DRAFT FINAL

SOIL REMOVAL DOCUMENTATION REPORT SCOTIA DEPOT Scotia, New York

PREPARED FOR:

U.S. Army Corps of Engineers
Huntsville Center

Contract No. DACA87-02-D-0005

PREPARED BY:

PARSONS

AUGUST 2004

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1.0 PURPOSE OF DOCUMENT

The purpose of this report is to document the objectives and procedures for conducting the soil removal at Scotia Depot, and to present the results of confirmatory sampling conducted after the soil removal. The following sections describe: the objective of the soil removal (Section 2), site history (Section 3), site setting (Section 4), previous environmental studies (Section 5), the soil removal action (Section 6), and the post-removal sampling results and conclusions (Section 7).

2.0 PROJECT OBJECTIVE

2.0.1 The northernmost portion of the Scotia Depot is no longer needed for the mission of the Defense National Stockpile Center (DNSC). Therefore, a portion of the Depot will be considered "excess" and that part of the Depot property soon will be returned to the owner, the General Services Administration (GSA). Figure 1 shows the location of the Scotia Depot, and indicates the portion of the property scheduled to be returned to GSA.

2.0.2 In anticipation of releasing the property back to GSA, the DNSC conducted an environmental assessment of the Scotia Depot. That assessment included characterization of soil quality around two open storage areas - the former ferrochrome storage pad, and the former lead/zinc storage pad (Figure 2). The soils around these two storage areas had concentrations of metals that were above local background concentrations. The metals concentrations were not an imminent threat to human health or the environment. However, in a good-faith effort to improve the soil quality and return the property to approximately its natural condition, DNSC decided to voluntarily remove the soil around the two storage pads and replace it with native soil from elsewhere on the depot (see "location of backfill soil source" on Figure 2). The soil removed from around the storage pads was disposed at Colonie Landfill, a local municipal sanitary landfill. The property is scheduled to eventually be returned to GSA. GSA will attempt to sell or "excess" the property, and it is expected that the property will remain available for industrial/commercial use, in keeping with the use of the adjacent industrial park properties.

3.0 SITE HISTORY

3.0.1 The Scotia Depot was commissioned on March 30, 1943 and was constructed in 10 months. The mission of the Depot was storage of ores, metals and other raw materials necessary for national defense. These commodities were stockpiled in Scotia and other areas around the country in the event that a national emergency made it impossible to obtain these commodities from their foreign sources. After World War II ended, portions of the Depot were sold and converted to commercial/industrial business parks. The remaining active portion of the Depot is owned by the GSA and operated by the DNSC.

3.0.2 Several types of metals and ores at the Scotia Depot were stored in piles, either on concrete pads (e.g. ferrochrome ore) or on an asphalt surface (e.g. zinc and lead

ingots). Other materials are stored in warehouses in drums, boxes, bags, etc. Figure 2 provides a current diagram of the facility, including the locations of the former ferrochrome and lead/zinc open storage areas.

3.0.3 Operations at the Scotia Depot have historically been related to the maintenance and movement of the stockpiled materials from one depot to another. Hazardous waste materials are not routinely generated during site operations, and no on-site hazardous waste disposal has been documented. Supporting operations related to maintenance of the Depot include: building repairs and painting, vehicle repairs, maintenance and refueling, and landscaping. Thirteen people are typically on-site as permanent duty personnel assigned to Depot operations, exclusive of contracted security personnel.

4.0 SITE SETTING

4.0.1 The Scotia Depot is located on Route 5, just west of the Village of Scotia, New York. The geographic coordinates are 45° 50' 29" north latitude and 73° 59' 15" west longitude. Figure 1 shows the location of the site, and the surrounding natural and manmade features.

4.0.2 The current Depot property consists of warehouses, outdoor open storage areas, and support buildings used primarily for vehicle/equipment maintenance and repair, security, and administration (Figure 2).

4.0.3 The current Depot property is between two commercial business parks, which were originally part of the former 337-acre Scotia Navy Depot. The adjacent land use to the east and west of the Depot is commercial/industrial. Further to the east and west, the land use is mixed residential/commercial. Land use to the south of the Depot is a mixture of residential, commercial, recreational and agricultural. The Erie Canal/Mohawk River is about 2,000 feet south of the Depot. To the north of the Depot is a large sand and gravel quarry; north of the quarry the land use is primarily residential.

4.0.4 A high school and elementary school are located about 3,000 feet east of the Depot, and the nearest residence is about 200 feet south of the Depot, across Route 5. A completely encircling fence and 24-hour security personnel control access to the Depot. The Depot is also separated from the nearest residents and schools by the commercial/industrial business park and the quarry. Those land uses, along with Route 5, create a buffer zone around the Depot.

5.0 SUMMARY OF ENVIRONMENTAL STUDIES AT SCOTIA DEPOT

5.0.1 A Preliminary Assessment (PA) Report was completed by Parsons in December 1998 to determine what hazardous substances have been or are currently stored at the Depot, the threat posed to human health and the environment, and the need for further investigation. A Focused Site Investigation (SI) was recommended.

5.0.2 A Phase II Site Assessment Report was completed in July 1999 by PMK Group, and Edwards and Kelcey. The Phase II Site Assessment was commissioned by

the GSA, owner of the Scotia Depot property. The assessment conducted by PMK Group included many of the same sampling activities originally proposed for the Focused SI by Parsons. As a result, Parsons modified the Focused SI Sampling Plan to complement the PMK Group's Phase II Site Assessment data. The Focused SI fieldwork was completed in 1999, and a Final Focused SI Report was issued in March 2001. The Focused SI Report combined the data from the Phase II Site Assessment and the Focused SI to delineate the presence and extent of site-related impacts.

5.1 Soil Exposure Pathway Assessment

5.1.1 General

5.1.1.1 The pathway for soil exposure accounts for the potential threat to people on or near the site who may come into direct contact with exposed materials and areas of suspected contamination. Direct contact includes both ingestion and dermal exposure. The target distance limit for the soil exposure pathway, as defined by United States Environmental Protection Agency (USEPA) guidance, is 200 feet for the "resident" (or on-site worker) population and 1 mile for the nearby population.

5.1.1.2 The soil pathway was also investigated to assess the threat to groundwater. By comparing surface and subsurface soil concentrations, the potential for downward migration to the water table was assessed.

5.1.1.3 The following subsections describe the potential for releases to soil, the soil pathways and targets, the scope of work for the SI and Phase II Site Assessment, and the sampling results for the SI and Phase II Site Assessment.

5.1.2 Potential for Release to Soil

The DNSC has conducted leaching studies at other depots which demonstrate that mechanisms existed for very low concentrations of certain metals to leach from particular types of outdoor stockpiles, and for migration of contaminated runoff to enter soil. The potential existed for a release of metals to soils at the Scotia Depot during the time when lead, zinc and ferrochrome ores were stored outside. The lead, zinc and ferrochrome stockpiles could potentially have leached contaminants during rainstorms, and the runoff could have flowed over the concrete or asphalt pad and onto the surrounding soil.

5.1.3 Soil Pathways and Targets

No one is known to live on-site or on adjacent properties within 1,500 feet of the open storage areas. There are no schools, daycare facilities or other sensitive land uses within 3,000 feet of the property lines near the open storage areas. Therefore, there is no resident population. Approximately 13 workers are present at the Depot as full-time employees. Approximately 2,200 people live within one mile of the site. The nearest regularly occupied building is onsite, and is approximately 800 feet from the open storage area. There are no sensitive environments, such as wetlands or habitats for endangered/threatened species, onsite. With respect to soil as a migration pathway to groundwater, the depth to groundwater in the vicinity of the two former storage areas was

in excess of 60 feet, during a site groundwater investigation conducted by Parsons in 2000.

5.1.4 SI and Phase II Site Assessment Scope of Work and Results

5.1.4.1 It was hypothesized in the PA and Phase II Site Assessment reports that low concentrations of metals could have leached from the current and former outdoor metals and ore storage areas by exposure to precipitation, and entered the surrounding soil via infiltration.

5.1.4.2 To test the hypotheses of metal releases to the soil, the Focused SI included a surface and subsurface soil sampling and analysis program. In general, surface soil samples were collected at depths of 0 to 0.5 feet below ground surface (BGS) and analyzed to assess the direct contact exposure pathway. At most locations, subsurface soil samples were also collected at depths of 1 to 2 feet and analyzed to assess whether metals were migrating downward through the soil column.

5.1.4.3 In addition to samples collected around the two open storage areas, soil samples were also collected during the Focused SI to assess "background" soil quality. Nine soil samples were collected at 8 locations and analyzed for Target Compound List (TAL) metals to assess background soil quality in the site vicinity. Figure 3 shows the locations of the background samples, and Table 1 presents a summary of the background sample results. Background soil sample data provide an indication of the soil quality in the site vicinity, independent of impacts from the Depot. The presence of metal concentrations in soil at the Depot that were above the range of background concentrations indicated there may have been impacts on soil quality due to Depot activities.

5.1.5 Lead and Zinc Open Storage Area

5.1.5.1 Studies conducted at other depots by the DNSC suggest very low concentrations of metals can leach from the zinc and lead outdoor stockpiles. Based on those studies, it was hypothesized that the former lead and zinc stockpiles at the Scotia Depot could have leached very low concentrations metals to the surrounding soils. Sampling was conducted to test this hypothesis. Materials historically stored in this open area were zinc in slab form and in galvanized drums, lead in ingot form, copper in wire coils, billets and cathode form, aluminum in pig form, columbium and tantalum natural minerals in galvanized drums.

5.1.5.2 Fourteen soil samples (MS-1 through MS-12 and SS-3A and 3B) were collected at depths ranging from 0.5 to 2.0 feet BGS within and around the open storage area. The samples were analyzed for Target Analyte List (TAL) metals to assess the impacts of runoff from the open storage area (Figure 4). Most of the soil samples were collected from the edge of, or beneath, the asphalt pad which extends outside the fence that encloses the open storage area. Samples SS-1 and SS-2 contained fragments of the asphalt pad and were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals to assess whether constituents from the stockpiles had leached into the asphalt at levels that would constitute a hazardous waste. Sample SCZP was a composite soil

sample collected from around the perimeter of the former lead/zinc storage pad and analyzed for regulated compounds and metals by TCLP for waste disposal characterization purposes.

5.1.5.3 The soil results for the lead/zinc open storage area did not indicate a significant impact on soil quality due to leaching or runoff of lead and zinc from the stockpile (Table 2). Of the 14 soil samples analyzed for TAL metals, each had at least one metal at a concentration above the background range. Three metals (antimony, arsenic, and copper) were detected at concentrations above the background ranges in 11 samples. It is noteworthy that zinc concentrations were above the background range in only 5 of the 14 samples, and lead was not above the background range in any samples. The maximum concentration of zinc (137 mg/kg in MS-4) was slightly more than twice the background maximum. On the basis of soil metals concentrations being above local background, DNSC decided to remove the soil from immediately adjacent to the open storage area, where most runoff would have occurred.

5.1.5.4 The three samples analyzed by TCLP for metals (SS-1 and SS-2) and for regulated compounds (SCZP) all had concentrations well below the hazardous waste criteria (Table 3). These results indicated the soils could be disposed as solid waste in a local municipal landfill.

5.1.6 Outdoor Ferrochrome Stockpile

5.1.6.1 Based on previous DNSC studies on leaching of metals from outdoor stockpiles, it was hypothesized that the ferrochrome stockpile at the Scotia Depot could have leached very low concentrations of metals to the surrounding soils. Ferrochrome ore is approximately 70 percent chromium. Chromium and other trace metals within the ferrochrome stockpile may have migrated to, or been deposited in, the soil surrounding the concrete pad. To determine if runoff from the ferrochrome stockpile deposited leached metals into the adjacent soil, ten soil samples were collected around the perimeter of the concrete pad during the Phase II Site Assessment (Figure 5). Those samples were analyzed for TAL metals. Sample SCFP was a composite soil sample collected from around the perimeter of the former ferrochrome pad. That sample was analyzed for regulated compounds and metals by TCLP for waste disposal characterization purposes.

5.1.6.2 The sample results showed several metals were present at concentrations above background (Table 4). Arsenic and antimony exceeded the background range in all 10 samples. Chromium exceeded the background range in 7 of the 10 samples. However, in only one sample (MS-16) was the chromium concentration in excess of twice the background maximum. These results indicate minor impacts to soil quality that may be attributable to runoff from the ferrochrome stockpile.

5.1.6.3 On the basis of soil metals concentrations being above background, DNSC decided to remove the soil from immediately adjacent to the open storage area, where most runoff would have occurred. Sample SCFP had concentrations well below the hazardous waste criteria (Table 3). These results indicated the soils could be disposed as solid waste in a local municipal landfill.

6.0 SOIL REMOVAL ACTION

6.0.1 This section describes the procedures for the soil removal action at the former lead/zinc and ferrochrome open storages areas at Scotia Depot. DNSC chose to voluntarily remove the soils immediately adjacent to the two storage pads as a good-faith effort to improve soil quality and to return the property to approximately its original soil-quality condition.

6.0.2 In the former lead/zinc storage area, the metals concentrations in soils around and beneath the asphalt pad were slightly above background concentrations. The soil quality did not pose a threat to human health or the environment. In addition, the asphalt pad acts as a cover over the soil, restricting the possibility of direct contact with, or migration of the soil. The removal action at the former lead/zinc storage area consisted of scraping a layer of soil/sediment off the top of the asphalt surface from around the outside perimeter of the fenced storage area. At the east end of the storage area, the edge of the asphalt pad is closer to the fence line. In that area the top two feet of soil was removed, extending out about five feet from the edge of the pad (Figure 6).

6.0.3 There are also several storm water catch basins in the immediate vicinity of the former lead/zinc open storage area. The cover grates were planned to be removed and any sediment inside was planned to be removed and handled with the other soils. The basis for that action was the assumption that the storm drains were connected to the storm water system that ultimately drains to the Mohawk River. However, a check of depot records indicated the storm drains in question are connected to sumps or dry wells, and do not have any connection to the Mohawk River. On that basis, the storm drains were not cleaned out. Figure 6 shows the locations of the storm water catch basins.

6.0.4 In the former ferrochrome storage area, the soils adjacent to the concrete pad had metals concentrations slightly above background concentrations. The soil quality did not pose an imminent risk to human health or the environment. However, DNSC chose to voluntarily remove the soil in a good-faith effort to improve soil quality and to return the property to approximately its original soil-quality condition. The top two feet of soil, extending five feet out from the perimeter of the concrete pad, was removed (Figure 6).

6.0.5 The removal action at Scotia Depot involved excavation of approximately 560 tons of soil. Excavated soil was deposited directly into trucks for transportation to the Colonie Landfill. The primary method of excavating soil was a backhoe. Around much of the lead/zinc storage area, there was a layer of soil on top of the asphalt pad. That soil was scraped up and disposed with the other excavated soils (Figure 6). To the extent possible, operators were careful to not excavate asphalt with the soil. Given the shallow excavation depths, groundwater was not encountered during the removal action.

6.0.6 The soil removed from both areas was disposed as nonhazardous solid waste in Colonie Landfill, a local municipal sanitary landfill. The removal areas were regraded using backfill soils, as needed. The source of the backfill soils was an undisturbed area of the Depot, which is located east of the former lead/zinc open storage area (Figure 2).

6.0.7 Special worker health monitoring precautions were not necessary, because the soil moisture was high and little dust was generated. The removal actions were conducted in areas which are more than 300 feet from any occupied buildings or work areas. Nuisance dust was not a problem during the work, and no special health protection or perimeter air monitoring was indicated to be necessary, in accordance with provisions defined in the soil removal work plan.

7.0 POST-REMOVAL SAMPLING PROGRAM

7.0.1 The soil sampling was originally conducted in October 2002 in accordance with the Soil Removal Work Plan, which specified a sampling scheme that included compositing the soil samples. At that time, samples were submitted to General Engineering Laboratories, Inc. (GEL). Upon review of the Draft Soil Removal Documentation Report dated March 2003, NYSDEC visited the site on August 27, 2003 and requested that the samples be recollected without compositing, using the sampling scheme described below. Samples were subsequently collected and submitted to GEL on October 21, 2003. It was subsequently discovered that GEL's certificate of approval from the New York State Department of Health Environmental Laboratory Approval Program did not include "CLP tier accreditation". CLP tier accreditation is required by NYSDOH for preparation of a "Category B" deliverable, which is required for this project. Therefore, DNSC directed Parsons to engage another lab to conduct another round of sample analyses. Those samples were collected on April 29, 2004 and were sent to Severn Trent Laboratories, Inc (STL). STL has the required New York State Department of Health Environmental Laboratory Approval Program CLP tier accreditation. Upon receipt of the laboratory analytical results, a Parsons chemist validated the data in accordance with the NYSDEC's "Guidance for the Development of Data Usability Summary Reports". A copy of the data validation report is presented in Appendix A.

7.0.2 The post-removal soil quality was documented by collecting soil samples from the bottom of the excavations and from the backfilled soil and analyzing them for TAL metals. The analytical results for soil samples are reported in Tables 5 and 6. The soil that was removed was not highly impacted, so the post-removal sampling results are only used to document the remaining soil quality, and not used to determine whether additional removal is needed. Eight soil samples were collected from four locations around the former ferrochrome storage area. Four surface soil samples were collected from the backfilled trenches (representing the quality of the backfilled soils), and four subsurface samples were collected from the bottom of the excavation trench (representing the quality of the soils that were not excavated or removed). The four subsurface soil samples were collected at a depth of about 2.5 feet below ground surface, corresponding to the bottom of the excavation trench. The four soil sample locations were located at about the mid-point of each of the four sides of the pad (see sample identification descriptions below). These eight samples were submitted to STL. The samples were analyzed for TAL metals, using the NYSDEC Analytical Services Protocol methods and Category B reporting procedures.

7.0.3 The same sampling scheme was applied at the former lead/zinc storage area. However, sampling only took place on the northeastern corner of the pad where soil excavation occurred. On the other three sides of the pad, the soils/sediment were scraped off the asphalt surface, and no post-removal sampling was necessary. Therefore, only two soil samples (one surface and one subsurface) were collected at the former lead/zinc open storage area.

SAMPLE IDENTIFICATION SCHEME

SFP-E	Surface of backfill soils, Ferrochrome Pad – East side
SFP-W	Surface of backfill soils, Ferrochrome Pad – West side
SFP-N	Surface of backfill soils, Ferrochrome Pad – North side
SFP-S	Surface of backfill soils, Ferrochrome Pad – South side
CFP-E	Bottom of excavation trench, Ferrochrome Pad – East side
CFP-W	Bottom of excavation trench, Ferrochrome Pad – West side
CFP-N	Bottom of excavation trench, Ferrochrome Pad – North side
CFP-S	Bottom of excavation trench, Ferrochrome Pad – South side
SZP-NE	Surface of backfill soils, Zinc Pad – NorthEast side
CZP-NE	Bottom of excavation trench, Zinc Pad – NorthEast side

7.0.4 In addition to these confirmatory soil samples, soils were collected from within three storm water catch basins and a buried dry well at the request of NYSDEC. The purpose of these samples was to assess the quality of soil that has accumulated within the catch basins, and whether the soils pose a potential to impact groundwater quality. The depth to groundwater in the vicinity of these catch basins is in excess of 60 feet. These catch basins are approximately 30 inches square, and about four feet deep. There was no water in any of the three catch basins, and there was approximately 1 to 4 inches of soil in the bottom of each catch basin. Soil samples were collected from three catch basins located on the northeast corner of the former lead/zinc open storage area (SD-1, SD-2 and SD-3) and one buried dry well ("dry well" – see Figure 6). These samples were also analyzed for TAL metals by STL. Table 6 presents a summary of these results.

7.0.5 NYSDEC requested that the confirmatory sampling program include a water sample collected from a storm water catch basin (SW-1) located at the southwest corner of the former lead/zinc open storage area (Figure 6). This catch basin is connected to a dry well, and the water quality in the basin was sampled to assess the potential for impacts on groundwater quality. The basis for the NYSDEC's request was the results for a water sample (SW-1) collected from this catch basin during the FSI in 1999. At that

time, very high concentrations of metals were detected; however, the high metals concentrations were attributed to suspended sediment in the unfiltered sample. During the site visit on August 27, 2003, NYSDEC requested that another water sample be collected from the SW-1 catch basin and be field-filtered to assess whether the high metals concentrations are present in the dissolved phase. A sample (300-DRAIN-1) was collected and field-filtered on October 21, 2003 and analyzed by GEL. During the resampling on April 29, 2004, another sample was collected (SW-1F). That sample was also intended to be field-filtered, but was not due to a malfunction of the field-filtering equipment. Therefore the sample was a grab sample, placed in a prepreserved bottle, and analyzed for TAL metals by STL. At the time of sampling in April 2004, there was approximately four inches of water in the catch basin and approximately 2 to 4 inches of soil in the bottom of the basin. Table 7 presents a summary of the surface water results from the previous investigation (SW-1), the field-filtered samples (300-DRAIN-1) and the recent unfiltered (SW-1F) sample.

8.0 SAMPLE RESULTS AND CONCLUSIONS

8.0.1 The primary objectives of the soil removal were to improve soil quality and to make a good-faith effort to return the site to its original soil quality condition. To assess the confirmatory sample results, the soil samples have been compared to the background soil ranges (to compare soil quality to original conditions) and to the soil concentration ranges detected at the two areas during the previous FSI (to assess whether soil quality was improved by the removal action). The soil that was removed was not highly impacted, so the post-removal sampling results are only used to document the remaining soil quality, and not used to determine whether additional removal is needed.

8.0.2 Table 5 presents a summary of the confirmatory soil sample results for the former ferrochrome pad area. With a few exceptions, the soil concentrations in the confirmatory samples are below the FSI sample ranges, indicating the removal action improved soil quality. In general, the soil concentrations are within the background ranges, meaning soil quality is generally consistent with background soil quality.

8.0.3 Table 6 presents a summary of the confirmatory soil sample results for the former lead/zinc open storage area. With a few exceptions, the soil concentrations in the confirmatory samples are below the FSI sample ranges, indicating the removal action improved soil quality. In general, the soil concentrations are within the background ranges, meaning soil quality is generally consistent with background soil quality.

8.0.4 Table 6 also presents the results for soil samples from the catch basins and dry well. These results have not been evaluated against the background criteria or prior FSI sample results, because neither set of criteria are applicable to the catch basin soil quality. The samples for SD-2 and SD-3 show higher concentrations of metals; this suggests storm water runoff from the former storage area may have impacted soil in the catch basins and dry well. These impacts would have occurred during the time that the storage area was actively used. It is unlikely that a significant impact to groundwater quality is occurring, due to the small size of the catch basins (about 30 inches square), the limited

amount of soil within the catch basins (less than 1 to about 4 inches in depth within the catch basins), and the depth to groundwater (in excess of 60 feet).

8.0.5 Table 7 presents the surface water sample results for the previous FSI and recent confirmatory sampling events. The sample results are compared to NYSDEC Class GA groundwater criteria to assess the potential for impacts to groundwater quality. The high concentrations of metals in unfiltered sample SW-1 during the FSI were thought to be associated with suspended sediment in the sample. The subsequent sampling of that same catch basin took care to minimize the introduction of suspended sediment in the unfiltered sample (SW-1F). The metals results in SW-1F are significantly less, and confirm the supposition that suspended sediment affected the 1999 FSI sample results. The field-filtered sample (300-DRAIN-1) shows very low concentrations of metals, further supporting the supposition that suspended sediment caused the high metals concentrations detected in SW-1 during the FSI. The surface water results indicate that significant impacts to groundwater quality are not occurring.

8.0.6 In summary, the soil removal was conducted in accordance with the Soil Removal Work Plan dated August 2002. Soil around the two former open storage areas was removed and disposed at Colonie Landfill, a local municipal sanitary landfill. The excavation trenches were backfilled with undisturbed soil from elsewhere on the depot property. In general, the resulting confirmatory sample metals concentrations are less than concentrations present prior to the soil removal action. The soil removal succeeded in improving soil quality. In general, soil quality in these areas is consistent with background soil quality. No further remedial action is planned for these areas.

TABLE 1
Background Soil Analytical Data Set
Scotia Depot

CAS NO.	COMPOUND	Range of Background Soil Concentrations	SAMPLE ID:	SS-9	SS-10	SS-17 (Dup of SC-SS-10)	SS-11	SS-12	SS-13	SS-14	SS-15	SS-16
			LAB ID:	C9L160246-001	C9L160246-002	C9L160246-004	C9L160246-003	C9L1670138-009	C9L1670138-010	C9L1670138-011	C9L1670138-012	C9L1670138-013
			DEPTH:	0.2'	0.2'	0.2'	0.2'	0.2'	0.2'	0.2'	0.2'	0.2'
			SOURCE:	Quanterra	Quanterra	Quanterra	Quanterra	Quanterra	Quanterra	Quanterra	Quanterra	Quanterra
			SDG:	D6F6D	D6F6K	D6F6Q	D6F6P	D6GM8	D6GM9	D6GMA	D6GMF	D6GMT
			MATRIX:	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
			SAMPLED:	12/14/1999	12/14/1999	12/14/1999	12/14/1999	12/16/1999	12/16/1999	12/16/1999	12/16/1999	12/16/1999
			VALIDATED:	1/30/2000	1/30/2000	1/30/2000	1/30/2000	1/30/2000	1/30/2000	1/30/2000	1/30/2000	1/30/2000
			UNITS:									
	METALS											
7429-90-5	Aluminum	4650 - 9600	mg/Kg	8820	4650	4900	6440	6730	9600	7900	6770	7150
7440-36-0	Antimony	0.29 - 0.49	mg/Kg	0.49 J	0.43 J	0.36 J	0.44 J	0.47 J	0.29 J	0.4 J	0.4 J	0.43 J
7440-38-2	Arsenic	2.7 - 6.5	mg/Kg	6.5	2.8	2.7	5.1	4.1	4.1	3.8	3.3	3.6
7440-39-3	Barium	21.7 - 75.4	mg/Kg	46.4	21.7 J	22.5 J	31.1	46	75.4	66.9	57.1	49.1
7440-41-7	Beryllium	0.26 - 0.58	mg/Kg	0.58	0.27 J	0.26 J	0.42 J	0.41 J	0.56 J	0.48 J	0.43 J	0.45 J
7440-43-9	Cadmium	0.14 - 0.29	mg/Kg	0.2 J	0.14 J	0.19 J	0.22 J	0.28 J	0.29 J	0.19 J	0.24 J	0.29 J
7440-70-2	Calcium	864 - 21500	mg/Kg	7410 J	17400 J	10900 J	21500 J	4440 J	1430 J	882 J	864 J	1150 J
7440-47-3	Chromium	5.5 - 12.3	mg/Kg	12 J	6.2 J	5.5 J	9 J	12.3 J	12 J	9.9 J	9.3 J	10.1 J
7440-48-4	Cobalt	3.5 - 8.9	mg/Kg	7.9	3.9 J	3.5 J	5.9	7.6	8.9	7.8	7.1	7.2
7440-50-8	Copper	9.3 - 18.7	mg/Kg	18.7	9.7	11.1	13.7	13.1	13.2	10.1	9.3	10.2
7439-89-6	Iron	11000 - 21400	mg/Kg	21400	11200	11000	16600	15900	18800	16500	14900	15500
7439-92-1	Lead	8.9 - 31.6	mg/Kg	10.8 J	9.7 J	8.9 J	11.9 J	12.5 J	16.6 J	31.6 J	13.5 J	12.5 J
7439-95-4	Magnesium	1940 - 7360	mg/Kg	4310	3210	4760	7360	3370	2680	2140	1940	2090
7439-96-5	Manganese	225 - 619	mg/Kg	599 J	225 J	279 J	463 J	401 J	619 J	497 J	428 J	342 J
7439-97-6	Mercury	0.027 - 0.057	mg/Kg	0.042	0.027 J	0.041	0.027 J	0.043	0.057	0.037 J	0.045	0.04 J
7440-02-0	Nickel	6.8 - 15.8	mg/Kg	13	7.9	6.8	9.5	14.3	15.8	12.5	10.6	12.3
7440-09-7	Potassium	400 - 1230	mg/Kg	688	709	400 J	762	947	1230	830	700	950
7782-49-2	Selenium	0.21 - 0.25	mg/Kg	-	-	-	-	-	0.25 J	-	0.21 J	-
7440-22-4	Silver	0.25	mg/Kg	-	-	-	-	-	0.25 J	-	-	-
7440-23-5	Sodium	59.9 - 82.4	mg/Kg	82.4 J	81.9 J	71.5 J	77.6 J	71.7 J	59.9 J	68.2 J	65.8 J	61.7 J
7440-62-2	Vanadium	12.3 - 22.7	mg/Kg	22.7	12.3	12.8	18.7	17.5	19.3	16.1	14.2	14.7
7440-66-6	Zinc	31.1 - 64.1	mg/Kg	64.1 J	31.1	43	34.7	60.9	60.7 J	41.3	37.2	36.2
57-12-5	Total Cyanide	***	mg/Kg	NA	NA	NA	NA	NA	NA	NA	NA	NA

- Not Detected
J - Estimated Value
NA - Not analyzed

TABLE 2
Combined Soil Analytical Data Set
Scotia Depot
Focused SI and Phase II Site Assessment

				Lead/Zinc Open Storage Area													
			SAMPLE ID:	MS-1	MS-2	MS-3	MS-4	MS-5	MS-6	MS-7	MS-8	MS-9	MS-10	MS-11	MS-12	SS-3A	SS-3B
			LAB ID:	100495	100496	100497	100498	100499	100500	100501	100502	100503	100504	100505	100506	C9L160246-016	C9L160246-017
		Range of	DEPTH:	1.0-1.5	1.0-1.5	1.0-1.5	1.0-1.5	1.0-1.5	0.5-1.0	1.0-1.5	1.0-1.5	1.0-1.5	0.5-1.0	0.5-1.0	0.5-1.0	1'	2'
		Background	SAMPLED:	12/2/1998	12/2/1998	12/2/1998	12/2/1998	12/2/1998	12/2/1998	12/2/1998	12/2/1998	12/2/1998	12/2/1998	12/2/1998	12/2/1998	12/15/1999	12/15/1999
CAS NO.	COMPOUND	Soil Concentrations	UNITS:													1/30/2000	1/30/2000
	METALS																
7429-90-5	Aluminum	4650 - 9600	mg/Kg	7400	6610	4740	10600	6260	7080	12700	7780	8300	7610	6360	6660	6800	8490
7440-36-0	Antimony	0.29 - 0.49	mg/Kg	1.7	1.1	-	1.7	0.94	-	NA	NA	NA	NA	NA	NA	0.31 J	7.8 J
7440-38-2	Arsenic	2.7 - 6.5	mg/Kg	18.9	5.9	19.4	21.4	18.9	8.5	5.2	4.8	5.4	5.9	19.4	5.7	5.5	5.4
7440-39-3	Barium	21.7 - 75.4	mg/Kg	33.6	34.6	23.1	39.5	25.5	29.4	32.4	36.1	30	30.6	24.5	29.3	26.5	35.5
7440-41-7	Beryllium	0.26 - 0.58	mg/Kg	0.51	0.47	0.32	0.71	0.49	0.53	0.61	0.52	0.59	0.54	0.73	0.55	0.49 J	0.49 J
7440-43-9	Cadmium	0.14 - 0.29	mg/Kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.23 J	0.62 J
7440-70-2	Calcium	864 - 21500	mg/Kg	9800	4160	60300	7040	31900	13600	10500	15900	9470	5090	30100	16800	16800 J	1580 J
7440-47-3	Chromium	5.5 - 12.3	mg/Kg	10.7	11.5	7.4	14.5	8.8	10.9	14	11	12	11.3	11.1	11	9 J	23.4 J
7440-48-4	Cobalt	3.5 - 8.9	mg/Kg	6.2	5.3	4.5	7.2	4.8	5.4	8.3	5.9	6	8.8	5.8	5.3	6.4	8.7
7440-50-8	Copper	9.3 - 18.7	mg/Kg	58.8	103	56.6	30.3	19.8	25.5	16.5	46.4	55.8	17.6	21.3	35.1	21.1	15.6
7439-89-6	Iron	11000 - 21400	mg/Kg	18400	11400	13700	23900	16100	18800	22900	17200	19200	20600	21900	18400	18100	19600
7439-92-1	Lead	8.9 - 31.6	mg/Kg	23.7	16.9	7.5	17.1	10.7	12.5	13.1	12.4	12.4	7	8.8	15.4	6.9 J	6 J
7439-95-4	Magnesium	1940 - 7360	mg/Kg	5650	2690	12900	4770	6550	7310	5020	6640	4800	3500	4420	6840	7570	6520
7439-96-5	Manganese	225 - 619	mg/Kg	502	672	424	427	467	503	512	422	464	555	677	565	551 J	541 J
7439-97-6	Mercury	0.027 - 0.057	mg/Kg	0.05	0.04	0.02	0.02	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.036 J	0.036 J
7440-02-0	Nickel	6.8 - 15.8	mg/Kg	13.4	13.6	11.5	16.6	10.2	12.5	16.5	15.1	13.8	13.2	15.2	13.2	11.7	18
7440-09-7	Potassium	400 - 1230	mg/Kg	406	428	514	608	404	485	480	502	471	452	566	521	758	691
7782-49-2	Selenium	0.21 - 0.25	mg/Kg	NA	NA	NA	NA	NA	NA	-	-	-	-	0.94	-	-	-
7440-22-4	Silver	0.25	mg/Kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7440-23-5	Sodium	59.9 - 82.4	mg/Kg	-	-	-	-	-	-	252	-	-	-	-	-	63.4 J	83.1 J
7440-62-2	Vanadium	12.3 - 22.7	mg/Kg	21.6	21.1	13.9	33.6	16.5	22.6	31.6	22	22.7	24.5	21	24.6	25.7	32.7
7440-66-6	Zinc	31.1 - 64.1	mg/Kg	111	59.3	64.6	137	50.8	79.5	48	56.7	53.4	43.8	51.7	55	63.3 J	112 J

Sample concentrations that exceed the criteria and background range are shaded.

- Not Detected

NA - Not analyzed or Not Reported

TABLE 3
TCLP SAMPLE RESULTS
SCOTIA DEPOT

		Ferrochrome Pad	Lead/Zinc Open Storage Area		
Analyte	**Units**	**SCFP**	**SCZP**	**SS-1**	**SS-2**
Benzene	mg/L	ND	ND	NA	NA
Carbon Tetrachloride	mg/L	ND	ND	NA	NA
Chlorobenzene	mg/L	ND	ND	NA	NA
Chloroform	mg/L	ND	ND	NA	NA
1,2-Dichloroethane	mg/L	ND	ND	NA	NA
1,1-Dichloroethylene	mg/L	ND	ND	NA	NA
Methyl ethyl ketone	mg/L	ND	ND	NA	NA
Tetrachloroethylene	mg/L	ND	ND	NA	NA
Trichloroethylene	mg/L	ND	ND	NA	NA
Vinyl chloride	mg/L	ND	ND	NA	NA
o-Cresol	mg/L	ND	ND	NA	NA
m-Cresol & p-Cresol	mg/L	ND	ND	NA	NA
1,4-Dichlorobenzene	mg/L	ND	ND	NA	NA
2,4-Dinitrotoluene	mg/L	ND	ND	NA	NA
Hexachlorobenzene	mg/L	ND	ND	NA	NA
Hexachlorobutadiene	mg/L	ND	ND	NA	NA
Hexachloroethane	mg/L	ND	ND	NA	NA
Nitrobenzene	mg/L	ND	ND	NA	NA
Pentachlorophenol	mg/L	ND	ND	NA	NA
Pyridine	mg/L	ND	ND	NA	NA
2,4,5-Trichlorophenol	mg/L	ND	ND	NA	NA
2,4,6-Trichlorophenol	mg/L	ND	ND	NA	NA
Chlordane	mg/L	ND	ND	NA	NA
Endrin	mg/L	ND	ND	NA	NA
Heptachlor	mg/L	ND	ND	NA	NA
Heptachlor epoxide	mg/L	ND	ND	NA	NA
Lindane	mg/L	ND	ND	NA	NA
Methoxychlor	mg/L	ND	ND	NA	NA
Toxaphene	mg/L	ND	ND	NA	NA
2,4-D	mg/L	ND	ND	NA	NA
2,4,5-TP (Silvex)	mg/L	ND	ND	NA	NA
Arsenic (5.0)	mg/L	0.0027	ND	0.094	0.096
Barium (100.0)	mg/L	0.27	0.39	0.25	0.22
Cadmium (1.0)	mg/L	0.018	0.00052	0.0066	0.017
Chromium (5.0)	mg/L	0.0049	0.0074	0.053	ND
Lead (5.0)	mg/L	0.083	ND	ND	ND
Selenium (1.0)	mg/L	0.0052	0.0078	ND	ND
Silver (5.0)	mg/L	0.0016	ND	ND	ND
Mercury (0.2)	mg/L	ND	ND	ND	ND
Corrosivity	No Units	7.7	8.5	NA	NA
Ignitability	No Units	NO	NO	NA	NA
Reactive Cyanide	mg/kg	ND	ND	NA	NA
Reactive Sulfide	mg/kg	ND	ND	NA	NA

(*) – Regulatory criteria for classification as hazardous waste

TABLE 4
Combined Soil Analytical Data Set
Scotia Depot
Focused SI and Phase II Site Assessment

				Ferrochrome Open Storage Area									
CAS NO.	COMPOUND	Range of Background Soil Concentrations	SAMPLE ID: LAB ID: DEPTH: SAMPLED: UNITS:	MS-13 100507 1.0-1.5 12/3/1998	MS-14 100508 1.0-1.5 12/3/1998	MS-15 100509 1.0-1.5 12/3/1998	MS-16 100510 1.0-1.5 12/3/1998	MS-17 100511 1.0-1.5 12/3/1998	MS-18 100512 1.0-1.5 12/3/1998	MS-19 100513 1.0-1.5 12/3/1998	MS-20 100514 1.0-1.5 12/3/1998	MS-21 100515 1.0-1.5 12/3/1998	MS-22 100516 1.0-1.5 12/3/1998
	METALS												
7429-90-5	Aluminum	4650 - 9600	mg/Kg	4750	8960	8270	7080	7220	7850	8060	9100	8690	9470
7440-36-0	Antimony	0.29 - 0.49	mg/Kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7440-38-2	Arsenic	2.7 - 6.5	mg/Kg	3.2	4.7	4.4	3.8	3.6	4.2	4.8	5.5	5.4	4.8
7440-39-3	Barium	21.7 - 75.4	mg/Kg	21.2	38.3	36.8	43.4	34.9	21.5	43.6	25	22.7	46.2
7440-41-7	Beryllium	0.26 - 0.58	mg/Kg	0.31	0.47	0.47	0.41	0.41	0.51	0.44	0.62	0.57	0.47
7440-43-9	Cadmium	0.14 - 0.29	mg/Kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7440-70-2	Calcium	864 - 21500	mg/Kg	33400	4530	6260	2540	15800	951	3830	832	1100	2500
7440-47-3	Chromium	5.5 - 12.3	mg/Kg	6.8	12.5	20.3	42.4	17.7	14	17.8	13.3	11.1	10.8
7440-48-4	Cobalt	3.5 - 8.9	mg/Kg	4.4	6.6	5.1	4.2	5.5	5.3	4.4	6.4	6.1	4.6
7440-50-8	Copper	9.3 - 18.7	mg/Kg	12.5	13	12.5	9.9	14.6	12.2	10.3	15.4	18.8	10.2
7439-89-6	Iron	11000 - 21400	mg/Kg	12000	18000	16900	14400	16000	16400	15100	21600	20700	17600
7439-92-1	Lead	8.9 - 31.6	mg/Kg	4.7	13.2	13	17.8	10.3	6.9	8.7	7.2	6.4	9.3
7439-95-4	Magnesium	1940 - 7360	mg/Kg	3390	2670	2590	1850	4790	1980	1950	2310	2460	1890
7439-96-5	Manganese	225 - 619	mg/Kg	288	415	429	539	444	258	650	283	387	835
7439-97-6	Mercury	0.027 - 0.057	mg/Kg	-	0.08	0.08	0.06	-	0.03	0.06	0.03	0.02	0.03
7440-02-0	Nickel	6.8 - 15.8	mg/Kg	10	14	11	9.5	12	11.2	9.9	13.8	13.2	9.9
7440-09-7	Potassium	400 - 1230	mg/Kg	497	447	432	286	505	453	381	446	487	240
7782-49-2	Selenium	0.21 - 0.25	mg/Kg	-	-	-	1.2	-	-	-	-	-	1.1
7440-22-4	Silver	0.25	mg/Kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7440-23-5	Sodium	59.9 - 82.4	mg/Kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7440-62-2	Vanadium	12.3 - 22.7	mg/Kg	11.3	21.6	19.7	18.7	17.2	18.5	17.4	23.7	19.7	20.3
7440-66-6	Zinc	31.1 - 64.1	mg/Kg	31.6	44.2	40.3	40.2	40.5	31.8	38.2	38.7	47.1	44.1

Sample concentrations that exceed the background range are shaded.
- Not Detected
NA - Not analyzed or Not Reported

TABLE 5
Confirmatory Soil Sample Results
Former Ferrochrome Pad
Scotia Depot

					Bottom of Excavation Trench - Ferrochrome Pad				Surface of Backfilled Soil - Ferrochrome Pad			
		Range of Background Soil Concentrations	Range of FSI Soil Concentrations	Sample ID:	CFP-E	CFP-N	CFP-S	CFP-W	SFP-E	SFP-N	SFP-S	SFP-W
				Lab Sample Id	C4E040331009	C4E040331007	C4E040331008	C4E040331010	C4E040331005	C4E040331003	C4E040331004	C4E040331006
				Depth:								
				Source:	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh
				SDG:	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331
				Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampled:	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004
	COMPOUND			UNITS:								
	METALS											
7429-90-5	Aluminum	4650 - 9600	4740 - 12700	mg/kg	8780 J	9070 J	8790 J	10300 J	7530 J	5630 J	6560 J	10100 J
7440-36-0	Antimony	0.29 - 0.49	ND - 1.7	mg/kg	0.36 UJ	0.41 UJ	0.36 UJ	0.35 UJ	0.34 UJ	0.33 UJ	0.42 J	0.35 UJ
7440-38-2	Arsenic	2.7 - 6.5	5.9 - 21.4	mg/kg	4.6	15	7.9	5	13.6	31.6	11.8	45.3
7440-39-3	Barium	21.7 - 75.4	23.1 - 39.5	mg/kg	27.1	36.4	23.6	36.3	27.4	26.7	31.5	34
7440-41-7	Beryllium	0.26 - 0.58	0.32 - 0.73	mg/kg	0.65	0.63	0.79	0.8	0.71	0.46	0.54	0.8
7440-43-9	Cadmium	0.14 - 0.29	NA	mg/kg	0.077 U	0.088 U	0.078 U	0.077 U	0.074 U	0.072 U	0.075 U	0.076 U
7440-70-2	Calcium	864 - 21500	5090 - 60300	mg/kg	1710 J	16200 J	1360 J	928 J	13900 J	34800 J	29100 J	8550 J
7440-47-3	Chromium	5.5 - 12.3	7.4 - 14.5	mg/kg	9.7 J	13.2 J	10.9 J	11.4 J	10.7 J	9.1 J	10.6 J	12.4 J
7440-48-4	Cobalt	3.5 - 8.9	4.5 - 8.3	mg/kg	4.7 J	5.7 J	5.7	6.2	5 J	4.4 J	4.9 J	7
7440-50-8	Copper	9.3 - 18.7	16.5 - 103	mg/kg	12.5	13.9	18.4	15.4	17.1	16.7	20.8	23.8
7439-89-6	Iron	11000 - 21400	13700 - 23000	mg/kg	15900 J	18800 J	19700 J	19800 J	16400 J	13000 J	15000 J	21300 J
7439-92-1	Lead	8.9 - 31.6	7 - 23.7	mg/kg	5.8	11.3	7.6	7.4	8.1	8.4	14.7	9
7439-95-4	Magnesium	1940 - 7360	3500 - 20000	mg/kg	2330	6360	2830	2420	6100	7940	11400	4820
7439-96-5	Manganese	225 - 619	422 - 677	mg/kg	263	455	383	308	464	371	483	463
7439-97-6	Mercury	0.027 - 0.057	0.02 - 0.06	mg/kg	0.028 J	0.069	0.041	0.013 U	0.013 U	0.028 J	0.019 J	0.037
7440-02-0	Nickel	6.8 - 15.8	10.2 - 16.6	mg/kg	10.7 J	11.7 J	13.4 J	15.4 J	11.3 J	9.4 J	10.8 J	13.3 J
7440-09-7	Potassium	400 - 1230	404 - 608	mg/kg	492 J	526 J	737 J	681 J	713 J	710 J	699 J	693 J
7782-49-2	Selenium	0.21 - 0.25	ND - 0.94	mg/kg	0.29 U	0.33 U	0.29 J	0.3 J	0.28 U	0.27 J	0.28 U	0.28 U
7440-22-4	Silver	ND - 0.25	NA	mg/kg	0.033 U	0.038 U	0.033 U	0.033 U	0.047 J	0.031 U	0.04 J	0.032 U
7440-23-5	Sodium	59.9 - 82.4	ND - 252	mg/kg	17.4 U	19.9 U	17.5 U	17.4 U	16.7 U	16.1 U	16.8 U	16.9 U
7440-28-0	Thallium	ND	ND	mg/kg	0.51 J	0.58 U	0.69 J	0.67 J	0.49 J	0.47 U	0.58	0.59 J
7440-62-2	Vanadium	12.3 - 22.7	13.9 - 33.6	mg/kg	18.6	23.7	19.9	21.6	19.4	15.1	17.4	23.8
7440-66-6	Zinc	31.1 - 64.1	43.8 - 137	mg/kg	33.1	44.9	49.7	47.7	50.2	44	59.4	46.9

U - Analyte analyzed for but not detected above the reporting limit.
J - Analyte concentration considered estimated.
Sample concentration exceeds previous FSI sample concentration range and background range
Sample concentration exceeds background sample concentration range

TABLE 6
Confirmatory Soil Sample Results
Former Lead/Zinc Open Storage Area
Scotia Depot

					Former Lead/Zinc Pad		Catch Basins and Dry Well			
		Range of Background Soil Concentrations	Range of FSI Soil Concentrations	Sample ID:	CZP-NE	SZP-NE	SD-1	SD-2	SD-3	DRY WELL
				Lab Sample Id:	C4E040331002	C4E040331001	C4E040331011	C4E040331012	C4E040331013	C4E040331014
				Depth:						
				Source:	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh
				SDG:	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331
				Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampled:	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004
	COMPOUND			UNITS:						
	METALS									
7429-90-5	Aluminum	4650 - 9600	4740 - 12700	mg/kg	9910 J	8000 J	4500 J	3600 J	4180 J	4100 J
7440-36-0	Antimony	0.29 - 0.49	ND - 1.7	mg/kg	0.42 UJ	0.35 UJ	0.68 J	4.6 J	8 J	2.5 J
7440-38-2	Arsenic	2.7 - 6.5	5.9 - 21.4	mg/kg	4.6	9.9	19.9	57.7	224	8.9
7440-39-3	Barium	21.7 - 75.4	23.1 - 39.5	mg/kg	71.1	28.7	23.6 J	44.4	75.6	32.3
7440-41-7	Beryllium	0.26 - 0.58	0.32 - 0.73	mg/kg	0.48 J	0.73	0.45 J	0.49 J	0.57 J	0.46
7440-43-9	Cadmium	0.14 - 0.29	NA	mg/kg	0.092 U	0.33 J	0.13 J	4.3	13	0.4 J
7440-70-2	Calcium	864 - 21500	5090 - 60300	mg/kg	832 J	25500 J	40200 J	64900 J	39000 J	48200 J
7440-47-3	Chromium	5.5 - 12.3	7.4 - 14.5	mg/kg	9.9 J	10.9 J	7.9 J	21 J	53.8 J	9.1 J
7440-48-4	Cobalt	3.5 - 8.9	4.5 - 8.3	mg/kg	3.9 J	5 J	3.5 J	51.3	201	6.2
7440-50-8	Copper	9.3 - 18.7	16.5 - 103	mg/kg	8.7	18.6	37.6	263	484	33.7
7439-89-6	Iron	11000 - 21400	13700 - 23000	mg/kg	13700 J	17200 J	12100 J	17400 J	34700 J	10400 J
7439-92-1	Lead	8.9 - 31.6	7 - 23.7	mg/kg	11.7	7.5	23.9	377	918	117
7439-95-4	Magnesium	1940 - 7360	3500 - 20000	mg/kg	1490	10700	18900	25400	21000	18000
7439-96-5	Manganese	225 - 619	422 - 677	mg/kg	1580	592	585	354	412	273
7439-97-6	Mercury	0.027 - 0.057	0.02 - 0.06	mg/kg	0.097	0.032 J	0.026 J	0.34	3.1	0.15
7440-02-0	Nickel	6.8 - 15.8	10.2 - 16.6	mg/kg	8 J	11.5 J	8.8 J	22.8 J	47.6 J	9.3 J
7440-09-7	Potassium	400 - 1230	404 - 608	mg/kg	460 J	779 J	466 J	604 J	736 J	639 J
7782-49-2	Selenium	0.21 - 0.25	ND - 0.94	mg/kg	0.55 J	0.28 U	0.32 U	0.6 J	1.2 J	0.29 U
7440-22-4	Silver	ND - 0.25	NA	mg/kg	0.22 J	0.037 J	0.12 J	0.6 J	1.9	0.073 J
7440-23-5	Sodium	59.9 - 82.4	ND - 252	mg/kg	20.6 U	17 U	19.1 U	20.5 U	46.2 U	17.1 U
7440-28-0	Thallium	ND	ND	mg/kg	0.6 U	1.1 J	0.56 U	0.8 J	1.2 J	0.5 U
7440-62-2	Vanadium	12.3 - 22.7	13.9 - 33.6	mg/kg	18.4	21.1	13.8	33.2	62	15
7440-66-6	Zinc	31.1 - 64.1	43.8 - 137	mg/kg	50.5	64.9	222	502	1070	89.6

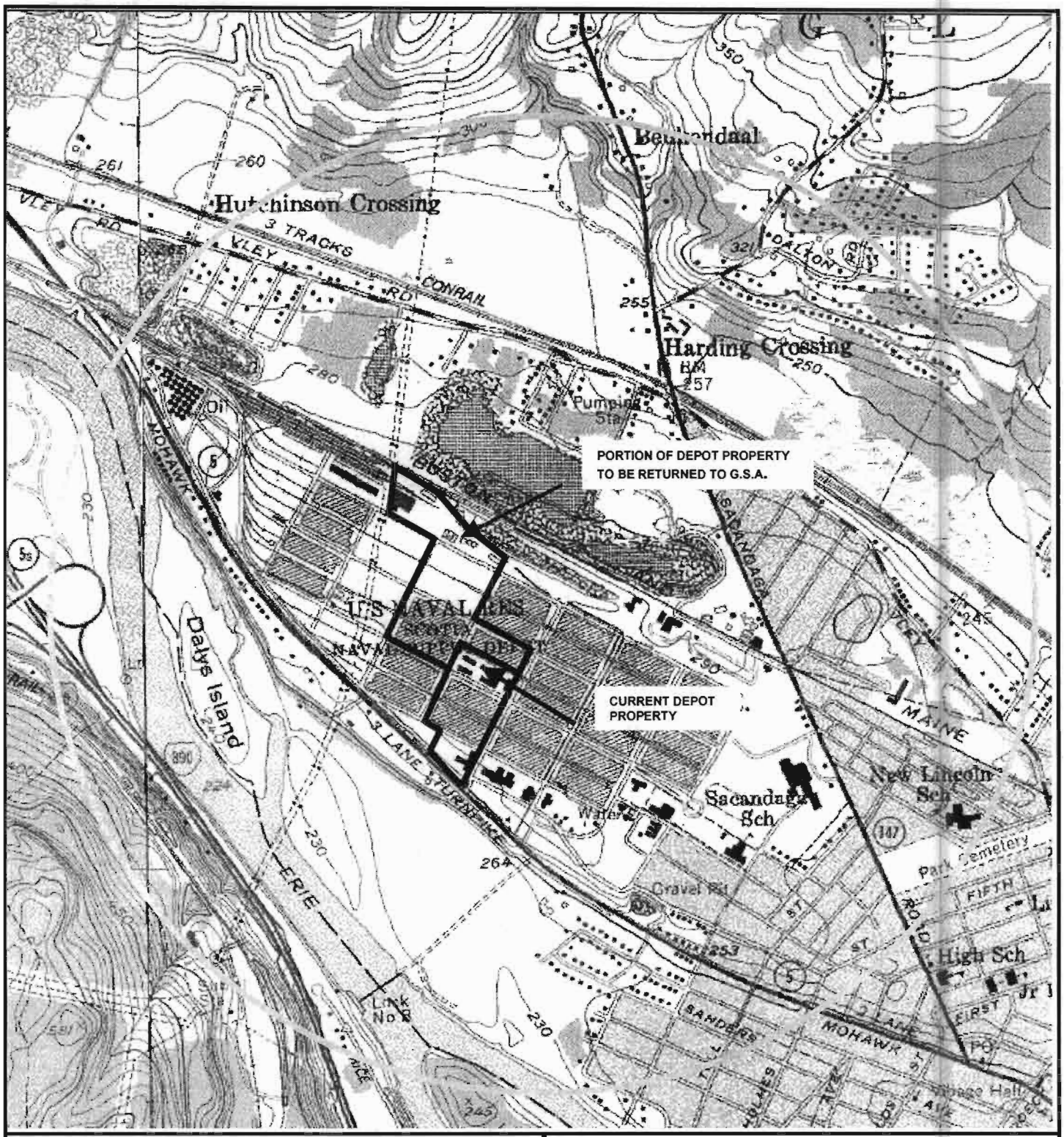
U - Analyte analyzed for but not detected above the reporting limit.
J - Analyte concentration considered estimated.
Sample concentration exceeds previous FSI sample concentration range and background range
Sample concentration exceeds background sample concentration range

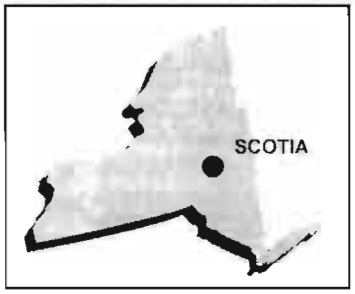
TABLE 7
Surface Water Data
Catch Basin SW-1
Scotia Depot

CAS NO.	COMPOUND	NYSDEC Class GA Ground Water Standards/Guidelines	SAMPLE ID: / LAB ID: / SOURCE: / SDG: / MATRIX: / SAMPLED: / VALIDATED: / UNITS:	Not Filtered: SW-1 / C9L160246-005 / Quanterra / D6F6V / Water / 12/15/1999 / 1/30/2000	Field-Filtered: 300-DRAIN-1 / 100417001 / GEL / 100417 / WATER / 10/21/2003 / 12/4/2003	Not Filtered: SW-1F / C4E040331015 / STL Pittsburgh / C4E040331 / WATER / 4/29/2004 / 6/8/2004
	METALS					
7429-90-5	Aluminum	NS	ug/L	24900 J	70.8 U	307
7440-36-0	Antimony	3	ug/L	32.5 J	3.28 U	3.2 U
7440-38-2	Arsenic	25	ug/L	44.8	2.99 J	3.3 U
7440-39-3	Barium	1,000	ug/L	261	23.9	17.7 J
7440-41-7	Beryllium	3 (G)	ug/L	1.9 J	0.23 U	0.42 U
7440-43-9	Cadmium	5	ug/L	7.6	0.743 J	0.7 U
7440-70-2	Calcium	NS	ug/L	200000	33100	18100
7440-47-3	Chromium	50	ug/L	81	2.08 U	2 J
7440-48-4	Cobalt	NS	ug/L	17.4 J	1.1 U	0.53 U
7440-50-8	Copper	200	ug/L	10600	82.6	169
7439-89-6	Iron	300	ug/L	51400	25.3 U	435
7439-92-1	Lead	25	ug/L	11300	2.14 U	52.1
7439-95-4	Magnesium	35,000	ug/L	93200	2410	1400 J
7439-96-5	Manganese	300	ug/L	658	6.99 J	17.8
7439-97-6	Mercury	2	ug/L	11.4	0.033 U	0.071 U
7440-02-0	Nickel	100	ug/L	78.6	2.98 U	1.2 U
7440-09-7	Potassium	NS	ug/L	6570	720	464 J
7440-23-5	Sodium	20000	ug/L	1600 J	1280	433 J
7440-62-2	Vanadium	NS	ug/L	140	2.47 U	1 U
7440-66-6	Zinc	2000 (G)	ug/L	4520	381	615

- Sample concentrations that exceed the Class GA standards.

NS = No Standard
U = Not Detected (reporting limit provided)
J = Estimated Value
(G) - guidance value





New York
Quadrangle

LATITUDE: N42° 50' 24"
LONGITUDE: W73° 59' 06"

SOURCE: DeLORME 3-D
TOPOQUAD PROGRAM

3/8"=500 ft
Approx. Scale

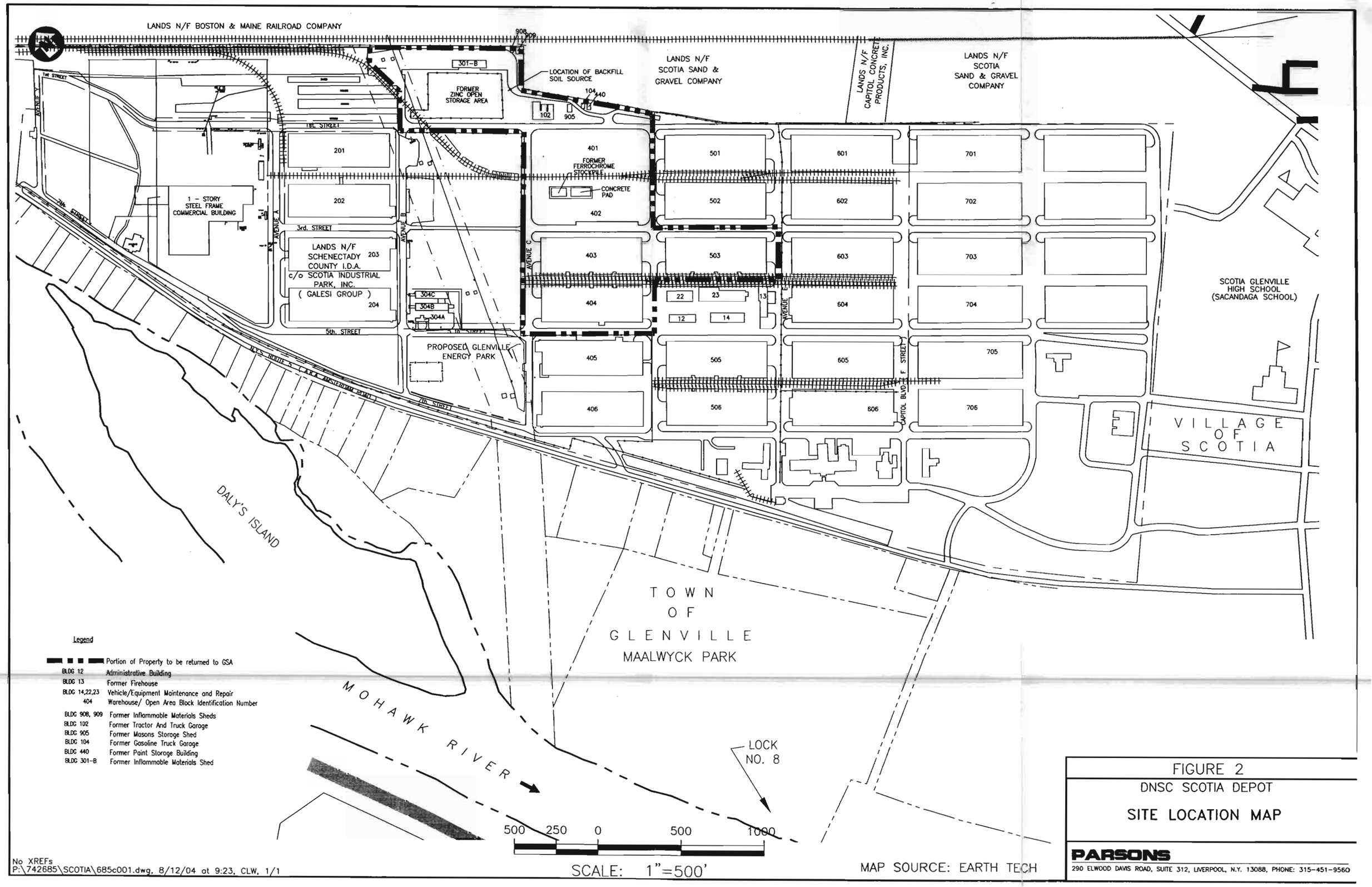
FIGURE 1

DNSC SCOTIA DEPOT
SCOTIA, NEW YORK

SITE VICINITY MAP

PARSONS
290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, NY 13088 PHONE: (315) 451-9560

P:\735141\cad\scotia\scotiasitemap.ppt



Legend

▬ ▪ ▬	Portion of Property to be returned to GSA
BLDG 12	Administrative Building
BLDG 13	Former Firehouse
BLDG 14,22,23	Vehicle/Equipment Maintenance and Repair
404	Warehouse/ Open Area Block Identification Number
BLDG 908, 909	Former Inflammable Materials Sheds
BLDG 102	Former Tractor And Truck Garage
BLDG 905	Former Masons Storage Shed
BLDG 104	Former Gasoline Truck Garage
BLDG 440	Former Paint Storage Building
BLDG 301-B	Former Inflammable Materials Shed

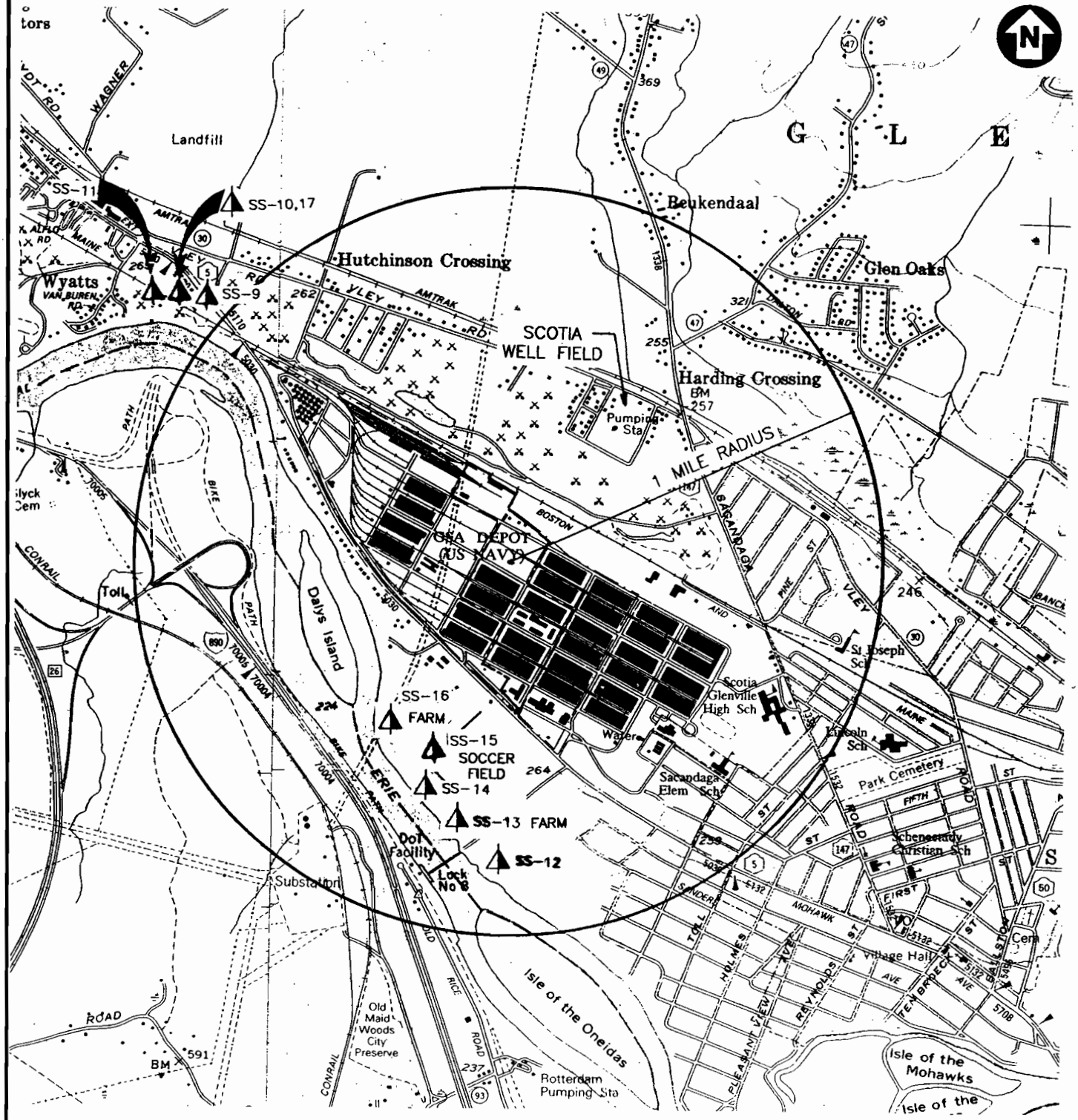
FIGURE 2

DNSC SCOTIA DEPOT

SITE LOCATION MAP

PARSONS
290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, N.Y. 13088, PHONE: 315-451-9560

No XREFs
P:\742685\SCOTIA\685c001.dwg, 8/12/04 at 9:23, CLW, 1/1



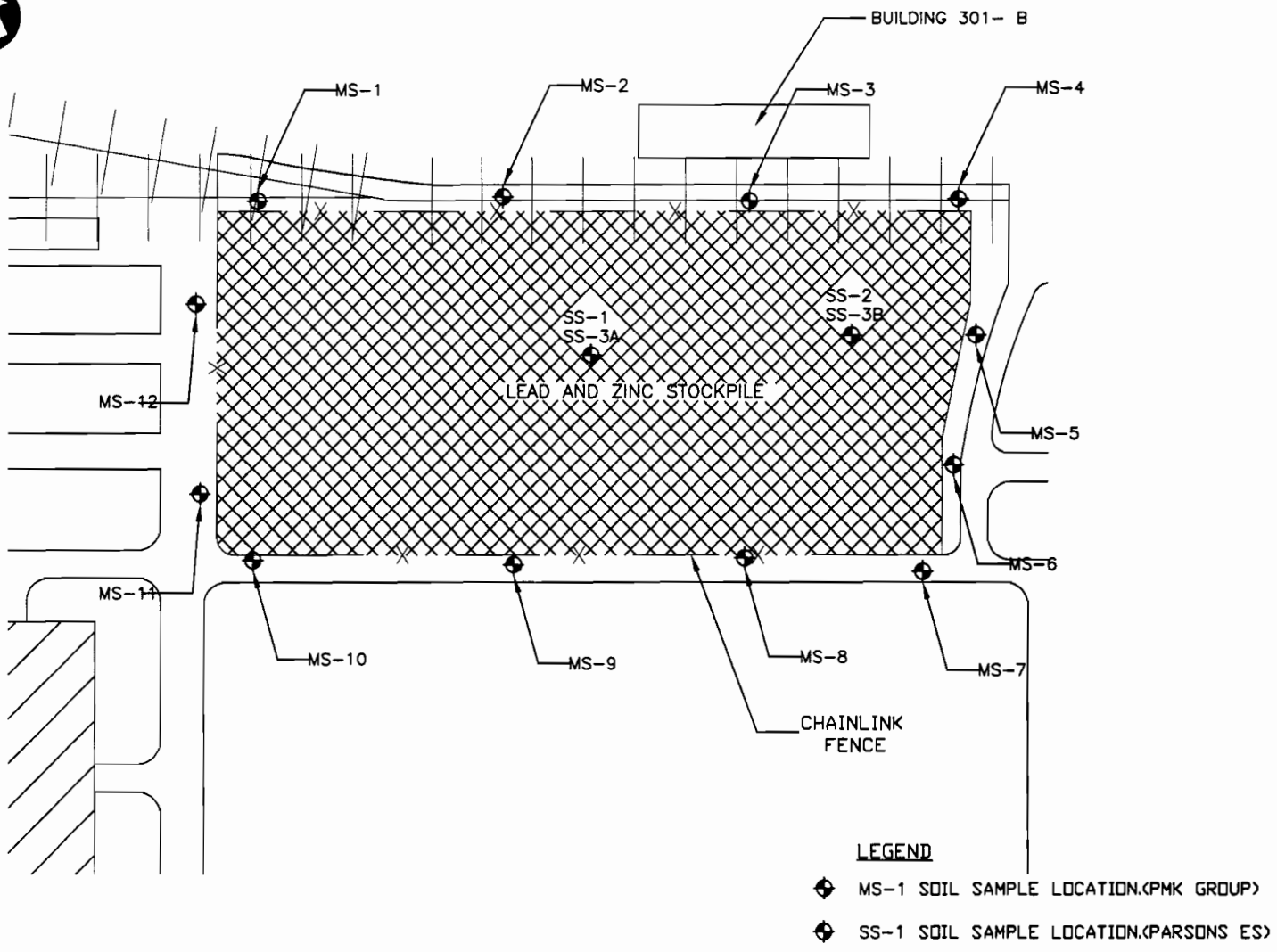
DATE: 06/25/98 (SEH)
FILE: P:\CAD\733496\33496G01.DWG
SCALE: MODEL SCALE, 1=1
XREF'S: NONE

FIGURE 3

DLA/DNSC SCOTIA DEPOT

BACKGROUND SOIL SAMPLE LOCATIONS

PARSONS ENGINEERING SCIENCE, INC.
DESIGN • RESEARCH • PLANNING
290 ELWOOD DAVIS ROAD • SUITE 312 • LIVERPOOL, N.Y. 13088 • 315/451-9560
OFFICES IN PRINCIPAL CITIES



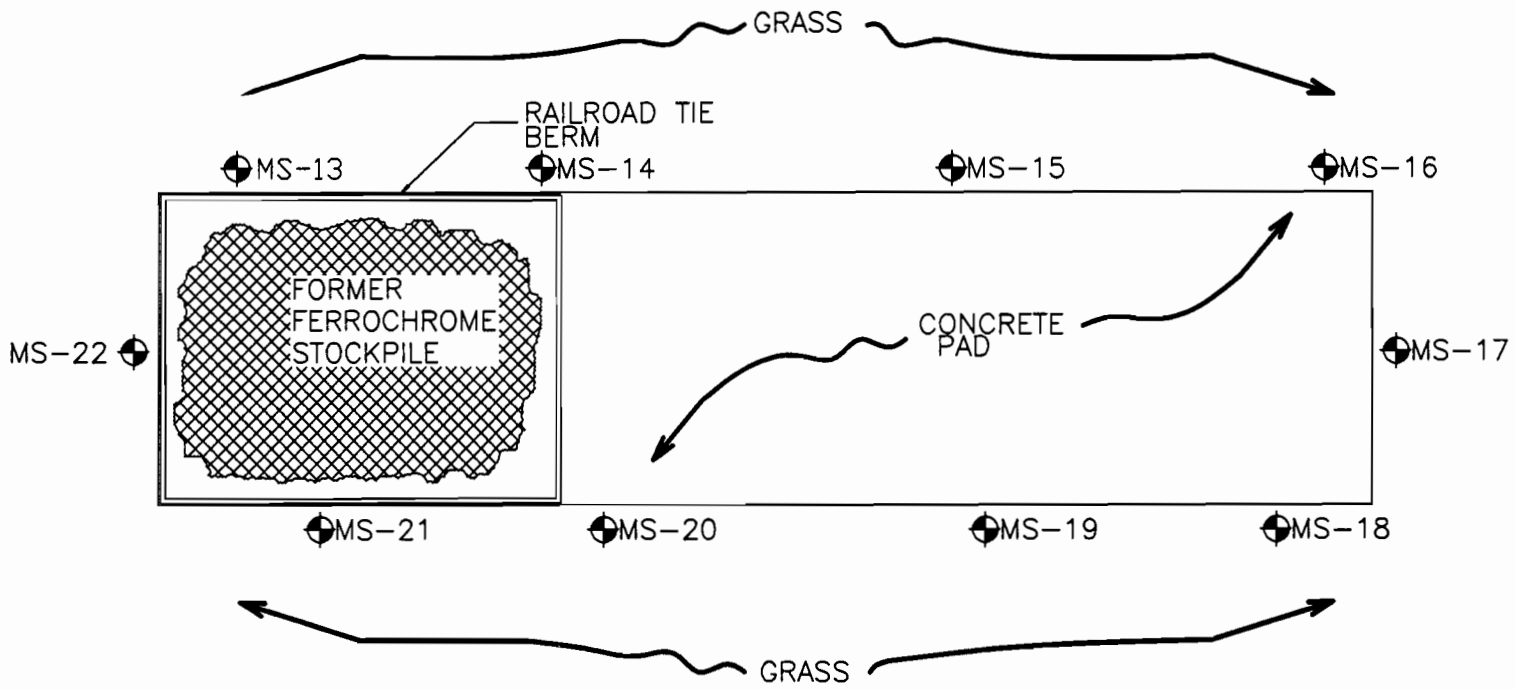
SOURCE: PMK GROUP, 1999

FIGURE 4

DNSC SCOTIA DEPOT
LEAD/ZINC OPEN STORAGE AREA
SOIL SAMPLING LOCATIONS

PARSONS
290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, N.Y. 13088, PHONE: 315-451-9560

No XREFs
P:\735141\Cad\Scotia\141N0001.dwg, 03/13/03 at 10:04, CLW, 1=1



LEGEND

MS-21 SOIL SAMPLE LOCATION

SOURCE:PMK GROUP,1999

40 20 0 40 80

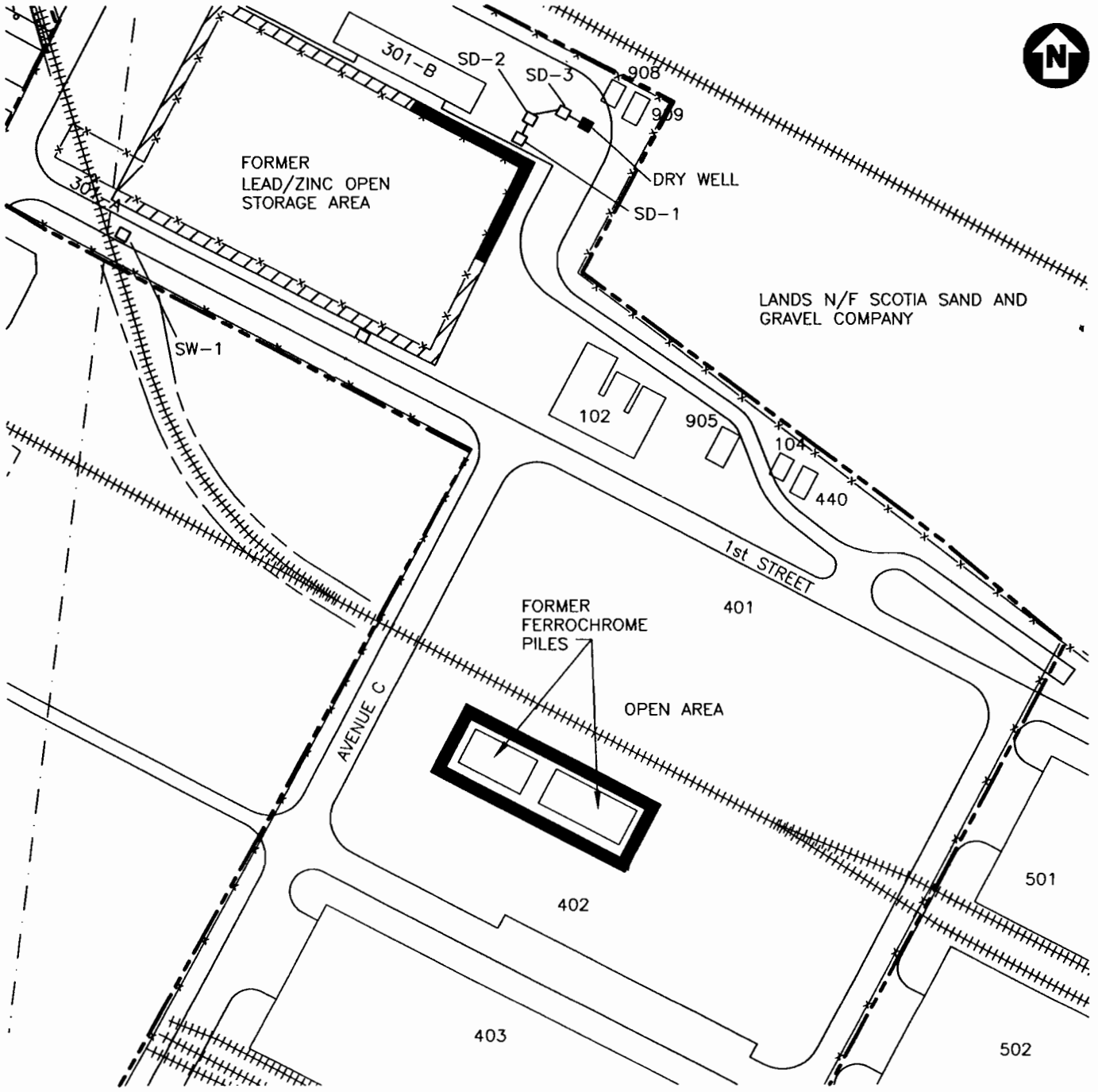
SCALE: 1"=40'

FIGURE 5

DNSC SCOTIA DEPOT
OUTDOOR FERROCHROME STOCKPILE
SOIL SAMPLING LOCATIONS

PARSONS
290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, N.Y. 13088, PHONE: 315-451-9560

No XREFs
P:\735141\Cad\Scotia\141N0003.dwg, 08/12/04 at 8:00, CLW, 1=1



BASE MAP SOURCE: EARTH TECH

LEGEND:

- SOIL REMOVED FROM ASPHALT SURFACE
- SCOTIA DEPOT PROPERTY LINE
- SOIL REMOVED TO DEPTH OF 2 FT
- CATCH BASIN
- DRY WELL

200 100 0 200 400

SCALE: 1"=200'

No XREFs
P:\740015\CAD\015C004.dwg, 03/04/03 at 13:30, CLW, 1=1

FIGURE 6

DLA/DNSC
SCOTIA DEPOT

SOIL REMOVAL AREAS

PARSONS
290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, N.Y. 13088, PHONE: 315-451-9560

APPENDIX A

DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT

Prepared For:

U. S. ARMY CORPS OF ENGINEERS

Scotia Depot
Scotia, New York

Prepared By:

PARSONS

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Liverpool, New York 13088
Phone: (315) 451-9560
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REVIEWED AND APPROVED BY:

Project Manager: _____ _____
Date

Technical Manager: Maryann Kirby 6/21/04
Date

JUNE 2004

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LIST OF TABLES

LIST OF ATTACHMENTS

SECTION 1

DATA USABILITY SUMMARY

Soil and surface water samples were collected from the Scotia Depot site in Scotia, New York on April 29, 2004. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- Work Plan,
- USEPA SW-846 analytical methodologies, and
- USEPA Region II SOPs.

The analytical laboratory for this project was Severn Trent Laboratories (STL).

1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 23 days on average for the soil and surface water samples.

The data packages received from STL were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report, which is summarized by sample media in Section 2.

1.2 SAMPLING AND CHAIN-OF-CUSTODY

Soil and surface water samples were collected, properly preserved, shipped under a chain of custody (COC) record, and received at STL within one day of sampling. All samples were received intact and in good condition at STL.

1.3 LABORATORY ANALYTICAL METHODS

Soil and surface water samples were collected from the Scotia site and analyzed for metals. Summaries of issues concerning these laboratory analyses are presented in Subsection 1.3.1. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented by media in Attachment A.

1.3.1 Metals Analysis

The soil and surface water samples collected from the site were analyzed by STL for target analyte list (TAL) metals using the USEPA SW-846 6010B/7471A/7470A analytical methods. The reported results for the metals samples were qualified as estimated due to noncompliant matrix spike recoveries and serial dilutions. Therefore, the metals data were considered 100% complete (i.e., usable) for the data presented by STL. PARCC requirements were met overall.

SECTION 2

DATA VALIDATION REPORTS

2.1 SOIL

Data review has been completed for data packages generated by STL containing soil samples collected from the Scotia site. The specific samples contained in these data packages, the analyses performed, and a usability summary are presented in Table 2.1-1. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The validated laboratory data are presented in Attachment A-1.

Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs for organic and inorganic data review and the USEPA SW-846. This data validation and usability report is presented by analysis type.

2.1.1 Metals

The following items were reviewed for compliancy in the metals analysis:

- Custody documentation
- Holding times
- Initial and continuing calibration verifications
- Initial and continuing calibration, and laboratory preparation blank contamination
- Inductively coupled plasma (ICP) interference check sample (ICS)
- Matrix spike recoveries
- Laboratory duplicate precision
- Laboratory control sample
- ICP serial dilution
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of matrix spike recoveries and serial dilutions.

Matrix Spike Recoveries

All MS recoveries were within the 75-125%R control limit and had concentrations less than four times the spiking concentrations with the exception of antimony (45%R, 40%R) associated with all samples. Therefore, all soil antimony results were considered estimated, possibly biased low, with positive results qualified "J" and nondetected results qualified "UJ".

ICP Serial Dilution

All serial dilution results were considered compliant with percent differences (%D) less than 10% with the exception of aluminum (10.7%D), iron (10.1%D), calcium (10.1%D), chromium (10.1%D), nickel (10.1%D), and potassium (15.2%D) associated with all soil samples. Therefore, positive results for these analytes greater than ten times the instrument detection limit were considered estimated and qualified "J" for the affected samples.

Usability

All soil metals sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The soil metals data presented by STL were 100% complete (i.e., usable). The validated metals laboratory data are tabulated and presented in Attachment A-1.

2.2 SURFACE WATER

Data review has been completed for data packages generated by STL containing surface water samples collected from the Scotia site. The specific samples contained in these data packages, the analyses performed, and a usability summary are presented in Table 2.1-1. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The validated laboratory data are presented in Attachment A-2.

Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs for organic and inorganic data review and the USEPA SW-846. This data validation and usability report is presented by analysis type.

2.2.1 Metals

The following items were reviewed for compliancy in the metals analysis:

- Custody documentation
- Holding times

- Initial and continuing calibration verifications
- Initial and continuing calibration, and laboratory preparation blank contamination
- Inductively coupled plasma (ICP) interference check sample (ICS)
- Matrix spike recoveries
- Laboratory duplicate precision
- Laboratory control sample
- ICP serial dilution
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols.

Usability

All surface water metals sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The surface water metals data presented by STL were 100% complete (i.e., usable). The validated metals laboratory data are tabulated and presented in Attachment A-2.

TABLE 2.1-1

SUMMARY OF SAMPLE ANALYSES AND USABILITY
SOIL – SCOTIA

SAMPLE ID	MATRIX	SAMPLE DATE	METALS
SFP-N	SOIL	4/29/04	OK
SFP-S	SOIL	4/29/04	OK
SFP-E	SOIL	4/29/04	OK
SFP-W	SOIL	4/29/04	OK
CFP-N	SOIL	4/29/04	OK
CFP-S	SOIL	4/29/04	OK
CFP-E	SOIL	4/29/04	OK
CFP-W	SOIL	4/29/04	OK
CZP-NE	SOIL	4/29/04	OK
SZP-NE	SOIL	4/29/04	OK
DRY WELL	SOIL	4/29/04	OK
SD-1	SOIL	4/29/04	OK
SD-2	SOIL	4/29/04	OK
SD-3	SOIL	4/29/04	OK
TOTAL SAMPLES			**14**

NOTES: OK - Sample analysis considered valid and usable.

TABLE 2.2-1

SUMMARY OF SAMPLE ANALYSES AND USABILITY
SURFACE WATER – SCOTIA

SAMPLE ID	MATRIX	SAMPLE DATE	METALS
SW-1F	WATER	4/29/04	OK
TOTAL SAMPLES			**1**

NOTES: OK - Sample analysis considered valid and usable.

ATTACHMENT A

VALIDATED LABORATORY DATA

ATTACHMENT A-1

VALIDATED LABORATORY DATA FOR SOIL

Validated Soil Sample Results
April 2004
Scotia Depot

		Range of Background Soil Concentrations		Range of FSI Soil Concentrations		Sample ID:	CFP-E	CFP-N	CFP-S	CFP-W	CZP-NE	DRY WELL	SD-1	SD-2	SD-3	SFP-E
						Lab Sample Id:	C4E040331009	C4E040331007	C4E040331008	C4E040331010	C4E040331002	C4E040331014	C4E040331011	C4E040331012	C4E040331013	C4E040331005
						Depth:										
						Source:	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh
						SDG:	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331	C4E040331
						Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
						Sampled:	4/29/2004	4/29/2004	4/29/2004	4/29/2004	4/29/2004	4/29/2004	4/29/2004	4/29/2004	4/29/2004	4/29/2004
							6/8/2004	6/8/2004	6/8/2004	6/8/2004	6/8/2004	6/8/2004	6/8/2004	6/8/2004	6/8/2004	6/8/2004
	COMPOUND					UNITS:										
	METALS															
7429-90-5	Aluminum	4650	9600	4740	12700	mg/kg	8780 J	9070 J	8790 J	10300 J	9910 J	4100 J	4500 J	3600 J	4180 J	7530 J
7440-36-0	Antimony	0.29	0.49	ND	1.7	mg/kg	0.36 UJ	0.41 UJ	0.36 UJ	0.35 UJ	0.42 UJ	2.5 J	0.68 J	4.6 J	8 J	0.34 UJ
7440-38-2	Arsenic	2.7	6.5	5.9	21.4	mg/kg	4.6	15	7.9	5	4.6	8.9	19.9	57.7	224	13.6
7440-39-3	Barium	21.7	75.4	23.1	39.5	mg/kg	27.1	36.4	23.8	36.3	71.1	32.3	23.6 J	44.4	75.6	27.4
7440-41-7	Beryllium	0.26	0.58	0.32	0.73	mg/kg	0.65	0.63	0.79	0.8	0.48 J	0.46	0.45 J	0.49 J	0.57 J	0.71
7440-43-9	Cadmium	0.14	0.29	NA		mg/kg	0.077 U	0.088 U	0.078 U	0.077 U	0.092 U	0.4 J	0.13 J	4.3	13	0.074 U
7440-70-2	Calcium	864	21500	5090	60300	mg/kg	1710 J	16200 J	1360 J	928 J	832 J	48200 J	40200 J	64900 J	39000 J	13900 J
7440-47-3	Chromium	5.5	12.3	7.4	14.5	mg/kg	9.7 J	13.2 J	10.9 J	11.4 J	9.9 J	9.1 J	7.9 J	21 J	53.8 J	10.7 J
7440-48-4	Cobalt	3.5	8.9	4.5	8.3	mg/kg	4.7 J	5.7 J	5.7	6.2	3.9 J	6.2	3.5 J	51.3	201	5 J
7440-50-8	Copper	9.3	18.7	16.5	103	mg/kg	12.5	13.9	18.4	15.4	8.7	33.7	37.6	263	484	17.1
7439-89-6	Iron	11000	21400	13700	23000	mg/kg	15900 J	18800 J	19700 J	19800 J	13700 J	10400 J	12100 J	17400 J	34700 J	16400 J
7439-92-1	Lead	8.9	31.6	7	23.7	mg/kg	5.8	11.3	7.6	7.4	11.7	117	23.9	377	918	8.1
7439-95-4	Magnesium	1940	7360	3500	20000	mg/kg	2330	6360	2830	2420	1490	18000	18900	25400	21000	6100
7439-96-5	Manganese	225	619	422	677	mg/kg	263	455	383	308	1580	273	585	354	412	464
7439-97-6	Mercury	0.027	0.057	0.02	0.06	mg/kg	0.028 J	0.069	0.041	0.013 U	0.097	0.15	0.026 J	0.34	3.1	0.013 U
7440-02-0	Nickel	6.8	15.8	10.2	16.6	mg/kg	10.7 J	11.7 J	13.4 J	15.4 J	8 J	9.3 J	8.8 J	22.8 J	47.6 J	11.3 J
7440-09-7	Potassium	400	1230	404	608	mg/kg	492 J	526 J	737 J	681 J	460 J	639 J	466 J	604 J	736 J	713 J
7782-49-2	Selenium	0.21	0.25	ND	0.94	mg/kg	0.29 U	0.33 U	0.29 J	0.3 J	0.55 J	0.29 U	0.32 U	0.6 J	1.2 J	0.28 U
7440-22-4	Silver	ND	0.25	NA		mg/kg	0.033 U	0.038 U	0.033 U	0.033 U	0.22 J	0.073 J	0.12 J	0.6 J	1.9	0.047 J
7440-23-5	Sodium	59.9	82.4	ND	252	mg/kg	17.4 U	19.9 U	17.5 U	17.4 U	20.6 U	17.1 U	19.1 U	20.5 U	46.2 U	16.7 U
7440-28-0	Thallium	ND		ND		mg/kg	0.51 J	0.58 U	0.69 J	0.67 J	0.6 U	0.5 U	0.56 U	0.8 J	1.2 J	0.49 J
7440-62-2	Vanadium	12.3	22.7	13.9	33.6	mg/kg	18.6	23.7	19.9	21.6	18.4	15	13.8	33.2	62	19.4
7440-66-6	Zinc	31.1	64.1	43.8	137	mg/kg	33.1	44.9	49.7	47.7	50.5	89.6	222	502	1070	50.2
	OTHER															
Q1082	Percent Solids					%	90	78.8	89.2	90.1	76.1	91.5	82	76.4	67.8	93.7

Validated Soil Sample Results
April 2004
Scotia Depot

		Range of Background Soil Concentrations	Range of FSI Soil Concentrations	Sample ID:	SFP-N	SFP-S	SFP-W	SZP-NE
				Lab Sample Id	C4E040331003	C4E040331004	C4E040331006	C4E040331001
				Depth:				
				Source:	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh	STL Pittsburgh
				SDG:	C4E040331	C4E040331	C4E040331	C4E040331
				Matrix:	SOIL	SOIL	SOIL	SOIL
				Sampled:	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004	4/29/2004 6/8/2004
	COMPOUND			UNITS:				
	Metals							
7429-90-5	Aluminum	4650 - 9600	4740 - 12700	mg/kg	5630 J	6560 J	10100 J	8000 J
7440-36-0	Antimony	0.29 - 0.49	ND - 1.7	mg/kg	0.33 UJ	0.42 J	0.35 UJ	0.35 UJ
7440-38-2	Arsenic	2.7 - 6.5	5.9 - 21.4	mg/kg	31.6	11.8	45.3	9.9
7440-39-3	Barium	21.7 - 75.4	23.1 - 39.5	mg/kg	26.7	31.5	34	28.7
7440-41-7	Beryllium	0.26 - 0.58	0.32 - 0.73	mg/kg	0.46	0.54	0.8	0.73
7440-43-9	Cadmium	0.14 - 0.29	NA	mg/kg	0.072 U	0.075 U	0.075 U	0.33 J
7440-70-2	Calcium	864 - 21500	5090 - 60300	mg/kg	34800 J	29100 J	8550 J	25500 J
7440-47-3	Chromium	5.5 - 12.3	7.4 - 14.5	mg/kg	9.1 J	10.6 J	12.4 J	10.9 J
7440-48-4	Cobalt	3.5 - 8.9	4.5 - 8.3	mg/kg	4.4 J	4.9 J	7	5 J
7440-50-8	Copper	9.3 - 18.7	16.5 - 103	mg/kg	16.7	20.8	23.8	18.6
7439-89-6	Iron	11000 - 21400	13700 - 23000	mg/kg	13000 J	15000 J	21300 J	17200 J
7439-92-1	Lead	8.9 - 31.6	7 - 23.7	mg/kg	8.4	14.7	9	7.5
7439-95-4	Magnesium	1940 - 7360	3500 - 20000	mg/kg	7940	11400	4820	10700
7439-96-5	Manganese	225 - 619	422 - 677	mg/kg	371	483	463	592
7439-97-6	Mercury	0.027 - 0.057	0.02 - 0.06	mg/kg	0.028 J	0.019 J	0.037	0.032 J
7440-02-0	Nickel	6.8 - 15.8	10.2 - 16.6	mg/kg	9.4 J	10.8 J	13.3 J	11.5 J
7440-09-7	Potassium	400 - 1230	404 - 608	mg/kg	710 J	699 J	693 J	779 J
7782-49-2	Selenium	0.21 - 0.25	ND - 0.94	mg/kg	0.27 J	0.28 U	0.28 U	0.28 U
7440-22-4	Silver	ND - 0.25	NA	mg/kg	0.031 U	0.04 J	0.032 U	0.037 J
7440-23-5	Sodium	59.9 - 82.4	ND - 252	mg/kg	16.1 U	16.8 U	16.9 U	17 U
7440-28-0	Thallium	ND	ND	mg/kg	0.47 U	0.58 J	0.59 J	1.1 J
7440-62-2	Vanadium	12.3 - 22.7	13.9 - 33.6	mg/kg	15.1	17.4	23.8	21.1
7440-66-6	Zinc	31.1 - 64.1	43.8 - 137	mg/kg	44	59.4	46.9	64.9
	Other							
Q1082	Percent Solids			%	97.4	93.4	92.6	91.9

ATTACHMENT A-2

VALIDATED LABORATORY DATA FOR SURFACE WATER

Validated Surface Water Sample Results
April 2004
Scotia Depot

USACE Scotia Depot Validated Surface Water Analytical Data April 2004 Sampling		SAMPLE ID: LAB ID: SOURCE: SDG: MATRIX: SAMPLED: VALIDATED:	SW-1F C4E040331015 STL Pittsburgh C4E040331 Water 4/29/2004 6/8/2004
CAS NO.	COMPOUND	UNITS:	
	METALS		
7429-90-5	Aluminum	ug/L	307
7440-36-0	Antimony	ug/L	3.2 U
7440-38-2	Arsenic	ug/L	3.3 U
7440-39-3	Barium	ug/L	17.7 J
7440-41-7	Beryllium	ug/L	0.42 U
7440-43-9	Cadmium	ug/L	0.7 U
7440-70-2	Calcium	ug/L	18100
7440-47-3	Chromium	ug/L	2 J
7440-48-4	Cobalt	ug/L	0.53 U
7440-50-8	Copper	ug/L	169
7439-89-6	Iron	ug/L	435
7439-92-1	Lead	ug/L	52.1
7439-95-4	Magnesium	ug/L	1400 J
7439-96-5	Manganese	ug/L	17.8
7439-97-6	Mercury	ug/L	0.071 U
7440-02-0	Nickel	ug/L	1.2 U
7440-09-7	Potassium	ug/L	464 J
7782-49-2	Selenium	ug/L	2.6 U
7440-22-4	Silver	ug/L	0.3 U
7440-23-5	Sodium	ug/L	433 J
7440-28-0	Thallium	ug/L	4.6 U
7440-62-2	Vanadium	ug/L	1 U
7440-66-6	Zinc	ug/L	615