Remedial Action Closure Report

Former Manufactured Gas Plant
642 Allens Avenue- Area 1

Providence,
Rhode Island

Prepared for: New England Gas Company

Prepared by: ***VHB***/Vanasse Hangen Brustlin, Inc.
Providence, Rhode Island

Project Scientist: Claude M. Masse

Project Manager: Timothy M. O'Connor, P.E.

December 2002

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Executive Summary

On behalf of New England Gas Company (NEGC), a Division of the Southern Union Company, and pursuant to the Rhode Island Department of Environmental Management (RIDEM) Temporary Remedial Action Permit (TRAP) issued to the former Providence Gas Company by the RIDEM Office of Waste Management on June 1, 1999, Environmental Science Services, Inc. (ESS) supervised remedial actions at a portion of a former manufactured gas plant (FMGP) beginning in June 1999. NEGC has requested Vanasse Hangen Brustlin, Inc. (VHB) develop this Closure Report summarizing the work overseen by ESS. Information regarding the remedial activities conducted by ESS was provided by NEGC to VHB. VHB did not observe any of the activities described herein.

The Site is located at 642 Allens Avenue in Providence, RI. The remedial activities described herein were conducted to address a portion (Area 1) of the Site (the Phase 1 Site). Additional remedial activities were conducted in the remaining portions of the Phase 1 Site By Clean Harbors Environmental Services and VHB. These areas are referenced throughout the project file as Areas 2 and 3 of the Phase 1 Site. ESS oversaw the Area 1 remedial actions and ThermoRetec Construction Corporation (TRCC) was retained to conduct field construction activities related to soil and waste excavation in addition to pipe removal. TRCC was retained from May 1999 to July 2000 and was replaced by Tantara in July 2000.

These activities were of a time-critical nature due to the proposed construction of a vaporizer pad in the southwestern portion of the South Algonquin Liquid Natural Gas (SALNG) Area adjacent to the containment dike. To construct the pad, surface soil had to be excavated and subsurface piping which traverses the area had to be removed. A piping removal plan was developed by TRCC and approved by RIDEM in a letter dated June 21, 1999.

During the Area 1 remedial action subsurface soil was excavated and disposed. The excavations were guided by test pit and soil boring data from previously completed Resource Control Associates, Inc. (RCA) investigations. Remedial soil excavations were also conducted within the SALNG containment dike and consisted of surface and subsurface soil removal that were also guided by previous Site investigation results.

Recovery wells and groundwater flow barriers were installed to aid in the recovery of light non-aqueous phase liquid (LNAPL) from the groundwater surface in areas of subsurface soil excavations.

Additional remedial activities consisted of the excavation of some of the contents of Structure 3B (Tar and Ammonia Structure) and the excavation of the surface soil in Area 3. Approximately 50,800 gallons of coal tar was excavated from Structure 3B and shipped to the Norlite Corporation facility in Cohoes, NY for disposal.

A total of approximately 8,746 tons of FMGP-impacted material was excavated, transported and disposed of during remedial activities. Approximately 722 tons was classified as hazardous and approximately 8,024 tons was classified as non-hazardous. According to correspondence from ESS to RIDEM, dated July 19, 2000, surface soil that did not meet the criteria for backfill and subsurface soil that was not classified as hazardous was shipped to Environmental Soil Management, Inc. (ESMI) in Loudon, NH.

Hazardous waste soils were transported to Horizon Environmental Landfill in Grande-Piles, Quebec, Canada. The requirements for the export of hazardous waste, including the Notification of Export to the United States Environmental Protection Agency (USEPA), were met according to a letter dated July 24, 2000 from the USEPA (EPA Notice No. 435/00).

In addition, approximately 9,782 gallons of water and LNAPL was pumped from excavations utilizing vacuum trucks from Cyn Environmental Services. The water and LNAPL was disposed of at Cyn Environmental Service's Stoughton, MA recycling facility.

1 Introduction

On behalf of New England Gas Company (NEGC), a Division of the Southern Union Company, and pursuant to the Rhode Island Department of Environmental Management (RIDEM) Temporary Remedial Action Permit (TRAP) issued to the former Providence Gas Company by the RIDEM Office of Waste Management on June 1, 1999, Environmental Science Services, Inc. (ESS) supervised remedial actions at a portion of a former manufactured gas plant (FMGP) beginning in June 1999. NEGC has requested Vanasse Hangen Brustlin, Inc. (VHB) to develop this Closure Report summarizing the work overseen by ESS. Information regarding the remedial activities conducted by ESS was provided by NEGC to VHB. VHB did not observe any of the activities described herein.

These activities were of a time-critical nature due to the proposed construction of a vaporizer pad in the southwestern portion of the South Algonquin Liquid Natural Gas (SALNG) Area adjacent to the containment dike.

For the purposes of this submittal, the work area for these activities is referenced by the term "Area 1 Site." The term "Site" is used to describe the entire FMGP located at 642 Allens Avenue. The main entrance to the Site is on Allens Avenue, on the west side of the property. Refer to Figure 1 for a Site Location Map.

The Site is currently occupied by an NEGC Operations Center, KeySpan Energy (formerly known as Duke Energy and Algonquin Gas), and the St. Lawrence Cement Company.

From 1994 to 2000, the Site was investigated by Resource Control Associates (RCA) of Pawtucket, RI and Environmental Science Services (ESS) of East Providence, RI on behalf of the Providence Gas Company (PGC).

Three areas of the Site were identified for remedial actions. These areas were the South Algonquin Area (Area 1), the Tar and Ammonia Structure(Area 2), and the North Algonquin Area (Area 3). From April to November 2002, Clean Harbors Environmental Services (CHES) of Weymouth, MA provided construction services for the Area 2 and Area 3 remedial actions, VHB conducted the remedial engineering oversight, and ENSR International (ENSR) of Westford, MA provided independent inspection services on behalf of NEGC. These activities were summarized in a report

prepared by VHB, entitled *Remedial Action Closure Report, Former Manufactured Gas Plant, 642 Allens Avenue, Providence, Rhode Island*, and dated November 2002.

Starting in 1999, remedial activities took place in Area 1. In addition, a portion of the contents of Structure 3B in Area 2 and the surficial soils in Area 3 were also excavated as part of these activities. The remedial activities in Area 1 were conducted coincident with improvement construction projects undertaken by the Algonquin Gas Transmission Company and Algonquin LNG, Inc. ESS oversaw the Area 1 remedial actions and ThermoRetec Construction Corporation (TRCC) was retained to conduct field construction activities related to soil and waste excavation in addition to pipe removal. TRCC was retained from May 1999 to July 2000 and was replaced by Tantara in July 2000.

The Area 1 Site is located on the southeastern portion of the property, south of the KeySpan Energy offload area and is adjacent to the KeySpan Energy containment dike. Portions of the remedial excavations were conducted within the dike, in the southwestern corner. Refer to Figure 2 for a depiction of the work areas.

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Remedial Actions

In a letter dated June 14, 1999, ESS (on behalf of the former Providence Gas Company) notified RIDEM of its intentions to implement the remedial action as presented in the approved Remedial Action Work Plan (RAWP). At that time, Algonquin was conducting expansion activities that included the construction of a vaporizer pad in the southwestern portion of the SALNG Area adjacent to the dike. To construct the pad, surface soil had to be excavated and subsurface piping which traverses the area had to be removed. The letter also included the piping removal plan that was developed by TRCC and approved by RIDEM in a letter dated June 21, 1999. The piping removal plan is attached as Appendix B.

Surficial soils excavated from Area 1 were either used to construct the Material Handling Area (MHA) (an engineered containment area for the processing and storage of excavated materials), used as subsurface fill (>2 feet below surface grade (BSG)) if the subsurface remedial objectives were met, or was disposed of at a proper facility.

The remedial action consisted of excavation and disposal of impacted material exceeding the RIDEM-approved remedial objectives (ROs) for soil from the ESS RAWP dated December 4, 1998. The ROs were divided into three categories: surface soil objectives (0-2 feet below surface grade (BSG)); subsurface soil objectives (>2 feet BSG) within 100 feet from the shore; and subsurface soil greater than 100 feet from the shore. These ROs were based on the RIDEM Direct exposure criteria (surface soil) and Upper Concentration Limits (UCLs) (subsurface soil) and are presented in Table 1.

Area 1 Excavations

SALNG Area

To facilitate the construction of a vaporizer pad planned by Algonquin, a limited remedial excavation was conducted in Area 1. A trench was excavated to a depth of approximately 7.5 to 9 feet BSG at the east and west limits of the proposed Algonquin construction project. These trenches did not enter the water table and were oriented in a north/south direction. The purpose of the trenching was to identify the number and location of subsurface pipes that traversed under the proposed construction area. A surficial excavation was completed between the trenches and a portion of the excavation

extended into the No Dig Zone and containment dike. This excavation was completed to facilitate the construction of the vaporizer pad.

On June 30, 1999, excavation of the eastern trench exposed an approximately 30-inch cast iron pipe and an approximately 12-inch pipe that were observed to be oriented in an east/west direction (refer to Figure 2). The excavation was advanced to approximately 7.5 to 9 feet BSG and was approximately 13 feet in width. The southern limit of the excavation was defined as the "No Dig Zone" as depicted in the RAWP. A concrete structure was uncovered at a depth of approximately 2.5 feet BSG and limited excavation to the west. This concrete structure was eventually found to be approximately 25 feet in width and extended the entire length of the eastern trench.

Two additional concrete subsurface structures were encountered in the trench and were in an east/west orientation. Both structures were approximately 5 feet wide and were uncovered approximately 2 feet BSG. The northern structure had an approximately 3-foot deep trough running along the center. Sketches of the eastern trench that were developed by ESS personnel are provided in Appendix C.

Based on Site sketches prepared by ESS, the northern portion of the trench (where the two pipes were located) was extended in an easterly direction to the western edge of Structure 10. The 12-inch pipe turned at a 90° angle to the south and the excavation was continued in that direction. The 12-inch pipe continued to the south, under the ten-foot "No Dig Zone" and presumably under the containment dike.

The western trench also appeared to have the pipes and structures and they were similarly oriented as in the eastern trench. The western pipe ends extended beyond the trench, and as such, excavations continued in a westerly direction. The western ends of the pipes were uncovered proximate to the western limits of excavation as presented in the RAWP. Reportedly, the western ends of the pipes were previously cut and sealed with a brick face. While excavating the pipes in a westerly direction, an approximately 12-inch clay pipe was encountered. This pipe was reportedly observed to be filled with a black substance. A sample, identified as "A1-Pipe-2", was collected from the pipe and submitted for laboratory analysis. The laboratory analytical results are presented in Table 2.

A trench was excavated in an east/west orientation to approximately 8 feet BSG to uncover and remove the entire pipe lengths. This excavation connected the northern limits of the western and eastern trenches. It is presumed that the pipe removal was completed per the procedures outlined in the piping removal protocol (see Appendix B). Although there were no descriptions of the conditions of the removed piping, the laboratory analytical results of confirmatory samples collected beneath the pipe runs indicated that there was no release of MGP materials from the pipes.

The area between the east and west trenches, south of the pipe grave excavation, and north of the dike was excavated to approximately 2 feet BSG (refer to Figure 2). The surficial excavation was extended into a portion of the containment dike to facilitate the construction of the vaporizer pad. A cross-sectional diagram of this excavation is included as Appendix D.

The SALNG Area excavation continued in an easterly direction and was guided by data from a test pit previously advanced by RCA. RCA completed a test pit identified as ETP-9 and collected a soil sample from 5 feet BSG. The test pit was completed south of Structure 10 and west of the containment dike. This sample indicated concentrations of several parameters that exceeded the remedial objectives presented in the RAWP. Reportedly, laboratory analytical results indicated TPH concentrations of 163,000 ppm, naphthalene concentrations of 28,700 ppm, phenanthrene concentrations of 20,900 ppm, and fluoranthene concentrations of 11,700 ppm. As such, the RAWP identified this area for subsurface excavation and removal of impacted soils.

The excavation occurred south of Structure 10 (refer to Figure 2) and was advanced 2 feet into the groundwater, where possible. Dewatering and LNAPL recovery was facilitated by the use of a vacuum truck operated by Cyn Environmental, Inc. The "state-regulated waste oily water, Non DOT hazardous Material" was diposed of at the Cyn Oil Corporation facility in Stoughton, MA. The manifests are included in Appendix E. The excavation encountered a subsurface concrete structure at approximately 5 feet BSG. There was also a series of chambers encountered north of the 10-foot No Dig Zone. The area within the chambers was reportedly excavated to 2 feet below the water table.

Two steel pipes extended from beneath the eastern containment dike and were oriented in an east/west direction. The northern pipe was approximately 8-inches in diameter and entered into or beneath the uncovered structure at a 90° angle. The southern pipe was approximately 6 inches in diameter and extended beyond the northern pipe. It continued at an approximately 45° angle and entered into or beneath Structure 10.

■

SALNG Area Within the Containment Dike

RCA previously completed a boring identified as RCA-29 south of Structure 10 and within the containment dike. Laboratory analytical results from a sample collected from 9 to 10 feet indicated a TPH concentration of 72,900 ppm. As such, the RAWP identified this area for subsurface excavation and removal of impacted soils.

The excavation was conducted within the containment dike, in the southwestern corner. The excavation was bordered to the south and west by the containment dike and to the east by the Surface Water Impoundment (SWI). Based on the Site sketch developed by ESS, the excavation sidewalls were sloped and the excavation was advanced between 2 and 3 feet below the groundwater table. Dewatering and LNAPL recovery was accomplished through the use of a vacuum truck operated by Cyn Environmental. The manifests for transportation of this water are included in Appendix E. Surficial excavations were continued in a northerly direction based on exceedances of surficial soil samples. Based on a review of site sketches, continued excavations were completed until analytical results of samples conformed to the surficial soil ROs.

Structure 3B Excavations

ESS excavated a portion of the contents of Structure 3B as part of the remedial activites conducted in 1999-2000. The material was shipped to the Norlite Corporation facility in Cohoes, NY. Copies of the manifests are attached in Appendix E. According to records maintained by NEGC, approximately 50,800 gallons of coal tar was disposed of at this facility.

Confirmatory Soil Samples

Soil confirmation samples were collected from excavations at approximately 15 linear foot intervals and floor samples were collected from 15-foot square grid segment for excavations that did not extend into the water table. Samples were collected from a depth of 0-2 feet for comparison with the Surface Soil ROs and from greater than 2 feet for comparison with the Subsurface Soil ROs.

ESS collected confirmatory soil samples from approximately 173 locations from the excavation conducted in the SALNG area that consisted of sidewall and floor samples and from approximately 66 locations from the excavation conducted within the containment dike (RCA-29 excavation).

Some locations in the excavations required more than one attempt to obtain soils that did not exceed the ROs. If not attained on the first try, additional soil was excavated at the location prior to collecting another confirmatory sample. Following favorable laboratory analytical results of confirmatory soil samples, the excavation was backfilled with material meeting the ROs. Refer to the figures section for site plans depicting the excavation limits and confirmatory sample points.

Recovery Wells

Recovery wells were installed to aid in the recovery of light non-aqueous phase liquid (LNAPL) from the groundwater surface. A letter from ESS to RIDEM dated August 18, 1999 described the relocation of recovery wells due to the presence of concrete subsurface structures in the SALNG Area adjacent to the containment dike. Reportedly, ESS relocated the recovery wells along the edge of Structure 10 and a LNAPL barrier sheet was installed south of the recovery wells. Photographs of the wells and barrier sheets are included in the Photographs section of this report.

Recovery wells were also installed in the SALNG Area within the containment dike. A well was installed in the southeastern corner of the excavation and another recovery well was installed along the edge of Structure 10. LNAPL barrier sheets were installed along the south and east walls of the excavation. The approximate

locations of the recovery wells are depicted in Figure 2. Gaging of these recovery wells on December 30, 2002 did not indicate the presence of any detectable LNAPL.

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Laboratory Analysis

Confirmatory Laboratory Analysis

ESS collected confirmatory samples and submitted them to ESS Laboratory, of Cranston, RI for laboratory analysis. Samples were analyzed for Total Petroleum Hydrocarbons (TPH) by gas chromatography equipped with a flame ionization detector (GC/FID), volatile organic compounds (VOCs) via EPA Method 8021, polynuclear aromatic hydrocarbons (PAHs) via EPA Method 8270, total arsenic and total lead via EPA Method 6010, and total cyanide via EPA Method 9010. Laboratory analytical results are presented below. Copies of the Laboratory Certificates of Analysis are included as Appendix F.

Laboratory Analytical Results from the SALNG Area

This remedial action began with the excavation of two trenches on the eastern and western portions of the proposed work area to identify the number and location of subsurface pipes that traversed under the proposed construction area. The laboratory analytical results of the confirmatory samples collected from the eastern trench are presented in Table 3.

Sidewall samples collected from this excavation were identified as A1-W1 to A1-W16 and floor samples were identified as A1-F1 to A1-F4. As shown in Table 3, there were several sample locations that exceeded the surficial ROs presented in the RAWP. The compounds exceeding ROs consisted of arsenic, benzo (a) pyrene, benzo (b) fluoranthene, and dibenzo (a,h) anthracene. There were no floor samples that exceeded the subsurface ROs. Sidewall surface soil sample points A1-W2, A1-W5, A1-W8, and A1-W11 exceeded the surficial ROs and, according to an ESS memo dated July 14, 1999, the proposed remedy was further excavations to the east.

The laboratory analytical results of the confirmatory samples collected from the western trench are presented in Table 4. As in the eastern trench, the compounds detected generally consisted of arsenic, benzo (a) pyrene, benzo (b) fluoranthene, and dibenzo (a,h) anthracene that exceed surface soil ROs.

Laboratory analytical results of surficial sample A1-W23 indicated concentrations of benzo (a) anthracene, benzo (b) fluoranthene, and dibenzo (a,h) anthracene that were

approximately 6 times the surficial ROs and benzo (a) pyrene that was approximately 43 times the surficial RO. These soils were removed when the surficial soil excavation was conducted east of the trench. Polychlorinated biphenyls (PCBs) were also detected (10.4 ppm) in this sample at a concentration above the RO of 10 ppm. Excavations in this location were conducted deeperuntil PCB concentrations of confirmatory samples (A1-W62, A1-W63, and A1-W64) were non-detectable. These additional confirmatory samples were only analyzed for PCBs.

For the surficial excavation, confirmatory samples collected from a depth of 0-2 feet could only be collected from the south wall of the excavation. As shown in Table 5, all the surficial confirmatory samples exceeded the RO for benzo (a) pyrene. Two subsurface soil samples (A1-F16 and A1-F24) had PCB concentrations of 10.1 ppm and 11.2 ppm, respectively. The excavation was advanced an additional 2 feet and laboratory analysis of the samples collected at 4 feet BSG indicated that there were no longer PCB exceedances. To accommodate the installation of the vaporizer pad, the excavation was continued into the ten-foot No Dig Zone and approximately 6 feet into the containment dike. Confirmatory soil samples were collected from the southern wall and laboratory analytical results indicated that one of five samples (A1-W130) exceeded the RO for benzo (a) pyrene and TPH.

The laboratory analytical results for the confirmatory soil samples collected from the pipe run excavation, located along the northern portion of the SALNG Area, indicated that there were samples that exceeded the surficial ROs (summarized in Table 6). The compounds that exceeded the ROs consisted of benzo (a) pyrene, benzo (b) fluoranthene, and dibenzo (a,h) anthracene. Sidewall samples collected from the southwestern-most portion of the excavation (south of the pipes and west of the western trench) indicated sample results (A1-W67 and A1-W71) exceeded the ROs for benzo (a) pyrene. Analytical results of the floor samples collected below the pipe runs did not exceed any ROs.

The excavations completed west of Structure 10 were completed as part of the pipe removal and the laboratory analytical results are summarized in Table 7. A surficial sidewall confirmatory sample collected from the north wall indicated concentrations of benzo (a) pyrene in sample A1-W110 that exceeded the ROs. The laboratory analysis of the floor samples collected beneath the pipe runs did not indicate any exceedances of the subsurface ROs.

The excavations completed south of Structure 10 were advanced approximately 2 to 3 feet into the water table, and as such, no floor samples were collected. Due to the presence of concrete structures, there were no surficial confirmatory soil samples collected from the excavation. The analytical results of the subsurface soil samples (summarized in Table 7) did not indicate the presence of compounds that exceed the subsurface ROs.

Laboratory Analytical Results from the SALNG Area within the Containment Dike

This excavation was completed within the containment dike and was bordered to the west and south by the containment dike and to the east by the SWI. Laboratory analytical results of soil samples collected from this excavation are summarized in Table 8. The excavation started in the southwestern portion of the area within the containment dike and was advanced approximately 2 to 3 feet into the water table. Confirmatory samples collected from the excavation did not exceed ROs with the exception of two surficial soil confirmatory samples collected from the northwest corner of the excavation. The excavation of surficial soils only was continued in a northerly direction based on the analytical results of these two samples. Surficial excavations were continued in a northerly direction until confirmatory soil samples did not exceed the surficial soil ROs. There were samples collected from along the western limit of the excavation that indicated surficial exceedances of benzo (a) pyrene, however, these samples were located along the No Dig Zone.

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Soil Management

A total of approximately 8,746 tons of FMGP-impacted material was excavated, transported and disposed of during remedial activities. Approximately 722 tons was classified as hazardous and approximately 8,024 tons was classified as non-hazardous. According to correspondence from ESS to RIDEM, dated July 19, 2000, surface soil that did not meet the criteria for backfill and subsurface soil that was not classified as hazardous was shipped to Environmental Soil Management, Inc. (ESMI) in Loudon, NH.

Hazardous waste soils were transported to Horizon Environmental Landfill in Grande-Piles, Quebec, Canada. The requirements for the export of hazardous waste, including the Notification of Export to the United States Environmental Protection Agency (USEPA), were met according to a letter dated July 24, 2000 from the USEPA (EPA Notice No. 435/00).

Copies of manifests and/or Bills of Lading are located in Appendix E.

Site Restoration

Upon completion of soil removal activities, subsurface excavations were backfilled with clean sand and a crushed stone finish. Current site-wide soil caps are depicted in Figure 3.

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Conclusions

Based on the laboratory analytical results of the confirmatory soil samples, it is VHB's opinion that the FMGP-impacted soil has been remediated as well as Site constraints will allow and therefore, no additional soil remedial actions are necessary in Area 1 at the Site.

During these remedial activities the following has been accomplished:

- Approximately 722 tons of hazardous material and 8,024 tons of non-hazardous material have been excavated and disposed of at licensed facilities;
- All FMGP remnant piping has been either removed or plugged with hydraulic cement;
- Surface and subsurface soils exceeding the ROs were excavated to the extent possible;
- Areas that were excavated were capped with approximately 2 feet of clean material or were covered by structures (vaporizer pad); and
- Groundwater recovery wells have been installed to facilitate the removal of LNAPL.

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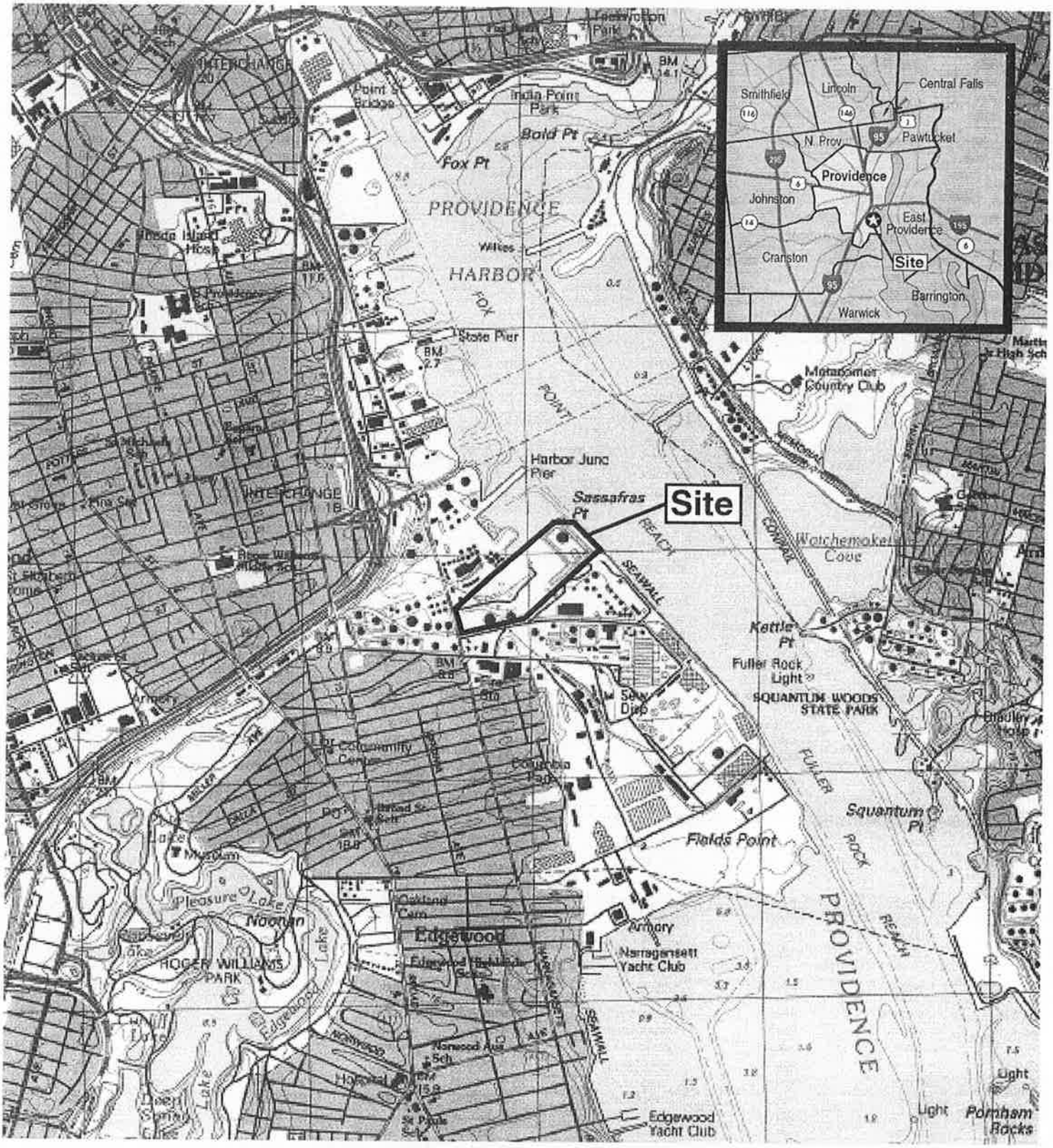
References

Rhode Island Department of Environmental Management, March 1993, as Amended August 1996. *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases.*

US Geological Survey 7.5 Minute Series Topographic Map Providence Quadrangle 1970.

Rhode Island Department of Environmental Management, October 1998. *Groundwater Classification Map.*

Figures



Source: Providence, RI U.S.G.S. Quadrangle.

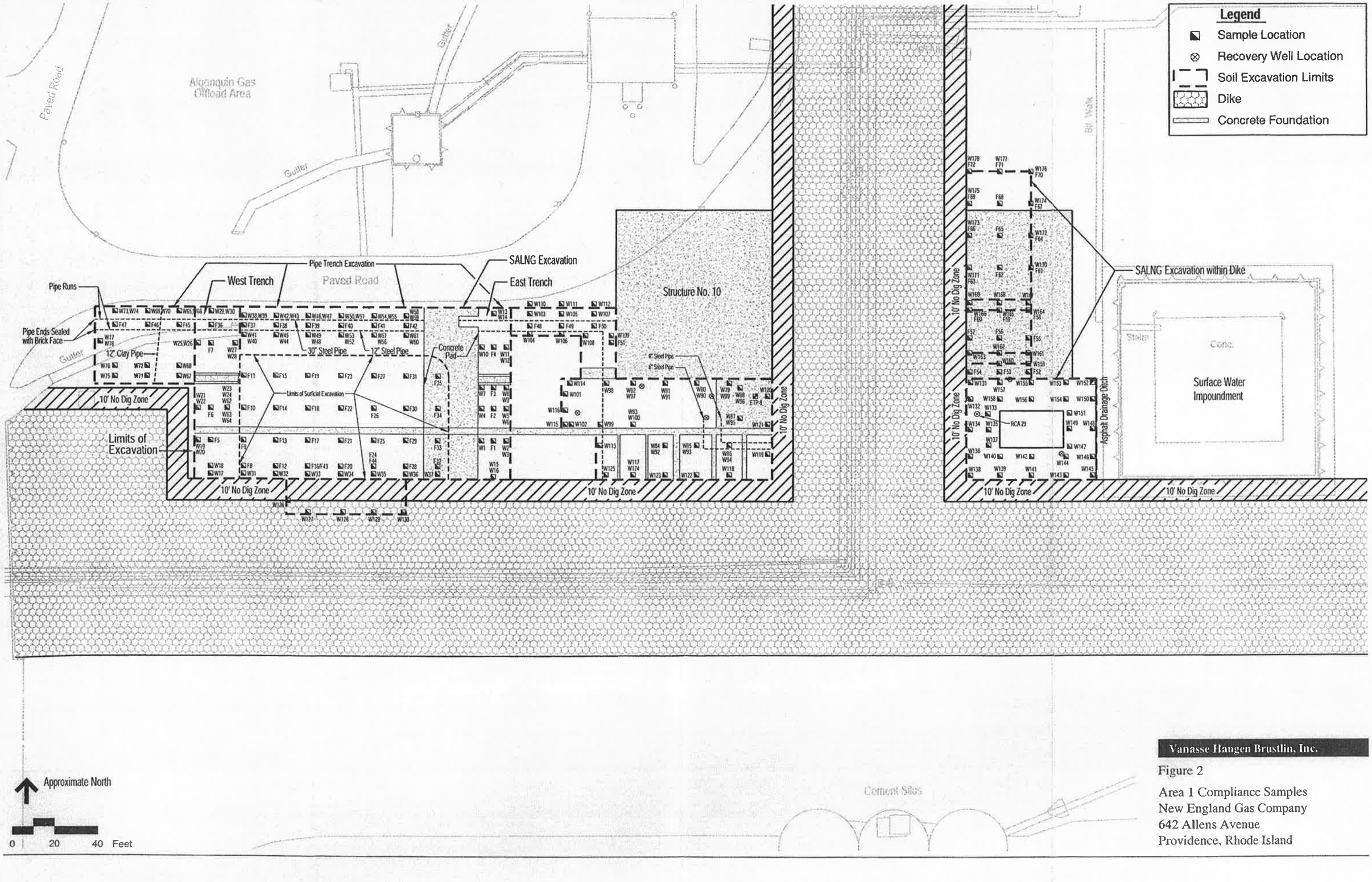
Vanasse Hangen Brustlin, Inc.

0 1000 2000 Feet

Site Location Map
New England Gas Company
642 Allens Avenue
Providence, Rhode Island

Figure 1

71415 Area1 ComplianceSamples.dwg 12-30-02 by dwhite...

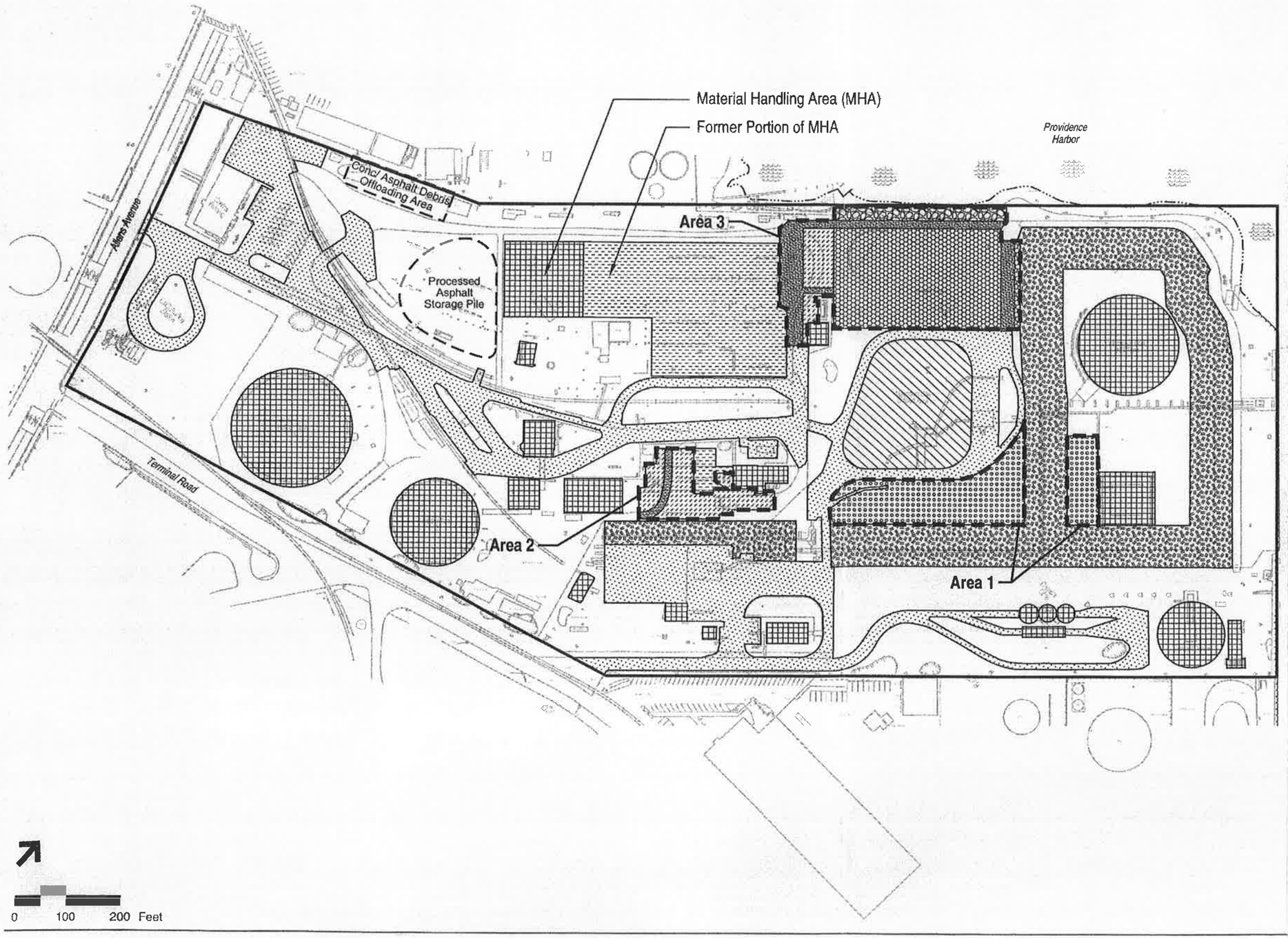


Vanasse Hangen Brustlin, Inc.

Figure 2

Area 1 Compliance Samples
New England Gas Company
642 Allens Avenue
Providence, Rhode Island

71415 Coverings.dwg 11-08-02 by dwhite...



Areas of Remediation

- Areas capped with approximately 18-20 inches of clean sand, approximately 4-6 inches of loam and hydroseeded
- Areas capped with approximately 2 feet of stone dust
- Areas capped with approximately 18-20 inches of clean sand, and approximately 4-6 inches of crushed stone
- Areas remediated by ESS, clean sand and crushed stone cap
- Areas capped with geotextile and approximately 24 inches of rip-rap
- Crushed Stone

Areas Equivalent to an Engineered Cap

- Building/ Structure
- Paved Areas
- Containment Dike

Other Areas

- Approximately 4-6 inches of loam and hydroseed applied to former MHA, not an engineered cap. Additional investigations are planned

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Figure 3

New England Gas Company
642 Allens Avenue
Providence, Rhode Island

Tables

Table 1
Remedial Objectives for Soil

Constituent	Surface Soil	Subsurface Soil <100 feet from Shore	Subsurface Soil >100 feet from Shore
TPH (mg/Kg)	2,500	15,000	30,000
VOCs (mg/Kg)			
Benzene	200	4.3	43
Ethylbenzene	10,000	62	620
Toluene	10,000	54	540
Xylenes	10,000	540	540
PAHs (mg/Kg)			
Acenaphthene	10,000	10,000	10,000
Acenaphthylene	10,000	10,000	10,000
Anthracene	10,000	10,000	10,000
Benzo(a) Anthracene	7.8	10,000	10,000
Benzo (a) Pyrene	0.8	10,000	10,000
Benzo (b) Fluoranthene	7.8	10,000	10,000
Benzo (g,h,i) perylene	10,000	10,000	10,000
Benzo (k) fluoranthene	78	10,000	10,000
Chrysene	780	10,000	10,000
Dibenzo (a,h) Anthracene	0.8	10,000	10,000
Fluoranthene	10,000	10,000	10,000
Fluorene	10,000	10,000	10,000
Indeno (1,2,3) Pyrene	7.8	10,000	10,000
2-Methylnaphthalene	10,000	10,000	10,000
Naphthalene	10,000	500	5,000
Phenanthrene	10,000	10,000	10,000
Pyrene	10,000	10,000	10,000
2,4-Dimethylphenol	10,000	10,000	10,000
2,6-Dinitrotoluene	10,000	10,000	10,000
Pentachlorophenol	48	10,000	10,000
PCBs (mg/Kg)	10	10,000	10,000
Metals (mg/Kg)			
Arsenic	7	–	–
Lead	500	–	–
Cyanide	10,000	–	–

– No RO established for constituent.

Table 2
Laboratory Analytical Results for Clay Pipe

Analyte/Sample ID Date Collected	A1-Pipe 2 7/22/99
TPH (mg/Kg)	21,100
PAHs (mg/Kg)	
2-Methylnaphthalene	628
Acenaphthene	ND
Acenaphthylene	218
Anthracene	380
Benzo (a) anthracene	379
Benzo (a) pyrene	255
Benzo (b) fluoranthene	297
Benzo (g,h,i) perylene	ND
Benzo (k) fluoranthene	138
Chrysene	320
Dibenzo (a) anthracene	ND
Fluoranthene	929
Fluorene	607
Indeno (1,2,3-cd) pyrene	135
Naphthalene	2,260
Phenanthrene	1,580
Pyrene	658
VOCs (mg/Kg)	
Benzene	ND
Ethylbenzene	ND
Toluene	32.9
Xylenes	174
PCBs (mg/Kg)	ND
Metals (mg/Kg)	
Arsenic	3.22
Lead	ND
Total Cyanide (mg/Kg)	5.26

Table 3
East Trench Confirmatory Results

Sample ID:	Remedial Objectives		A1-W1	A1-W2	A1-W3	A1-W4	A1-W5	A1-W6	A1-W7	A1-W8	A1-W9	A1-W10	A1-W11	A1-W12	A1-W13*	A1-W14	A1-W15*	A1-W16	A1-F1	A1-F2	A1-F3	A1-F4
Date Sampled:	Surface Soil	Subsurface Soil >100 ' of Shore	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99
Depth (ft.):			7.5'	2.0'	5.5'	7.5'	2.0'	5.5'	7.5'	2.0'	5.5'	6.5'	2.0'	5.0'	2.0'	5.0'	2.0'	5.5'	9.0'	9.0'	9.0'	8.0'
Total Cyanide (mg/Kg)	10,000	NE	0.58	1.91	2.04	ND	2.79	0.99	8.06	ND	ND	9.49	ND	ND	ND	0.58	ND	1.64	ND	1.34	18.74	ND
Total Metals (mg/Kg)																						
Asenic	7.0	NE	10.1	12.7	26.6	5.92	8.84	7.47	7.57	12.7	9.64	9.94	11.3	8.01	ND	4.22	3.85	5.12	6.75	13	13	17.6
Lead	500	NE	16.7	36.9	72.2	6.9	51	15.6	12.9	12.4	ND	55.5	9.5	ND	9.0	15	32.6	18	21.5	44.2	344	11
TPH (mg/Kg)	2,500	30,000	ND	155	230	ND	137	ND	913	53	631	ND	41	ND	41	63	44	ND	ND	183	812	106
VOCs (mg/Kg)																						
Benzene	200	43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	540	ND	ND	ND	ND	0.057	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	540	ND	ND	ND	ND	0.058	ND	ND	ND	0.129	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.071	ND
PCBs (mg/Kg)	10	10																				
Arochlor 1060	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1221	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1232	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1242	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1248	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1254	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1260	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PAHs (mg/Kg)																						
2-Methylnaphthalene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	23.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	16.6	ND
Acenaphthene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	2.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	1.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	10,000	10,000	ND	ND	0.735	ND	0.609	ND	18.0	ND	20.3	ND	ND	ND	ND	ND	ND	ND	ND	0.941	16.8	ND
Benzo(a)anthracene	7.8	10,000	0.657	4.86	8.43	ND	2.7	0.609	87.7	0.855	18.4	0.756	1.14	ND	1.08	1.11	0.819	ND	ND	3.57	20.2	2.02
Benzo(a)pyrene	0.8	10,000	0.979	4.9	7.6	ND	2.9	0.662	72.9	0.833	14.1	0.846	1.35	ND	1.2	1.64	1.04	0.604	ND	3.28	16.6	1.97
Benzo(b)fluoranthene	7.8	10,000	1.53	8.14	23.3	ND	3.99	0.785	106	1.33	20	1.49	1.94	ND	1.91	2.21	1.49	0.937	ND	4.94	27.3	3.13
Benzo(g,h,i)perylene	10,000	10,000	ND	4.07	3.8	ND	1.68	ND	47.2	ND	3.87	ND	ND	ND	1.12	1.91	0.676	ND	ND	3.75	9.8	1.75
Benzo(k)fluoranthene	78	10,000	0.597	2.5	5.78	ND	1.33	ND	19.7	ND	6.01	ND	0.641	ND	0.62	0.835	0.586	ND	ND	1.38	9.9	1.2
Chrysene	780	10,000	0.728	4.65	13.0	ND	2.44	0.66	75.3	0.822	15.4	0.846	1.11	ND	1.22	1.26	0.832	ND	ND	3.16	18.1	1.87
Dibenzo(a,h)anthracene	0.8	10,000	ND	1.1	1.54	ND	ND	ND	23.3	ND	1.74	ND	ND	ND	ND	ND	ND	ND	ND	1.08	ND	ND
Fluoranthene	10,000	10,000	0.549	5.91	6.92	ND	3.01	0.896	1000	1.41	35.1	1.01	1.42	ND	2.1	1.91	1.26	0.637	ND	5.71	35.7	2.72
Fluorene	10,000	10,000	ND	ND	ND	ND	ND	ND	7.87	ND	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	17.3	ND
Indeno(1,2,3-cd)pyrene	7.8	10,000	ND	4.41	4.99	ND	1.95	ND	47.2	ND	4.91	ND	0.559	ND	1.22	1.69	0.691	ND	ND	3.99	11.5	1.78
Naphthalene	10,000	5,000	ND	ND	ND	ND	0.656	ND	ND	1.35	66.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	28.8	ND
Phenanthrene	10,000	10,000	ND	1.32	1.33	ND	1.76	ND	31.60	1.33	65.4	ND	ND	ND	0.894	1.14	0.72	ND	ND	2.21	52.1	0.883
Pyrene	10,000	10,000	0.535	7.53	18.10	ND	2.99	0.86	174	1.06	33.7	0.85	1.40	ND	3.3	2.49	1.39	0.53	ND	8.58	35.5	3.96

Notes: All concentrations are equivilant to parts per million (ppm).
Concentrations depicted as **BOLD** exceed the Surficial Remedial Objectives, Concentrations that are UNDERLINED exceed the Subsurface Remedial Objectives.
ND -- Not detected above method reporting limit, NE – No criteria exists
* Confirmatory sample location at the limits of excavation.

Table 4
West Trench Confirmatory Results

Sample ID:	Remedial Objectives		A1-W17*	A1-W18	A1-W19*	A1-W20	A1-W21*	A1-W22	A1-W23**	A1-W62 (post W-23)	A1-W63	A1-W64	A1-W24	A1-W25**	A1-W26	A1-W27**	A1-W28	A1-W29	A1-W30	A1-F5	A1-F6	A1-F7
Date Sampled:	Surface Soil	Subsurface Soil >100 ' of Shore	7/7/1999	7/7/099	7/7/1999	7/7/1999	7/8/1999	7/8/1999	7/8/1999	7/14/1999	7/14/1999	7/14/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/199
Depth (ft.)			2.0'	6.0'	2.0'	6.0'	2.0'	6.0'	2.0'	2.0'	4.0'	4.0'	6.0'	2.0'	6.0'	2.0'	6.0'	2.0'	5.0'	8.0'	9.5'	7.5'
Total Cyanide (mg/Kg)	10,000	NE	4.53	ND	1.87	ND	0.74	ND	ND	NA	NA	NA	ND	ND	ND	1.83	1.18	ND	0.66	ND	ND	1.43
Total Metals (mg/Kg)																						
Asenic	7.0	NE	11	5.53	6.38	6.59	6.01	6.28	5.88	NA	NA	NA	4.98	4.98	ND	7.63	4.47	ND	7.03	6.95	6.67	3.99
Lead	500	NE	30.5	ND	102	ND	54.9	21.6	55.4	NA	NA	NA	ND	34.5	ND	29.4	31.9	ND	9.7	ND	ND	18.1
TPH (mg/Kg)	2,500	30,000	206	ND	358	ND	181	ND	1290	NA	NA	NA	ND	113	ND	144	142	ND	ND	ND	ND	65
VOCs (mg/Kg)																						
Benzene	200	43	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	0.057	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	540	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	540	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCBs (mg/Kg)	10	10																				
Arochlor 1060	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1221	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1232	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1242	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1248	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1254	NE	NE	0.228	ND	ND	ND	0.865	ND	10.4	0.605	0.1	ND	ND	0.111	ND	0.238	0.442	ND	ND	ND	ND	0.252
Arochlor 1260	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PAHs (mg/Kg)																						
2-Methylnaphthalene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	ND	ND	ND	ND	ND	ND	7.18	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	10,000	10,000	ND	ND	4.35	ND	ND	ND	17.8	NA	NA	NA	ND	ND	ND	0.961	1.06	ND	ND	ND	ND	ND
Benzo(a)anthracene	7.8	10,000	0.924	ND	4.34	ND	0.944	ND	46.2	NA	NA	NA	ND	2.75	ND	4.09	4.23	ND	ND	ND	ND	1.66
Benzo(a)pyrene	0.8	10,000	0.883	ND	4.82	ND	1.19	ND	34.5	NA	NA	NA	ND	2.56	ND	3.74	3.29	ND	ND	ND	ND	1.45
Benzo(b)fluoranthene	7.8	10,000	1.41	ND	9.38	ND	1.42	ND	48.6	NA	NA	NA	ND	3.26	ND	4.51	4.28	ND	ND	ND	ND	2.0
Benzo(g,h,i)perylene	10,000	10,000	0.57	ND	ND	ND	0.824	ND	11.6	NA	NA	NA	ND	1.45	ND	1.61	1.35	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	78	10,000	ND	ND	ND	ND	ND	ND	13.4	NA	NA	NA	ND	1.01	ND	1.55	1.24	ND	ND	ND	ND	0.759
Chrysene	780	10,000	0.932	ND	4.81	ND	1.09	ND	46.3	NA	NA	NA	ND	2.42	ND	4.09	3.63	ND	ND	ND	ND	1.39
Dibenzo(a,h)anthracene	0.8	10,000	ND	ND	ND	ND	ND	ND	4.94	NA	NA	NA	ND	0.591	ND	0.683	0.636	ND	ND	ND	ND	ND
Fluoranthene	10,000	10,000	1.88	ND	5.54	ND	1.02	ND	104	NA	NA	NA	ND	3.13	ND	5.68	6.04	0.61	ND	ND	ND	2.28
Fluorene	10,000	10,000	ND	ND	ND	ND	ND	ND	10,7	NA	NA	NA	ND	ND	ND	ND	0.58	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	7.8	10,000	0.594	ND	3.15	ND	0.858	ND	14.6	NA	NA	NA	ND	1.69	ND	1.96	1.7	ND	ND	ND	ND	0.731
Naphthalene	10,000	5,000	ND	ND	ND	ND	ND	ND	4.65	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	10,000	10,000	1.02	ND	4.2	ND	ND	ND	91.9	NA	NA	NA	ND	0.9	ND	2.6	3.81	ND	ND	ND	ND	0.617
Pyrene	10,000	10,000	3.08	ND	5.74	ND	1.08	ND	73.30	NA	NA	NA	ND	3.39	ND	5.12	5.22	0.56	ND	ND	ND	2.60

Notes: All concentrations are equivilant to parts per million (ppm).
Concentrations depicted as **BOLD** exceed the Surficial Remedial Objectives, Concentrations that are UNDERLINED exceed the Subsurface Remedial Objectives.
ND --Not detected above method reporting limit, NE - No criteria exists
* Confirmatory sample location at the limits of excavation.
** These confirmatory sample points were excavated, refer to Figure 2.

Table 5
Surficial Soil Excavation Confirmatory Results

Sample ID:	Remedial Objectives		A1-W31*	A1-W32*	A1-W33**	A1-W34**	A1-W35**	A1-W36*	A1-W37*	A1-W126	A1-W127	A1-W128	A1-W129	A1-W130*	A1-F8	A1-F9	A1-F10	A1-F11	A1-F12	A1-F13	A1-F14	A1-F15	A1-F16
Date Sampled:	Surface Soil	Subsurface Soil >100 ' of Shore	7/8/1999	7/8/1999	7/8/1999	7/9/1999	7/7/1999	7/9/1999	7/9/1999	8/20/1999	8/20/1999	8/20/1999	8/20/1999	8/20/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999
Depth (ft.)			1.5'	1.5'	1.5'	1.5'	1.5'	1.5'	1.5'	0-1'	0-1'	0-1'	0-1'	0-1'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'
Total Cyanide (mg/Kg)	10,000	NE	0.86	1.02	1.06	0.91	1.98	5.3	ND	ND	ND	ND	ND	ND	2.07	ND	1.77	2.76	ND	4.76	1.97	1.02	36
Total Metals (mg/Kg)																							
Asenic	7.0	NE	5.19	4.67	5.68	ND	110	ND	ND	ND	ND	ND	ND	ND	5.39	5.55	ND	6.38	4.91	7.81	6.25	5.96	23.4
Lead	500	NE	19.2	118	36.4	36.1	134	29.5	32.5	ND	ND	ND	ND	29.7	12.7	9.7	19.3	26	ND	63	32.9	17.5	114
TPH (mg/Kg)	2,500	30,000	280	343	302	765	1590	605	564	ND	ND	ND	ND	7920	ND	375	95	211	79	183	119	88	427
VOCs (mg/Kg)																							
Benzene	200	43	ND	ND	ND	ND	ND	0.131	ND	ND	ND	ND	ND	0.201	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	ND	ND	ND	ND	0.09	ND	ND	ND	ND	ND	ND	0.377	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	540	ND	ND	ND	ND	0.128	0.19	0.127	ND	ND	ND	ND	0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	540	ND	ND	ND	0.141	0.229	0.231	0.225	ND	ND	ND	ND	0.39	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCBs (mg/Kg)	10	10																					
Arochlor 1060	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1221	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1232	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1242	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1248	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1254	NE	NE	0.262	ND	0.434	0.197	0.781	ND	ND	NA	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1260	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA	NA	0.10	0.103	0.422	0.356	0.766	ND	0.640	1.74	10.1
PAHs (mg/Kg)															ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.78	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.62	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	10,000	10,000	0.574	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.12	ND	ND	0.666	1.8	ND	ND	0.688	ND	ND
Benzo(a)anthracene	7.8	10,000	2.14	ND	1.41	ND	ND	ND	ND	ND	ND	ND	ND	4.25	ND	1.09	2.95	9.74	ND	5.42	2.54	2.18	2.49
Benzo(a)pyrene	0.8	10,000	2.59	1.64	2.75	3.63	6.06	4.13	4.32	ND	ND	ND	ND	4.15	ND	1.13	2.77	7.8	ND	5.07	2.67	2.1	2.6
Benzo(b)fluoranthene	7.8	10,000	3.07	2.37	3.24	4.37	6.71	4.37	5.34	ND	ND	ND	ND	4.79	ND	1.96	4.37	11.5	ND	8.82	3.68	3.24	5.91
Benzo(g,h,i)perylene	10,000	10,000	1.39	ND	4.71	ND	3.52	ND	ND	ND	ND	ND	ND	ND	ND	1.49	1.66	2.24	ND	1.99	3.05	1.69	1.5
Benzo(k)fluoranthene	78	10,000	1.19	ND	1.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.33	4.57	ND	2.61	1.25	1.3	2.21
Chrysene	780	10,000	2.05	ND	1.4	ND	2.69	ND	ND	ND	ND	ND	ND	ND	ND	1.28	2.55	7.75	ND	4.97	2.65	2.06	2.81
Dibenzo(a,h)anthracene	0.8	10,000	ND	ND	0.874	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	0.748	0.539	ND	ND
Fluoranthene	10,000	10,000	3.01	ND	2.33	ND	ND	ND	ND	ND	ND	ND	ND	8.57	ND	1.53	4.22	15.0	ND	7.22	5.02	3.61	3.53
Fluorene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.92	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	7.8	10,000	1.57	1.1	4.38	ND	3.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.76	2.84	ND	2.19	3.2	1.83	1.65
Naphthalene	10,000	5,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.75	ND	ND	ND	ND	ND	ND	ND	ND	0.964
Phenanthrene	10,000	10,000	1.92	ND	1.0	ND	ND	ND	ND	ND	ND	ND	ND	19.9	ND	ND	2.68	4.08	ND	2.2	2.69	1.8	2.17
Pyrene	10,000	10,000	2.98	ND	6.46	ND	3.66	3.01	3.14	ND	ND	ND	ND	13.20	ND	6.77	4.59	14.0	ND	7.25	6.29	4.79	2.37

Table 5*
Surficial Soil Excavation Confirmatory Results (Continued)

Sample ID:	Remedial Objectives		post F-16																				
	Surface Soil	Subsurface Soil >100 ' of Shore	(A1-F43)	A1-F17	A1-F18	A1-F19	A1-F20	A1-F21	A1-F22	A1-F23	A1-F24	A1-F44 (post F-24)	A1-F25	A1-F26	A1-F27	A1-F28	A1-F29	A1-F30	A1-F31	A1-F32	A1-F33	A1-F34	A1-F35
Date Sampled:			7/13/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/13/1999	7/8/1999	7/8/1999	7/8/1999	7/9/1999	7/9/1999	7/9/1999	7/9/1999	7/9/1999	7/9/1999	7/9/1999	7/9/1999
Depth (ft.)			4.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	4.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'
Total Cyanide (mg/Kg)	10,000	NE	NA	3.15	1.99	1.56	6.09	25	7.63	14.6	38.7	NA	56.4	9.31	5.43	2.27	37.4	2.58	11.1	1450	6.56	1.22	14
Total Metals (mg/Kg)																							
Asenic	7.0	NE	NA	7.09	4.5	7.88	ND	9.37	5.11	9.03	257	NA	124	10.2	6.58	ND	52.1	ND	9.9	77.5	20	ND	6.9
Lead	500	NE	NA	91.4	81.7	36	8.8	72.9	99.7	84.8	1790	NA	392	73.5	29.2	34.9	166	156	197	366	80.2	218	600
TPH (mg/Kg)	2,500	30,000	NA	342	202	198	ND	156	260	304	480	NA	1410	763	1920	514	465	754	668	2880	493	3440	1120
VOCs (mg/Kg)																							
Benzene	200	43	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	0.079	ND	ND	ND	0.056	ND	ND	ND	0.095
Toluene	10,000	540	NA	0.101	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.075	0.15	0.107	ND	0.108	0.084	ND	ND	ND	0.144
Xylenes	10,000	540	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.141	0.219	0.212	ND	0.25	0.215	ND	ND	0.239	0.379
PCBs (mg/Kg)	10	10																					
Arochlor 1060	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1221	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1232	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1242	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1248	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arochlor 1254	NE	NE	ND	0.527	ND	0.464	0.628	0.941	0.727	2.02	11.2	ND	6.66	1.64	0.169	0.451	5.0	0.257	0.615	10.0	0.453	ND	0.33
Arochlor 1260	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PAHs (mg/Kg)																							
2-Methylnaphthalene	10,000	10,000	NA	ND	ND	ND	ND	ND	ND	ND	0.545	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.34	ND
Acenaphthene	10,000	10,000	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	NA	ND	ND	0.535	ND	ND	ND	ND	0.947	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	10,000	10,000	NA	ND	ND	0.63	ND	ND	2.06	2.99	0.925	NA	ND	1.31	1.47	4.36	ND	ND	ND	ND	ND	5.56	ND
Benzo(a)anthracene	7.8	10,000	NA	4.51	1.56	2.52	ND	1.97	7.26	6.47	2.46	NA	37.2	4.85	8.0	4.89	3.42	11.2	10.3	5.51	ND	17.4	6.98
Benzo(a)pyrene	0.8	10,000	NA	4.51	1.45	2.56	ND	2.12	6.39	5.39	3.41	NA	24.8	6.83	7.39	7.72	3.8	17.9	12.6	5.48	2.99	22.1	11
Benzo(b)fluoranthene	7.8	10,000	NA	8.03	1.89	3.53	ND	3.8	10.3	8.6	4.78	NA	54.7	10.8	15.3	9.23	6.03	20.5	17.7	15.9	3.97	35.1	16.5
Benzo(g,h,i)perylene	10,000	10,000	NA	1.85	0.561	0.851	ND	0.93	5.68	5.01	1.93	NA	ND	3.11	3.49	3.36	ND	6.81	4.51	3.2	ND	8.42	4.29
Benzo(k)fluoranthene	78	10,000	NA	2.61	0.871	1.91	ND	1.84	3.33	3.1	3.17	NA	18.9	3.8	4.54	2.82	ND	8.06	5.28	5.11	ND	8.59	4.03
Chrysene	780	10,000	NA	4.38	1.37	2.23	ND	2.14	6.66	5.76	2.38	NA	35.3	4.94	7.79	4.38	4.13	10.7	10.3	8.44	ND	14.4	6.98
Dibenzo(a,h)anthracene	0.8	10,000	NA	0.623	ND	ND	ND	ND	1.54	1.32	ND	NA	ND	1.08	1.4	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	10,000	10,000	NA	8.34	1.56	4	ND	2.18	11.5	11.3	3.82	NA	71	6.39	12.1	5.75	5.65	10.5	12	7.29	4.01	20.4	7.11
Fluorene	10,000	10,000	NA	ND	ND	ND	ND	ND	1.57	2.57	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	7.8	10,000	NA	1.97	ND	0.795	ND	0.897	6.17	5.28	1.46	NA	ND	3.49	4.04	3.88	ND	7.95	5.45	3.6	ND	9.67	4.95
Naphthalene	10,000	5,000	NA	ND	ND	ND	ND	ND	ND	ND	0.976	NA	ND	ND	ND	ND	ND	ND	ND	8.2	ND	2.85	4.15
Phenanthrene	10,000	10,000	NA	2.83	0.87	1.89	ND	1.29	8.97	9.89	3.74	NA	54.4	3.54	4.89	7.59	3.43	6.86	9.77	6.27	2.69	13.6	4.65
Pyrene	10,000	10,000	NA	7.20	1.68	3.49	ND	3.09	12.20	12.90	4.73	NA	50.80	5.66	8.66	5.83	5.76	10.1	12.0	5.80	3.74	18.20	7.17

Notes: All concentrations are equivilant to parts per million (ppm).
Concentrations depicted as **BOLD** exceed the Surficial Remedial Objectives, Concentrations that are UNDERLINED exceed the Subsurface Remedial Objectives.
ND – Not detected above method reporting limit, NE – No criteria exists
* Confirmatory sample location at the limits of excavation.
** These confirmatory sample points were excavated, refer to Figure 2.

Table 6
Pipe Run Excavation Confirmatory Results

Sample ID:	Remedial Objectives		A1-W38	A1-W39	A1-W41	A1-W42*	A1-W43	A1-W45	A1-W46	A1-W47	A1-W49	A1-W50*	A1-W51	A1-W53	A1-W54*	A1-W55	A1-W57	A1-W58	A1-W59	A1-W61	A1-W65*	A1-W66	A1-W67*
Date Sampled:	Surface Soil	Subsurface Soil >100 ' of Shore	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/12/1999	7/22/1999	7/22/1999	7/22/1999
Depth (ft.)			2.0'	5.0'	5.0'	2.0'	5.0'	5.0'	2.0'	5.0'	5.0'	2.0'	5.0'	5.0'	2.0'	5.0'	5.0'	2.0'	5.0'	5.0'	1.5'	5.0'	1.5'
Total Cyanide (mg/Kg)	10,000	NE	0.66	NA	NA	35.9	NA	NA	56.5	NA	NA	8.09	NA	NA	2.54	NA	NA	1.67	NA	NA	0.62	NA	1.32
Total Metals (mg/Kg)																							
Asenic	7.0	NE	4.03	NA	NA	NA	NA	NA	3.75	NA	NA	5.61	5.49	NA	5.6	NA	NA	5.51	NA	NA	3.55	NA	5.08
Lead	500	NE	19.9	NA	NA	NA	NA	NA	ND	NA	NA	24.5	23	NA	28.5	NA	NA	18.8	NA	NA	30.2	NA	22.4
TPH (mg/Kg)	2,500	30,000	ND	ND	ND	98	ND	ND	ND	ND	ND	68	142	66	184	ND	96	178	ND	93	173	ND	111
VOCs (mg/Kg)																							
Benzene	200	43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCBs (mg/Kg)	10	10																					
Arochlor 1060	NE	NE	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND
Arochlor 1221	NE	NE	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND
Arochlor 1232	NE	NE	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND
Arochlor 1242	NE	NE	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND
Arochlor 1248	NE	NE	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND
Arochlor 1254	NE	NE	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	0.172
Arochlor 1260	NE	NE	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	ND
PAHs (mg/Kg)																							
2-Methylnaphthalene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	7.8	10,000	ND	ND	ND	1.75	ND	ND	ND	ND	ND	0.753	4.94	1.99	3.61	ND	1.24	ND	ND	2.14	4.65	ND	3.25
Benzo(a)pyrene	0.8	10,000	ND	ND	0.168	1.74	ND	ND	ND	ND	ND	0.969	5.0	1.9	3.8	ND	1.63	0.583	ND	1.9	5.3	ND	2.66
Benzo(b)fluoranthene	7.8	10,000	ND	ND	0.229	2.33	ND	ND	ND	ND	ND	1.15	6.89	2.07	5.24	ND	1.85	0.857	ND	2.73	7.73	ND	3.57
Benzo(g,h,i)perylene	10,000	10,000	0.573	ND	ND	1.24	ND	ND	ND	ND	ND	0.766	1.54	0.933	1.33	ND	0.646	ND	ND	0.88	2.28	ND	1.53
Benzo(k)fluoranthene	78	10,000	ND	ND	ND	0.887	ND	ND	ND	ND	ND	ND	1.89	0.958	1.43	ND	0.846	ND	ND	1.05	2.64	ND	1.13
Chrysene	780	10,000	ND	ND	0.148	1.95	ND	ND	ND	ND	ND	0.812	4.71	1.83	3.44	ND	1.32	ND	ND	2.07	5.92	ND	2.77
Dibenzo(a,h)anthracene	0.8	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	0.782	ND	ND	ND	ND	ND	ND	ND	0.796	ND	0.527
Fluoranthene	10,000	10,000	0.711	ND	ND	3.23	ND	ND	ND	ND	ND	ND	5.53	3.05	5.21	ND	1.6	ND	ND	2.91	7.95	ND	3.87
Fluorene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.841	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	7.8	10,000	ND	ND	0.118	1.46	ND	ND	ND	ND	ND	ND	2.1	1.15	1.73	ND	0.824	0.569	ND	1.12	2.98	ND	1.87
Naphthalene	10,000	5,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	10,000	10,000	ND	ND	ND	1.43	ND	ND	ND	ND	ND	ND	0.994	1.24	2.38	ND	0.6	ND	ND	0.969	4.41	ND	0.955
Pyrene	10,000	10,000	0.598	ND	0.14	2.55	ND	ND	ND	ND	ND	0.99	4.55	2.65	3.81	ND	1.29	ND	ND	2.33	9.16	ND	4.75

Table 6
Pipe Run Excavation Confirmatory Results (Continued)

Sample ID:	Remedial Objectives		A1-W68	A1-W69*	A1-W70	A1-W71*	A1-W72	A1-W73	A1-W74	A1-W75	A1-W76	A1-W77	A1-W78	A1-F37	A1-F38	A1-F39	A1-F40	A1-F41	A1-F42	A1-F45	A1-F46	A1-F47
Date Sampled:	Surface Soil	Subsurface Soil >100 ' of Shore	7/22/1999	7/22/1999	7/22/1999	7/22/1999	7/22/1999	7/22/1999	7/22/1999	7/22/1999	7/22/1999	7/22/1999	7/22/1999	7/9/1999	7/9/1999	7/9/1999	7/9/1999	7/9/1999	7/9/1999	7/22/1999	7/22/1999	7/22/1999
Depth (ft.)			5.0'	1.5'	5.0'	1.5'	5.0'	1.5'	5.0'	1.5'	5.0'	1.5'	5.0'	8.0'	8.0'	8.0'	8.0'	8.0'	8.0'	9.0'	9.0'	9.0'
Total Cyanide (mg/Kg)	10,000	NE	NA	2.82	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	54.6	14.95	1.43	4.04	26.6	NA	NA	NA
Total Metals (mg/Kg)																						
Asenic	7.0	NE	NA	4.6	NA	2.97	NA	5.84	NA	2.63	NA	3.79	NA	ND	ND	7.7	ND	ND	ND	NA	NA	NA
Lead	500	NE	NA	172	NA	17.5	NA	17.9	NA	13	NA	9.5	NA	24.6	69.8	109	24.4	23.5	9.2	NA	NA	NA
TPH (mg/Kg)	2,500	30,000	ND	209	ND	59	ND	ND	ND	ND	ND	ND	ND	ND	57	77	ND	158	702	ND	ND	ND
VOCs (mg/Kg)																						
Benzene	200	43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCBs (mg/Kg)	10	10																				
Arochlor 1060	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA
Arochlor 1221	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA
Arochlor 1232	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA
Arochlor 1242	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA
Arochlor 1248	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA
Arochlor 1254	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA
Arochlor 1260	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.131	0.61	0.734	0.66	ND	ND	ND	NA	NA
PAHs (mg/Kg)														ND	ND	ND	ND	ND	ND	ND	NA	NA
2-Methylnaphthalene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	10,000	10,000	ND	1.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.663	3.05	ND	3.29	ND	ND	ND
Benzo(a)anthracene	7.8	10,000	0.916	6.93	ND	1.21	ND	ND	ND	0.765	ND	ND	ND	ND	1.75	2.52	8.52	2.52	44.7	ND	ND	ND
Benzo(a)pyrene	0.8	10,000	0.817	8.01	ND	1.09	ND	ND	ND	0.776	ND	ND	ND	ND	1.84	2.32	6.34	2.21	32	ND	ND	ND
Benzo(b)fluoranthene	7.8	10,000	1.01	12.1	ND	1.51	ND	ND	ND	1.15	ND	0.613	ND	ND	2.19	3.03	8.67	2.96	62.1	ND	ND	ND
Benzo(g,h,i)perylene	10,000	10,000	ND	2.35	ND	0.782	ND	ND	ND	ND	ND	ND	ND	ND	1.17	1.51	3.46	1.72	18.5	ND	ND	ND
Benzo(k)fluoranthene	78	10,000	ND	3.69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.942	1.2	3.62	1.13	13.8	ND	ND	ND
Chrysene	780	10,000	0.907	8.74	ND	1.08	ND	ND	ND	0.972	ND	0.568	ND	ND	1.51	2.61	7.16	2.27	36.4	ND	ND	ND
Dibenzo(a,h)anthracene	0.8	10,000	ND	0.812	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.49	ND	ND	ND
Fluoranthene	10,000	10,000	1.43	16.4	ND	1.66	0.659	ND	ND	1.66	0.802	0.995	ND	ND	3.41	4.66	15.5	3.48	52	ND	ND	ND
Fluorene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	7.8	10,000	ND	3.24	ND	0.836	ND	ND	ND	0.538	ND	ND	ND	ND	1.25	1.7	4.01	1.98	22.4	ND	ND	ND
Naphthalene	10,000	5,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	10,000	10,000	ND	7.32	ND	0.598	0.584	ND	ND	0.703	ND	ND	ND	ND	2.22	3.39	10.3	1.47	66.2	ND	ND	ND
Pyrene	10,000	10,000	1.30	14.80	ND	1.61	ND	ND	ND	1.35	0.62	0.82	ND	ND	2.95	3.78	10.70	3.48	52.5	ND	ND	ND

Notes: All concentrations are equivilant to parts per million (ppm).
All concentrations reported in BOLD exceed the RAWP Surficial Remedial Objectives, Concentrations underlined exceed the RAWP Subsurface Remedial Objectives.
ND -- Not detected above method reporting limit; NA -- Not analyzed; NE – RIDEM criteria does not exist; BIC — By individual constituent.
* Confirmatory sample location at the limits of excavation.

Table 7
East SALNG Area Confirmatory Results

Sample ID:	Remedial Objectives		A1-W79	A1-W80	A1-W81	A1-W82	A1-W83	A1-W84	A1-W85	A1-W86	A1-W87	A1-W88	A1-W90	A1-W91	A1-W92	A1-W93	A1-W94	A1-W95	A1-W96	A1-W97	A1-W98	A1-W99	A1-W100	A1-W101	A1-W102	A1-W103	A1-W104
Date Sampled:	Surface	Subsurface Soil	7/30/1999	7/30/1999	7/30/1999	7/30/1999	7/30/1999	7/30/1999	7/30/1999	7/30/1999	7/30/1999	7/30/1999	8/4/1999	8/4/1999	8/4/1999	8/4/1999	8/4/1999	8/4/1999	8/4/1999	8/9/1999	8/9/1999	8/9/1999	8/9/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999
Depth (ft.)	Soil	>100 ' of Shore	7-10'	7-10'	7-10'	2-10'	2-10'	2-10'	2-10'	2-10'	2-7'	2-7'	10-12'	10-12'	10-12'	10-12'	10-12'	10-12'	10-12'	10-12'	10-12'	10-12'	10-12'	7-11'	7-11'	2-8'	2-8'
Total Cyanide (mg/Kg)	10,000	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals (mg/Kg)																											
Asenic	7.0	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	500	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (mg/Kg)	2,500	30,000	6550	1060	520	455	176	233	ND	ND	150	1420	15900	3470	7200	ND	2650	263	2070	12900	6960	4020	5320	105	2590	224	77
VOCs (mg/Kg)																											
Benzene	200	43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	2	0.173	ND	ND	ND	ND	ND	ND	ND	ND	3.78	ND	ND	ND	ND	1.72	0.755	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	540	ND	0.079	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	540	5.9	0.529	ND	ND	ND	ND	ND	ND	ND	ND	1.26	0.063	ND	ND	ND	0.517	0.351	0.081	ND	ND	ND	ND	ND	ND	ND	ND
PCBs (mg/Kg)	10	10																									
Arochlor 1060	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
Arochlor 1221	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
Arochlor 1232	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
Arochlor 1242	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
Arochlor 1248	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
Arochlor 1254	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
Arochlor 1260	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
PAHs (mg/Kg)																											
2-Methylnaphthalene	10,000	10,000	35.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	50.1	27.5	ND	ND	ND	2.18	22.5	50.9	12.4	6.16	23.3	ND	ND	ND	ND
Acenaphthene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.81	ND	ND	ND	ND	ND	ND	2.38	1.18	3.29	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	35.7	ND	ND	ND	0.887	ND	ND	ND	ND	24.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	10,000	10,000	32.1	7.32	ND	3.15	0.565	0.732	ND	ND	0.701	32.8	27.9	6.67	7.88	ND	2.32	0.602	4.42	5.55	3.57	1.13	3.93	ND	0.597	ND	ND
Benzo(a)anthracene	7.8	10,000	79.5	45.8	22	14.8	2.52	3.8	ND	ND	3.35	80.2	63.1	5.62	ND	ND	ND	0.498	ND	4.38	2.33	ND	2.41	0.969	1.12	1.54	0.633
Benzo(a)pyrene	0.8	10,000	63.7	31.2	16.1	12.0	2.21	3.56	ND	ND	3.06	62.4	52.2	ND	ND	ND	ND	0.405	ND	1.87	0.931	ND	1.14	0.742	0.668-	1.27	0.601
Benzo(b)fluoranthene	7.8	10,000	73.4	43.6	20.9	16.7	2.96	4.81	ND	ND	4.12	91.6	60.2	ND	ND	ND	ND	0.522	ND	2.41	1.27	ND	1.24	0.935	0.784	1.58	0.776
Benzo(g,h,i)perylene	10,000	10,000	33.4	12.1	5.15	5.72	1.24	1.24	ND	ND	1.09	41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.587	ND	0.813	ND
Benzo(k)fluoranthene	78	10,000	30	11.6	6.63	5.62	1.03	1.63	ND	ND	1.44	29.2	21.6	ND	ND	ND	ND	ND	ND	0.946	ND	ND	ND	ND	ND	0.639	ND
Chrysene	780	10,000	62.8	38.6	18.6	13.5	2.45	3.09	ND	ND	3.12	77.2	55.2	4.83	ND	ND	ND	0.431	ND	3.22	1.84	ND	1.76	0.955	0.979	1.61	0.687
Dibenzo(a,h)anthracene	0.8	10,000	12.3	ND	ND	ND	ND	ND	ND	ND	ND	12.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	10,000	10,000	178	61.9	23.9	18.2	4.12	3.2	ND	ND	4.17	195	93.1	14.7	17.8	ND	4.3	1.13	8.82	12.2	4.97	0.684	6.03	1.55	2.34	2.44	0.88
Fluorene	10,000	10,000	36	ND	ND	ND	ND	ND	ND	ND	ND	32.1	28.3	ND	12.1	ND	3.03	ND	6.03	8.65	4.69	2.38	5.58	ND	0.584	ND	ND
Indeno(1,2,3-cd)pyrene	7.8	10,000	40.5	17.5	7.54	7.62	1.62	1.8	ND	ND	1.55	44	23.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.663	ND	0.943	0.546
Naphthalene	10,000	5,000	76.1	ND	ND	ND	ND	ND	ND	ND	ND	11.8	48	ND	ND	ND	ND	2.16	17	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	10,000	10,000	85.8	11.7	3.23	13.3	1.83	1.71	ND	ND	2.14	148	72.5	22.8	25.1	ND	6.34	2.05	13.2	23.9	13.7	5.48	15.2	ND	0.648	2.45	0.607
Pyrene	10,000	10,000	144.0	61.1	23.50	18.70	2.13	3.41	ND	ND	4.38	128.0	56.5	10.8	13.2	ND	3.29	0.64	5.87	10.6	6.1	0.85	5.08	1.52	3.72	2.44	0.987

Table 7
East SALNG Area Confirmatory Results (Continued)

Sample ID:	Remedial Objectives		A1-W105	A1-W106	A1-W107	A1-W108	A1-W109	A1-W110*	A1-W111	A1-W112	A1-W113	A1-W114	A-W115	A1-W116	A1-W117	A1-W118	A1-W119	A1-W120	A1-W121	A1-W122	A1-W123	A1-W124	A1-W125	A1-F48	A1-F49	A1-F50	A1-F51
Date Sampled:	Surface Soil	Subsurface Soil >100 ' of Shore	8/11/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999	8/18/1999	8/18/1999	8/18/1999	8/18/1999	8/19/1999	8/19/1999	8/19/1999	8/19/1999	8/19/1999	8/11/1999	8/11/1999	8/11/1999	8/11/1999
Depth (ft.):			2-8'	2-8'	2-8'	2-8'	2-8'	0-2'	0-2'	0-2'	7-11'	2-10'	2-10'	12.0'	2-7'	2-12'	2-12'	2-5'	2-5'	2-12'	2-12'	2-3.5'	2-3.5'	8.0'	8.0'	8.0'	8.0'
Total Cyanide (mg/Kg)	10,000	NE	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals (mg/Kg)																											
Asenic	7.0	NE	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	500	NE	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH (mg/Kg)	2,500	30,000	ND	ND	148	ND	ND	ND	ND	ND	177	ND	457	1980	ND	144	125	227	175	206	176	138	ND	72	ND	128	163
VOCs (mg/Kg)																											
Benzene	200	43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06	ND	ND	0.157	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.069	ND	ND	0.52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCBs (mg/Kg)	10	10																									
Arochlor 1060	NE	NE	NA	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA
Arochlor 1221	NE	NE	NA	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA
Arochlor 1232	NE	NE	NA	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA
Arochlor 1242	NE	NE	NA	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA
Arochlor 1248	NE	NE	NA	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA
Arochlor 1254	NE	NE	NA	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA
Arochlor 1260	NE	NE	NA	ND	NA	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	0.076	ND	NA	NA	NA	NA
PAHs (mg/Kg)																						ND	ND	NA	NA	NA	NA
2-Methylnaphthalene	10,000	10,000	ND	ND	0.629	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.387	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	ND	ND	0.895	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.85	0.732	0.367	0.44	ND	ND	ND	ND	ND	ND
Anthracene	10,000	10,000	ND	ND	1.84	ND	ND	ND	ND	ND	ND	ND	0.637	ND	ND	0.581	0.419	1.19	1.21	0.458	0.852	0.375	ND	ND	ND	0.755	ND
Benzo(a)anthracene	7.8	10,000	0.943	ND	4.84	ND	ND	1.02	ND	ND	ND	ND	2.37	ND	ND	2.28	2.71	5.13	4.5	1.96	4.75	1.69	ND	1.15	ND	3.06	1.21
Benzo(a)pyrene	0.8	10,000	0.873	ND	3.15	ND	ND	1.09	ND	ND	ND	ND	1.74	ND	ND	2.16	2.64	5.29	4.3	2.57	4.0	1.94	ND	1.02	ND	2.12	1.29
Benzo(b)fluoranthene	7.8	10,000	1.0	ND	4.94	ND	ND	1.69	ND	ND	ND	ND	2.76	ND	ND	2.56	2.64	5.72	4.99	3.02	7.51	2.5	ND	1.67	ND	3.24	1.95
Benzo(g,h,i)perylene	10,000	10,000	0.676	ND	1.4	ND	ND	ND	ND	ND	ND	ND	1.25	ND	ND	0.778	3.81	1.05	2.14	1.49	1.44	0.775	ND	ND	ND	0.656	ND
Benzo(k)fluoranthene	78	10,000	ND	ND	1.28	ND	ND	0.725	ND	ND	ND	ND	0.843	ND	ND	0.972	0.732	1.54	1.62	1.08	1.76	0.663	ND	0.685	ND	1.44	0.965
Chrysene	780	10,000	0.978	ND	4.48	ND	ND	1.52	ND	ND	ND	ND	2.19	ND	ND	2.0	2.46	4.88	4.11	2.12	4.92	1.72	ND	1.01	ND	2.57	1.11
Dibenzo(a,h)anthracene	0.8	10,000	ND	ND	0.608	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.362	0.524	0.614	0.539	0.677	ND	ND	ND	ND	ND	ND
Fluoranthene	10,000	10,000	1.57	ND	8.54	ND	ND	1.88	ND	ND	ND	ND	4.49	1.35	ND	2.73	2.76	8.58	8.03	2.63	7.65	2.32	ND	1.19	ND	3.88	1.05
Fluorene	10,000	10,000	ND	ND	1.02	ND	ND	ND	ND	ND	ND	ND	ND	0.708	ND	ND	ND	0.856	0.382	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	7.8	10,000	0.768	ND	1.96	ND	ND	ND	ND	ND	ND	ND	1.61	ND	ND	1.01	0.999	1.5	2.66	1.83	1.95	1.01	ND	ND	ND	0.898	0.549
Naphthalene	10,000	5,000	ND	ND	1.31	ND	ND	ND	ND	ND	ND	ND	0.705	ND	ND	ND	ND	0.364	0.731	0.563	0.51	ND	ND	ND	ND	ND	ND
Phenanthrene	10,000	10,000	1.05	ND	8.36	ND	ND	1.58	ND	ND	0.658	ND	2.27	0.928	ND	2.23	1.32	6.58	8.0	1.55	4.35	1.42	ND	1.12	ND	3.27	0.654
Pyrene	10,000	10,000	1.82	ND	9.63	ND	ND	2.42	ND	ND	0.6	ND	4.2	1.4	ND	3.3	3.0	7.06	6.27	2.55	5.57	2.48	ND	1.3	ND	3.3	1.2

Notes: All concentrations are equivilant to parts per million (ppm).
All concentrations reported in BOLD exceed the RIDEM Industrial DEC, Concentrations underlined exceed the ESS Remedial Objectives, Concentrations outlined exceed the RIDEM GB Leachability Criteria.
ND – Not detected above method reporting limit; NA – Not analyzed; NE — RIDEM criteria does not exist; BIC – By individual constituent.
* Confirmatory sample location at the limits of excavation.

Table 8
Confirmatory Results for SALNG Area within Containment Dike

Sample ID:	Remedial Soil Objectives		A1-W131*	A1-W132*	A1-W133	A1-W134	A1-W135	A1-W136*	A1-W137	A1-W138*	A1-W139	A1-W140	A1-W141	A1-W142	A1-W143	A1-W144	A1-W145	A1-W146	A1-W147	A1-W148	A1-W149	A1-W150*	A1-W151	A1-W152	A1-W153	A1-W154	A1-W155	A1-W156	A1-W157**	A1-W158	A1-W159	A1-W160**	A1-F52	A1-F53	A1-F54
Date Sampled:	Surface	Subsurface Soil	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/3/1999	9/7/1999	9/7/1999	9/7/1999	9/7/1999	9/7/1999	9/7/1999	9/7/1999	9/7/1999	9/8/1999	9/8/1999	9/8/1999	9/8/1999	9/8/1999	9/8/1999	9/8/1999	9/20/1999	9/20/1999	9/20/1999	9/20/199
Depth (ft.):	Soil	>100 ' of Shore	0-2'	0-2'	2-10'	0-2'	2-10'	0-2'	2-10'	0-2'	0-2'	2-10'	0-2'	2-10'	0-2'	2-10'	0-2'	0-2'	2-10'	0-2'	2-10'	0-2'	2-10'	0-2'	0-2'	2-10'	0-2'	2-10'	0-2'	2-10'	0-2'	0-2'	2'	2'	2'
Total Cyanide (mg/Kg)	10,000	NE	0.47	0.62	NA	ND	NA	ND	NA	ND	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	NA	0.53	NA	0.29	4.1	NA	ND	NA	ND	NA	ND	1.65	NA	NA	NA
Total Metals (mg/Kg)																																			
Asenic	7.0	NE	6.45	10.7	NA	5.71	NA	8.32	NA	4.49	6.09	NA	6.91	NA	4.23	NA	3.16	4.93	NA	3.85	NA	3.96	NA	5.03	ND	NA	ND	NA	7.9	NA	ND	20.3	NA	NA	NA
Lead	500	NE	49.3	57.9	NA	19.2	NA	12	NA	46.8	10.1	NA	8.2	NA	ND	NA	ND	ND	NA	10.7	NA	42	NA	17.6	15.2	NA	37.8	NA	30.3	NA	ND	110	NA	NA	NA
TPH (mg/Kg)	2,500	30,000	156	160	891	64	917	ND	884	85	ND	182	ND	172	ND	1400	ND	ND	741	ND	437	63	568	ND	34	147	ND	103	80	89	ND	425	418	1800	1690
VOCs (mg/Kg)																																			
Benzene	200	43	ND	ND	ND	ND	0.746	ND	0.157	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.066	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	ND	ND	0.103	ND	0.262	ND	0.093	ND	ND	ND	ND	0.069	ND	0.077	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.401	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	540	ND	ND	ND	ND	0.559	ND	0.121	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.068	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	540	ND	ND	ND	ND	0.507	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NC	ND	ND	ND	ND
PCBs (mg/Kg)	10	10																																	
Arochlor 1060	NE	NE	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Arochlor 1221	NE	NE	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Arochlor 1232	NE	NE	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Arochlor 1242	NE	NE	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	0.119	NA	NA	0.219
Arochlor 1248	NE	NE	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Arochlor 1254	NE	NE	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Arochlor 1260	NE	NE	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA	NA	NO	NA	NA	ND
PAHs (mg/Kg)																																			
2-Methylnaphthalene	10,000	10,000	ND	ND	0.79	ND	3.45	ND	0.641	ND	ND	ND	ND	ND	ND	0.552	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.21	ND
Acenaphthene	10,000	10,000	ND	ND	ND	ND	2.45	ND	0.537	ND	ND	ND	ND	ND	ND	0.693	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	ND	ND	0.4	ND	2.85	ND	0.748	ND	ND	ND	ND	ND	ND	0.674	ND	ND	0.366	ND	0.567	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.58	ND	ND	1.27
Anthracene	10,000	10,000	0.544	0.503	1.25	ND	6.77	ND	2.37	0.47	ND	0.369	ND	0.353	ND	2.76	ND	ND	0.579	ND	0.64	ND	0.661	ND	ND	ND	ND	ND	ND	ND	ND	1.34	ND	3.94	3.08
Benzo(a)anthracene	7.8	10,000	2.37	2.99	3.17	0.619	7.97	ND	4.6	1.55	ND	1.06	ND	0.831	ND	3.96	ND	ND	1.41	ND	2.01	0.857	1.54	ND	ND	ND	ND	ND	0.837	0.874	ND	8.47	1.28	5.78	5.81
Benzo(a)pyrene	0.8	10,000	2.81	3.51	3.58	0.737	8.92	ND	4.33	1.36	ND	1.36	ND	0.875	ND	3.15	ND	ND	1.34	ND	2.13	0.986	1.45	ND	ND	ND	ND	ND	0.955	1.07	ND	9.39	1.47	5.1	5.98
Benzo(b)fluoranthene	7.8	10,000	4.12	5.13	5.39	1	8.19	ND	7.87	1.87	ND	1.99	ND	1.04	ND	5.07	ND	ND	1.57	ND	2.3	1.01	1.53	ND	ND	0.594	ND	ND	1.33	1.83	ND	9.81	1.65	6.18	7.11
Benzo(g,h,i)perylene	10,000	10,000	1.34	1.68	1.76	ND	2.84	ND	1.91	ND	ND	ND	ND	0.609	ND	0.685	ND	ND	0.852	ND	0.984	0.555	0.669	ND	ND	ND	ND	ND	ND	ND	ND	4.51	1.21	2.94	3.79
Benzo(k)fluoranthene	78	10,000	1.49	1.83	1.81	0.434	2.73	ND	1.88	0.642	ND	0.662	ND	ND	ND	1.86	ND	ND	0.481	ND	0.806	0.433	0.621	ND	ND	ND	ND	ND	0.583	0.579	ND	3.76	ND	1.58	2.27
Chrysene	780	10,000	2.04	2.41	2.9	0.581	5.15	ND	3.71	1.27	ND	0.978	ND	0.706	ND	3.03	ND	ND	1.24	ND	1.94	0.82	1.37	ND	ND	0.407	ND	ND	0.808	0.891	ND	8.09	1.41	5.43	6.32
Dibenzo(a,h)anthracene	0.8	10,000	0.367	0.561	0.523	ND	0.982	ND	0.67	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.357	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.63	ND	1.21	ND
Fluoranthene	10,000	10,000	3.32	3.85	9.24	0.66	17.6	ND	12.9	2.05	ND	1.3	ND	1.16	ND	16.1	ND	ND	2.86	ND	3.37	1.34	2.69	ND	ND	0.641	ND	ND	1.08	1.07	ND	8.3	1.72	7.99	8.36
Fluorene	10,000	10,000	ND	ND	0.842	ND	4.68	ND	1.69	ND	ND	ND	ND	ND	ND	2.42	ND	ND	0.438	ND	0.477	ND	0.792	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.32	1.22
Indeno(1,2,3-cd)pyrene	7.8	10,000	1.61	2.1	2.18	ND	3.12	ND	2.36	0.391	ND	0.451	ND	0.758	ND	1.03	ND	ND	1.01	ND	1.28	0.703	0.882	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.77	1.15	2.75	4.32
Naphthalene	10,000	5,000	0.507	0.707	1.88	ND	10.2	ND	1.53	ND	ND	ND	ND	ND	ND	1.08	ND	ND	0.391	ND	0.448	ND	0.642	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.43	1.86
Phenanthrene	10,000	10,000	2.0	1.22	2.98	ND	22	ND	10.9	1.68	ND	0.862	ND	0.543	ND	18.96	ND	ND	1.06	ND	1.13	0.924	1.71	ND	ND	0.464	ND	ND	0.538	0.467	ND	1.75	1.44	9.31	6.68
Pyrene	10,000	10,000	3.0	4.35	7.04	0.618	17.4	ND	10.5	1.84	ND	1.13	ND	1.24	ND	4.95	ND	ND	2.7	ND	3.57	1.12	2.64	ND	ND	0.678	ND	ND	0.865	0.768	ND	9.72	2.11	7.99	8.22

Table 8
Confirmatory Results for SALNG Area within Containment Dike (Continued)

Sample ID:	Remedial Soil Objectives		A1-W164	A1-W165**	A1-W166**	A1-F55	A1-F56	A1-F57	A1-W167	A1-W168**	A1-W169*	A1-F58	A1-F59	A1-F60	A1-W170	A1-W171*	A1-W172	A1-W173*	A1-W174	A1-W175*	A1-W176	A1-W177	A1-W178	A1-F61	A1-F62	A1-F63	A1-F64	A1-F65	A1-F66	A1-F67	A1-F68	A1-F69	A1-F70	A1-F71	A1-F72
Date Sampled:	Surface	Subsurface Soil	9/27/1999	9/27/1999	9/27/1999	9/27/1999	9/27/1999	9/27/1999	10/1/1999	10/1/1999	10/1/1999	10/1/1999	10/1/1999	10/1/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999	10/8/1999
Depth (ft.)	Soil	>100' of Shore	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	2'	2'	2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	2'	2'	2'	2'	2'	2'	2'	2'	2'	2'	2'	2'
Total Cyanide (mg/Kg)	10,000	NE	0.54	ND	1.28	NA	NA	NA	ND	ND	ND	NA	NA	NA	2.2	ND	ND	ND	ND	ND	ND	ND	ND	7.57	ND	0.69	ND	0.64	ND	ND	ND	ND	ND	ND	ND
Total Metals (mg/Kg)																																				
Arsenic	7.0	NE	2.71	6.26	5.74	NA	NA	NA	3.43	4.36	7.23	NA	NA	NA	5.22	5.7	4.48	15.3	4.43	4.44	5.2	5.52	5.23	4.73	4.22	5.81	3.77	5.83	4.23	4.65	5.92	4.17	4.62	ND	5.1
Lead	500	NE	16.3	41.4	65.3	NA	NA	NA	19.7	25.4	52.5	NA	NA	NA	23.2	27.5	17.6	41.3	19.9	31.2	19.5	18.6	14.7	27	34.8	42	30	44.4	36.3	23.3	45.5	44.9	17.9	13.8	10.6
TPH (mg/Kg)	2,500	30,000	ND	152	195	67	105	1770	ND	93	75	103	83	332	118	140	38	71	ND	72	31	29	ND	72	64	117	41	73	47	79	100	50	38	77	ND
VOCs (mg/Kg)																																				
Benzene	200	43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.062	ND	0.047	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	10,000	620	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.118	ND	0.056	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	10,000	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.068	ND	0.072	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	10,000	540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCBs (mg/Kg)	10	10																																	
Arochlor 1060	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arochlor 1221	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arochlor 1232	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arochlor 1242	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arochlor 1248	NE	NE	ND	ND	ND	ND	0.38	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arochlor 1254	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arochlor 1260	NE	NE	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/Kg)																																				
2-Methylnaphthalene	10,000	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	10,000	10,000	ND	ND	ND	ND	ND	0.389	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	10,000	10,000	ND	0.434	ND	ND	ND	0.872	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	10,000	10,000	ND	0.808	0.64	ND	0.523	1.09	ND	ND	ND	ND	ND	0.677	ND	0.44	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.11	ND	ND	ND	ND	0.566	ND	ND	ND	ND
Benzo(a)anthracene	7.8	10,000	ND	2.27	1.76	0.387	1.24	2.74	ND	1.64	1.58	0.589	1.64	1.75	ND	1.93	ND	0.893	ND	1.48	0.38	ND	ND	ND	1.1	3.08	0.453	1.04	0.876	1.16	2.11	0.828	0.51	1.45	ND
Benzo(a)pyrene	0.8	10,000	ND	2.1	2.22	0.472	1.47	3.23	ND	1.43	1.7	0.69	1.72	1.72	ND	1.76	ND	0.835	ND	1.29	0.436	ND	ND	ND	1.0	2.24	0.57	1.02	0.823	0.999	1.89	0.716	0.481	1.19	ND
Benzo(b)fluoranthene	7.8	10,000	ND	2.23	2.67	0.475	1.69	4.46	ND	1.54	1.85	0.703	1.8	1.86	0.417	1.85	0.362	0.867	ND	1.4	0.51	ND	ND	ND	1.12	2.36	0.535	1.24	0.925	1.04	2.01	0.715	0.515	1.34	ND
Benzo(g,h,i)perylene	10,000	10,000	ND	1.13	0.587	ND	0.609	0.831	ND	0.86	1.07	ND	1	0.84	ND	1.1	ND	0.534	ND	0.729	0.365	ND	ND	ND	0.557	0.636	ND	0.388	ND	0.399	0.543	ND	ND	ND	ND
Benzo(k)fluoranthene	78	10,000	ND	0.934	0.961	ND	0.534	1.05	ND	0.646	0.803	ND	0.777	0.721	ND	0.654	ND	NO	ND	0.53	ND	ND	ND	ND	ND	0.822	ND	ND	ND	ND	0.78	ND	ND	0.42	ND
Chrysene	780	10,000	ND	1.85	1.64	0.378	1.19	1.28	ND	1.57	1.6	0.589	1.62	1.6	ND	1.72	ND	0.755	ND	1.21	0.372	ND	ND	ND	0.898	2.42	0.416	0.895	0.777	0.947	1.66	0.668	0.491	1.36	ND
Dibenzo(a,h)anthracene	0.8	10,000	ND	0.433	ND	ND	ND	0.353	ND	ND	ND	ND	ND	ND	ND	0.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	10,000	10,000	ND	3.26	1.98	0.562	1.74	4.55	ND	2.02	2.17	0.884	2.12	2.41	ND	2.27	0.43	1.03	ND	1.61	0.605	ND	ND	ND	1.17	3.35	0.441	1.21	0.986	1.55	2.54	1.05	0.694	1.88	ND
Fluorene	10,000	10,000	ND	ND	ND	ND	ND	0.582	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.432	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	7.8	10,000	ND	1.37	0.837	0.358	0.776	1.04	ND	1	1.27	0.556	1.22	1.02	ND	1.28	ND	0.618	ND	0.894	0.356	ND	ND	ND	0.707	0.893	0.455	0.512	0.455	0.543	0.829	0.642	ND	0.461	ND
Naphthalene	10,000	5,000	ND	ND	ND	ND	ND	0.418	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	10,000	10,000	ND	1.85	1.33	ND	1.18	2.12	ND	1.04	1.41	0.594	1.21	1.5	ND	1.01	ND	ND	ND	0.754	ND	ND	ND	ND	0.591	2.54	ND	0.532	0.483	0.784	1.35	0.434	ND	0.695	ND
Pyrene	10,000	10,000	ND	2.58	1.83	0.529	1.5	4.62	ND	2.24	2.18	0.875	2.21	2.38	ND	2.58	0.469	1.12	ND	1.7	0.532	ND	ND	0.382	1.35	4.02	0.476	1.28	1.1	1.6	2.15	1.08	0.762	2.11	ND

Notes: All concentrations are equivilant to parts per million (ppm).
Concentrations shown as bold exceed the RAWP Surface Soil Remedial Objectives. Concentrations that are boxed exceed the RAWP Subsurface Soil Remedial Objectives.
ND – Not detected above method reporting limit; NA – Not analyzed; NE – RIDEM criteria does not exist; BIC – By individual constituent.
* Confirmatory sample location at the limits of excavation.
** These confirmatory sample points were excavated, refer to Figure 2.

Photographs

View of concrete pad looking southeast.

View of pipe trench excavation looking westerly.

View of southeast corner of SALNG excavation.

Backfill operations in SALNG Area looking westerly.

Site Photographs
642 Allens Avenue
Providence, Rhode Island

View of excavations in SALNG Area within the dike.

Backfill operations in SALNG Area within the dike.

Backfill operations and installation of recovery wells in SALNG Area within dike.

Surficial excavation in SALNG Area within the dike.

View of recent conditions of SALNG area looking to the south.

View of recent conditions of SALNG within the containment dike.

Site Photographs
642 Allens Avenue
Providence, Rhode Island

Appendix A – Limitations

New England Gas Company
Providence, RI

- This report has been prepared for the sole and exclusive use of New England Gas Company (Client), and is subject to and issued in connection with the Agreement and the provisions thereof. Any use or reliance upon information provided in this report, without the specific written authorization of Client and VHB, shall be at the User's sole risk.

- In preparing this report, VHB has obtained and relied upon information from multiple sources to form certain conclusions regarding potential environmental issues at and in the vicinity of the subject property. Except as otherwise noted, no attempt has been made to verify the accuracy or completeness of such information.

- No attempt has been made to assess the compliance status of any past or present Owner or Operator of the Site with any federal, state, or local laws or regulations.

- The findings, observations, and conclusions presented in this report are limited by the scope of services outlined in our Agreement, which reflects schedule and budgetary constraints imposed by the Client for the current phase of environmental assessment. Furthermore, the assessment has been performed in accordance with generally accepted engineering practices. No other warranty, expressed or implied, is made.

- The assessment presented in this report is based solely upon information gathered to date. Should further environmental or other relevant information be developed at a later date, Client should bring the information to the attention of VHB as soon as possible. Based upon an evaluation, VHB may modify the report and its conclusions.

Appendix B – Piping Removal Plan

Protocol for purging pipelines suspected of containing flammable and/or volatile materials.

Introduction

The method employed for purging pipelines in preparation for demolition involves a systematic approach of:

1. Isolating the pipeline.
2. Exposing pipe ends sections for removal using hand excavation methods.
3. Cutting the pipe ends using high pressure water to cut steel sections. The high-pressure water has been shown to be effective in safely cutting pipe sections that are suspected of containing gasses or liquids.
4. Purging the pipe sections of all flammable materials and managing the purged materials, if required, and
5. Removing the pipe contents using conventional methods once the purging has been successfully demonstrated.

Objective

Protocol for purging pipelines up to 36" in diameter in preparation for demolition:

Applicability

Method described has been demonstrated on piping systems up to 36" diameter and applies to steel, PE, HDPE cast iron and ductile iron systems.

Prerequisites

1. The piping systems to be purged must be removed from service and isolated from pressure sources by valves, flanges or approved pipe plugs.

2. Expose pipe sections at locations where the demolition is proposed by hand excavation a 8-foot long section of the piping along the circumference of the pipe. Remove all soil within three feet of the circumference of the pipe.

3. Remove with non-sparking devices all insulating and cathodic protection coating in an 18-inch longitudinal section of the exposed piping

4. If the gas to be purged is estimated at greater than 1,000 cubic feet at standard temperature and pressure (STP), than a method for capturing the fugitive gasses must be provided prior to purging the pipeline.

5. If pipe section locations are not completely confirmed, contact the utility locator prior to conducting any excavation on site

Performance of Work

1. Cutting pipe sections exposed shall be accomplished by high pressure water-minimum pressure of 36,000 psi with aggregate. The water utilization is approximately three gallons per minute. It is estimated that to cut the 30 inch diameter cast iron pipe at 1" thick appron, 120 gallons will be generated per cut.

2. Set up blower in excavation around exposed pipe sections and exchange air at a minimum rate of 3 volumes a minute.

3. Using high pressure water or other approved cutting device remove an 5 foot section of piping in the exposed section in each excavation. A minimum of four cuts is required.

4. Plug the section of piping to be left in place with cement grout.

5. Insert a ventiliating blower hose (intrinsically safe) into the pipe end and purge the pipe run. Continuously check the purge gas exiting the opposite end of the line for presence of explosive vapors or gas. Continue to purge until the LEL < 1% or until it is demonstrated that purging is unable to remove all volatile residuals in pipe line.

6. If residuals continue to degas and prompt LEL concerns, the piping must be flushed with a mixture of water and suitable surfactant - collect and manage wastewater. Re-purge after water flush and check for LEL levels.

7. Satisfactory purging will be accomplished when the LEL is $\leq$ 1% or non-detectable.

8. At this point, the piping is acceptable for demolition using conventional methods, such as a gasoline powered cut-off saw, backhoe, cutting torch, etc.

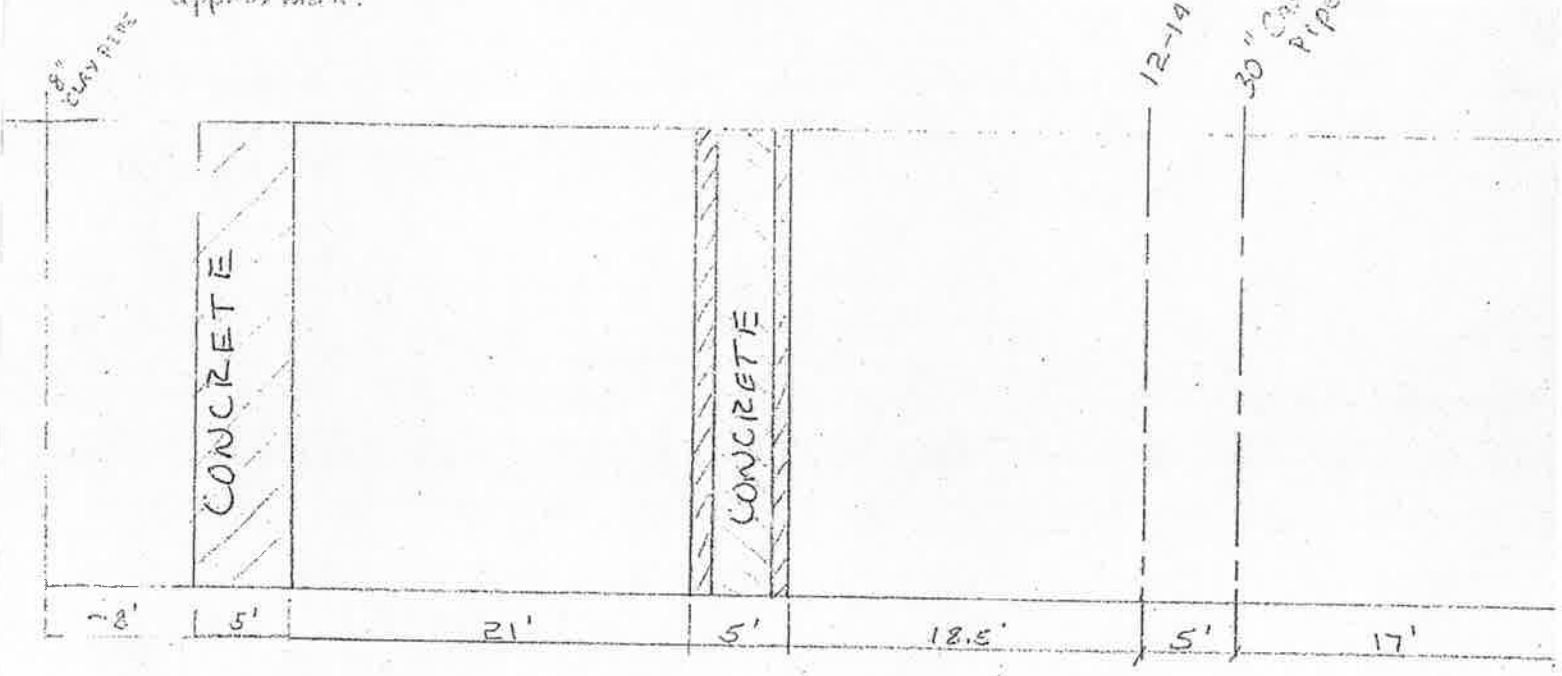
Appendix C – Eastern Trench Sketches

EASTERN TRENCH PLAN VIEW

Scale = 1" = 10'

——— = Pipe ℄

Note: All distances are approximate.



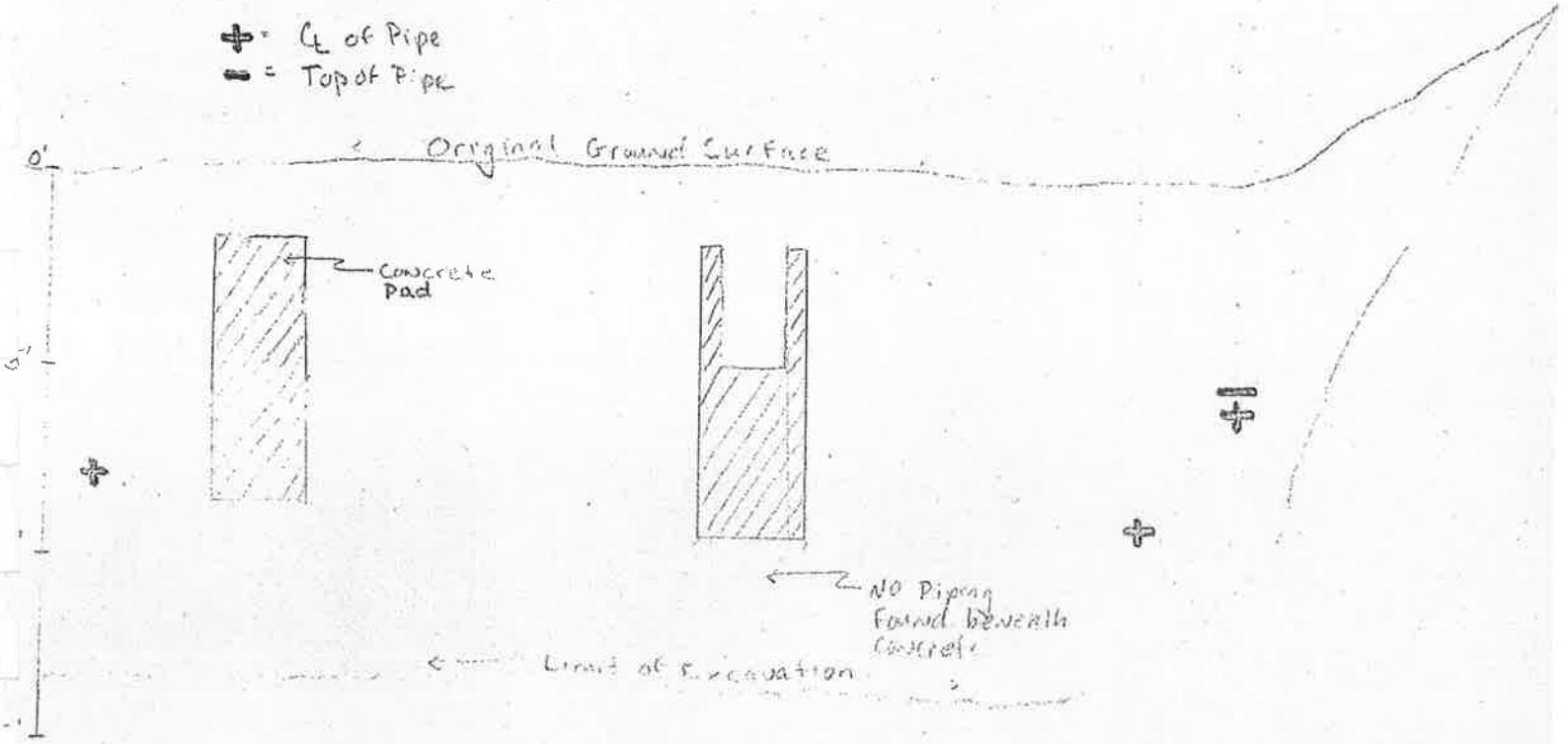
EASTERN TRENCH SECTION VIEW

Horizontal Scale: 1" = 10'

Vertical Scale: 1" = 5'

✚ = ℄ of Pipe

▬ = Top of Pipe



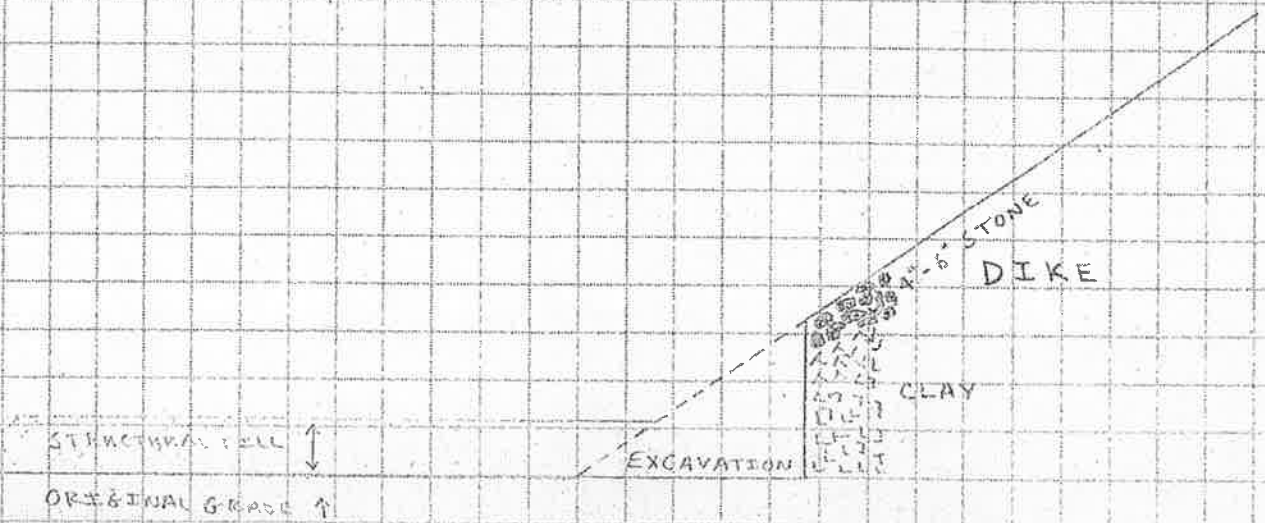
Appendix D – Cross Section of the Containment Dike Excavation

ENVIRONMENTAL SCIENCE SERVICES, INC.
272 West Exchange Street, Suite 101
Providence, Rhode Island 02903
(401) 421-0398

JOB P151 - 000 Providence, RI
SHEET NO. 2 OF 2
CALCULATED BY E. E. L. DATE [illegible] 93
CHECKED BY _____ DATE _____
SCALE 1" = 5'

PROFILE OF EXCAVATION TO 1' BELOW ORIGINAL GRADE

PROFILE OF EXCAVATION TO 0' ELEVATION, ORIGINAL GRADE



ENVIRONMENTAL SCIENCE SERVICES, INC.
272 West Exchange Street, Suite 101
Providence, Rhode Island 02903
(401) 421-0398

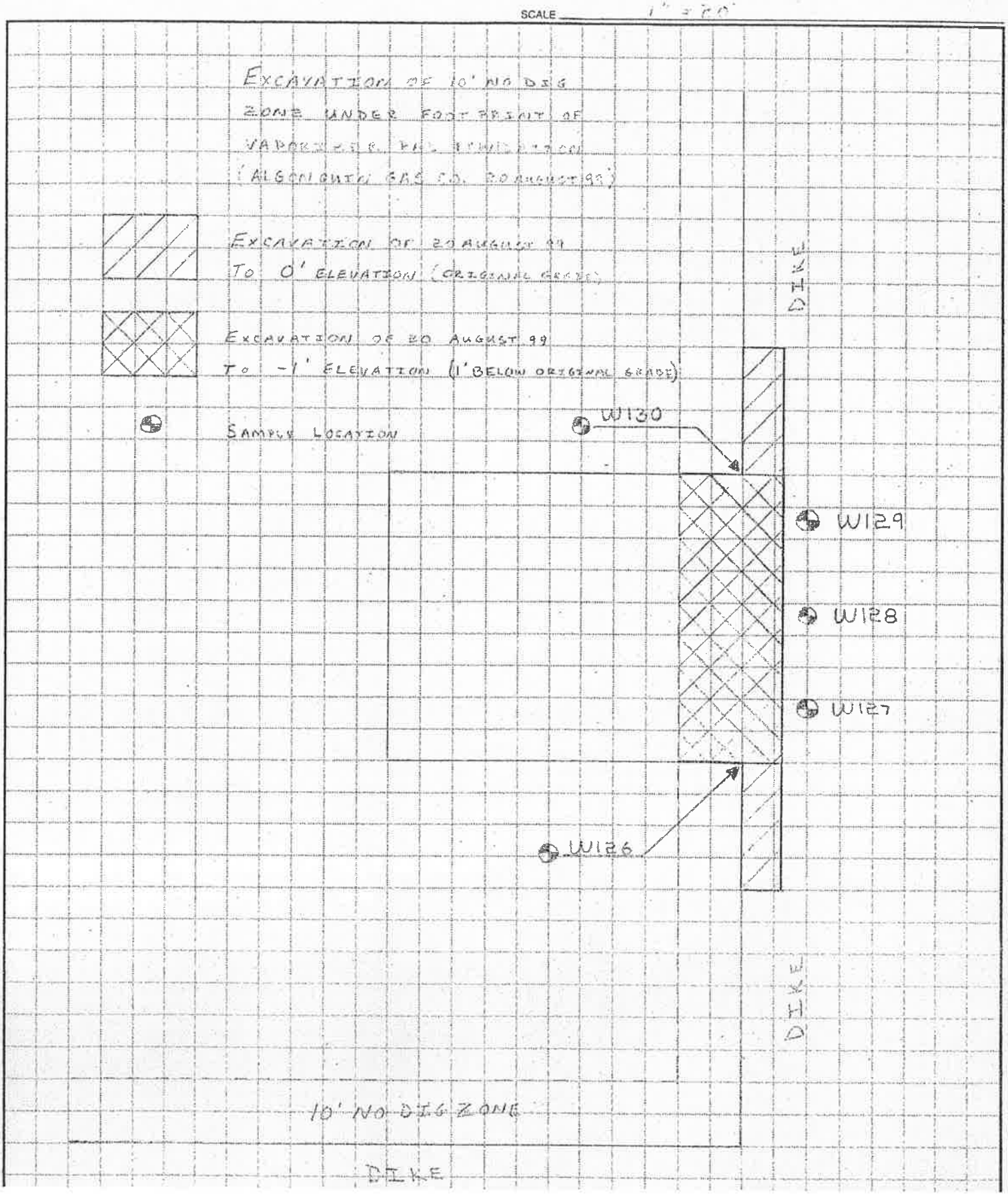
JOB P151.000 Providence Gas

SHEET NO. 1 OF 2

CALCULATED BY E.C.L. DATE 24 August 99

CHECKED BY _____ DATE _____

SCALE 1" = 20'



Appendix E – Disposal Documentation

Provided in a Separate Document

Appendix F – Laboratory Certificates of Analysis

Provided in a Separate Document