PROPOSED REMEDIAL ACTION PLAN
Bush Industries Site
Environmental Restoration Project
Village of Cattaraugus, Cattaraugus County New York
Site No. E905029

August 2008

Prepared by:

Division of Environmental Remediation
New York State Department of Environmental Conservation

A 1996 Clean Water/Clean Air Bond Act
Environmental Restoration Project
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Village of Cattaraugus, Cattaraugus County, **New York**
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July 2008

SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the Bush Industries Site.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Brownfields are abandoned, idled, or under-used properties where redevelopment is complicated by real or perceived environmental contamination. They typically are former industrial or commercial properties where operations may have resulted in environmental contamination. Brownfields often pose not only environmental, but legal and financial burdens on communities. Under the Environmental Restoration Program, the state provides grants to municipalities to reimburse up to 90 percent of eligible costs for site investigation and remediation activities. Once remediated, the property can then be reused.

As more fully described in Sections 3 and 5 of this document, the discharge/leaking of petroleum related products in the vicinity of the former Standard Oil facility have resulted in the disposal of hazardous substances, including volatile organic compounds (VOCs). In addition, on-site surface soils contain semi-volatile organic compounds (SVOCs) and metals. These hazardous substances contaminated the soils at the site, and had resulted in:

- a threat to human health associated with potential exposure to the surface and subsurface contaminated soils.
- an environmental threat associated with the potential impacts of contaminants to the surface and subsurface contaminated soils.

During the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the Bush Industries Site in response to the threats identified above. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the site investigation/remedial alternatives report (SI/RAR). The IRM undertaken at this site included excavation of petroleum contaminated soil.

To eliminate or mitigate these threats, the Department proposes the development of a Site Management Plan consisting of Institutional Controls and in the event the site is to be used for commercial or restricted

residential purposes the placement of an appropriate soil cover over areas not covered by buildings, sidewalks or pavement.

The proposed remedy, discussed in details in Section 8, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. Standards, criteria and guidance are hereafter called SCGs.

This Proposed Remedial Action Plan (PRAP) identifies the preferred remedy and discusses the reasons for this preference. The Department will select a final remedy for the site only after careful consideration of all comments received during the public comment period.

The Department has issued this PRAP as a component of the Citizen Participation Plan developed pursuant to the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. This document is a summary of the information that can be found in greater detail in the March 2008 "Site Investigation and Remedial Alternatives (SI/RAR) Report" and other relevant documents. The public is encouraged to review the project documents, which are available at the following repositories:

Village of Cattaraugus 14 Main Street Cattaraugus, New York 14719 (716) 257-3661	By appointment only Linda C. Ross NYSDEC 270 Michigan Avenue Buffalo, NY 14203 (716) 851-7220	Cattaraugus Free Library 23 Main Street Cattaraugus, NY 14719 (716) 257-9500

The Department seeks input from the community on all PRAPs. A public comment period has been set from {dates} to provide an opportunity for public participation in the remedy selection process. A public meeting is scheduled for {date} at the {location} beginning at {time}.

At the meeting, the results of the SI/RAR and IRM will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP. Written comments may also be sent to Ms. Linda C. Ross at the above address through {date comment period ends}.

The Department may modify the proposed remedy or select another based on new information or public comments. Therefore, the public is encouraged to review and comment on all of the alternatives identified here.

Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

SECTION 2: SITE LOCATION AND DESCRIPTION

The site location and the site boundary survey are provided on Figures 1 and 2, respectively. The site is located in the Village of Cattaraugus in the County of Cattaraugus. The property is approximately 4.43 acres in size and slightly irregular in shape. It is located on the east side of and fronts Main Street, which is New York State Route 353. The northern and northeastern border of the property descends gradually, then at an increasingly greater slope to a very steep slope into a ravine to a creek bed/floodway. This creek is a

branch of Cattaraugus Creek which winds along the eastern-northeastern border of the parcel. The portion of the site which is usable for development is approximately 3 acres, relatively flat and fronts on Main Street for about 300 feet. The property is bordered to the south-southwest by a rail line. Concrete and asphalt parking areas are located along the western portion of the property. The south-western edge of the property runs along Main Street. Fill material is visible in the grassy northern and eastern portions of the property. The remainder of the property is grass and weed covered with some bare spots and fill areas. The only portion of the site which is not covered by fill and building foundations is the stream bed, floodplain and the far eastern side of the site across the stream. A topographic survey of the site is provided on Figure 3.

The results of the subsurface soil investigation shows that the subsurface geology consists of an approximate 6 inch topsoil layer underlain by 6 to 20 feet of fill material consisting of pieces of brick, concrete, wood, coarse to fine gravel and medium to fine sand. Large pieces of concrete and other construction and demolition (C&D) material exists along the banks of the slope. The native stratigraphy from 6 to 20 feet below ground surface, where fill material does not exist, consists of stratified soft silty clay with traces of medium to fine sand and coarse to fine gravel. Below this material is brown and grey, stiff, tight, silty clay with traces of medium to fine sand. Below the silty clay to the groundwater interfaces, lies grey moist clay silt with medium to fine sand.

Based on the water levels recorded in the four overburden monitoring wells installed for the SI/RAR the groundwater flow in the overburden is from the west/northwest to the east/southeast across the site towards the creek. Groundwater depth is variable across the site as expected due to varied topography from a topography high west of Main Street to the deep creek ravine at the east end of the site. Additionally, groundwater levels are also most likely affected by the variable fill conditions across the site.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The Site Investigation (SI) indicated the presence of petroleum impacted soils on site. Based on historic information, there were two potential sources of petroleum contamination associated with the site. The first is the location of the former Standard Oil Corporation facility. A 1924 Sanborn map indicates the presence of oil tanks at this location. Historic information did not indicate if the tanks were above ground (ASTs) or underground (USTs) nor how many there were. There is no historic information related to the final disposition of the tanks. The second potential petroleum product source is a service garage, show on the same Sanborn map, located directly south of the Standard Oil facility. Storage tanks are indicated directly southeast of the garage building. The current zoning of the property is B-2, Business – Light Industrial District.

Historical maps of the property indicate that a Standard Oil facility, an apple evaporator (food dehydrator) and gasoline service center were also formally associated with portions of the property. Nothing is left on the surface of the site relative to these former uses. The main structure, Setter Brothers Plant 3 was reportedly constructed in 1919 under the name Cattaraugus Face Veneer Company. In 1953 Plant 3 was remodeled and modernized for the manufacturing of architectural hardwood plywood until the business was phased out in 1965, and then Armory panels were manufactured until the 1970s. Bush Industries then purchased the property sometime between 1988 and 1994; Bush was involved in the manufacturing of plywood and veneer. Prior to the Village obtaining ownership on November 15, 1996, the 4.43-acre property was most recently owned by Edward J. Dill who partially demolished most of the buildings on-site. The Village of Cattaraugus demolished the shell of the main building in 2007 as part of this remediation project.

3.2: Remedial History

In January 2004, a Phase I ESA (Environmental Site Assessment) was completed on the property for the Village of Cattaraugus. The Phase I identified potential environmental conditions in connection with the subject property including: a history of petroleum use and storage in above ground and below ground storage tanks; the use and storage of various chemicals; dumping of fill and C&D materials in various locations and along the slope to the creek; and the possibility of other chemicals associated with other processes on portions of the property such as tire vulcanization. No other environmental investigations or remedial activities were implemented prior to the SI/RAR.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past owners and operators, waste generators, and haulers.

Since no viable PRPs have been identified, there are currently no ongoing enforcement actions. However, legal action may be initiated at a future date by the state to recover state response costs should PRPs be identified. The Village of Cattaraugus will assist the state in its efforts by providing all information to the state which identifies PRPs. The Village will also not enter into any agreement regarding response costs without the approval of the Department.

SECTION 5: SITE CONTAMINATION

The Village of Cattaraugus has recently completed a site investigation/remedial alternatives report (SI/RAR) to determine the nature and extent of any contamination by hazardous substances at this environmental restoration site.

5.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of any contamination resulting from previous activities at the site. The SI was conducted between September 2005 and June 2006. The field activities and findings of the investigation are described in the SI report.

Site investigation activities at the Bush Industries Site consisted of the following specific tasks:

- A site boundary and topographic survey was performed to identify existing conditions and to create a base map for field activities.
- Examination of the subsurface for any storage tanks, or remnant petroleum contamination related to the former Standard Oil facility, service station and tire vulcanization.
- Assessment of fill condition through visual inventory, geophysical survey and by advancing a series of test trench and Geoprobe boring at specific defined locations across the property to verify subsurface condition and C&D debris.
- Installation of a limited number of groundwater wells.

- Analysis of specific media including soil, groundwater and creek sediments.
- Collection of off-site soil samples
- Identification of contaminants of concern.
- Identification of specific environmental media, potential migration pathways and affected receptors.

5.1.1: Standards, Criteria, and Guidance (SCGs)

To determine whether the soil, groundwater and sediments contains contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater SCGs are based on the Department's Division of Water Technical and Operational Guidance Series (1.1.1) "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations".
- Soil SCGs are based on the Department's Cleanup Objectives (6 NYCRR Part 375 Soil Cleanup Objectives including unrestricted use)
- Sediment SCGs are based on the Department's "Technical Guidance for Screening Contaminated Sediments."

Based on the SI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site required remediation. These are summarized in Section 5.1.2. More complete information can be found in the SI report.

5.1.2: Nature and Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

As described in the SI report, many soil, groundwater and sediment samples were collected to characterize the nature and extent of contamination. As seen in Figures 4 through 6 and provided in Tables 1 though 5, the main categories of contaminants that exceed their SCGs are volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and inorganics (metals). For comparison purposes, where applicable, SCGs are provided for each medium.

Chemical concentrations are reported in parts per billion (ppb) for water, parts per million (ppm) for soil, and sediment.

Figures 4 to 6 and Tables 1 to 5 summarizes the degree of contamination for the contaminants of concern in soil, sediments and groundwater and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Waste Materials

The results of the site investigation indicate that the areas not covered by old foundation slabs and other building remains, consists of fill material primarily comprised of C&D material that ranges in depth from six (6) to twenty (20) feet below the surface. The site investigation did not indicate the presence of any tanks remaining at the Standard Oil facility location. However, no specific waste material were detected in the media investigated during the Site Investigation (SI), in the four (4) subsurface soils samples and ten (10) test trenches and six (6) Geoprobe soil borings. The discussion of the concentrations and comparisons to the SCGs are found in the subsurface soil section below.

Surface Soil 0-2 inches

Minor site-related surface soil contamination of concern was identified during the SI/RAR in the five (5) on-site surface samples. Compounds which exceed the unrestricted use include carcinogenic PAHs (cPAHs) and chromium. There were several locations where samples were above the industrial SCG for benzo(a)pyrene; however the concentrations were similar to concentrations found in two off-site samples located 300 feet west of the site in a small park-like area. For industrial use no remedial alternatives need to be evaluated for surface soil.

Subsurface Soil

Four (4) subsurface soil samples were collected from ten (10) test trenches and six (6) samples were collected from Geoprobe soil borings. Samples were tested for volatile organic compounds (VOCs), semi-volatiles organic compound (SVOCs), Resource Conservation and Recovery Act (RCRA) metals and polychlorinated biphenyls (PCBs). Analytical results are provided in Tables 2 and 3 and on Figures 5 and 6. The depths at which the samples were collected are also provided on the Tables and Figures.

A number of VOCs associated with petroleum were detected in the subsurface soil samples collected from test trenches and borings. Elevated concentrations of VOCs were detected in samples BI-BH-09 and BI-BH-21B. Both of these samples were collected from boreholes installed at the location of the former Standard Oil facility. 1,3,5-trimethylbenzene (9.7 ppm), m,p-xylene (2.5 ppm), and total xylene (3.4 ppm) were detected along with odor and staining in subsurface soil.

The test trenches and the borings had some elevated levels of SVOCs and metals above the 6NYCRR Part 375 restricted residential and unrestricted SCOs. These test trenches and borings were between the depth of two (2) and (9) feet and are not expected to impact future use. No PCBs were detected in the subsurface soil samples.

Subsurface VOC soil contamination identified during the SI/RAR was addressed during the IRM which was an excavation of the impacted soil in the Standard Oil area described in Section 5.2.

Groundwater

Groundwater samples were collected from all four monitoring wells and were analyzed for Target Compound List (TCL), VOCs, SVOCs, RCRA Metals (Total and Dissolved) and PCBs. Analytical results are provided on Table 4 and Figure 6.

Low-flow sampling could not be used at this site because of the combination of low well yields and highly turbid water, therefore a bailer had to be used. The groundwater analytical results indicate the presence of several RCRA metals at concentrations in the unfiltered samples above SCG groundwater standards. The dissolved metals results (laboratory filtered) were, in all cases substantially lower and below the SCGs.

No VOC or SVOC concentration were detected above SCGs in any of the groundwater samples.

PCBs were not detected in any of the groundwater samples.

Analytical data and field observations show that the groundwater is not being impacted by the petroleum contaminated soils (Table 4 and Figure 6). In addition, there are no impacts to the stream sediments, which receives a portion of its flow from the site. Since site-related groundwater contamination of concern was not identified during the SI/RAR no remedial alternatives need to be evaluated for groundwater.

Surface Water

No surface water samples were collected during the investigation since the sediments were not impacted and there was no evidence of impacts to groundwater from the site.

Sediments

Three sediment samples collected from locations along the creek bottom were analyzed for TCL SVOCs, RCRA Metals and PCBs. Analytical results are provided on Table 5 and Figure 4.

A number of SVOCs were detected at low concentrations that did not exceed SCG sediment criteria. One PCB, Aroclor 1254, was detected in two of the sediment samples at concentrations significantly below the SCG sediment criteria.

Several RCRA metals were detected in the sediment samples at concentrations that did not exceed the SCGs with the exception of arsenic which slightly exceeded the criteria limit of 6 ppm in all three samples (SED-UP-

7.6 ppm, SED-SITE -6.4 PPM and SED-DOWN -8 ppm). This may indicate that these elements may be naturally occurring.

No site-related sediment contamination of concern was identified during the SI/RAR. Therefore, no remedial alternatives need to be evaluated for sediment.

Soil Vapor/Sub-Slab Vapor/Air

No site-related Soil vapor or indoor air contamination of concern was identified during the SI/RAR. During the Interim Remedial Measure (IRM) excavation the entire petroleum source was removed and there were clean (non-detect) samples on the sidewalls and floor of the excavation. Therefore, no remedial alternatives need to be evaluated for this medium.

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the SI/RAR.

The IRM consisted of the excavation of 3397 tons of petroleum impacted soil from the Standard Oil area with off-site disposal of the soil at an approved landfill. The excavation was backfilled with surface concrete slabs and tested offsite approved backfill. Intercepted groundwater during excavation was sampled, tested and disposed to the ground. Confirmation samples were collected from the excavation sidewalls and bottom (See Figure 7). Two samples were collected from each sidewall of the excavation (8 total) and four collected from the excavation bottom for a total of 12 samples. All the samples analyzed were non-detect for petroleum related compounds. Based on visual observations, PID (Photoionization Device, which detects volatile organic compounds) results and sample analysis, it was determined that all of the petroleum impacted soils had been removed from the area.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 5.2 of the SI report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

The discharge/ leaking of petroleum related products in the vicinity of the former Standard Oil facility resulted in the contamination of the subsurface soil with petroleum related VOCs. Surface soil has been impacted with slightly elevated SVOCs and metals. The contaminated subsurface soil represented a potential for exposure via direct contact or incidental ingestion. The subsurface soils that were impacted with petroleum related products were removed thereby eliminating this exposure pathway. The remaining impacted surface soils could represent the potential for exposure via direct contact or incidental ingestion. Exposure to groundwater via drinking water ingestion is not expected because public water serves the area.

5.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site prior to the IRM. Environmental impacts potentially include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

Sediment samples from the creek receiving drainage from the site did not contain elevated levels of contaminants; therefore a viable exposure pathway to fish and wildlife receptors is not present. There are no groundwater or surface water impacts at this site.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS, PROPOSED REMEDY, AND THE PROPOSED USE OF THE SITE

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous substances disposed at the site through the proper application of scientific and engineering principles.

Prior to the completion of the IRM described in Section 5.2, the remediation goals for this site were to eliminate or reduce to the extent practicable:

- The potential for ingestion of contaminated soils and sediment;
- Eliminate dermal contact with contaminated soils;

The Department believes that the IRM has accomplished the remediation goals and satisfied the SCGs for the subsurface petroleum contamination at the site.

SECTION 7: SUMMARY OF THE EVALUTION OF ALTERNATIVES

The selected remedy must be protective of human health and environment, be cost-effective, comply with other statutory requirements. Potential remedial alternatives for the Bush Industries Site were identified, screened and evaluated in the RAR report which is available at the document repositories established for the site.

The portion of the site which is usable to development is approximately 3 acres and is the relatively flat portion of the site that fronts Main Street. The easement will cover only this 3 acre area since the rest of the site contains an extremely steep slope, a stream and a floodplain. The environmental easement will only cover the area where engineering and institutional controls are needed for development.

A summary of the remedial alternatives that were considered for this site is discussed below. The present worth 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. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved.

7.1: Description of Remedial Alternatives

The following potential remedies were considered to address the contaminated surface soils at the site.

Alternative 1: No Action

Present Worth:……..……..$0
Capital Cost:…..……..$0
Annual OM&M:……..$0

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. Under this alternative no active measures would be instituted to remediate the site. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment. No Institutional Controls/Engineering Controls (IC/ECs) would be initiated.

Alternative 2: No Soil Cover (Industrial Use)

Present Worth:……..……..$1,000
Capital Cost:…..……..……..$0
OM&M:……..……..$70

Institutional controls could be implemented to reduce the potential for exposure to these slightly contaminated soil/fill material of potential concern. Institutional controls could include:

- Environmental Easement – to control future Site uses to industrial use and to restrict the use of Site groundwater to non-potable uses.
- Periodic Site inspections

Alternative 3: One-foot of Soil Cover (Commercial Use)

Present Worth:……..……..……$54,000
Capital Cost:…..…….$53,000

OM&M:……..……..……..……..$70

Under this alternative a one foot thick soil cover would be required over the green spaces not covered by buildings or impermeable parking areas. This green space is assumed to be 0.75 acres or 25% of the area which can be redeveloped (2.98 acres, easement area). A demarcation layer (e.g. filter fabric) would be placed on top of the slightly contaminated site soil/fill materials and below the clean soil cover. The surface would be covered with topsoil and seeded. A Site Management Plan would be developed to address any future site construction activities requiring excavations or other disturbances of the soil cover. An environmental easement and groundwater use restrictions would also be added. This alternative would prevent direct contact with contaminants and would minimize the generation and transportation of fugitive dust as well as storm water surface erosion.

Alternative 4: Two-feet of Soil Cover(Restricted Residential Use)

Present Worth:……..……..……$95,000
Capital Cost:…..……$94,000
OM&M:……..……..……..……..$70

Under this alternative a two foot thick soil cover would be required over the green spaces not covered by buildings or impermeable parking areas. This green space is assumed to be 0.75 acres or 25% of the area which can be redeveloped (3 acres, easement area). A demarcation layer such as a filter fabric, would be placed on top of the slightly contaminated site soil/fill materials and below the clean soil cover. The surface would be covered with topsoil and seeded. A Site Management Plan would be developed to address any future site construction activities requiring excavations or other disturbances of the soil cover. An environmental easement and groundwater use restrictions would also be added. This alternative would prevent direct contact with contaminants and would minimize the generation and transportation of fugitive dust as well as storm water surface erosion.

Alternative 5: Full Removal (Unrestricted Use)

Present Worth:……..……..……..$1,400,000
Capital Cost:…..……$1,400,000
OM&M:……..……..……..……..$70

Under this alternative, all surface and subsurface soils that exhibited contaminant concentrations exceeding the recommended soil cleanup objectives of Part 375 unrestricted use would be removed and disposed offsite in a permitted landfill. The excavated areas would be backfilled with clean soil to original grade. Post-excavation soil samples would be collected from the walls and floor of the excavations to confirm that residual levels of contaminants of concern are below action levels. Representative samples of the excavated soil would be collected and analyzed, and a waste profile prepared for the soil. The soil would be transported to an approved off-site landfill for disposal as a non-hazardous contaminated solid waste. Once the excavated areas are backfilled, the surface would be covered with topsoil and seeded. This alternative would remove site contaminants with the soils and eliminate the direct contact hazards.

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in6 NYCRR Part 375, which governs the remediation of environmental restoration projects in New York State.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

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. Compliance with New York State Standards, Criteria and Guidance (SCGs). Compliance with SCGs address whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term 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 remedial objectives is also estimated and compared against the other alternatives.

4. 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.

5. 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 site.

6. Implementatability. 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.

7. Cost-Effectiveness. Capital cost 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. The costs for each alternative are presented in Table 7.

This final criterion is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance – Concerns of the community regarding the SI/RAR reports and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

SECTION 8: SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 2 as the preferred remedies for this site with a contingency for Alternative 3 and 4. The elements of this remedy are described at the end of this section.

The proposed remedy is based on the results of the SI and the evaluation of alternatives presented in the RAR.

For the planned redevelopment of the site, Alternative 1 would not be protective of human health and the environment due to the presence of contaminants in the exposed surface soil. The remaining alternatives would be protective of human health and the environment.

Alternative 5 would satisfy Part 375 unrestricted cleanup numbers by removing all soil/fill that did not meet the recommended soil cleanup objectives. Alternative 2, 3 and 4 are in agreement with uses described in Part 375-3.8 (e).

There would be no disturbance at the site from remedial work under Alternative 1 and 2 and therefore no short term impacts. Alternative 5 would have the greatest short-term construction related impacts due to the large volume of contaminated material to be moved. Excavation and off-site removal of soils along with backfilling of clean soils could generate a dust nuisance for short periods of time, but this could be addressed with traditional dust control methods and monitoring. Alternative 5 would also result in the need to control and treat groundwater that might be encountered during the excavation and provide erosion control, both of which could also be addressed by engineering controls. Under Alternatives 3 and 4, there would be similar concerns with short-term dust impacts during the placement of a soil cover, but to a significantly lesser degree, due to the smaller volume of material, minimal disturbance of contaminated soil/fill and less intrusive nature of the construction.

Alternative 1 would not control the use of the property which could lead to improper uses such a daycare or residential. Alternative 2 would require periodic inspection and certification that the site continues to be used for industrial purposes. Alternatives 3 and 4 would require regular inspection and maintenance of the cover to maintain their effectiveness. Alternative 5 would remove and replace site fill material and provide the greatest degree of permanence and effectiveness.

Alternatives 1, 2, 3 and 4 would offer no reduction in the toxicity, mobility or volume of the soil/fill at the site. Alternative 5 would reduce the volume and mobility of impacted soils, as well as the removal of soil/fill.

Alternatives 1 and 2 could easily be implemented since no actual remedial action would be undertaken. Alternatives 3 and 4 would also be relatively easy to implement as it would only require standard construction equipment typically used in fill and grading operations. Alternative 5 would also require standard construction techniques to complete the excavation of the site soil/fill. However given the depth of the excavation down to 10 feet, shoring may be necessary for the sidewalls.

Alternative 1, the no action alternative, would incur no costs. Alternative 2 would include the relatively low cost for imposing an institutional control and periodic certification. Alternatives 2, 3 or 4 may be the most cost effective alternatives as they would allow for site redevelopment, but at a significantly lower cost than Alternative 4. Alternative 5 would eliminate the need for any type of soil cover but at a significantly higher cost in capital expenses.

Alternative 2, industrial use, is being proposed because, as described below, it satisfy the threshold criteria and provide the best balance of the primary balancing criteria described in Section 7.2. The estimated present worth cost to implement the remedy is $1,000. The cost to construct the remedy is estimated to be $0 and the estimated average OM&M cost for a total 30 years is $200 every 3 years. The OM&M costs are for the periodic certification (see below). See Table 7 for a summary of costs.

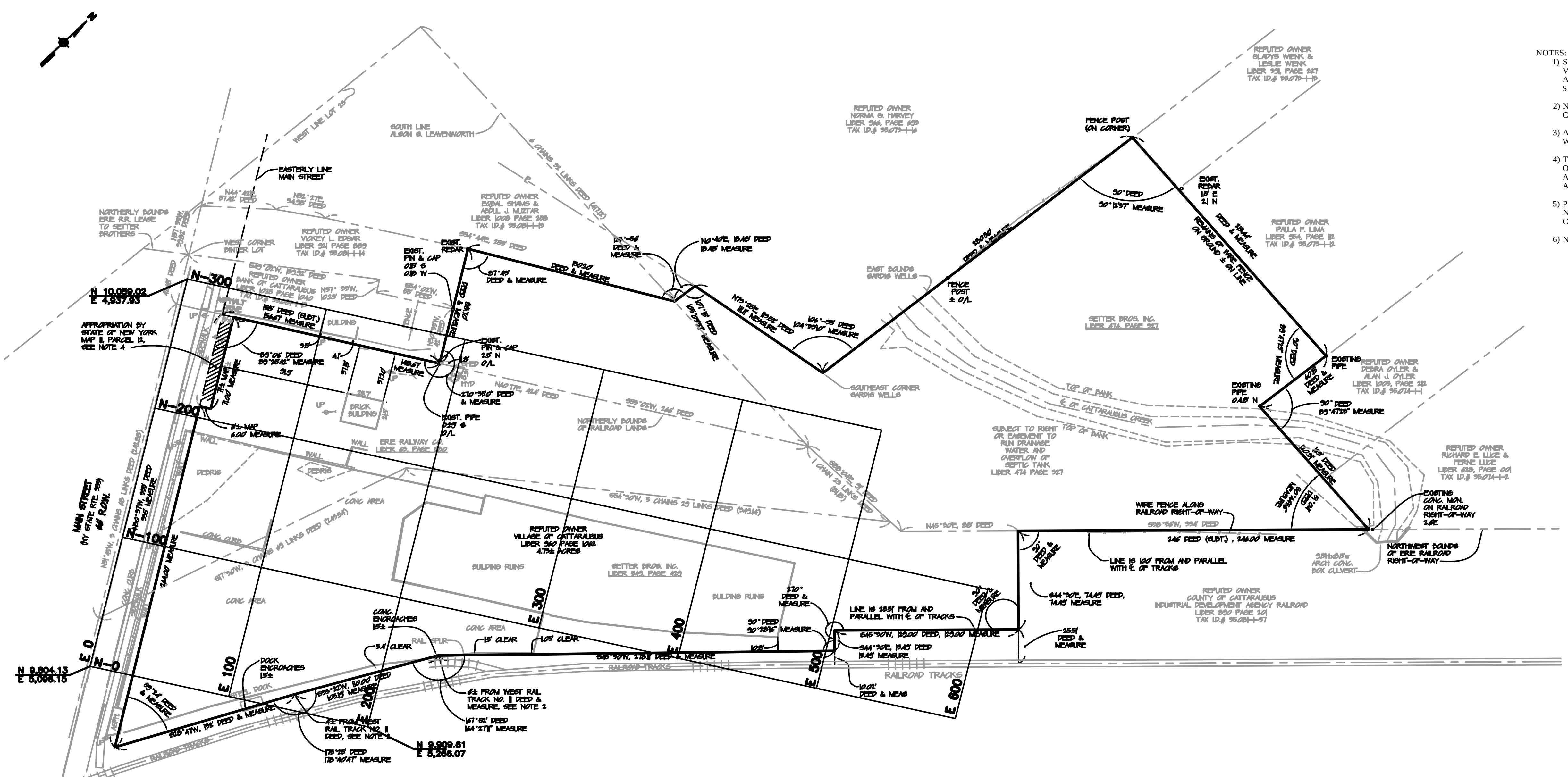
The elements of the remedy and the institutional and engineering controls are listed below:

1. An industrial land use means that there is no fill requirement, and the site is shovel ready. If the contingency remedy of commercial is the final use, a one-foot thick cover would be required.A soil cover would be constructed over all vegetated areas to prevent exposure to contaminated soils and an indicator such as a orange plastic snow fence will be placed to demarcate the cover soil from the subsurface soil.. The top six inches of soil would be of sufficient quality to support vegetation. Clean soil would constitute soil that meets the Division of Environmental Remediation's criteria for backfill or local site background. Non-vegetated areas (buildings, roadways, parking lots, etc.) would be covered by a paving system or concrete at least 6 inches thick. For restricted residential use a two-foot thick cover for restricted residential would be required with all the other details for commercial use..

2. Imposition of an institutional control in the form of an environmental easement that would require (a) limiting the use and development of the property to the industrial use along with the contingency remedies of commercial and restricted residential; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

3. The property owner would provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal would: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

The proposed future use for the Bush Industries site is industrial, however if the Village obtains a developer for commercial or restricted residential use of the property, these two uses would be appropriate as well. The amount of the clean fill over green spaces would be adjusted as appropriate. No cover is required for industrial use, two feet of clean fill would be needed for restricted residential, one foot of clean fill would be needed for commercial use.



NOTES:

1) SUBJECT PARCEL IS COMPRISED OF SEVERAL SMALLER PARCELS ACQUIRED BY THE VILLAGE OF CATTARAUGUS AS SHOWN BY A TITLE SEARCH MADE BY CATTARAUGUS ABSTRACT CORP. AND NAMED TITLE SEARCH NO. 34834. INTERIOR LOT LINES ARE SHOWN APPROXIMATELY AS A REFERENCE.

2) NO RAIL WAS RECOVERED IN THIS AREA. THERE ARE PILES OF DEBRIS AND BROKEN CONCRETE PILED ALONG BUILDING FOUNDATION.

3) ALL BEARINGS SHOWN ON THIS SURVEY ARE REFERENCED FROM THE DEEDS AS THEY WERE WRITTEN.

4) THE SURVEY BASELINE USED IN 1949 TO ESTABLISH THE APPROPRIATION AS SHOWN ON MAP 11 PARCEL 12 WAS NOT ABLE TO BE RECREATED IN THE FIELD. THE APPROPRIATION IS SHOWN AS ESTABLISHED BY THE RIGHT OF WAY OF MAIN STREET AS IT INTERSECTS THE NORTHERLY PROPERTY LINE OF SAID PARCEL.

5) PRESENCE OF UTILITY POLES ON PARCEL ARE EVIDENCE OF A POTENTIAL EASEMENT. NO SUCH DOCUMENT WAS RECOVERED OR SUPPLIED IN TAX SEARCH COMPLETED BY CATTARAUGUS ABSTRACT CORP. (SEARCH #34834 DATED MAY 16, 2005).

6) NO PINS WERE SET AT THE BOUNDARY CORNERS AT THIS TIME.

40' 0 40'
SCALE: 1"= 40'

N:\SURVEY\CAD\11174250\ DC-10825.DWG 1=1 9/13/05-4 ELB

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JOB No. 11174250

MICHAEL D. ROZESKI #050523

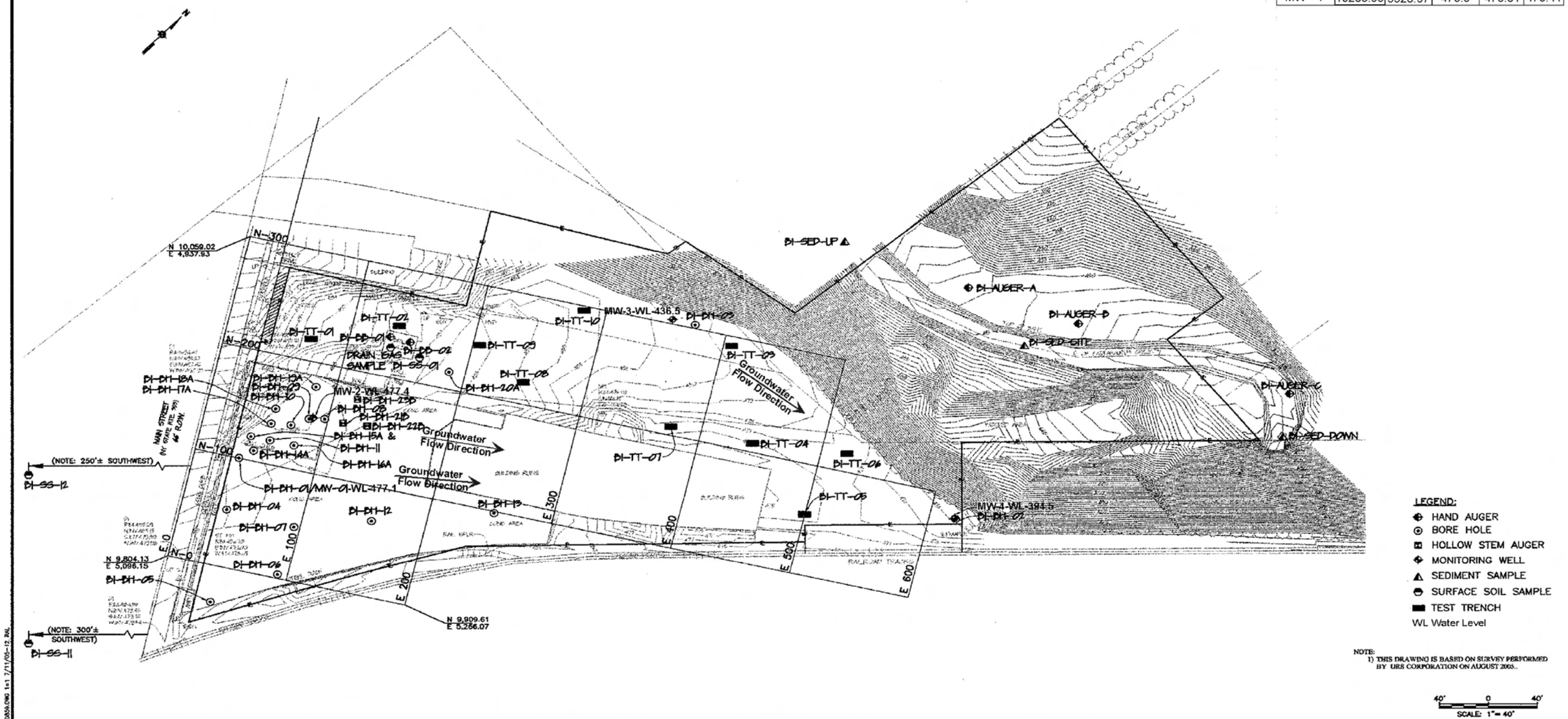
CATTARAUGUS COUNTY
TOWN OF NEW ALBION
VILLAGE OF CATTARAUGUS
SURVEY LOCATED IN
LOT 23, TOWNSHIP 4, RANGE 8
OF THE HOLLAND LAND
COMPANY SURVEY
TAX ID# 35.081-1-16

SURVEY OF A PORTION OF LANDS OWNED BY THE VILLAGE OF CATTARAUGUS AND DESCRIBED IN LIBER 960 AT PAGE 1062

SI/RAR BUSH SITE
SITE INVESTIGATION
BOUNDARY SURVEY

Scale: AS SHOWN | Date: AUGUST, 2005 | FIGURE 2

SAMPLE POINTS					
BUSH SITE CATTARAUGUS VILLAGE Pan American, Cattaraugus Datum: ASSUMED					11/09/05 05/31/06
SAMPLE PT.	NORTHING	EASTING	ELEVATION OF GROUND	CASING	RISER
MW - 2	9977.18	5091.85	484.7	484.69	484.27
MW - 3	10249.10	5236.47	480.8	480.77	480.33
MW - 4	10283.95	5528.97	473.6	473.81	473.41



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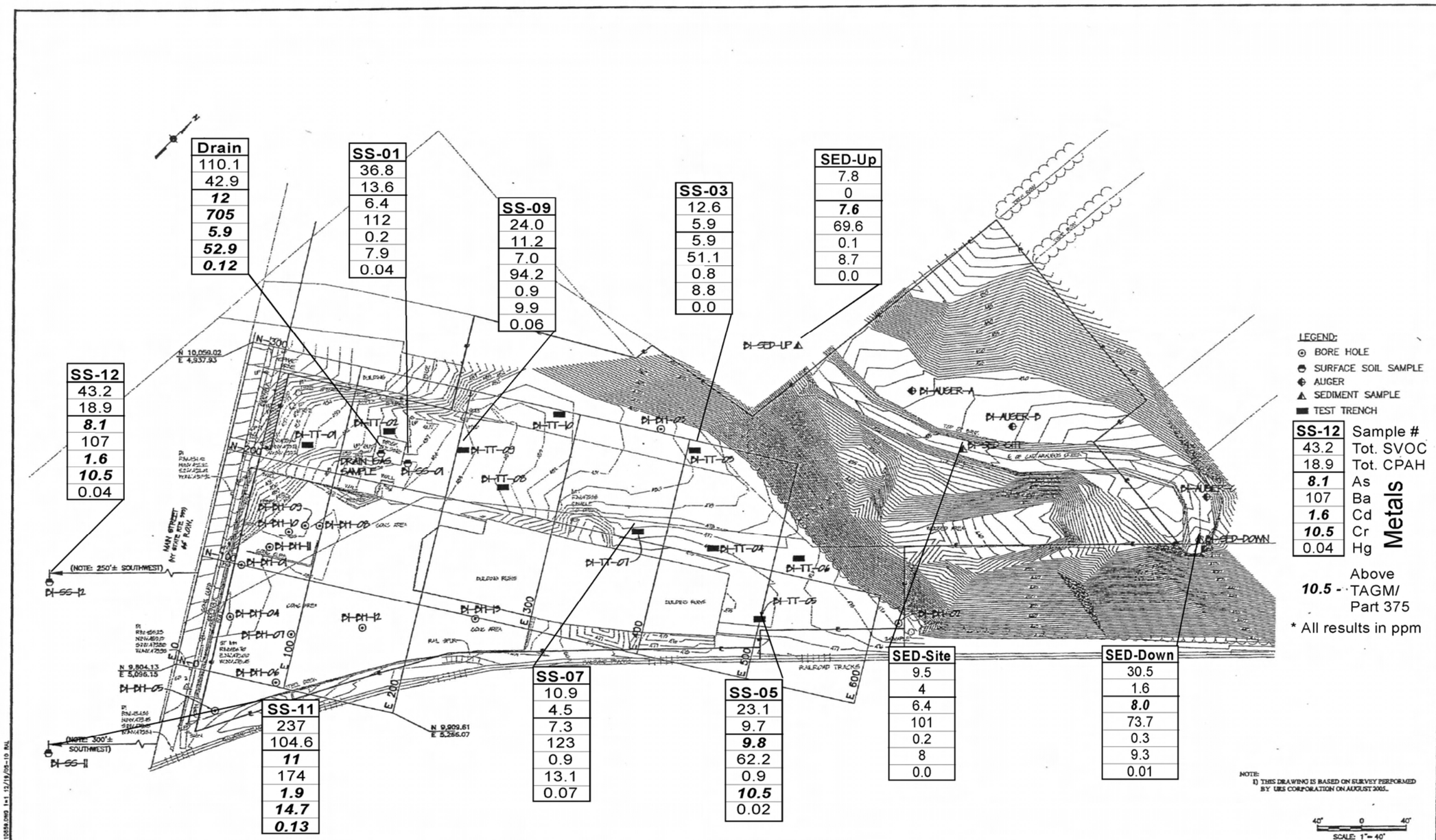
CATTARAUGUS COUNTY
TOWN OF NEW ALBION
VILLAGE OF CATTARAUGUS

SI/RAR BUSH SITE
SITE INVESTIGATION
LOCATION PLAN

Scale: AS SHOWN | Date: DEC. 2005 | FIGURE 3

R:\11174250.00000\CAD\DC-10859.DWG 1=1 7/11/05-12:RAL


Drain
110.1
42.9
12
705
5.9
52.9
0.12
SS-01
36.8
13.6
6.4
112
0.2
7.9
0.04
SS-09
24.0
11.2
7.0
94.2
0.9
9.9
0.06
SS-03
12.6
5.9
5.9
51.1
0.8
8.8
0.0
SED-Up
7.8
0
7.6
69.6
0.1
8.7
0.0
SS-12
43.2
18.9
8.1
107
1.6
10.5
0.04
SS-11
237
104.6
11
174
1.9
14.7
0.13
SS-07
10.9
4.5
7.3
123
0.9
13.1
0.07
SS-05
23.1
9.7
9.8
62.2
0.9
10.5
0.02
SED-Site
9.5
4
6.4
101
0.2
8
0.0
SED-Down
30.5
1.6
8.0
73.7
0.3
9.3
0.01
LEGEND:
BORE HOLE
SURFACE SOIL SAMPLE
AUGER
SEDIMENT SAMPLE
TEST TRENCH
SS-12 Sample #
43.2 Tot. SVOC
18.9 Tot. CPAH
8.1 As
107 Ba
1.6 Cd
10.5 Cr
0.04 Hg
Metals
10.5 - Above TAGM/ Part 375
* All results in ppm
NOTE:
1) THIS DRAWING IS BASED ON SURVEY PERFORMED BY URS CORPORATION ON AUGUST 2005.
SCALE: 1" = 40'
(NOTE: 250'± SOUTHWEST)
(NOTE: 300'± SOUTHWEST)
DRAIN GAS SAMPLE
MAIN STREET
RAILROAD TRACKS
DESIGNED BY: MR
DRAWN BY: RAL
CHECKED BY: RRH
PROJ. ENGR. —
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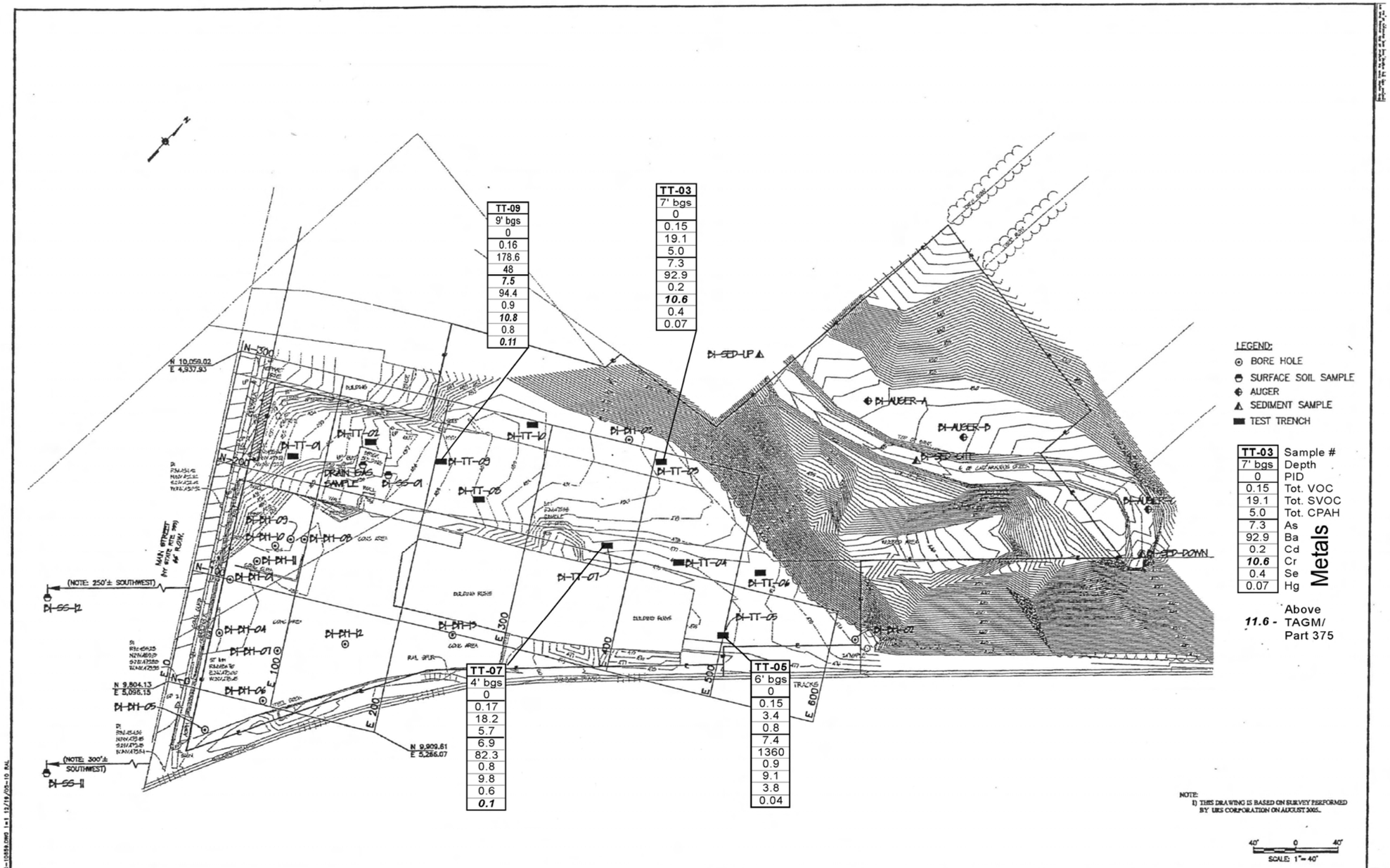
CATTARAUGUS COUNTY
TOWN OF NEW ALBION
VILLAGE OF CATTARAUGUS
NO. MADE BY APPROVED BY DATE DESCRIPTION
REVISIONS
SI/RAR BUSH SITE
SITE INVESTIGATION
SURFACE / SEDIMENT SAMPLES
Scale: AS SHOWN
Date: DEC. 2005
FIGURE 4



NO.	MADE BY	APPROVED BY	DATE	DESCRIPTION

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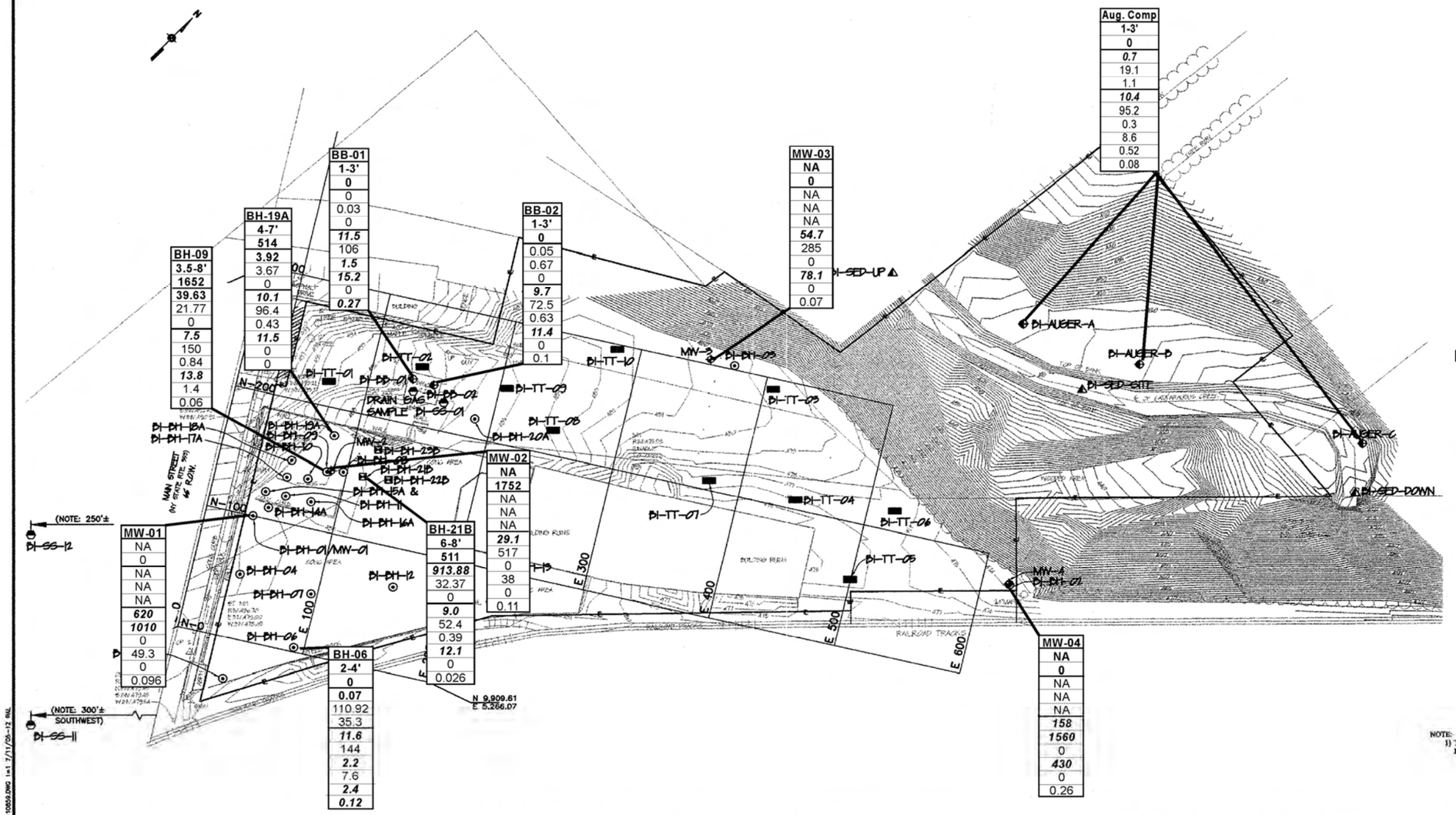
JOB NO. 11174250

CATTARAUGUS COUNTY
TOWN OF NEW ALBION
VILLAGE OF CATTARAUGUS

SI/RAR BUSH SITE
SITE INVESTIGATION
TEST TRENCH SOIL SAMPLES

Scale: AS SHOWN Date: DEC. 2005 **FIGURE 5**



Boring		MW
BH-09	Sample #	MW-04
3.5-8'	Depth	NA
1652	PID	0
39.63	Tot. VOC	NA
21.77	Tot. SVOC	NA
0	Tot. CPAH	NA
7.5	As (Metals)	158
150	Ba (Metals)	1560
0.84	Cd (Metals)	0
13.8	Cr (Metals)	430
1.4	Se (Metals)	0
0.06	Hg (Metals)	0.26
7.5 - Above TAGM/ Part 375		158 Above TOGS

* Boring results in ppm

* MW results in ppb

- HAND AUGER
- BORE HOLE
- HOLLOW STEM AUGER
- MONITORING WELL
- SEDIMENT SAMPLE
- SURFACE SOIL SAMPLE
- TEST TRENCH

NOTE:
1) THIS DRAWING IS BASED ON SURVEY PERFORMED BY URS CORPORATION ON AUGUST 2005.

40' 0 40'
SCALE: 1"= 40'

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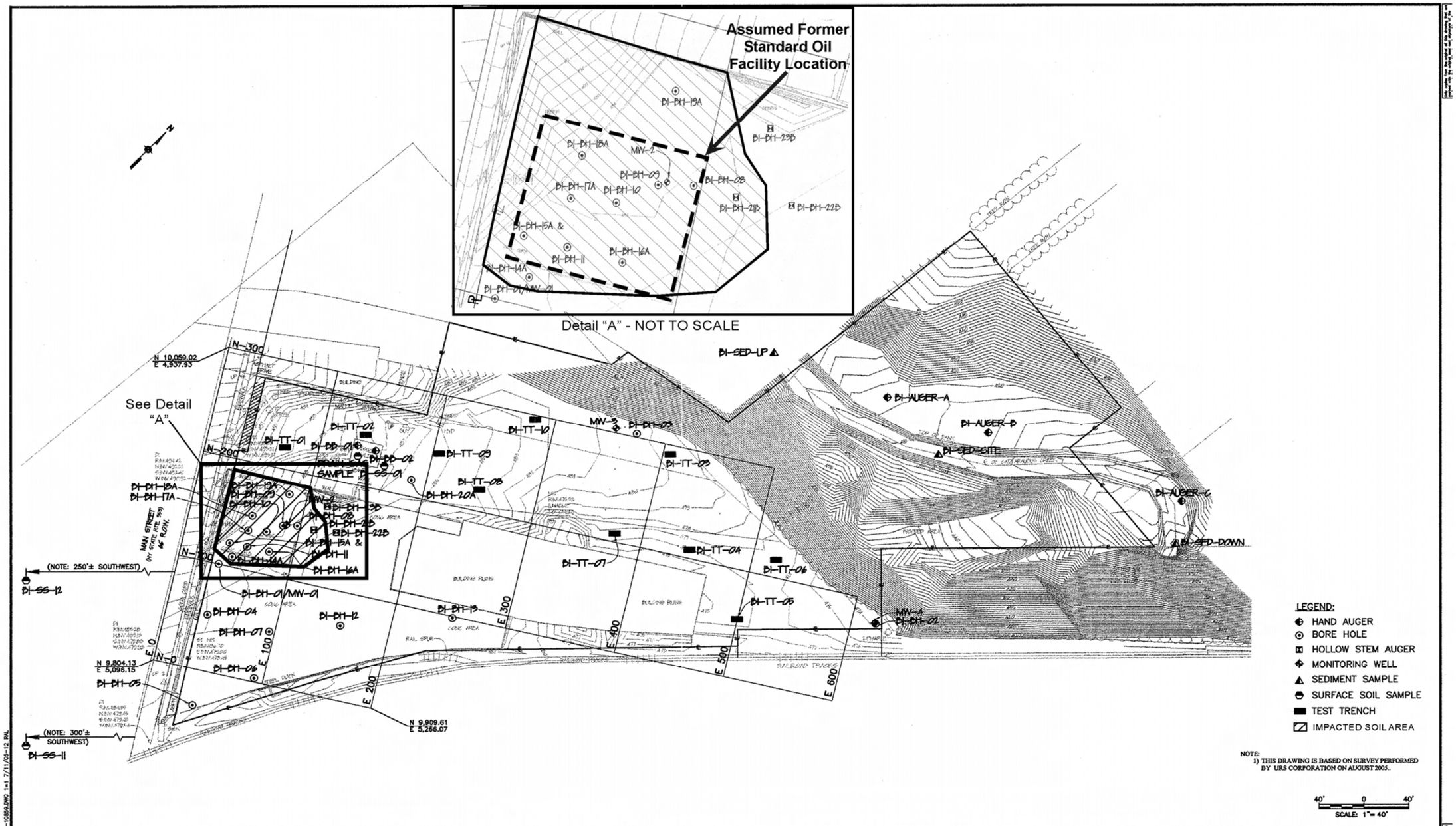
CATTARAUGUS COUNTY
TOWN OF NEW ALBION
VILLAGE OF CATTARAUGUS

SI/RAR BUSH SITE
SITE INVESTIGATION
BORING AND MW SAMPLES

Scale: AS SHOWN | Date: DEC. 2005 | **FIGURE 6**

N:\11174250.00000\CAD\DC-10859.DWG 1=1 7/11/05-12 RAL



N:\11174250.0000\CAD\DC-10059.DWG 1=1 7/11/05-12 RAL

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NO.	MADE BY	APPROVED BY	DATE	DESCRIPTION

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CATTARAUGUS COUNTY
TOWN OF NEW ALBION
VILLAGE OF CATTARAUGUS

SI/RAR BUSH SITE
SITE INVESTIGATION
IMPACTED SOIL AREA

Scale: AS SHOWN | Date: DEC. 2005 | **FIGURE 7**

Table 1
Analytical Results Summary Table - Surface Soil Samples
Bush Industries, Village of Cattaraugus, New York

Compounds	BI-SS-01	BI-SS-03	BI-SS-05	BI-SS-07	BI-SS-09	BI-SS-11	BI-SS-12	DRAIN-GAS	NYSDEC Cleanup Objectives				
Sample Date	10/31/2005	10/31/2005	10/31/2005	10/31/2005	10/31/2005	10/31/2005	10/31/2005	11/9/2005	TAGM	PART 375			
										Unrestricted	Restricted Res	Commercial	Industrial
Semi-Volatile Organics	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(a) ppm	(b) ppm	(c) ppm	(d) ppm	(e) ppm
Naphthalene	0.1 J	U	0.064 J	0.04 J	0.05 J	0.72 J	U	0.17 J	13	12	100	500	1000
2-Methylnaphthalene	0.044 J	U	U	U	U	0.42 J	U	0.074 J	36.4	NA	NA	NA	NA
Acenapthylene	0.29 J	0.21 J	0.51	0.43	0.42	6.7	1.4 J	0.14 J	41	100	100	500	1000
Acenaphthene	0.27 J	U	0.076 J	0.043 J	0.072 J	0.98 J	0.38 J	0.53	50	20	100	500	1000
Dibenzofuran	0.16 J	U	0.048 J	U	0.046 J	0.5 J	U	0.36 J	6.2	NA	NA	NA	NA
Fluorene	0.31 J	U	0.15 J	0.062 J	0.099 J	1.2 J	0.36 J	0.53	50	30	100	500	1000
Phenanthrene	3.4	0.69 J	1.2	0.38	0.74	11	3.3	12 D	50	100	100	500	1000
Anthracene	0.91	0.25 J	0.53	0.32 J	0.46	6	1.4 J	2.2	50	100	100	500	1000
Carbazole	0.45	U	0.12 J	0.06 J	0.1 J	1.2 J	0.41 J	1.5	NA	NA	NA	NA	NA
Fluoranthene	5.2 D	1.5 J	3.4	0.96	2.5	37 D	6.1	21 D	50	100	100	500	1000
Pyrene	4.6 J	1.4 J	2.8 J	0.95 J	2.6 J	33 J	6 J	15 D	50	100	100	500	1000
Benzo(a)anthracene	**2.7 (a)-(c)**	**1 J (a)-(c)**	**2 (a)-(c)**	**0.77 (a)**	**1.9 (a)-(c)**	**22 (a)-(e)**	**3.6 (a)-(c)**	**8.8 D (a)-(d)**	0.224	1	1	5.6	11
Chrysene	**2.4 (a),((b)**	**0.9 J (a)**	**1.6 (a),(b)**	**0.73 (a)**	**1.7 (a),(b)**	**19 (a)-(c)**	**3.1 (a),(b)**	**9.1 D (a)-(c)**	0.4	1	3.9	56	110
bis(2-Ethylhexyl)phthalate	0.13 J	U	0.09 J	0.12 J	0.096 J	U	U	0.48	50	NA	NA	NA	NA
Benzo(b)fluoranthene	**3.3 (a)-(c)**	**1.4 J (a)-(c)**	**2.4 (a)-(c)**	**1.1 (a)-(c)**	**2.9 (a)-(c)**	**27 (a)-(e)**	**4.4 (a)-(c)**	**11 D (a)-(e)**	1.1	1	1	5.6	11
Benzo(k)fluoranthene	**1.1 (a),(b)**	0.5 J	**0.8 (b)**	0.45	**1 (b)**	**8.9 (a)-(c)**	**1.6 J (a),(b)**	**3.3 (a),(b)**	1.1	0.8	3.9	56	110
Benzo(a)pyrene	**2.5 (a)-(e)**	**1.2 J (a)-(e)**	**1.8 (a)-(e)**	**0.89 (a)**	**2.3 (a)-(e)**	**18 (a)-(e)**	**3.4 (a)-(e)**	**6.8 D (a)-(e)**	0.061	1	1	1	1.1
Indeno(1,2,3-cd)pyrene	**1.2 (b)-(c)**	**0.69 J (b)-(c)**	**0.82 (b)-(c)**	0.48	**1.1 (b)-(c)**	**7.3 (a)-(d)**	**2.1 (b)-(c)**	**3 (b)-(c)**	3.2	0.5	0.5	5.6	11
Dibenzo(a,h)anthracene	0.35 J	**0.19 J (a)**	**0.25 J (a)**	**0.14 J (a)**	**0.32 J (a)**	**2.4 (a)-(e)**	**0.65 J (a)-(d)**	**0.88 (a)-(d)**	0.014	0.33	0.33	0.56	1.1
Benzo(g,h,I)perylene	1.4	0.91 J	0.96	0.6	1.2	7.8	2.9	3	50	100	100	500	1000
TICS	6.02 J	0	4.11 J	2.33 J	4.39 J	25.89 J	2.07 J	10.25 J	NA	NA	NA	NA	NA
Total SVOCs	**36.834**	**12.55**	**23.078**	**10.855**	**23.993**	**237.01**	**43.17**	**110.114**	< 500 ppm	NA	NA	NA	NA
Total cPAH	**13.6**	**5.9**	**9.7**	**4.5**	**11.2**	**104.6**	**18.9**	**42.9**	NA	NA	NA	NA	NA
B(a)P Equivalent (1)	**3.58**	**1.7**	**2.58**	**1.27**	**3.22**	**26.14**	**5.08**	**10**	NA	NA	NA	NA	NA
PCBs													
Aroclor-1254	U	U	U	U	U	0.062 J	U	**0.8 (b)**	1	0.1	1	1	25
Aroclor-1260	U	U	U	U	U	U	U	**0.3 (b)**	1	0.1	1	1	25
RCRA Metals													
Arsenic	6.4 J	5.9 J	**9.8 J (a)**	J	7 J	**11 J (a)**	**8.1 J (a)**	**12 (a)**	7.5	13	16	16	16
Barium	112 J	51.1 J	69.2 J	123 J	94.2 J	174 J	107 J	**705 (a)-(d)**	300	350	400	400	10000
Cadmium	0.18 J	0.77 J	0.94 J	0.93 J	0.87 J	**1.9 J (a)**	**1.6 J (a)**	**5.9 (a)-(c)**	1	2.5	4.5	9.3	60
Chromium	**7.9 J (b)**	**8.8 J (b)**	**10.5 J (a)-(b)**	**13.1 J (a)-(b)**	**9.9 J (b)**	**14.7 J (a)-(b)**	**10.5 J (a)-(b)**	**52.9 (a),(b)**	10	1	110	400	800
Lead	28.5 J	38.8 J	24 J	31.6 J	32.4 J	**148 J (b)**	**105 J (b)**	**275 J (b)**	200-500	63	400	1000	3900
Selinium	**2 (a)**	1	0.56	0.69	0.89	1.3	0.85	U	2	3.9	180	1500	6800
Silver	U	U	U	U	U	**3.1 (b)**	U	**7.8 (b)**	SB	2	180	1500	6800
Mercury	0.041	U	0.015	0.074	0.064	**0.13 (a)**	0.038	**0.12 (a)**	0.1	0.18	0.81	2.8	5.7

Key:

mg/kg - milligrams per kilograms (parts per million)
U- Not Detected
J - The result is an estimated quantity
D - The sample result was reported from a secondary dilution analysis
N/A - Not Available
TICS - Tentitively Identified Compounds

Total cPAH value includes: benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo (a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene

(1) - The relative potency factors applied to carcinogenic PAHs other than benzo(a)pyrene are: 0.1 for benzo(b)fluoranthene, 0.01 for benzo(k)fluoranthene, 0.001 for Chrysene, 1.0 for Dibenz(a,h)anthracene and 0.1 for indeno(1,2,3-cd)pyrene

(a) - Value exceeded this NYSDEC cleanup objective

Table 2
Analytical Results Summary Table - Test Trench Subsurface Soil samples
Bush Industries, Village of Cattaraugus, New York

Compounds	BI-TT-03	BI-TT-05	BI-TT-07	BI-TT-09	NYSDEC Cleanup Objectives				
Sample Depth	7' BGS	6' BGS	4' BGS	9' BGS	TAGM	PART 375			
Sample Date	10/31/2005	10/31/2005	10/31/2005	10/31/2005		Unrestricted	Restricted Res	Commercial	Industrial
Volatile Organics	mg/kg	mg/kg	mg/kg	mg/kg	(a) ppm	(b) ppm	(c) ppm	(d) ppm	(e) ppm
Acetone	0.032 J	0.021 J	**0.061 J (b)**	**0.051 J (b)**	0.2	0.05	100	500	1000
Carbon Disullfide	U	0.003 J	0.002 J	U	2.7	NA	NA	NA	NA
Methylene Chloride	U	U	U	U	0.1	0.05	100	500	1000
Benzene	0.002 J	0.002 J	0.002 J	0.002 J	0.06	0.06	4.8	44	89
Toluene	0.002 J	0.002 J	0.005 J	0.005	1.5	0.7	100	500	1000
Ethylbenzene	U	U	U	0.001 J	5.5	1	41	390	780
m,p-Xylene	0.002 J	0.001 J	0.004 J	0.005	1.2	0.26	100	500	1000
o-Xylene	0.0008 J	U	0.002 J	0.002 J	1.2	0.26	100	500	1000
Xylene (Total)	0.003 J	0.001 J	0.006 J	0.007	1.2	0.26	100	500	1000
Isopropylbenzene	U	U	U	U	5	NA	NA	NA	NA
n-Propylbenzene	U	U	U	U	14	3.9	100	500	1000
1,3,5-Trimethylbenzene	U	U	0.001 J	0.002 J	3.3	8.4	52	190	380
1,2,4-Trimethylbenzene	0.002 J	U	0.002 J	0.005	13	3.6	52	190	380
sec-Butylbenzene	U	U	U	U	25	11	100	500	1000
Naphthalene	0.016	0.001 J	0.006 J	0.031	13	12	100	500	1000
1,2,3-Trichlorobenzene	U	U	0.002 J	U	0.4	NA	NA	NA	NA
TICS	0.089 J	0.116 J	0.081 J	0.051 J	NA	NA	NA	NA	NA
Total VOCs	0.1488	0.147	0.172	0.162	< 10 ppm	NA	NA	NA	NA
Semi-Volatile Organics									
Naphthalene	0.11 J	0.079 J	0.064 J	3.5	13	12	100	500	1000
2-Methylnaphthalene	0.058 J	0.11 J	0.071 J	2.2	36.4	NA	NA	NA	NA
Acenapthylene	0.21 J	U	0.55	1.8	41	100	100	500	1000
Acenaphthene	0.14 J	U	0.072 J	3.7	50	20	100	500	1000
Dibenzofuran	0.14 J	U	0.078 J	5	6.2	NA	NA	NA	NA
Fluorene	0.22 J	U	0.1 J	6.5 D	50	30	100	500	1000
4-Nitroaniline	U	U	U	**0.85 (a)**	0.43	NA	NA	NA	NA
Phenanthrene	1.5	0.15 J	1.2	35 D	50	100	100	500	1000
Anthracene	0.46	U	0.44	8.1 D	50	100	100	500	1000
Carbazole	0.13 J	U	0.063 J	5.1	NA	NA	NA	NA	NA
Fluoranthene	2.3	0.24 J	1.8	30 D	50	100	100	500	1000
Pyrene	2 J	0.26 J	1.8 J	23 DJ	50	100	100	500	1000
Benzo(a)anthracene	**1.1 (a)-(c)**	0.17 J	**1 (a)-(c)**	**12 D (a)-(e)**	0.224	1	1	5.6	11
Chrysene	**1 (a),(b)**	0.14 J	**1.2 (a),(b)**	**9 D (a)-(c)**	0.4	1	3.9	56	110
bis(2-Ethylhexyl)phthalate	0.68 J	0.082 J	0.11 J	ND	50	NA	NA	NA	NA
Benzo(b)fluoranthene	**1.1 (a)-(c)**	0.18 J	**1.3 (a)-(c)**	**9 D (a)-(d)**	1.1	1	1	5.6	11
Benzo(k)fluoranthene	0.36 J	0.078 J	0.42	**5.6 D (a)-(c)**	1.1	0.8	3.9	56	110
Benzo(a)pyrene	**0.91 (a)**	**0.14 J (a)**	**1.1 (a)-(e)**	**7.6 D (a)-(e)**	0.061	1	1	1	1.1
Indeno(1,2,3-cd)pyrene	0.43	0.079 J	**0.51 (b),(c)**	**3.6 (a)-(c)**	3.2	0.5	0.5	5.6	11
Dibenzo(a,h)anthracene	**0.13 J (a)**	U	**0.16 J (a)**	**1.2 (a)-(e)**	0.014	0.33	0.33	0.56	1.1
Benzo(g,h,I)perylene	0.52	0.11 J	0.63	3.6	50	100	100	500	1000
TICS	3.43 J	1.54 J	5.56 J	2.27 J	NA	NA	NA	NA	NA
Total SVOCs	**19.068**	**3.358**	**18.228**	**178.62**	< 500 ppm	NA	NA	NA	NA
Total cPAH	**5**	**0.8**	**5.7**	**48**		NA	NA	NA	NA
B(a)P Equivalent (1)	**1.31**	**0.18**	**1.55**	**11.3**		NA	NA	NA	NA
RCRA Metals									
Arsenic	7.3 J	7.4 J	6.9 J	**7.5 J (a)**	7.5	13	16	16	16
Barium	92.9 J	**1360 J (a)-(d)**	82.3 J	94.4 J	300	350	400	400	10000
Cadmium	0.18 J	0.85 J	0.76 J	0.93 J	1	2.5	4.5	9.3	60
Chromium	**10.6 J (a), (b)**	**9.1 J (b)**	**9.8 J (b)**	**10.8 J (a),(b)**	10	1	110	400	800
Lead	29.8 J	39.9 J	**81.6 J (b)**	33.8 J	200-500	63	400	1000	3900
Selinium	0.37 J	**3.8 (a)**	0.63 J	0.84 J	2	3.9	180	1500	6800
Silver	U	U	U	U	SB	2	180	1500	6800
Mercury	0.067	0.042	**0.1 (a)**	**0.11 (a)**	0.1	0.18	0.81	2.8	5.7

Key:

mg/kg - milligrams per kilograms (parts per million)
U- Not Detected
J - The result is an estimated quantity
D - The sample result was reported from a secondary dilution analysis
N/A - Not Available
TICS - Tentitively Identified Compounds

Total cPAH: benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo (a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene
(1) - The relative potency factors applied to carcinogenic PAHs other than benzo(a)pyrene are: 0.1 for benzo(b)fluoranthene, 0.01 for benzo(k)fluoranthene, 0.001 for Chrysene1.0 for Dibenz(a,h)anthracene and 0.1 for indeno(1,2,3-cd)pyrene
(a) - Value exceeded this NYSDEC cleanup objective

Table 3
Analytical Results Summary Table - Subsurface Soil Boring/Auger Samples
Bush Industries, Village of Cattaraugus, New York

Compounds	BI-BH-06	BI-BH-09	BI-BH-16A	BI-BH-19A	BI-BH-21B	Auger (A-C)	BI-BB-01	BI-BB-02	NYSDEC Cleanup Objectives				
Sample Date	11/1/2005	11/1/2005	5/3/2006	5/3/2006	5/26/2006	11/9/2005	5/3/2006	5/3/2006	TAGM	PART 375			
Sample Depth	2-4' bgs	3.5-8' bgs	4-6' bgs	4-7' bgs	6-8' bgs	1-3'	1-3' (Auger)	1-3' (Auger)		Unrestricted	Restricted Res	Commercial	Industrial
Volatile Organics	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(a) ppm	(b) ppm	(c) ppm	(d) ppm	(e) ppm
Acetone	0.053 J (b)	0.1 J (b)	0.12 J (b)	0.053 J (b)	U	**0.25 J (a),(b)**	U	0.01 J	0.2	0.05	100	500	1000
Carbon Disulfide	U	0.011 J	U	U	U	U	U	U	2.7	NA	NA	NA	NA
Methylene Chloride	0.004 J	0.02 J	0.022 D	U	U	U	U	U	0.1	0.05	100	500	1000
Benzene	0.001 J	0.002 J	U	U	U	U	U	U	0.06	0.06	4.8	44	89
Ethylbenzene	U	0.004 J	U	U	**1.4 (b)**	U	U	U	5.5	1	41	390	780
m,p-Xylene	U	0.041 J	U	U	**2.5 J (a),(b)**	U	U	U	1.2	0.26	100	500	1000
o-Xylene	U	U	U	U	**0.93 (b)**	U	U	U	1.2	0.26	100	500	1000
Xylene (Total)	U	0.041 J	U	U	**3.4 J (a),(b)**	U	U	U	1.2	0.26	100	500	1000
Isopropylbenzene	U	1.3 D	U	U	2.1	U	U	U	5	NA	NA	NA	NA
n-Propylbenzene	U	1.6 D	U	U	**4.5 J (b)**	U	U	U	14	3.9	100	500	1000
1,3,5-Trimethylbenzene	U	**9.7 D (a),(b)**	U	U	**9.1 J (a),(b)**	U	U	U	3.3	8.4	52	190	380
1,2,4-Trimethylbenzene	U	**8.4 D (b)**	U	U	**12 J (b)**	U	U	U	13	3.6	52	190	380
sec-Butylbenzene	U	1.4 D	U	U	4.4 J	U	U	U	25	11	100	500	1000
4-Isopropyltoluene	U	U	U	U	4.3 J	U	U	U	11	NA	NA	NA	NA
n-Butylbenzene	U	U	U	U	5.7 J	U	U	U	18	12	100	500	1000
Naphthalene	U	0.034 J	U	U	0.51 B	U	U	U	13	12	100	500	1000
Toluene	U	U	U	U	0.039 J	0.001 J	U	U	1.5	0.7	100	500	1000
TICS	0.013 J	16.995 J	6.225 J	3.865 J	863 J	0.444 J	U	0.038 J	NA	NA	NA	NA	NA
Total VOCs	0.071	**39.628 (a)**	6.367	3.918	**913.88 (a)**	0.695	0	0.048	<10 ppm	NA	NA	NA	NA
Semi-Volatile Organics													
Naphthalene	0.46	0.063 J	U	U	U	U	U	U	13	12	100	500	1000
2-Methylnaphthalene	0.64	0.29 J	U	U	0.42	U	U	U	36.4	NA	NA	NA	NA
Acenapthylene	0.91	U	U	U	U	0.056 J	U	U	41	100	100	500	1000
Acenaphthene	0.66	U	U	U	U	U	U	U	50	20	100	500	1000
Dibenzofuran	0.81	U	U	U	U	U	U	U	6.2	NA	NA	NA	NA
Fluorene	1	U	U	U	U	U	U	U	50	30	100	500	1000
Phenanthrene	12 D	U	U	U	0.090 J	0.28 J	U	U	50	100	100	500	1000
Anthracene	3.6	U	U	U	U	0.097 J	U	U	50	100	100	500	1000
Carbazole	0.56	U	U	U	U	U	U	U	NA	NA	NA	NA	NA
Fluoranthene	19 D	U	U	U	U	0.33 J	U	0.057 J	50	100	100	500	1000
Pyrene	15 D	U	U	U	U	0.37 J	U	0.049 J	50	100	100	500	1000
Benzo(a)anthracene	**8.7 D (a)-(d)**	U	U	U	U	**0.23 J (a)**	U	U	0.224	1	1	5.6	11
Chrysene	**6 (a)-(c)**	U	U	U	U	0.22 J	U	U	0.4	1	3.9	56	110
bis(2-Ethylhexyl)phthalate	U	U	0.059 J	U	0.062	0.087 J	0.085 J	U	50	NA	NA	NA	NA
Benzo(b)fluoranthene	**7.7 D (a)-(d)**	U	U	U	U	0.22 J	U	U	1.1	1	1	5.6	11
Benzo(k)fluoranthene	**3.6 (a),(b)**	U	U	U	U	0.11 J	U	U	1.1	0.8	3.9	56	110
Benzo(a)pyrene	**5.8 D (a)-(e)**	U	U	U	U	**0.17 J (a)**	U	U	0.061	1	1	1	1.1
Indeno(1,2,3-cd)pyrene	**2.6 (b),(c)**	U	U	U	U	0.11 J	U	U	3.2	0.5	0.5	5.6	11
Dibenzo(a,h)anthracene	**0.87 (a)-(d)**	U	U	U	U	U	U	U	0.014	0.33	0.33	0.56	1.1
Benzo(g,h,I)perylene	2.5	U	U	U	U	0.13 J	U	U	50	100	100	500	1000
TICS	18.51 J	21.42 J	42.1 NJ	3.67 J	31.8 J	16.69 J	0.24 J	0.56 J	NA	NA	NA	NA	NA
Total SVOCs	**110.92**	**21.773**	**42.159**	**3.67**	**32.372**	**19.1**	**0.0325**	**0.666**	<500 ppm	NA	NA	NA	NA
Total cPAH	**35.3**	**0**	**0**	**0**	**0**	**1.1**	**0**	**0**	NA	NA	NA	NA	NA
B(a)P Equivalent (1)	**8.6**	**0**	**0**	**0**	**0**	**0.23**	**0**	**0**	NA	NA	NA	NA	NA
RCRA Metals													
Arsenic	**11.6 J (a)**	**7.5 J (a)**	6.1	**10.1 (a)**	**9 (a)**	**10.4 (a)**	**11.5 (a)**	**9.7 (a)**	7.5	13	16	16	16
Barium	144 J	150 J	85.2	96.4	52.4 J	95.2	106	72.5	300	350	400	400	10000
Cadmium	**2.2 J (a)**	0.84 J	0.44 J	0.43 J	0.39 J	0.29	**1.5 J (a)**	0.63 J	1	2.5	4.5	9.3	60
Chromium	**7.6 J (b)**	**13.8 J (b)**	**9.4 (b)**	**11.5 (a),(b)**	**12.1 J (a),(b)**	**8.6 (b)**	**15.2 (a),(b)**	**11.4 (a),(b)**	10	1	110	400	800
Lead	**138 J (b)**	22.5 J	14.3 J	11.6 J	15.8 J	**65.7 J (b)**	40.7 J	45.7 J	200-500	63	400	1000	3900
Selinium	**2.4 (a)**	1.4	U	U	U	0.52	U	U	2	3.9	180	1500	6800
Silver	U	6	U	U	U	**3.4 (b)**	0.77	U	SB	2	180	1500	6800
Mercury	**0.12 (a)**	0.062	0.037	U	0.026 B	0.078	**0.27 (a),(b)**	0.096	0.1	0.18	0.81	2.8	5.7

Key:

mg/kg - milligrams per kilograms (parts per million)
D - The sample result was reported from a secondary dilution analysis
U- Not Detected
N/A - Not Available
J - The result is an estimated quantity
TICS - Tentitively Identified Compounds

Total cPAH: benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo (a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene

(1) - The relative potency factors applied to carcinogenic PAHs other than benzo(a)pyrene are: 0.1 for benzo(b)fluoranthene, 0.01 for benzo(k)fluoranthene, 0.001 for Chrysene1.0 for Dibenz(a,h)anthracene and 0.1 for indeno(1,2,3-cd)pyrene

(a) - Value exceeded this NYSDEC cleanup objective

Table 4

Analytical Results Summary Table - Groundwater Samples

Bush Industries, Village of Cattaraugus, New York

Sample Number	**BI-MW-01**	**BI-MW-01 (F)**	**BI-MW-02**	**BI-MW-02 (F)**	**BI-MW-03**	**BI-MW-03 (F)**	**BI-MW-04**	**BI-MW-04 (F)**	**NYSDEC**
Compounds Detected	**5/31/2006**	**5/31/2006**	**5/31/2006**	**5/31/2006**	**5/31/2006**	**5/31/2006**	**6/1/2006**	**6/1/2006**	**TOGS GA**
Volatile Organics	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**
Acetone	U		U		U		47 J		50
Carbon Disulfide	U		U		U		3 J		50
2-Butanone (MEK)	U		U		U		15		50
2-Hexanone	U		U		U		4 J		50
TICS	U		U		U		6 J		NA
Semi-Volatile organics									
Diethylphthalate	1 J		U		2 J		U		50
bis(2-Ethylhexyl)phthalate	U		2 J		2 J		2 J		5
TICS	73 J		30 J		16 J		143 J		NA
RCRA Metals									
Arsenic	**62.0**	1.8	**29.1**	2.5	**54.7**	10.7	**158**	1.6	25
Barium	**1010**	490	517	221	285	96.7	**1560**	51.8	1000
Chromium	49.3 J	U	38 J	U	**78.1**	U	**430 J**	U	50
Lead	**57.4 J**	U	**30.4 J**	U	**40.6**	U	**163 J**	U	25
Silver	U	U	U	U	U	U	U	U	50
Mercury	0.096	U	0.11	U	0.073	U	0.26	U	0.7

Key:

U - Not Detected

NA - Not Available

NYSDEC - New York State Department of Environmental Conservation

TOGS-GA - Groundwater Standard Classification Value - NYSDEC Division of Water, Technical and Operational Guidance Series (TOGs) 1.1.1

J - Indicates An Estimated Value

Shaded Value - Exceeds Comparison Value

F - Filtered sample for Metals

Table 5
Analytical Results Summary Table - Sediment Samples
Bush Industries, Village of Cattaraugus, New York

Compounds	**SED-UP**	**SED-SITE**	**SED-DOWN**	**NYSDEC**
Sample Date	**11/9/2005**	**11/9/2005**	**11/9/2005**	**Sediment**
Semi-Volatile Organics	**mg/kg**	**mg/kg**	**mg/kg**	**Criteria (1)**
Acenaphthylene	U	0.093 J	0.063 J	N/A
Fluorene	U	U	0.041 J	N/A
Phenanthrene	U	0.55 J	0.33 J	N/A
Anthracene	U	0.15 J	0.11 J	N/A
Carbazole	U	0.1 J	0.043 J	N/A
Fluoranthene	U	1.3	0.5	N/A
Pyrene	0.045 J	1.4	0.52 J	N/A
Benzo(a)anthracene	U	0.76 J	0.34 J	N/A
Chrysene	U	0.8 J	0.3 J	N/A
bis(2-Ethylhexyl)phthalate	0.092 J	0.18 J	0.08 J	N/A
Benzo(b)fluoranthene	0.044 J	0.97	0.33 J	N/A
Benzo(k)fluoranthene	U	0.3 J	0.14 J	N/A
Benzo(a)pyrene	U	0.7 J	0.28 J	N/A
Indeno(1,2,3-cd)pyrene	U	0.38 J	0.15 J	N/A
Dibenzo(a,h)anthracene	U	0.1 J	0.042 J	N/A
Benzo(g,h,I)perylene	U	0.53 J	0.18 J	N/A
TICS	7.58 J	1.16 J	27.07 J	NA
PCBs				
Aroclor 1254	U	0.18	0.095	1.4
RCRA Metals				
Arsenic	**7.6**	**6.4**	**8**	6
Barium	69.6	101	73.5	N/A
Cadmium	0.096	0.21	0.33	0.6
Chromium	8.7	8	9.3	26
Lead	26.4	25.2 J	23.2 J	31
Selinium	U	0.11	U	N/A
Silver	3.5	U	1.9	1
Mercury	U	U	0.0079	0.15

Key:

mg/kg - milligrams per kilograms (parts per million)

U- Not Detected

N/A - Not Available

J - The result is an estimated quantity

TICS - Tentitively Identified Compounds

Shaded areas represent levels higher than the NYSDEC-Technical Guidance for Screening Contaminated Sediments

(1) - Table 1 of NYSDEC Technical Guidance for Sreening Contaminated Sediments for SVOCs Wildlife Bioaccumulation Criteria & Table 2 Lowest Effect Level Criteria for Metals

Table 6. Photoionization Detector Field Results(PID Results)

Bush Industries - Results in part per million (ppm)

	BH-01	BH-02	BH-03	BH-04	BH-05	BH-06	BH-07	BH-08	BH-09	BH-10	BH-11	BH-12	BH-13	BH-14A
0-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
2-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.3	57.2	8.5	0.0	0.0	0.0	5.4
4-6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	352	243	168	52.3	0.0	0.0	63.5
6-8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	450	1652	226	121	0.0	-	16.3
8-10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	212	567	85.3	567	0.0	-	1.2
10-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	245	121	6.4	121	-	-	-
12-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	118	26.2	-	-	-	-	-
14-16	0.0	0.0	0.0	0.0	0.0	-	-	36.3	-	-	-	-	-	-
16-18	-	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-
18-20	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-

	BH-15A	BH-16A	BH-17A	BH-18A	BH-19A	BH-20A	BH-21B	BH-22B	BH-23B	MW-02
0-2	0.0	0.0	0.0	32.6	0.0	0.0	-	-	-	0.6
2-4	0.0	5.2	82.3	366	36.6	0.0	-	-	-	5.3
4-6	19.2	255	233	26.3	514	0.0	16	-	-	246
6-8	4.6	7.3	3.6	1.6	5.6	0.0	511	-	-	1001
8-10	0.0	0.0	-	-	-	0.0	-	-	-	1752
10-12	-	-	-	-	-	-	-	-	-	452
12-14	-	-	-	-	-	-	-	-	-	87.3
14-16	-	-	-	-	-	-	-	-	-	19.5
16-18	-	-	-	-	-	-	-	-	-	2.6
18-20	-	-	-	-	-	-	-	-	-	0.8

Table 7.

Remedial Alternatives Costs

Remedial Alternatives	**Capital Costs**	**OM&M Cost Every Three Years**	**Total Present Worth**
1. No Action	$0	$0	$0
2.Industrial Use	$0	$200	$1,000
3. Commercial Usage	$53,000	$200	$54,000
4. Restricted Residential Usage	$94,000	$200	$95,000
5. Unrestricted Usage	$1,400,000	$200	$1,400,000

Note: Assumes 30 years at 7% discount rate