCs.

AOC 4 – Former 1,000 Gallon UST

The 1,000 gallon UST was located on the northwestern side of AOC 2. Historic records indicate that the UST was filled in and abandoned in place in 1989. Based upon soil and groundwater sampling, a source of contamination did not appear to be associated with the AOC.

AOC 5 – Former 20,000 Gallon UST

The 20,000 gallon UST was located in the southwestern part of the site. Historic releases of number 4 fuel oil are associated with the UST.

The structure was the subject of an ICM as discussed in Section 6. Based upon the results of the post ICM sampling, contamination associated with the AOC was addressed during the ICM.

AOC 6 – Former Oil/Water Separator

The oil/water separator was located west of the plant building. Historic releases of benzene and chlorinated solvents are associated with the structure.

The AOC was the subject of an ICM as discussed in Section 6. Based upon the results of the post ICM sampling, the contamination was predominantly remediated during the ICM activities. The AOC will be further addressed during the remedy selection process.

AOC 7 – Former Septic System

A leach field was located to the west of the plant building and just north of the oil/water separator. Based upon soil and groundwater sampling, a source of contamination did not appear to be associated with the AOC.

AOC 8 – Research Building

The research building is a one story, 14,000 square foot slab on grade structure. The AOC is located on the northern section of the site. The building contained a lab and an office area. Various chemicals were stored in containers located in the building. Based upon soil and groundwater sampling, a source of contamination did not appear to be associated with the AOC.

AOC 9 – Plant Building

The plant building is a 227,000 square foot slab on grade structure located in the central part of the site. This structure formerly housed the production lines, raw material and hazardous waste storage area, electrical room, maintenance shop and offices associated with the historic industrial use. Various chemicals were stored in the building during past operations.

This AOC was the subject of an ICM as discussed in Section 6. Based upon soil, groundwater and soil vapor sampling, the past ICM has not entirely addressed contamination associated with the AOC. The AOC will be further addressed during the remedy selection process.

The following is a summary of the location and status of the AOCs identified at the site:

AOC	Description	AOC Status
AOC 1, 2, 3	Former Drum Storage Areas	No action required
AOC 4	Former 1,000 Gallon UST	No action required
AOC 5	Former 20,000 Gallon	Remediated by ICM
AOC 6	Former Oil/Water Separator	Partially remediated by ICM; additional remediation will be provided by the remedy
AOC 7	Former Septic System	No action required
AOC 8	Research Building	No action required
AOC 9	Plant Building	ICM has been implemented for one of the plant's tenant spaces; additional monitoring/remedial action will be provided by the remedy

Groundwater

Several rounds of groundwater samples were collected during the RFI and analyzed for metals, VOCs and SVOCs. During the most recent round of sampling (November 2011) samples were collected from twenty four wells. Depths of the groundwater samples ranged from approximately one foot below ground surface (bgs) to five feet bgs. Various metals were detected above groundwater standards in the most recent sampling round including arsenic, cadmium, chromium, lead and selenium.

Several VOCs were also detected in the most recent round of sampling. The contaminants 1,1,1 -TCA, 1,1- DCA, chloroethane and 1,1- DCE were detected above their respective standards, criteria and guidance values (SCGs). The maximum concentrations were all detected in the same well, MW-5A/AR, which is in the vicinity of the former oil/water separator.

The concentrations are illustrated in the Table 1 below. The locations of the contaminated wells are shown on Figure 4.

Table 1 – Groundwater Results

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
1,1 DCA	ND – 1,000	5.0	3 of 24
1,1,1 TCA	ND – 3,000	5.0	2 of 24
Chloroethane	ND – 290	5.0	1 of 24
1,1, DCE	ND – 110	5.0	1 of 24
1,4-Dioxane	ND – 1,200	50	5 of 24
Metals			
Arsenic	ND – 123	25	7 of 24
Cadmium	ND – 35	5	11 of 24
Chromium	ND – 176	50	4 of 24
Lead	ND – 163	25	8 of 24
Selenium	ND - 11	10	1 of 24

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

The inorganic compounds (metals) found in shallow groundwater were evenly distributed across the site, including the upgradient wells, and do not appear to be related to a clear source. The contaminant levels may reflect naturally occurring conditions in the region, an off-site source or past disposal practices.

Based on the findings of the RFI, the past disposal of hazardous waste has resulted in the contamination of groundwater. The site contaminants that are considered to be the primary contaminants of concern which will drive any remedial decisions with respect to groundwater are, 1,1,1-TCA, 1,1-DCA, chloroethane, 1,1-DCE, 1,4-dioxane, cadmium, chromium, and lead.

Soil

Surface and subsurface soil samples were collected during the RFI. All soil samples were analyzed for metals, semi-volatile organic compounds (SVOCs) and polychlorinated biphenyls (PCBs).

Twenty three surface soil samples were collected during the RFI. In the first phase of the RFI, surface soil samples were collected from 0-2" below ground surface. During the supplemental RFI, samples were collected at three locations and two sampling depths (0-4" and 4" – 24" below ground surface). Surface soil samples were also collected from each of the three debris piles located in the southwest corner of the site. The locations of the surface soil samples are shown on Figures 5 and 6.

In addition, sixty seven subsurface soil samples were collected. Samples were collected at depths corresponding to elevated field instrument readings in each boring or, if none were observed, samples were collected at the water table. The locations of the subsurface soil samples are shown on Figures 6 and 7.

As shown on Table 2, the results were compared to the unrestricted use soil cleanup objectives (SCOs) and the commercial use SCOs found in 6 NYCRR Part 375 Table 375-6.6(b). Chromium was detected in sixty nine of the soil samples at levels which exceed the unrestricted use SCO of 1 part per million (ppm). However, when compared to the commercial use SCO of 400 ppm there were no exceedances. Mercury was detected in one surface soil sample at a concentration of 3.2 ppm which exceeds the restricted commercial use SCO of 2.8 ppm. Cadmium was detected in six soil samples above unrestricted use SCOs. However, cadmium did not exceed restricted commercial SCOs in any of the samples that were collected. In addition, the SVOCs benzo(a)anthracene, benzo(b)fluoranthene and benzo(a)pyrene were detected in subsurface soil at levels that exceed unrestricted use SCOs. It is noted that only benzo(a)pyrene exceeded the restricted commercial use SCOs in one of the samples that was collected. The VOCs, 1,1,1 TCA and 1,1, DCA were detected above unrestricted use SCOs. The contaminants were detected at maximum concentrations of 23 ppm and 1.1 ppm, respectively. However, when compared to the commercial use SCOs there were no exceedances.

The majority of the contaminated soil that was identified during the RFI was addressed during the ICMs described in Section 6. However, there is contaminated soil that remains in the vicinity of the former oil water separator and 20,000 gallon UST. During the ICMs it was determined that the soil was not feasible to excavate due to the presence of an underground utility.

Seven soil confirmation samples were collected following the ICM for AOC 5, the 20,000 gallon UST. As seen in Table 3, the compounds ethylbenzene and xylene were detected at concentrations of 1.3 ppm and 12 ppm, respectively. Although these concentrations exceed the unrestricted use SCOs, they do not exceed restricted commercial SCOs.

Eight post excavation soil confirmation samples were collected following the ICM for AOC 6, the oil water separator. As seen in Table 4, 1,1,1 – TCA was detected in one of the samples at 3 ppm. This exceeds the protection of groundwater standard of 0.68 ppm for 1,1,1-TCA, but not the commercial use SCO.

Table 2 – Soil Results

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted Use SCG[b] (ppm)	Frequency Exceeding SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding SCG
Metals					
Chromium	ND – 28.4	1	69 of 90	400	0 of 90
Mercury	ND – 3.2	0.18	1 of 90	2.8	1 of 90
Cadmium	ND – 4.69	2.5	6 of 90	9.3	0 of 90
VOCs					
1,1,1 TCA	ND – 23	0.68	3 of 90	500	0 of 90
1,1 DCA	ND – 1.1	0.27	3 of 90	240	0 of 90
SVOCs					
Benzo(a)anthracene	ND – 3	1	1 of 90	5.6	0 of 90
Benzo(b)fluoranthene	ND – 2.5	1	1 of 90	5.6	0 of 90
Benzo(a)pyrene	ND – 2.2	1	1 of 90	1	1 of 90

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil.
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use.

Table 3 – 20,000 UST (AOC 5) ICM - Soil Confirmation Samples

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted Use SCG[b] (ppm)	Frequency Exceeding SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding SCG
VOCs					
Ethylbenzene	ND – 1.3	1	1 of 7	390	0 of 7
Xylene	ND – 12	1.6	1 of 7	500	0 of 7

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil.
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use.

Table 4 – Oil Water Separator (AOC 6) ICM - Soil Confirmation Samples

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted Use SCG[b] (ppm)	Frequency Exceeding SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding SCG

VOCs					
1,1,1 TCA	ND – 3	0.68	1 of 8	1000	0 of 8

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil.
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use.

The analytical data indicates that mercury and benzo(a)pyrene were detected in the soil above restricted commercial SCOs. However, the exceedances were small and limited to only one sample, therefore mecury and benzo(a)pyrene are not considered to be site specific contaminants of concern.

Soil contamination identified during the RFI was addressed during the ICMs described in Section *6*.

Soil Vapor

The potential for soil vapor intrusion resulting from the presence of facility-related soil or groundwater contamination was evaluated by the sampling of sub-slab soil vapor under structures and indoor air inside structures. Environmental sampling indicated that soil vapor intrusion is not a concern at off-site structures or at the on-site former research building. Soil vapor intrusion sampling has been ongoing in the plant building since 2007. Since that time, numerous concurrent sets of sub-slab soil vapor and indoor air samples have been collected.

In 2009, 1,1,1-TCA was detected in the sub-slab and indoor air of the Former Creative Touch tenant space at 26,000 ug/m3 and 41 ug/m3, respectively. Based on the comparison of concentrations detected with the NYSDOH Soil Vapor Intrusion Guidance and site specific information, and in consultation with the NYSDOH, the soil vapor contamination identified in the Former Creative Touch Tenant Space was addressed by the ICM described in Section 6.

Subsequently, samples have been collected from various tenant spaces in the plant building and analyzed for VOCs. The sampling has detected the chlorinated solvents 1,1,1-TCA, PCE, TCE and cis-1,2-DCE in the sub-slab soil vapor at multiple locations. In 2011, sub-slab vapor beneath the Shock Studios contained 7,600 ug/m3 of PCE, 1,000 ug/m3 of TCE, 520 ug/m3 of cis-1,2-DCE and 420 ug/m3 of 1,1,1 TCA. A concurrent indoor air sample had a detection of 0.34 ug/m3 for PCE and 1.7 ug/m3 for 1,1,1 TCA. Sub-slab vapor beneath the Built NY space A1 contained 81,000 ug/m3 of 1,1,1-TCA and a concentration of 2.2 ug/m3 of 1,1,1-TCA in a concurrent indoor air sample.

In total, sampling was performed in seventeen spaces. Based on the sub-slab soil vapor data in the Shock Studio and Built NY Space A1, the potential for soil vapor intrusion to impact indoor air quality exists. Therefore, indoor air monitoring will be implemented to evaluate the effectiveness of the groundwater treatment in addressing the source of vapors adjacent to the building. Based on the monitoring data, additional actions (e.g., expansion of the current sub-slab depressurization system) to address exposures via soil vapor intrusion may be warranted. The specific remedial recommendations for each tenant space are presented in Figure 8.

Based on the findings of the RCRA Facility Investigation, the past disposal of hazardous waste has resulted in the contamination of soil vapor. The site contaminants, that are considered to be the primary contaminants of concern, which will drive any remedial decisions with respect to soil vapor are, 1,1,1-TCA, PCE, TCE and cis-1,2-DCE.

Exhibit B

SUMMARY OF THE CLEANUP OBJECTIVES

The goal for the corrective measure program is to restore the facility to pre-disposal conditions to the extent feasible. At a minimum, the corrective measure(s) shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the facility through the proper application of scientific and engineering principles.

The established cleanup objectives for this facility are:

Compound	Soil Cleanup Objective[1] (ppm)	Groundwater Cleanup Objective[2] (ppb)
VOCs		
1,1 Dichloroethane	0.27	5.0
1,1,1 Trichloroethane	0.68	5.0
Chloroethane	N/A	5.0
1,1, Dichloroethene	0.33	5.0
Tetrachloroethene	1.3	5.0
1, 4 Dioxane	0.1	50

1. Recommended Soil Cleanup Objectives.
2. NYS Groundwater Standards (6 NYCRR Part 700), Division of Water TOGS, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

Exhibit C

Description of Remedial Alternatives

The following alternatives were considered based on the cleanup objectives (see Exhibit B) to address the contaminated media identified at the facility as described in Exhibit A:

Alternative 1: No Further Action

The evaluation of a No Further Action Remedy is required to provide a baseline for comparison of alternatives. Under this Alternative, the site would be left in its present state. No institutional or engineering controls would be utilized at the site. There would be no site monitoring.

Present Worth: *$0*
Capital Cost: *$0*
Annual Costs: *$0*

Alternative 2: No Further Action with Institutional and Engineering Controls

Under this Alternative, the groundwater would not be addressed under any active remediation. Natural Attenuation would be the only process contributing to the breakdown of contaminants in the groundwater. The remedy includes institutional controls in the form of an environmental easement that would be placed upon the property to impose restrictions on site and groundwater usage. This remedy would also include engineering controls by requiring satisfactory maintenance of the existing site cover and any currently or future installed sub-slab depressurization systems (SSDSs). A Site Management Plan (SMP) will be developed for the site to maintain the institutional and engineering controls. It will also provide for groundwater and air monitoring requirements.

Present Worth (with 30 yrs O&M): *$144,000*
Capital Cost: *$11,000*
Annual Costs: *$6,000*

Alternative 3: In-Situ Bioremediation (ISB) with Institutional and Engineering Controls

This remedy would implement enhanced bioremediation in the Area of Concern near the former oil/water separator. Bioremediation is a technology for treating contamination in groundwater by enhancing the naturally occurring process of anaerobic degradation. The natural breakdown processes are enhanced with the injection of nutrients, oxygen and/or cultured bacteria. This remedy would also include the institutional/engineering controls and SMP discussed in Alternative 2 above. The SMP will require groundwater and air monitoring to ensure that the remedy is working effectively. If deemed necessary, additional injections may be implemented pursuant to the SMP.

Present Worth (with 30 yrs O&M): *$375,000*
Capital Cost: *$27,500*
Annual Costs: *$15,500*

Alternative 4: Groundwater Pump and Treat with Institutional Controls

Alternative 4 would consist of pumping and treating of groundwater. This technology would remove contaminated groundwater from the ground and then treat it to remove chlorinated VOCs. The groundwater could be treated by various methods including, use of filtration, carbon absorption, air stripping or vapor extraction. The treated groundwater would then be discharged in compliance with applicable requirements to a surface water, sanitary sewer or back into the ground. The pump and treat process would be continually operated until groundwater monitoring documents an acceptable decrease in groundwater concentrations. This remedy would also include the institutional/engineering controls and the SMP discussed in Alternative 2 above.

Present Worth (with 30 yrs O&M): *$602,000*
Capital Cost: *$30,500*
Annual Costs: *$25,500*

Exhibit D

Corrective Measure Alternative Costs

Corrective Measure Alternative	Capital Cost	Annual Costs	Total Present Worth (with 30yrs O&M)
Alternative 1	$ 0	$ 0	$ 0
Alternative 2	$ 11,000	$ 6,000	$144,000
Alternative 3	$ 27,500	$ 15,500	$ 375,000
Alternative 4	$ 30,500	$ 25,500	$ 602,000

Exhibit E

SUMMARY OF THE FINAL CORRECTIVE MEASURE(S)

The Department is proposing Alternative 3, In-Situ Bioremediation with Institutional and Engineering Controls, as the final corrective measures for this facility. The elements of this alternative are described in Section 7.

Basis for Selection

The proposed final corrective measures are based on the results of the RFI, CMS and the evaluation of alternatives.

Alternative 1 was not selected because it does not comply with the threshold criteria. Alternative 1 does not protect human health or the environment in any way and does not meet state and federal standards, criteria and guidelines (SCGs) for the concentrations of VOCs in groundwater.

Alternatives 2, 3 and 4 would protect public health by maintaining the existing cover over the site and limiting the site to commercial use through an environmental easement. However, Alternative 2 was not selected because it does not comply with the threshold criteria of environmental protection. Although the remedy provides limited protection to human health through the use of institutional controls, it does not meet SCGs for the concentrations of contaminants in groundwater.

Both Alternative 3 and Alternative 4 would be expected to protect human health and the environment by reducing concentrations of chlorinated solvents in the groundwater over time. This in turn would reduce the source of sub-slab soil vapor and the potential for vapor intrusion. Since Alternative 3 and Alternative 4 would reduce groundwater concentrations, they both would achieve SCGs for the contaminants in this medium. Both Alternative 3 and Alternative 4 are expected to comply with standards for management of waste. Both Alternative 3 and Alternative 4 are likely to provide reduction in toxicity and volume of VOCs in groundwater by enhancing breakdown of the contaminants and treating contaminated groundwater, respectively. Alternative 3 and Alternative 4 would both provide long term effectiveness in addressing the contamination in groundwater, and thereby providing a permanent protection of human health. However both remedies are prone to rebounding in concentrations, which must be addressed through monitoring and continued treatment as necessary. Alternative 3 and Alternative 4 are technologies that have been successfully implemented at many different sites in the past, and are both readily implementable technologies. However Alternative 3 requires less energy to implement, results in fewer greenhouse gas emissions, and is estimated to be more cost effective than Alternative 4.

Based upon evaluation of the remedial alternatives against the above criteria, Alternative 3 has been selected as the preferred remedy for the site as it satisfies the threshold criteria and provides the best performance of the balancing criteria. Figure 9 depicts the proposed ISB locations.

APPENDIX A

Responsiveness Summary

RESPONSIVNESS SUMMARY

Tarkett Site (Former Vails Gate Manufacturing)
Vails Gate, Orange County
EPA NYD 041770629 / Site No. 336065
March 2014

The Proposed Statement of Basis for the referenced site was prepared by the New York State Department of Environmental Conservation (Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on January 16, 2014. The proposed Statement of Basis outlined the remedial measures proposed for the referenced site.

The release of the Proposed Statement of Basis was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy. The announcement was also mailed to adjacent property owners.

The public comment period for the proposed remedy was held from January 17th, 2014 through March 5th, 2014. The Department did not receive any comments on the proposed action during the comment period.

APPENDIX B

ADMINISTRATIVE RECORD

Administrative Record

Tarkett Site (Former Vails Gate Manufacturing)
Vails Gate, Orange County
EPA NYD 041770629 / Site No. 336065

March 2014

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1. Order on Consent, Index No. CO 3-20660308-1 between the Department and Vails Gate Manufacturing, LLC executed on July 10, 2006.

2. "RCRA Facility Investigation Work Plan", dated June 2006, prepared by Clough Harbor and Associates, LLP

3. "RCRA Facility Investigation Report", Volume 1, dated December 2007, prepared by Clough Harbor and Associates, LLP

4. "RCRA Facility Investigation Report", Volume 2, dated December 2007, prepared by Clough Harbor and Associates, LLP

5. "RCRA Facility Investigation Phase II Work Plan", dated June 2009, prepared by Clough Harbor and Associates, LLP

6. " RCRA Facility Investigation Report – Phase II", dated March 2012, prepared by The Leader Group

7. "Interim Remedial Measures Report", dated May 2007, prepared by Clough Harbor and Associates, LLP

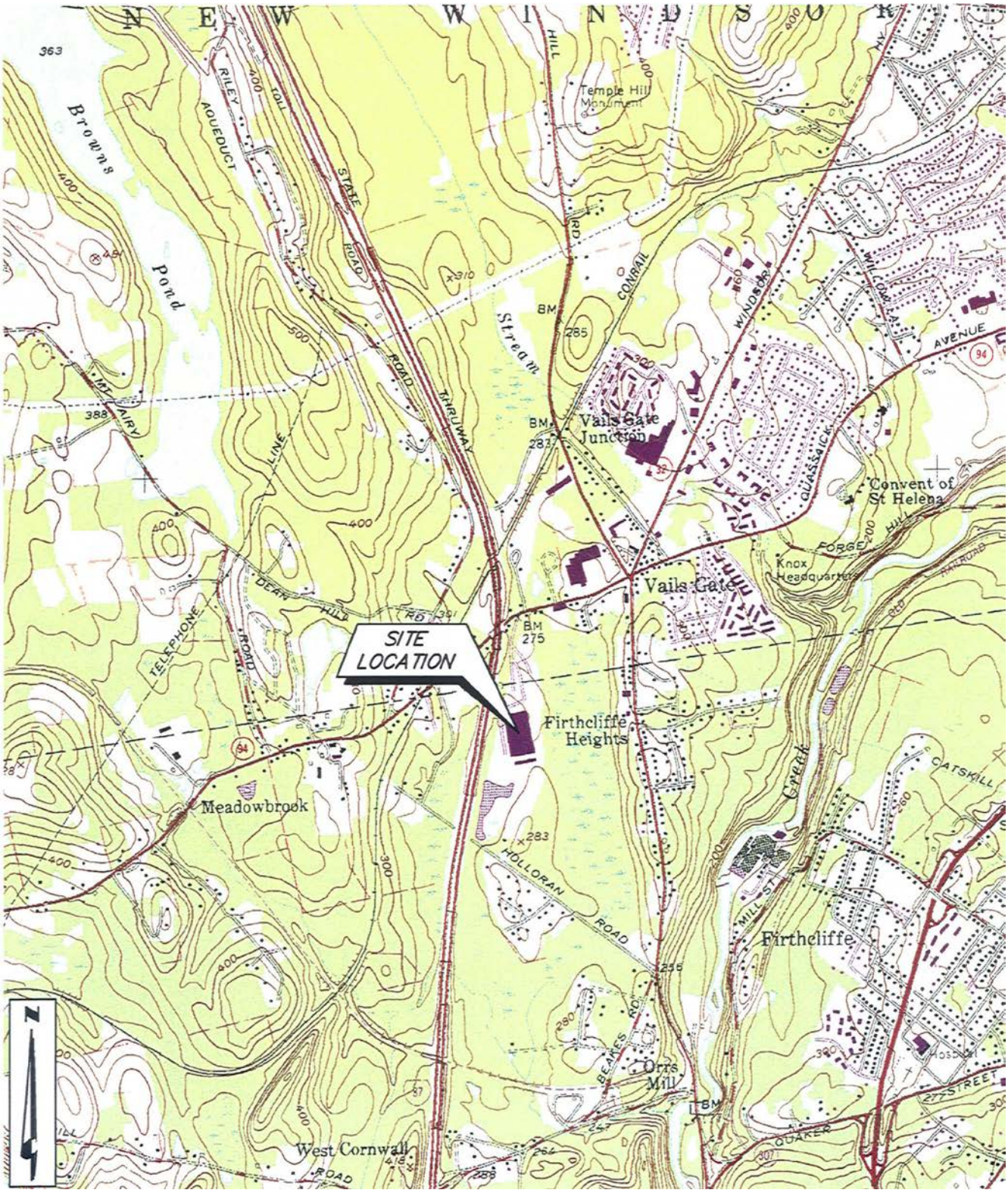
8. "Corrective Measures Study", dated December 2012, prepared by The Leader Group

9. "2007/2008 Heating Season Vapor Intrusion Investigation", dated February 2008, prepared by Clough Harbor and Associates, LLP

10. "2009/2010 Heating Season Vapor Intrusion Investigation", dated June 2010, prepared by Clough Harbor and Associates, LLP

11. "2010/2011 Heating Season Vapor Intrusion Investigation", dated March 2011, prepared by Clough Harbor and Associates, LLP

12. "Sub-Slab Depressurization System Installation Report, Former Creative Touch Interiors", dated August 2010, prepared by Clough Harbor and Associates, LLP



SOURCE: CHA March 10, 2011 RCRA Facility Investigation – Vapor Intrusion Investigation.

Title: Site Location Map 1073 Route 94, Vails Gate, New York	LEADER Leader Professional Services, Inc. 2813 Wehrle Drive, Suite 1 Williamsville, New York 14221 (716) 565-0963 (716) 565-0964 (fax)	Project: 737.002 Date: 12/2012 Scale: N.T.S.	Drawn: HDK Checked: JAW File Name:	Figure: 1
Prepared For: Damon Morey LLP				

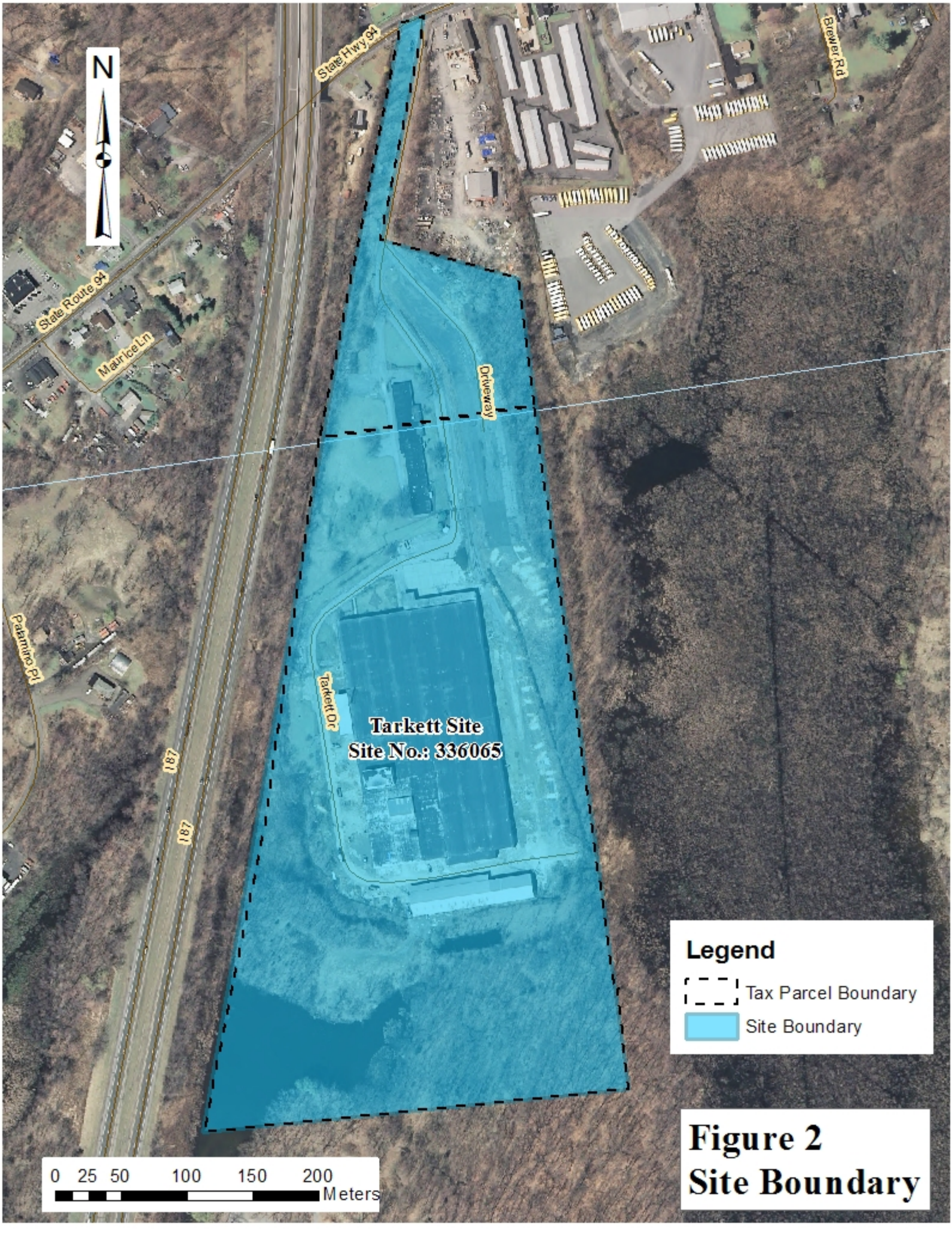
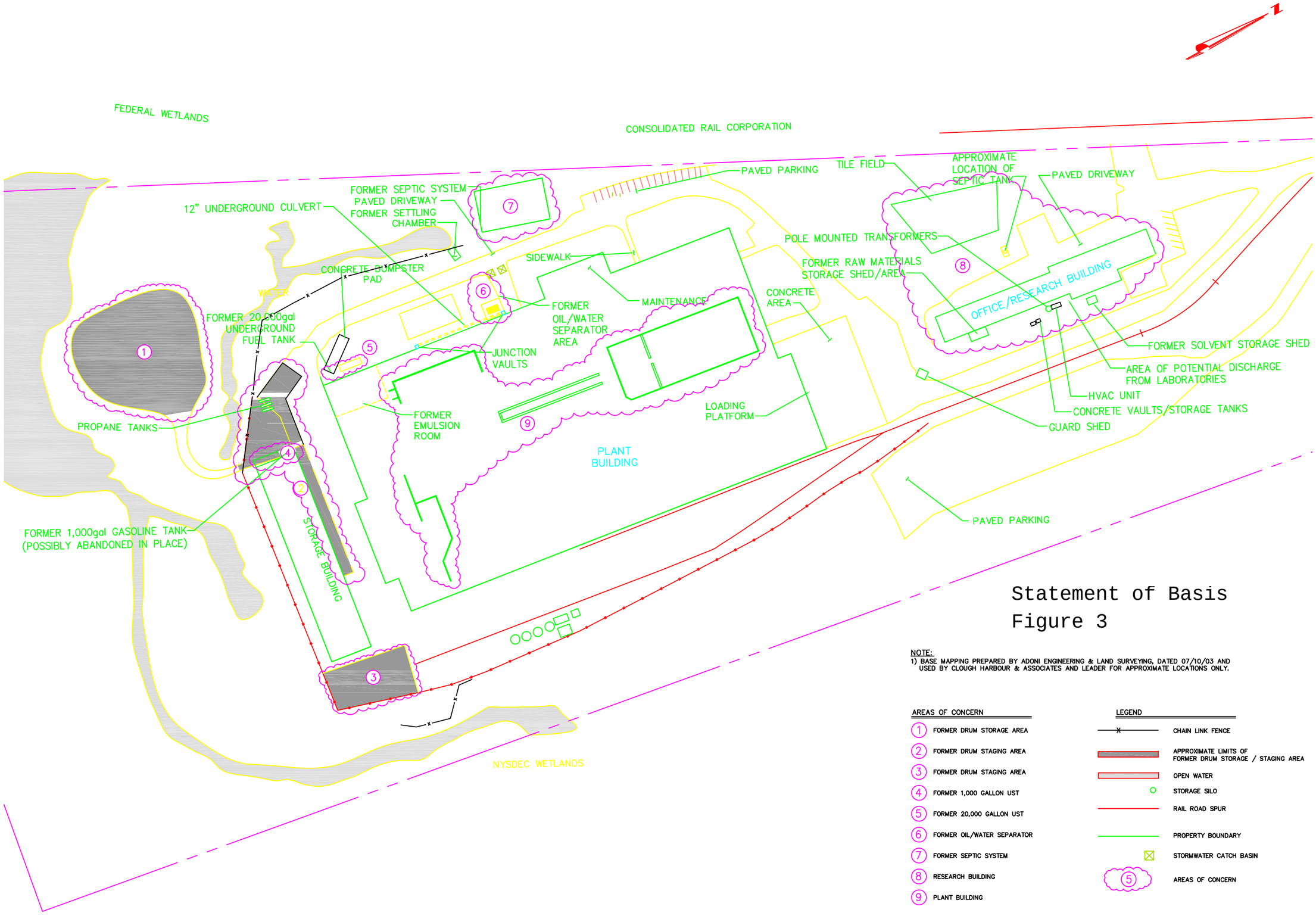


Figure 2
Site Boundary



Statement of Basis
Figure 3

NOTE:
1) BASE MAPPING PREPARED BY ADONI ENGINEERING & LAND SURVEYING, DATED 07/10/03 AND USED BY CLOUGH HARBOUR & ASSOCIATES AND LEADER FOR APPROXIMATE LOCATIONS ONLY.

AREAS OF CONCERN

1. FORMER DRUM STORAGE AREA
2. FORMER DRUM STAGING AREA
3. FORMER DRUM STAGING AREA
4. FORMER 1,000 GALLON UST
5. FORMER 20,000 GALLON UST
6. FORMER OIL/WATER SEPARATOR
7. FORMER SEPTIC SYSTEM
8. RESEARCH BUILDING
9. PLANT BUILDING

LEGEND

- CHAIN LINK FENCE
- APPROXIMATE LIMITS OF FORMER DRUM STORAGE / STAGING AREA
- OPEN WATER
- STORAGE SILO
- RAIL ROAD SPUR
- PROPERTY BOUNDARY
- STORMWATER CATCH BASIN
- (5) AREAS OF CONCERN

No.	Submittal / Revision	Appvd	By	Date
1	Phase II RFI	KK	HK	9/2011

VAILS GATE
MANUFACTURING FACILITY
VAILS GATE, NEW YORK

THE LEADER GROUP
2813 Wehrle Drive, Suite 1, Williamsville, NY 14221
Phone: (716) 565-0963 Fax: (716) 565-0964

Designed By	Date:
SR	02/07/07
Drawn By:	Date:
TS	02/07/07
Checked By:	Date:
KJZ	02/07/07

PHASE II
RCRA FACILITY INVESTIGATION

PREVIOUS CONDITIONS AND AREAS OF CONCERN

Scale: NTS
Project No.: 15448
Issue Date: 9/07

2

File: C:_TEMP_FILES\15448\11\FIG 2 - AREAS OF CONCERN.DWG
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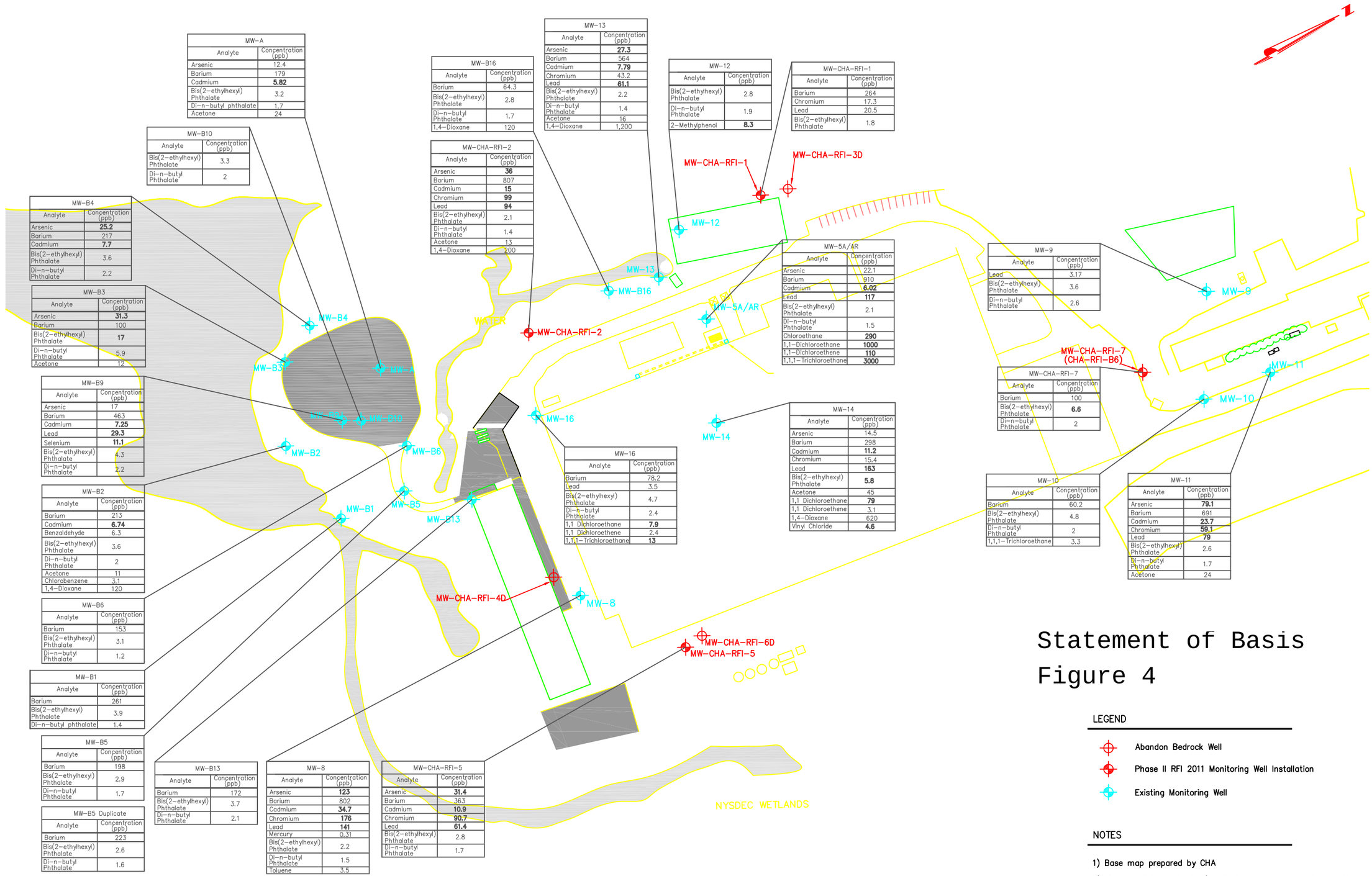


MW-A	
Analyte	Concentration (ppb)
Arsenic	12.4
Barium	179
Cadmium	**5.82**
Bis(2-ethylhexyl) Phthalate	3.2
Di-n-butyl phthalate	1.7
Acetone	24

MW-B10	
Analyte	Concentration (ppb)
Bis(2-ethylhexyl) Phthalate	3.3
Di-n-butyl Phthalate	2

MW-B4	
Analyte	Concentration (ppb)
Arsenic	**25.2**
Barium	217
Cadmium	**7.7**
Bis(2-ethylhexyl) Phthalate	3.6
Di-n-butyl Phthalate	2.2

MW-B3	
Analyte	Concentration (ppb)
Arsenic	**31.3**
Barium	100
Bis(2-ethylhexyl) Phthalate	**17**
Di-n-butyl Phthalate	5.9
Acetone	12

MW-B9	
Analyte	Concentration (ppb)
Arsenic	17
Barium	463
Cadmium	**7.25**
Lead	**29.3**
Selenium	**11.1**
Bis(2-ethylhexyl) Phthalate	4.3
Di-n-butyl Phthalate	2.2

MW-B2	
Analyte	Concentration (ppb)
Barium	213
Cadmium	**6.74**
Benzaldehyde	6.3
Bis(2-ethylhexyl) Phthalate	3.6
Di-n-butyl Phthalate	2
Acetone	11
Chlorobenzene	3.1
1,4-Dioxane	120

MW-B6	
Analyte	Concentration (ppb)
Barium	153
Bis(2-ethylhexyl) Phthalate	3.1
Di-n-butyl Phthalate	1.2

MW-B1	
Analyte	Concentration (ppb)
Barium	261
Bis(2-ethylhexyl) Phthalate	3.9
Di-n-butyl phthalate	1.4

MW-B5	
Analyte	Concentration (ppb)
Barium	198
Bis(2-ethylhexyl) Phthalate	2.9
Di-n-butyl Phthalate	1.7

MW-B5 Duplicate	
Analyte	Concentration (ppb)
Barium	223
Bis(2-ethylhexyl) Phthalate	2.6
Di-n-butyl Phthalate	1.6

MW-B13	
Analyte	Concentration (ppb)
Barium	172
Bis(2-ethylhexyl) Phthalate	3.7
Di-n-butyl Phthalate	2.1

MW-8	
Analyte	Concentration (ppb)
Arsenic	**123**
Barium	802
Cadmium	**34.7**
Chromium	**176**
Lead	**141**
Mercury	0.31
Bis(2-ethylhexyl) Phthalate	2.2
Di-n-butyl Phthalate	1.5
Toluene	3.5

MW-CHA-RFI-5	
Analyte	Concentration (ppb)
Arsenic	**31.4**
Barium	363
Cadmium	**10.9**
Chromium	**90.7**
Lead	**61.4**
Bis(2-ethylhexyl) Phthalate	2.8
Di-n-butyl Phthalate	1.7

MW-B16	
Analyte	Concentration (ppb)
Barium	64.3
Bis(2-ethylhexyl) Phthalate	2.8
Di-n-butyl Phthalate	1.7
1,4-Dioxane	120

MW-CHA-RFI-2	
Analyte	Concentration (ppb)
Arsenic	**36**
Barium	807
Cadmium	**15**
Chromium	**99**
Lead	**94**
Bis(2-ethylhexyl) Phthalate	2.1
Di-n-butyl Phthalate	1.4
Acetone	13
1,4-Dioxane	200

MW-13	
Analyte	Concentration (ppb)
Arsenic	**27.3**
Barium	564
Cadmium	**7.79**
Chromium	43.2
Lead	**61.1**
Bis(2-ethylhexyl) Phthalate	2.2
Di-n-butyl Phthalate	1.4
Acetone	16
1,4-Dioxane	1,200

MW-12	
Analyte	Concentration (ppb)
Bis(2-ethylhexyl) Phthalate	2.8
Di-n-butyl Phthalate	1.9
2-Methylphenol	**8.3**

MW-CHA-RFI-1	
Analyte	Concentration (ppb)
Barium	264
Chromium	17.3
Lead	20.5
Bis(2-ethylhexyl) Phthalate	1.8

MW-5A/AR	
Analyte	Concentration (ppb)
Arsenic	22.1
Barium	910
Cadmium	**6.02**
Lead	**117**
Bis(2-ethylhexyl) Phthalate	2.1
Di-n-butyl Phthalate	1.5
Chloroethane	**290**
1,1-Dichloroethane	**1000**
1,1-Dichloroethene	**110**
1,1,1-Trichloroethane	**3000**

MW-14	
Analyte	Concentration (ppb)
Arsenic	14.5
Barium	298
Cadmium	**11.2**
Chromium	15.4
Lead	**163**
Bis(2-ethylhexyl) Phthalate	**5.8**
Acetone	45
1,1 Dichloroethane	**79**
1,1 Dichloroethene	3.1
1,4-Dioxane	620
Vinyl Chloride	**4.6**

MW-16	
Analyte	Concentration (ppb)
Barium	78.2
Lead	3.5
Bis(2-ethylhexyl) Phthalate	4.7
Di-n-butyl Phthalate	2.4
1,1 Dichloroethane	**7.9**
1,1 Dichloroethene	2.4
1,1,1-Trichloroethane	**13**

MW-9	
Analyte	Concentration (ppb)
Lead	3.17
Bis(2-ethylhexyl) Phthalate	3.6
Di-n-butyl Phthalate	2.6

MW-CHA-RFI-7	
Analyte	Concentration (ppb)
Barium	100
Bis(2-ethylhexyl) Phthalate	**6.6**
Di-n-butyl Phthalate	2

MW-10	
Analyte	Concentration (ppb)
Barium	60.2
Bis(2-ethylhexyl) Phthalate	4.8
Di-n-butyl Phthalate	2
1,1,1-Trichloroethane	3.3

MW-11	
Analyte	Concentration (ppb)
Arsenic	**79.1**
Barium	691
Cadmium	**23.7**
Chromium	**59.1**
Lead	**79**
Bis(2-ethylhexyl) Phthalate	2.6
Di-n-butyl Phthalate	1.7
Acetone	24

Statement of Basis
Figure 4

LEGEND

- Abandon Bedrock Well
- Phase II RFI 2011 Monitoring Well Installation
- Existing Monitoring Well

NOTES

1) Base map prepared by CHA
2) Phase II RFI test boring/monitoring well and sampling locations located by Leader based on standard surveying techniques.
3) Drawing considered accurate to the degree implied by the method used.
4) Analytes shown include all detected analytes at each location.
5) Detected analytes above SCOs shown as bold.

No.	Submittal / Revision	Appd	By	Date
1	Phase II RFI	KK	HK	9/2011

VAILS GATE
MANUFACTURING FACILITY
VAILS GATE, NEW YORK

THE LEADER GROUP
2813 Wehrle Drive, Suite 1, Williamsville, NY 14221
Phone: (716) 565-0963 Fax: (716) 565-0964

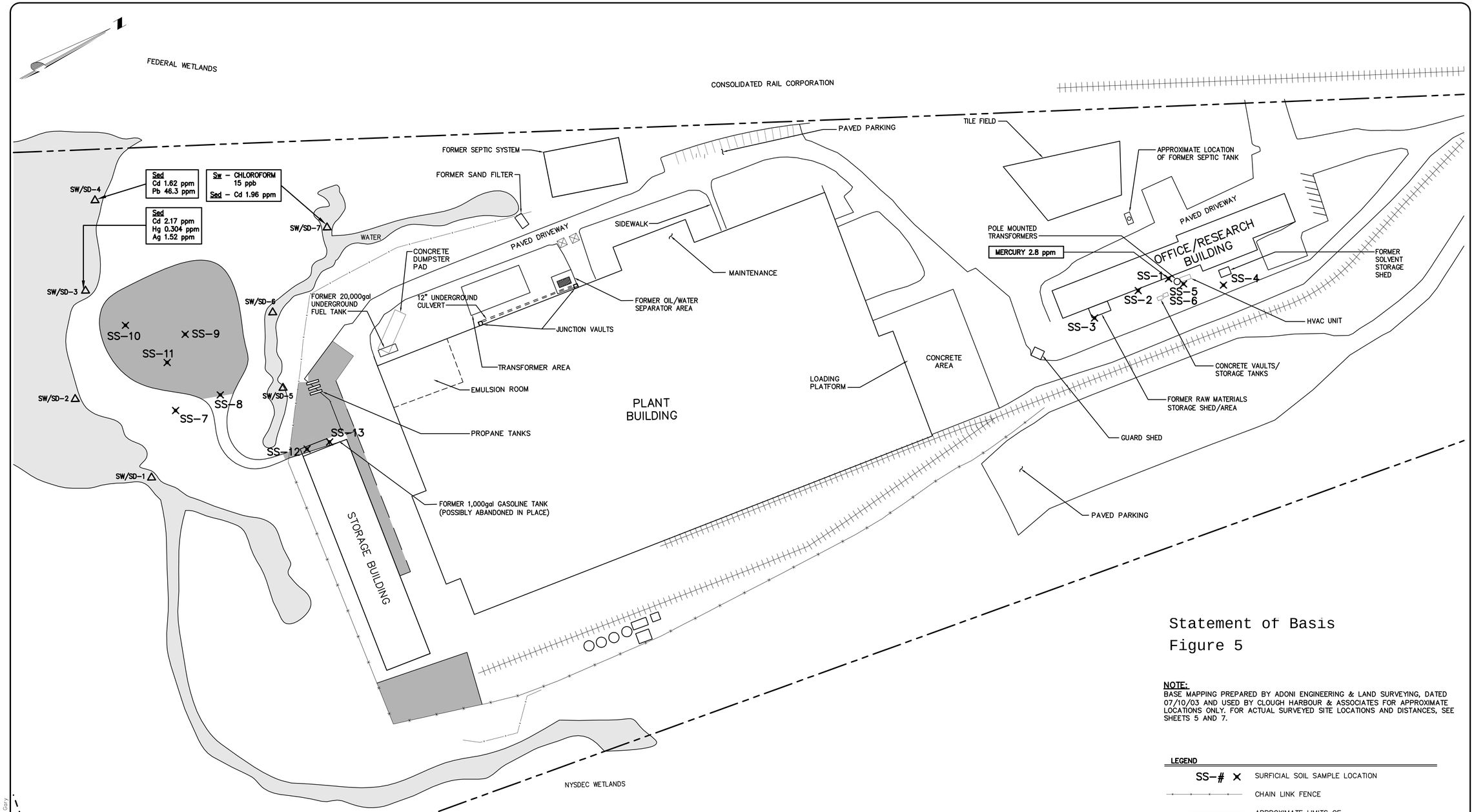
Designed By: CHA Date: 01/12/06
Drawn By: CHA Date: 01/11/06
Checked By: The Leader Group Date: 09/1/11

PHASE II
RCRA FACILITY INVESTIGATION

GROUNDWATER MONITORING
WELL RESULTS - NOVEMBER 2011

Scale: NTS
Project No.:
Issue Date: 2/20/12

Figure No.
7



Statement of Basis
Figure 5

NOTE:
BASE MAPPING PREPARED BY ADONI ENGINEERING & LAND SURVEYING, DATED 07/10/03 AND USED BY CLOUGH HARBOUR & ASSOCIATES FOR APPROXIMATE LOCATIONS ONLY. FOR ACTUAL SURVEYED SITE LOCATIONS AND DISTANCES, SEE SHEETS 5 AND 7.

LEGEND

- SS-# ✕ — SURFICIAL SOIL SAMPLE LOCATION
- CHAIN LINK FENCE
- APPROXIMATE LIMITS OF FORMER DRUM STORAGE / STAGING AREA
- OPEN WATER
- STORAGE SILO
- RAIL ROAD SPUR
- PROPERTY BOUNDARY
- STORMWATER CATCH BASIN
- △ SURFACE WATER/SEDIMENT SAMPLING LOCATION BY KARTINAGER ASSOCIATES, AUGUST 1990
- Pb 46.3 ppm — ELEVATED PARAMETERS

No.	Submittal / Revision	Appvd.	By	Date

VAILS GATE
MANUFACTURING FACILITY
VAILS GATE, NEW YORK

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SUNRISE CORPORATE CENTER
III Winners Circle, P.O. Box 5269, Albany, NY 12205
Main: (518) 453-4500 www.cloughharbour.com

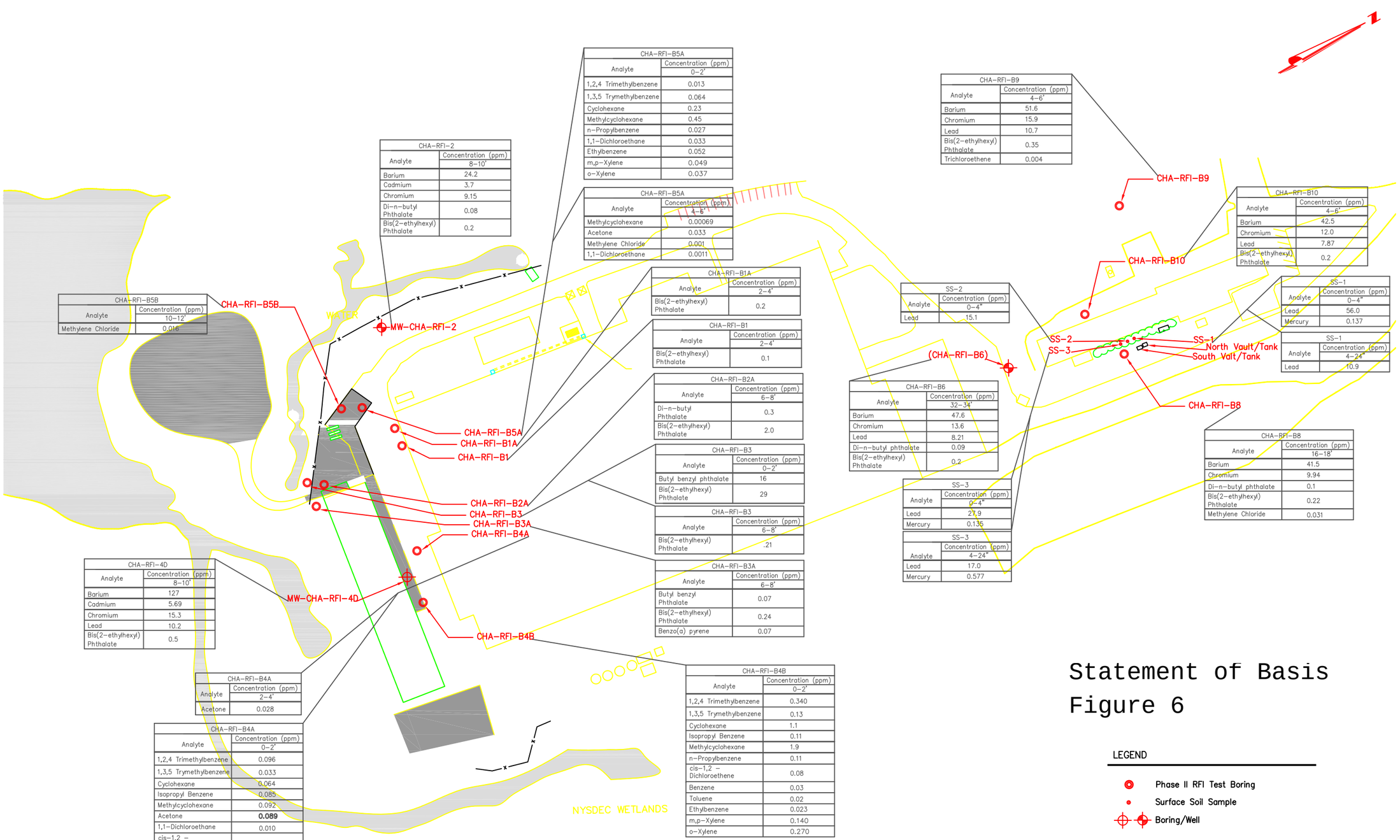
Designed By:	SR	Date: 08/13/07
Drawn By:	TS	Date: 01/16/06
Checked By:	KZ	Date: 08/13/07

RCRA FACILITY INVESTIGATION

SURFICIAL SOIL SAMPLE LOCATION PLAN & ELEVATED PARAMETERS FOR RFI

Issue Date: 9/07 | Project No.: 15448 | Scale: 1"=60'

File: M:\15448\RPTS\RFI\ACAD\FIG 6 - SURFICIAL SOIL SAMPLE LOCATIONS.DWG
Saved: 11/8/2007 1:38:01 PM Plotted: 12/13/2007 2:04:14 PM User: Markham, Gary



CHA-RFI-2	
Analyte	Concentration (ppm) 8–10'
Barium	24.2
Cadmium	3.7
Chromium	9.15
Di-n-butyl Phthalate	0.08
Bis(2-ethylhexyl) Phthalate	0.2

CHA-RFI-B5B	
Analyte	Concentration (ppm) 10–12'
Methylene Chloride	0.016

CHA-RFI-B5A	
Analyte	Concentration (ppm) 0–2'
1,2,4 Trimethylbenzene	0.013
1,3,5 Trymethylbenzene	0.064
Cyclohexane	0.23
Methylcyclohexane	0.45
n–Propylbenzene	0.027
1,1–Dichloroethane	0.033
Ethylbenzene	0.052
m,p–Xylene	0.049
o–Xylene	0.037

CHA-RFI-B5A	
Analyte	Concentration (ppm) 4–6'
Methylcyclohexane	0.00069
Acetone	0.033
Methylene Chloride	0.001
1,1–Dichloroethane	0.0011

CHA-RFI-B1A	
Analyte	Concentration (ppm) 2–4'
Bis(2–ethylhexyl) Phthalate	0.2

CHA-RFI-B1	
Analyte	Concentration (ppm) 2–4'
Bis(2–ethylhexyl) Phthalate	0.1

CHA-RFI-B2A	
Analyte	Concentration (ppm) 6–8'
Di–n–butyl Phthalate	0.3
Bis(2–ethylhexyl) Phthalate	2.0

CHA-RFI-B3	
Analyte	Concentration (ppm) 0–2'
Butyl benzyl phthalate	16
Bis(2–ethylhexyl) Phthalate	29

CHA-RFI-B3	
Analyte	Concentration (ppm) 6–8'
Bis(2–ethylhexyl) Phthalate	.21

CHA-RFI-B3A	
Analyte	Concentration (ppm) 6–8'
Butyl benzyl Phthalate	0.07
Bis(2–ethylhexyl) Phthalate	0.24
Benzo(a) pyrene	0.07

CHA-RFI-B4B	
Analyte	Concentration (ppm) 0–2'
1,2,4 Trimethylbenzene	0.340
1,3,5 Trymethylbenzene	0.13
Cyclohexane	1.1
Isopropyl Benzene	0.11
Methylcyclohexane	1.9
n–Propylbenzene	0.11
cis–1,2 – Dichloroethene	0.08
Benzene	0.03
Toluene	0.02
Ethylbenzene	0.023
m,p–Xylene	0.140
o–Xylene	0.270

CHA-RFI-4D	
Analyte	Concentration (ppm) 8–10'
Barium	127
Cadmium	5.69
Chromium	15.3
Lead	10.2
Bis(2–ethylhexyl) Phthalate	0.5

CHA-RFI-B4A	
Analyte	Concentration (ppm) 2–4'
Acetone	0.028

CHA-RFI-B4A	
Analyte	Concentration (ppm) 0–2'
1,2,4 Trimethylbenzene	0.096
1,3,5 Trymethylbenzene	0.033
Cyclohexane	0.064
Isopropyl Benzene	0.085
Methylcyclohexane	0.092
Acetone	**0.089**
1,1–Dichloroethane	0.010
cis–1,2 – Dichloroethene	0.074
Toluene	0.02
Ethylbenzene	0.02
m,p–Xylene	0.027
o–Xylene	0.042

CHA-RFI-B9	
Analyte	Concentration (ppm) 4–6'
Barium	51.6
Chromium	15.9
Lead	10.7
Bis(2–ethylhexyl) Phthalate	0.35
Trichloroethene	0.004

CHA-RFI-B10	
Analyte	Concentration (ppm) 4–6'
Barium	42.5
Chromium	12.0
Lead	7.87
Bis(2–ethylhexyl) Phthalate	0.2

SS-2	
Analyte	Concentration (ppm) 0–4"
Lead	15.1

SS-1	
Analyte	Concentration (ppm) 0–4"
Lead	56.0
Mercury	0.137

SS-1	
Analyte	Concentration (ppm) 4–24"
Lead	10.9

CHA-RFI-B6	
Analyte	Concentration (ppm) 32–34'
Barium	47.6
Chromium	13.6
Lead	8.21
Di–n–butyl phthalate	0.09
Bis(2–ethylhexyl) Phthalate	0.2

SS-3	
Analyte	Concentration (ppm) 0–4"
Lead	27.9
Mercury	0.135

SS-3	
Analyte	Concentration (ppm) 4–24"
Lead	17.0
Mercury	0.577

CHA-RFI-B8	
Analyte	Concentration (ppm) 16–18'
Barium	41.5
Chromium	9.94
Di–n–butyl phthalate	0.1
Bis(2–ethylhexyl) Phthalate	0.22
Methylene Chloride	0.031

Statement of Basis
Figure 6

LEGEND

- Phase II RFI Test Boring
- Surface Soil Sample
- Boring/Well

NOTES

1) Base map prepared by CHA
2) Phase II RFI test boring/monitoring well and sampling locations located by Leader based on standard surveying techniques.
3) Drawing considered accurate to the degree implied by the method used.
4) Analytes shown include all detected analytes at each location.
5) Detected analytes above SCOs shown as bold.

No.	Submittal / Revision	Appr'd	By	Date
1	Phase II RFI	KK	HK	9/2011

VAILS GATE
MANUFACTURING FACILITY
VAILS GATE, NEW YORK

THE LEADER GROUP
2813 Wehrle Drive, Suite 1, Williamsville, NY 14221
Phone: (716) 565-0963 Fax: (716) 565-0964

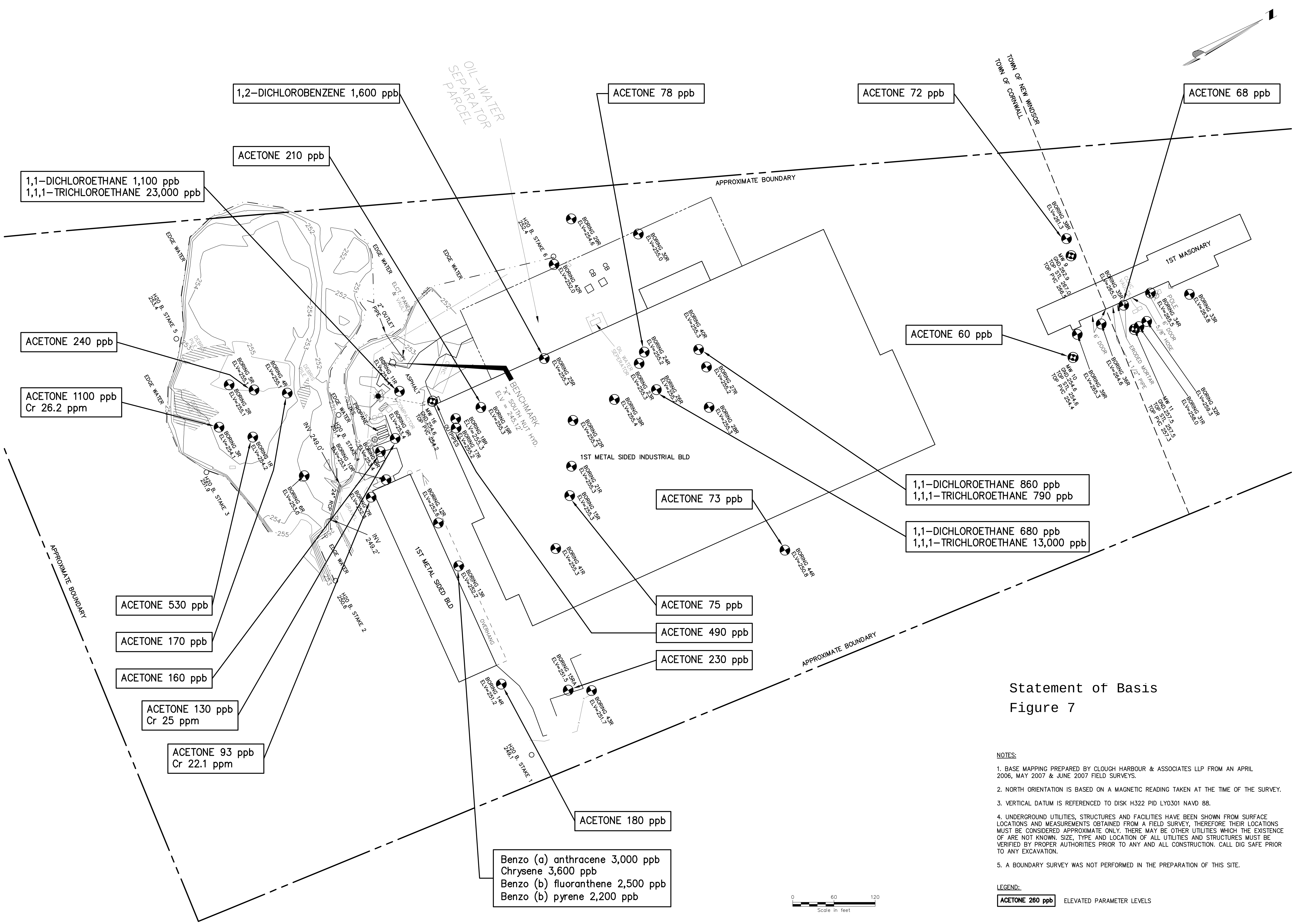
Designed By: CHA Date: 01/12/06
Drawn By: CHA Date: 01/10/06
Checked By: The Leader Group Date: 09/1/11

PHASE II
RCRA FACILITY INVESTIGATION

SOIL RESULTS
JUNE 2011

Scale: NTS
Project No.:
Issue Date: 2/20/12

Figure No.
8



Statement of Basis

Figure 7

NOTES:

1. BASE MAPPING PREPARED BY CLOUGH HARBOUR & ASSOCIATES LLP FROM AN APRIL 2006, MAY 2007 & JUNE 2007 FIELD SURVEYS.

2. NORTH ORIENTATION IS BASED ON A MAGNETIC READING TAKEN AT THE TIME OF THE SURVEY.

3. VERTICAL DATUM IS REFERENCED TO DISK H322 PID LY0301 NAVD 88.

4. UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES HAVE BEEN SHOWN FROM SURFACE LOCATIONS AND MEASUREMENTS OBTAINED FROM A FIELD SURVEY, THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UTILITIES WHICH THE EXISTENCE OF ARE NOT KNOWN. SIZE, TYPE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED BY PROPER AUTHORITIES PRIOR TO ANY AND ALL CONSTRUCTION. CALL DIG SAFE PRIOR TO ANY EXCAVATION.

5. A BOUNDARY SURVEY WAS NOT PERFORMED IN THE PREPARATION OF THIS SITE.

LEGEND:

ACETONE 260 ppb ELEVATED PARAMETER LEVELS

No.	Submittal / Revision	Apprd	By	Date

VAILS GATE MANUFACTURING FACILITY
VAILS GATE, NEW YORK

CLOUGH HARBOUR & ASSOCIATES LLP
III Winners Circle, PO Box 5269, Albany, NY 12205
Main: (518) 453-4500 · www.cloughharbour.com

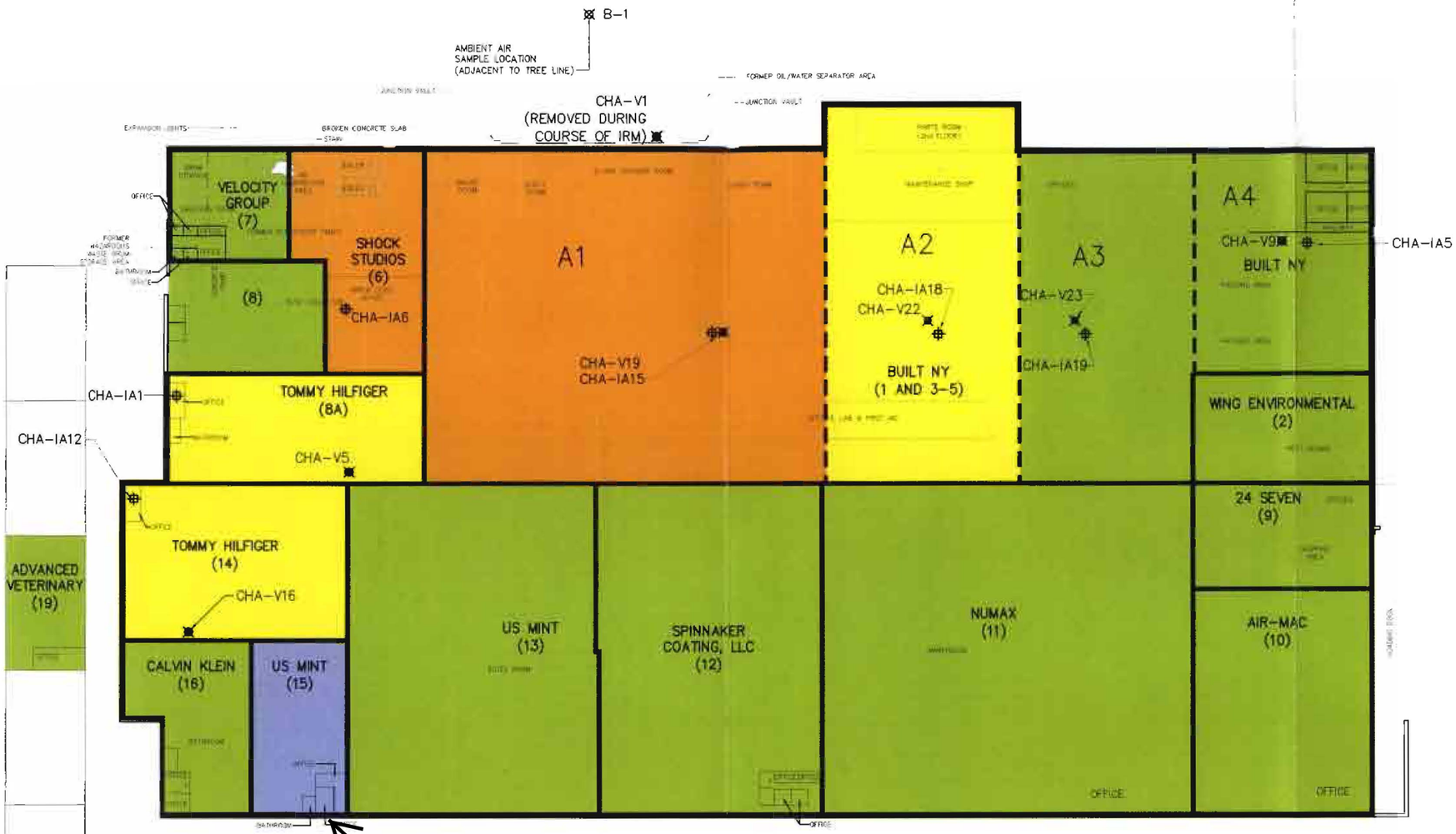
Designed By: KB Date: 01/12/06
Drawn By: WM.W. Date: 01/10/06
Checked By: KJZ Date: 01/10/06

RCRA FACILITY INVESTIGATION

SOIL BORING LOCATION MAP & ELEVATED PARAMETERS FOR RFI

Issue Date: 9/07 | Project No.: 15448 | Scale: 1"=60'

5



Statement of Basis
Figure 8

LEGEND

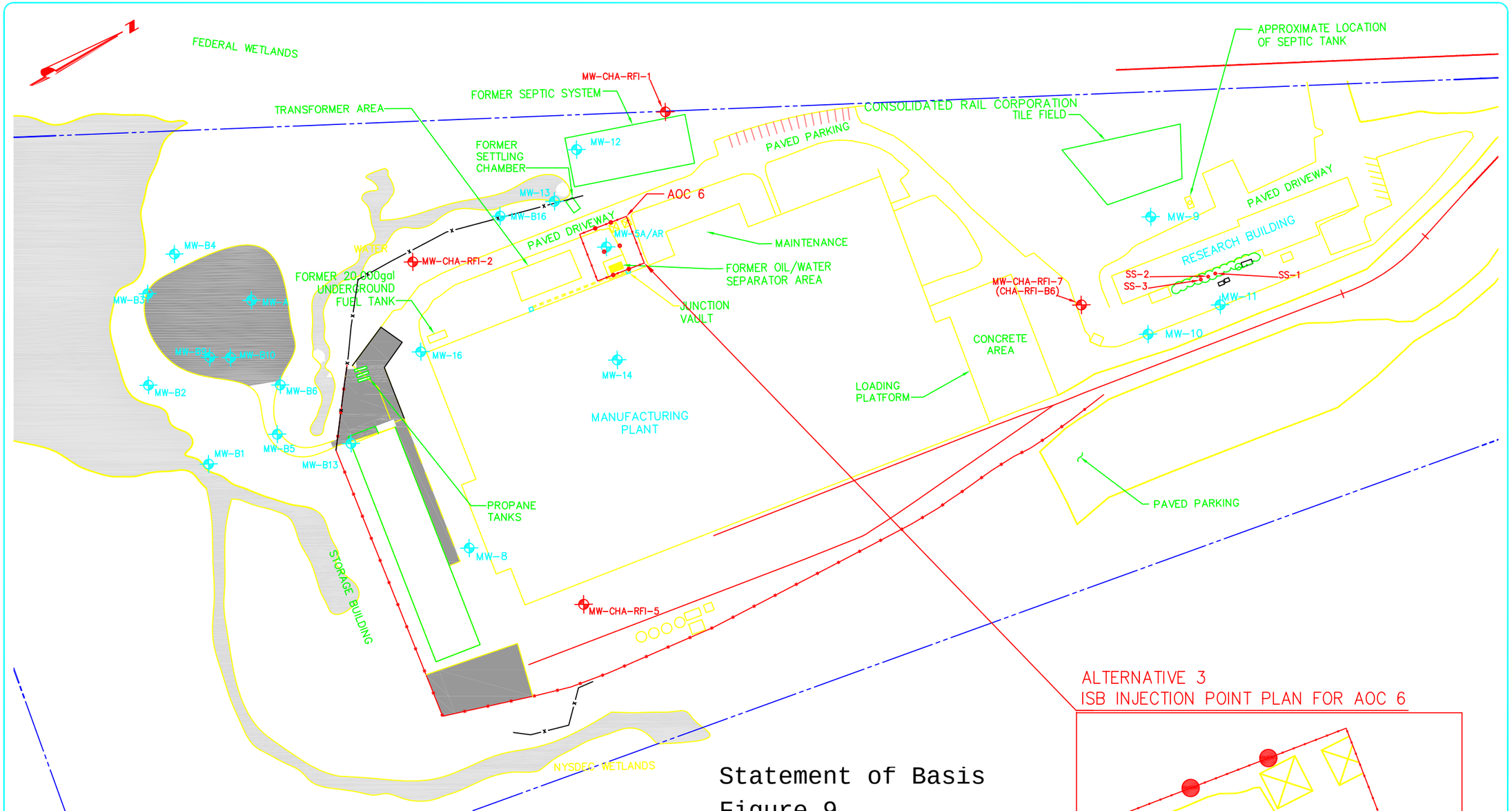
- (1) RENTAL SPACE
- FORMER TRENCH DRAIN/ COLLECTION SYSTEM
- FORMER FLOW DIRECTION
- FLOOR DRAIN
- INDOOR AIR SAMPLE LOCATION
- SUB-SLAB SOIL VAPOR PROBE
- NO FURTHER ACTION
- MONITOR FOR 2012/2013
- CONTINUE MITIGATION/NO FURTHER MONITORING
- TO BE MITIGATED as necessary/monitoring

VAILS GATE
MANUFACTURING FACILITY
VAILS GATE, NEW YORK

2011/2012 VAPOR INTRUSION
SAMPLE LOCATIONS AND CHA'S
RECOMMENDATIONS

Issue Date 04/2012 | Project No. 20618 | Scale 1"=80'

FIG 1



Statement of Basis
Figure 9

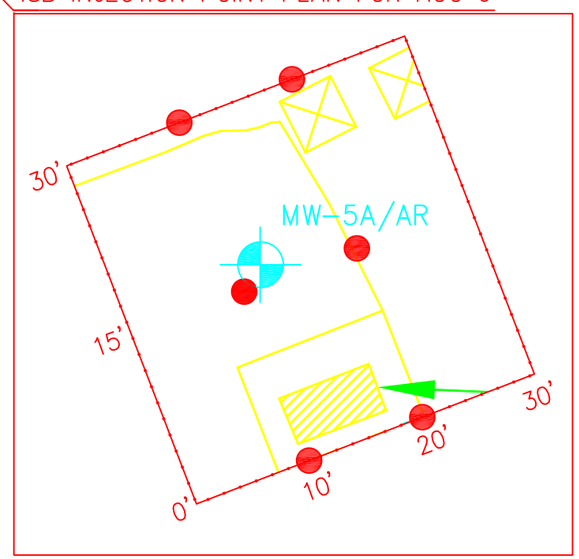
LEGEND

- Phase II RFI 2011 Monitoring Well Installation
- Existing Monitoring Well
- Injection Point

NOTES

1) Base map prepared by CHA
2) Phase II RFI test boring/monitoring well and sampling locations located by Leader based on standard surveying techniques.
3) Drawing considered accurate to the degree implied by the method used.

ALTERNATIVE 3
ISB INJECTION POINT PLAN FOR AOC 6



No.	Submittal / Revision	App'd	By	Date
1	Phase II RFI	KK	HK	9/2011
2	Corrective Measures Study	KK	HK	12/2012

THE LEADER GROUP
2813 Wehrle Drive, Suite 1, Williamsville, NY 14221
Phone: (716) 565-0963 Fax: (716) 565-0964

Designed By: CHA Date: 01/12/06
Drawn By: CHA Date: 01/10/06
Revised by: The Leader Group Date: 12/11/12

VAILS GATE
MANUFACTURING FACILITY
VAILS GATE, NEW YORK

CORRECTIVE MEASURES STUDY

SITE PLAN

Issue Date: 12/5/12 | Project No.: 737.002 | Scale: NTS

Figure No.
2