Summary Technical Memorandu
Phase II Environmental Site Assessme
South Pad, Barrow, Alas

March 20

SHANNON & WILSON, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

At Shannon & Wilson, our mission is to be a progressive, well-managed professional consulting firm in the fields of engineering and applied earth sciences. Our goal is to perform our services with the highest degree of professionalism with due consideration to the best interests of the public, our clients, and our employees.

Submitted T
North Slope Borou
Capital Improvement Program Manageme
251 Pisokak Stre
Barrow, Alaska 997

B
Shannon & Wilson, In
5430 Fairbanks Street, Suite
Anchorage, Alaska 995
(907) 561-21
Fax (907) 561-44

32-1-16383

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

SEATTLE
RICHLAND
FAIRBANKS
ANCHORAGE
DENVER
SAINT LOUIS
BOSTON

March 31, 2002

North Slope Borough
Capital Improvement Program Management
251 Pisokak Street
Barrow, Alaska 99723

Attn: Mr. Marvin Olson

RE: SUMMARY TECHNICAL MEMORANDUM, PHASE II ENVIRONMENTAL SITE ASSESMENT, SOUTH PAD, BARROW, ALASKA

This summary technical memorandum was prepared for the exclusive use of our client and their representatives in the study of this site. The findings we have presented within this memorandum are based on limited research and on the sampling and analyses that we conducted. They should not be construed as definite conclusions regarding the site's soil and groundwater conditions. It is possible that our surface and subsurface tests may have missed higher levels of target constituents, although our intention was to sample areas likely to be impacted. As a result, the analyses and sampling performed can only provide you with our professional judgment as to the environmental characteristics of this site, and in no way guarantees that an agency or its staff will reach the same conclusions as Shannon & Wilson, Inc. The data presented in this memorandum should be considered representative of the time of our site assessment. Changes in site conditions can occur with time, due to natural forces or human activity. In addition, changes in Government codes, regulations, or laws may occur. Because of such changes beyond our control, our observations and interpretations may need to be revised.

We appreciate this opportunity to be of service. If you have questions or comments concerning this report, please call the undersigned at (907) 561-2120.

Sincerely,

SHANNON & WILSON, INC.

John Spielman, C.P.G.
Principal Hydrogeologist

Encl: Six hard copies and an electronic copy of the Technical Memorandum

5430 FAIRBANKS STREET · SUITE 3
ANCHORAGE, ALASKA 99518
907·561·2120 FAX 907·561·4483
www.shannonwilson.com

Summary Technical Memorandum
Phase II Environmental Site Assessment
South Pad, Barrow, Alaska

March 2002

Submitted To:
North Slope Borough
Capital Improvement Program Management
251 Pisokak Street
Barrow, Alaska 99723

By:
Shannon & Wilson, Inc.
5430 Fairbanks Street, Suite 3
Anchorage, Alaska 99518
(907) 561-2120
Fax (907) 561-4483

32-1-16383-5

EXECUTIVE SUMMARY

This Summary Technical Memorandum summarizes the results of Shannon & Wilson's Phase II Environmental Site Assessment (ESA) conducted at South Pad, a 17-acre, constructed gravel pad located near Barrow, Alaska. The site assessment activities were performed for the North Slope Borough (NSB) to support the cleanup of South Pad. The purpose of the Phase II ESA was to gather sufficient information for the preparation of a Corrective Action Plan (CAP) that will identify tasks, procedures, and/or methods to be used to mitigate identified environmental concerns and to dispose of unwanted materials and waste products.

In summary, the Phase II ESA efforts included: soil boring and monitoring well installation; surface and subsurface soil and water sampling; building material sampling; and characterization and inventory of materials stored at the site. A total of 162 surface and subsurface soil samples were collected and field screened, with 90 submitted for analytical testing. Additionally, 13 water samples, 10 waste characterization samples, two treated wood samples, and 51 building materials samples were collected and analyzed. The sampling program objective was to determine the nature and extent of soil and water contamination and characterize the type and quantity of waste materials at the site.

Contaminant concentrations reported in the soil and water samples are compared to the risk-based cleanup levels listed in ADEC's Oil and Hazardous Substances Pollution Control Regulations (18 AAC 75 Sections 341 and 345). In addition, results of the waste characterization analyses were compared to both federal and state regulations for classification and to determine disposal options.

Five surface soil sample locations contained petroleum hydrocarbons above the applicable cleanup criteria. Four samples at the Drum Storage Docks exceeded the cleanup levels for diesel range organics (DRO) and/or residual range organics (RRO). Benzo(a)anthracene and benzo(a)pyrene concentrations exceeded cleanup levels in a soil sample from beneath a pile of creosote-treated poles. Additionally, arsenic was reported to exceed the soil cleanup level in 16 samples. However, the reported arsenic concentrations do not correlate with the impacted soil concentrations or locations, and are considered to be within the range of naturally-occurring background concentrations. Target analyte concentrations in the subsurface soil samples were either not detected or are less than the applicable cleanup criteria.

Except for the arsenic content reported in one surface water sample, which is not considered to be associated with contamination, target analyte concentrations in the five surface water samples were either not detected or are less than the applicable cleanup criteria. DRO and RRO concentrations exceeding the applicable cleanup levels were reported in six of the seven monitoring wells sampled. Methylene chloride was also reported in five water samples at concentrations exceeding the cleanup level. However, information provided by the laboratory indicates it is likely that the methylene chloride reported in the water samples was caused by cross contamination in the project laboratory.

Based on the field observations and results of HazCat screening and analytical testing, container contents were classified under 10 general categories: fuels, oil and grease, acids, solvents and cleaners, compressed gases, paint and paint products, asphalt and cement patch, wastewater, treated wood, and used drums. These categories were further divided into 38 waste streams. Target analyte concentrations of the composite wood samples were either not detected or less than EPA's toxicity characteristic levels. Building material sample results indicate that the thermal system insulation in the Pump House contains asbestos, and lead was present in the paint on the building and in the dust found in the Service Shop.

Based on results of the Phase II ESA and our interpretation of the ADEC regulations governing cleanup of the site, we believe on the order of 80 cubic yards of impacted soil is present at the site and will require remediation. A number of waste streams identified at the site require use or disposal. This technical memorandum recommended preparation and implementation of a CAP to address the petroleum hydrocarbon impacted soil and to outline waste disposal procedures and/or methods.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SITE AND PROJECT DESCRIPTION 2
2.1 Physical Description 2
2.2 Historical Site Use 2
2.3 Project Objectives 3
3.0 PREVIOUS ASSESSMENTS 4
4.0 FIELD WORK 5
4.1 Inventory 5
4.2 Container Characterization 6
4.3 Soil Sampling 7
4.4 Monitoring Well Installation and Sampling 8
4.5 Surface Water Sampling 9
4.6 Treated Wood Sampling 9
4.7 Building Materials Survey 10
4.8 Transformer Sampling 10
4.9 Miscellaneous Tasks 10
5.0 LABORATORY ANALYSES 12
5.1 Soil Samples 12
5.2 Water Samples 12
5.3 Container Characterization Samples 12
5.4 Treated Wood Samples 13
5.5 Building Material Samples 13
5.6 Quality Control Samples 13
6.0 SUBSURFACE CONDITIONS 14
6.1 Soil 14
6.2 Pad Porewater 14
7.0 DISCUSSION OF ANALYTICAL RESULTS 15
7.1 Soil Samples 15
7.2 Water Samples 18
7.3 Wood Samples 19
7.4 Container Characterization Samples 19
7.5 Building Material Samples 22
7.6 Quality Control Samples 22
8.0 CONCLUSIONS/RECOMMENDATIONS 24
8.1 Surface and Subsurface Soil 24
8.2 Surface and Porewater 26
8.3 Treated Wood 27
8.4 Container Contents 27
8.5 Building Materials 28
8.6 Miscellaneous Materials and Equipment 28
9.0 CLOSURE/LIMITATIONS 29
10.0 REFERENCES 30

LIST OF TABLES

Table 1	Sample Locations and Descriptions
Table 2	Summary of Analytical Results - Soil Samples
Table 3	Summary of Analytical Results - Water and Wood Samples
Table 4	Summary of Analytical Results - Container Content Samples
Table 5	Water Sampling Log

LIST OF FIGURES

Figure 1	Vicinity Map
Figure 2	July 14, 2000 Aerial Photo
Figure 3	Site Layout and Inventory Grid
Figure 4	Site Plan
Figure 5	Service Shop Building
Figure 6	Drum Storage Docks
Figure 7	Wood Storage Building
Figure 8	Treated Lumber and Vehicle Storage
Figure 9	Crate and Creosote Pole Storage
Figure 10	Typical Monitoring Well Details

LIST OF APPENDICES

Appendix A	Photographs
Appendix B	Laboratory Analytical Results by CT&E Environmental Services, Inc., of Anchorage, Alaska
Appendix C	Inventory of Materials, Equipment, and Supply
Appendix D	Asbestos/Lead Containing Paint Inspection Report by White Environmental Consultants, Inc., of Anchorage, Alaska
Appendix E	Important Information About Your Geotechnical/Environmental Report

ACRONYMS AND ABBREVIATIONS

ACM	Asbestos-Containing-Material
ADEC	Alaska Department of Environmental Conservation
AST	Aboveground Storage Tank
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAP	Corrective Action Plan
CFR	Code of Federal Regulations
CIPM	Capital Improvement Program Management
Container	Drum/Container/AST
CT&E	CT&E Environmental Services, Inc.
cy	cubic yards
Discovery	Discovery Drilling, Inc.
DQO	Data Quality Objectives
DRO	Diesel Range Organics
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
GRO	Gasoline Range Organics
HazCat	Hazardous Characteristics
IDW	Investigation-Derived-Waste
LBP	Lead-Based Paint
MEK	Methyl Ethyl Ketone or 2-Butanone
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
NSB	North Slope Borough
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCP	Pentachlorophenol
PSC	Philip Services Corporation
PID	Photoionization Detector
POL	Petroleum, Oil, and Lubricants
PPE	Personal Protective Equipment
ppm	Parts Per Million
PVC	Polyvinyl Chloride
RRO	Residual Range Organics
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SVOC	Semi-Volatile Organic Compound
TCLP	Toxicity Characteristic Leaching Procedure
TPEC	Travis/Peterson Environmental Consulting, Inc.
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WEC	White Environmental Consultants

SUMMARY TECHNICAL MEMORANDUM
PHASE II ENVIRONMENTAL SITE ASSESSMENT
SOUTH PAD
BARROW, ALASKA

1.0 INTRODUCTION

This Summary Technical Memorandum summarizes the results of Shannon & Wilson's Phase II Environmental Site Assessment (ESA) conducted at South Pad, a 17-acre, constructed gravel pad located near Barrow, Alaska. The site assessment activities were performed to support the cleanup of South Pad. The purpose of the Phase II ESA was to gather sufficient information for the preparation of a Corrective Action Plan (CAP) that will identify tasks, procedures, and/or methods to be used to mitigate identified environmental concerns and to dispose of unwanted materials and waste products.

This work was performed for the North Slope Borough (NSB) Department of Capital Improvement Program Management (Project #13-204). The ESA activities were conducted in general accordance with our April 2001 project work plans, including a site-specific work plan, sampling and analysis plan, and site safety and health plan; and the ADEC's December 1, 1999 underground storage tank (UST) Procedure Manual.

2.0 SITE AND PROJECT DESCRIPTION

2.1 Physical Description

South Pad is located approximately one mile south-southwest of Barrow, Alaska on Nunavaaq Street, as shown in Figure 1. A July 14, 2000 aerial photograph of the site is included as Figure 2. The site consists of Lots 2 and 3 of Block B, Plat No. 87-6, and encompasses approximately 17 acres. The gravel work pad is surrounded by a fence and was constructed in 1980 to serve as a construction staging area. Fences divide the site into three general areas, as shown in Figures 3 and 4. The area occupying the northeast portion of the site is the main portion of the pad and experienced the highest use. Occupying the southwest portion of the pad is a material storage area used by the NSB Department of CIPM. Located in the north corner of the CIPM portion of the pad is a fenced area used by the City of Barrow. The Phase II ESA does not address the City of Barrow portion of the site.

2.2 Historical Site Use

The Service Shop, which was used for vehicle maintenance and cleaning operations, was constructed in 1981 and was condemned in 1993 due to extensive floor settlement. A plan view of the Service Shop and vicinity is shown on Figure 5. The Service Shop is also depicted in Photo 1 in Appendix A. A second prominent structure at the site is designated the Wood Storage Building. The Wood Storage Building, shown in Figure 6 and Photo 2, encompasses a number of steel connex rail containers and was apparently used for storing materials and supplies. Although the site contains a number of steel storage connexes, wood storage sheds, and trailers, no other permanent structures are located at the site. Materials and supplies are stored within connexes and sheds, on raised docks or shelves, as well as directly on the gravel pad surface. Numerous Aboveground Storage Tanks (ASTs), 55-gallon drums, and containers of Petroleum, Oils, and Lubricants (POL), and other miscellaneous products are stored at the site.

Beginning in approximately 2001, the NSB began an active program of eliminating the storage of materials, equipment, and supplies at South Pad. Although the aerial photograph shown in Figure 2 provides a view of the materials, equipment, and supplies stored at the site on July 14, 2000, observations during July and September 2001 indicated many of these items had either been moved to other on-site locations or had been removed from the site. In some cases, additional items were apparently brought to the site. Figure 3 presents the general site layout and

the types and approximate locations of stored materials as documented in July 2001. Figure 3 was prepared using the aerial photo included as Figure 2, field observations from the July 2001 site visit, and an electronic copy of a site drawing provided by the NSB.

2.3 Project Objectives

The Phase II ESA objectives were to characterize the type and quantity of waste materials, determine the nature and extent of soil and water contamination, and characterize the type and extent of regulated substances in the building materials of the Service Shop and the Pump House. To accomplish these objectives, the Phase II ESA included soil boring and monitoring well installation, surface and subsurface soil and water sampling, building material sampling, an inventory of materials stored at the site, and characterization of the contents of drums and containers.

Philip Services Corporation (PSC) provided an experienced and trained field technician to assist in the characterization of Drums/Containers/ASTs (containers) contents. White Environmental Consultants (WEC) performed the building material survey for the Service Shop and the Pump House. Discovery Drilling, Inc. (Discovery) provided drilling and monitoring well construction services for the project. CT&E Environmental Services, Inc. (CT&E) performed the laboratory testing of soil, water, treated wood, and container content samples. These companies are located in Anchorage, Alaska, and were subcontracted to Shannon & Wilson. Shannon & Wilson subcontracted additional services to local Barrow contractors. SKW/Eskimos, Inc. provided equipment and an operator to assist in the overpacking of leaking drums. Totem Enterprises (electricians) assisted in the evaluation of transformers at the site.

3.0 PREVIOUS ASSESSMENTS

Previous assessments of the site were conducted in 1993, 1997, and 2000. CH2M Hill conducted a subsurface investigation at the Service Shop in 1993 to evaluate both geotechnical and environmental conditions. Six soil borings were drilled through the concrete slab of the building at the locations shown in Figure 5. Analytical results of subsurface soil samples identified detectable concentrations of gasoline range organics (GRO), diesel range organics (DRO), toluene, xylenes, acetone, and methyl ethyl ketone (MEK) below the floor slab of the building. The reported concentrations do not exceed the applicable ADEC Method Two soil cleanup levels contained in 18 Alaska Administrative Code (AAC) 75.341. Water was encountered in three of the six borings, but water samples were not collected. The results of this investigation are contained in CH2M Hill's report entitled *Final Report Evaluation of Alternatives, Floor Slab Repairs, South Pad Maintenance Facility, Barrow, Alaska*, dated July 15, 1993.

Woodward-Clyde and Travis/Peterson Environmental Consulting, Inc. (TPEC) performed environmental site assessments of South Pad in 1997 and 2000, respectively. The site assessments conducted by both Woodward-Clyde and TPEC generally included site reconnaissance, interviews, and record reviews to identify recognized environmental conditions at the site. Both Woodward-Clyde and TPEC identified evidence of soil contamination from historical activities and an abundance of hazardous substances and materials that were stored on site. The results of these efforts are summarized in Woodward-Clyde's report entitled *Draft Report Preliminary Environmental Site Assessment, NSB South Pad*, dated August 5, 1997 and TPEC's report entitled *Phase I Environmental Site Assessment, South Pad*, dated March 2000.

Shannon & Wilson performed a site reconnaissance in September 2000 to familiarize project personnel with the site layout and conditions. The previous assessment reports and information obtained during the site reconnaissance were used to prepare the workplans for the Phase II ESA.

4.0 FIELD WORK

Field work for the Phase II ESA was completed in two separate field phases. The first phase was conducted between July 24 and August 1, 2001, and included a materials inventory, characterization of container contents, building material survey, and collection of surface soil, water, and treated wood samples. The second phase of field work was performed between September 5 and September 10, 2001, and generally included the drilling and sampling of soil borings, installation of monitoring wells, and surface soil and water sampling. Based on potential sources of contamination identified during previous assessments and our field reconnaissance, field assessment activities targeted five distinct areas of the site: 1) Service Shop Building; 2) Drum Storage Docks; 3) Wood Storage Building; 4) Treated Lumber and Vehicle Storage; and 5) Crate and Creosote Pole Storage. These distinct areas are depicted in Figures 5 through 9.

A description of the field activities and methodologies that were implemented during the Phase II ESA is presented in the following sections. Photographs taken during our field efforts are included in Appendix A. Descriptions and locations of the individual project samples are summarized in Table 1.

4.1 Inventory

An inventory of the materials, equipment, and supplies stored at the pad was completed between July 24 and August 1, 2001. As requested by the NSB, a detailed inventory of the dredge equipment storage area was not conducted. The dredge equipment storage area is noted on Figure 3. Figure 3 also presents the grid used for identifying the location of the materials included in the inventory. Because the NSB was actively removing materials and equipment from the site during the summer of 2001, our inventory includes materials and supplies that may have been removed from the site since July 2001.

The inventory was performed to identify materials that may be of potential use to the NSB and to generate a list of materials, supplies, and equipment that will be disposed. The inventory generally included the common name of the equipment and/or material, the manufacturer (if appropriate), size (diameter, length, etc.), quantity, and other information, as appropriate, to enable the material to be identified and to estimate disposal costs. Some materials and/or supplies were categorized by generic descriptions such as auto parts, nails, bolts, screws, pipe fittings, tools, and similar materials. The inventory included the number of steel connexes, ASTs, wooden sheds, and storage docks located at the site. Materials that could not be identified

were noted as scrap. Generic descriptions and approximate locations for some of the inventoried materials are shown in Figure 3, and a detailed list and descriptions of the materials are included in Table A in Appendix C.

Container contents were described as indicated on the manufacture's label unless there was suspicion that the container had been reused or contained other products. The containers that lacked the manufacturer's labels, legible content labels, or had labels that did not specify the manufactured name of the contents were characterized to determine the Hazardous Characteristics (HazCat) of the container contents.

4.2 Container Characterization

As part of the comprehensive inventory of materials stored at South Pad, the contents of containers that lacked manufactured content labels or other identifying markings underwent HazCat testing. The results of the HazCat testing and supporting analytical testing enabled the containers to be grouped accordingly and included in the inventory. This procedure required an inspection of each unknown container and the collection of a sample from its contents. The containers were generally accessed through their respective bungs, lids, and/or existing holes. Each unknown container with an unknown fluid was numbered and the physical condition, capacity, and volume of contents contained were noted. Markings or labels on the container and other observations such as the color of the container were noted. Samples were collected from the unknown containers for characterization using glass coliwasa tubes. The proportions of each separate media in the containers, including water, product, and solids, were recorded. The individual samples from each unknown container were screened using HazCat procedures. A total of 76 HazCat screening samples were collected to identify and group the container contents. The HazCat screening was conducted by PSC technician and typically included measurements and/or observations of evaporation, oxidation, pH, solubility, and combustibility and field analyses to determine the presence of chlorinated compounds and polychlorinated biphenyls (PCBs).

As data was generated on the container contents, a field log was completed noting the container number and apparent contents, such as "used oil," "gasoline," "diesel," "water," "antifreeze." Following the completion of the HazCat testing, containers with similar contents were identified as a container group. As deemed necessary to characterize the content of the container groups for disposal, 10 analytical samples were collected from individual containers or within each classified group.

Containers that were leaking or had the imminent potential to leak were placed in overpack drums (Photo 3). Fifteen leaking drums were placed into 85-gallon overpack containers.

4.3 Soil Sampling

The Phase II ESA included both surface and subsurface soil sampling. Surface soil sampling was performed to assess the nature and extent of near-surface soil contamination at various locations at the site. Surface soil samples were generally collected from within 6 inches of the ground surface using dedicated stainless-steel spoons. Surface soil sampling extended to depths of about 1 foot at selected locations of surface staining to evaluate the potential extent of near surface impact. A shovel was used to dig the 1-foot deep test pits. Soil borings were advanced to the base of the gravel pad, which ranged from 4 to 7 feet below the ground surface (bgs) at 30 locations to recover subsurface soil samples. The surface and subsurface soil samples were collected for field screening and potential laboratory analysis.

Soil samples were field screened using an OVM Model 580B photoionization detector (PID) and sensory observations for indications of petroleum hydrocarbons. The PID was used, with a headspace sampling method, to quantify the total organic vapors released from the soil. The headspace screening method entailed placing a portion of the soil sample in a re-sealable "zip-lock" plastic bag, filling the bag to approximately one-half capacity, placing the bag in the field vehicle to warm the soil to a temperature of at least 40 degrees Fahrenheit, and measuring the concentration of organic vapors in the headspace of the bag using the PID. Instrument readings were taken within one hour of sample collection. To maximize the instrument response, the sample bags were agitated for about 15 seconds prior to screening. The PID display was observed and the maximum reading was recorded for each sample. The PID was calibrated at least daily during the field activities with 100 parts per million (ppm) isobutylene in air standard calibration gas.

A total of 90 surface soil samples were collected. Based on field screening results, 38 surface samples (including field duplicates) were selected for analytical testing.

Thirty soil borings were drilled at the site during the September 2001 field work to install monitoring wells and gather subsurface soil and porewater data. The borings were drilled using a mobile drill rig mounted on the back of a flatbed truck. The drill rig was equipped with hollow-stem auger and split-spoon samplers. Photo 4 depicts the drill used to advance the soil borings. The boreholes were sampled at several intervals from the ground surface to the base of the gravel

pad, which ranged from 4 to 7 feet bgs. Four borings were drilled in the Service Shop building, while the remaining borings were located at other areas of the site, as shown in Figure 4. The drilling efforts were documented on field boring logs that included the project name, driller, drilling method, boring number, location, sample time, number, and depth, field screening results, material description, and pad porewater information. Of the 72 soil samples collected from the borings, 52 soil samples, including field duplicates, were submitted for laboratory analyses.

Soil samples for analytical testing were collected by placing the soil into the appropriate laboratory-supplied containers. The containers were placed into coolers maintained at or near 4 degrees Celsius using synthetic ice.

Borehole and sample locations were marked with a survey lathe, displaying the boring/sample number, as shown in Photos 5 and 6. The locations of the soil borings/surface samples were documented using swing tie measurements from existing site features. With the exception of eight borings, which were completed as monitoring wells, drill cuttings from the soil borings were placed back into the borehole following completion of the drilling and sampling. Drill cuttings from borings that were completed as monitoring wells were placed into clearly marked supersacks. Water generated during decontamination of the drilling and sampling equipment was contained in an 85-gallon drum and, along with the supersacks, was placed in the Service Shop Building, as shown in Photo 7.

4.4 Monitoring Well Installation and Sampling

Eight of the soil borings were completed as monitoring wells to evaluate the potential impact to the seasonal pad porewater. Each well was constructed of 2-inch nominal I.D., Schedule 40, polyvinyl chloride (PVC) pipe with threaded connections. The lower portion of the well consisted of PVC well screen (0.010-inch slots) with a screw cap at the bottom. A continuous sand pack consisting of #10-#20 filter sand was used to fill around the borehole annulus to about 8 inches above the top of the screen. Bentonite chips were used to backfill the remainder of the borehole to about 6 inches bgs. An expandable locking plug was used to cap the well casing. Steel, flush-mounted, protective monuments were used to cover the monitoring well casings and embedded in a Portland cement/pea gravel grout. The grout extended to a depth of about 6 inches bgs. A typical monitoring well construction detail is included in Figure 10.

Prior to sampling, water levels in each monitoring well were measured to within 0.01 feet using a decontaminated, electronic water level indicator, measuring down from the top of the PVC casing. Dedicated polyethylene disposable bailers were used to purge and sample the monitoring wells. A minimum of three casing volumes of water were removed from each well to complete the purging process. Water samples were collected during the purging process and tested in the field for temperature, turbidity, pH, and conductivity using a HORIBA U-10 water quality meter. The HORIBA U-10 was calibrated to the manufacturer's specification each day of use. Water evacuated during purging of the wells was placed in an 85-gallon drum, along with the water generated during the equipment decontamination process.

Once the water in the wells had recovered to at least 80 percent of the pre-purged level, a water sample was collected from each of the monitoring wells. The water samples were transferred directly from the bailers into the appropriate laboratory-supplied containers and then placed in chilled coolers for storage and transport.

4.5 Surface Water Sampling

Surface water samples were collected from pooled runoff water adjacent to potentially impacted areas of the pad and from surface water within the diked containment area of the 45,000-gallon AST (AST 17). Four samples were collected from surface water bodies adjacent to the pad, and one water sample was collected from the water within the diked containment area of AST 17.

The surface water samples were collected using clean glass jars to recover water from the pooled water and transfer the water directly into the appropriate laboratory-supplied containers. As with the soil samples and borings locations, the surface water sample locations were documented using swing tie measurements from existing site features and marked with survey lathe.

4.6 Treated Wood Sampling

One composite sample was collected from each type of treated wood at the site; creosote-treated poles and dimensional (2-inch by 6-inch by 5-foot) lumber treated with pentachlorophenol (PCP). It is estimated that 154,000 cubic feet of the PCP-treated lumber and approximately 10,000 cubic feet of the creosote-treated poles are present at the site. The composite samples were collected from representative portions of the respective wood using an electric drill and a hatchet. Treated wood storage areas are shown in Figures 3, 4, 8, and 9.

4.7 Building Materials Survey

WEC performed a comprehensive building material survey of the Service Shop Building and the adjacent Pump House to identify the potential presence and extent of materials containing lead-based paint (LBP) and asbestos-containing-material (ACM). A detailed description of the building materials survey and results are included WEC's report titled *Asbestos/Lead Containing Paint Inspection Report*. WEC's report is included in Appendix D of this technical memorandum.

4.8 Transformer Sampling

Three electrical transformers are located at the site. A transformer, owned by the Barrow Utilities Electric Company Inc. (BUECI), is located on the east side of the Service Shop Building. Two other transformers are located within the Service Shop Building and the Wood Storage Shed and were evaluated for the potential presence of PCBs. An electrician from Totem Electric determined that the two subject transformers were dry transformers and did not contain dielectric fluid or PCBs. The transformer owned by BUECI was not included in the ESA.

4.9 Miscellaneous Tasks

Miscellaneous tasks included a closed-loop survey of the monitoring wells, equipment decontamination, and investigation derived waste (IDW) handling procedures. The monitoring wells were surveyed to determine the relative elevations of the top of the well casings, with respect to an assumed datum at the site.

A decontamination station was constructed near the Service Shop Building to pressure wash the drill auger and drill rods and contain wash and rinse water. As seen in Photo 8, the decontamination station consisted of a bermed area lined with a reinforced polyethylene liner. Decontamination of miscellaneous field equipment was conducted in 5-gallon buckets of wash water and rinse water.

IDW generated during the fieldwork included personnel protective equipment (PPE), disposable sampling materials and supplies, drill cuttings, purge water, and decontamination wash water.

The PPE used during the HazCat sampling was placed in a labeled 55-gallon drum, which was stored next to Drum Storage Dock 1 (Photo 9). Water generated from decontamination and monitoring well purging efforts was placed in an 85-gallon drum. Soil generated during drilling activities was contained in two marked supersacks. As shown in Photo 7, the 85-gallon drum and the supersacks were stored in the Service Shop.

Used PPE and sampling equipment (gloves, disposable sampling equipment, empty sand and bentonite bags, etc.) associated with the soil and water sampling activities and other non-soiled disposable materials associated with the field efforts were containerized after use and were transported to the landfill for disposal.

5.0 LABORATORY ANALYSES

Soil, water, treated wood, and container contents samples were transported to CT&E in chilled coolers using chain-of-custody procedures. Analytical testing was performed on a normal turnaround (10 to 14-day) basis. The building material samples were analyzed by WEC. Sample analyses were selected based on the types of known and/or potential source(s) of environmental contamination and characterization requirements for waste disposal. A Level I Data Package for laboratory quality control verification was requested for the laboratory analyses. The results of the analyses are summarized in Tables 2, 3, and 4, and the laboratory reports are presented in Appendix B.

The following sections describe the number and type of samples and the analytical methods used to evaluate the respective media.

5.1 Soil Samples

During the Phase II ESA activities, 90 surface and subsurface soil samples, including six field duplicates, were submitted for analytical testing. The soil samples were selectively analyzed for GRO and benzene, toluene, ethylbenzene, and xylenes (BTEX) using Alaska Method 101 (AK 101) and U.S. Environmental Protection Agency Method 8021B (EPA 8021B); DRO by AK 102; RRO by AK 103; volatile organic compounds (VOCs) by EPA 8260B; semi-volatile organic compounds (SVOCs) by EPA 8270C; polynuclear aromatic hydrocarbons (PAHs) by (PAH SIM); PCBs by EPA 8082, and Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using EPA 6020.

5.2 Water Samples

Thirteen water samples, including one field duplicate sample, were collected from the monitoring wells and surface water. The water samples were selectively analyzed for GRO and BTEX, DRO, RRO, VOCs, SVOCs, PAHs, PCBs, and RCRA metals using the methods specified above.

5.3 Container Characterization Samples

The ten container contents samples were selectively tested for EPA oil burning specifications (OBS), VOCs, SVOCs, flash point by EPA 1020, corrosivity by EPA 9040, and RCRA metals using Toxicity Characteristic Leaching Procedure (TCLP) EPA 1311/6020.

5.4 Treated Wood Samples

The two wood samples collected from the PCP-treated lumber and creosote-treated lumber were selectively analyzed for TCLP SVOCs by EPA 1311/8270C and leachable RCRA metals by EPA Method 1311/6020.

5.5 Building Material Samples

Building material samples were collected from the Service Shop Building and Pump House to assess the presence of LBP and ACM. The building materials samples were submitted for determination of asbestos content by polarized light microscopy, EPA 600/R-93/116, and lead by EPA 7420, as appropriate.

5.6 Quality Control Samples

The duplicate soil and water samples were analyzed using the methods described above. The field and trip blanks which accompanied the soil and water samples in the field and during transport to the laboratory were selectively analyzed for GRO and BTEX using AK 101/EPA 8021B and VOCs by EPA 8260B.

6.0 SUBSURFACE CONDITIONS

6.1 Soil

The subsurface materials at the site consist of the granular fill material of the pad overlying the former tundra surface and native soils. The fill material is composed of a brown to gray, sandy gravel and gravelly sand ranging in thickness from 4 feet at the east portion of the pad, to about 7 feet in the vicinity of the Service Shop Building. The native soil underlying the pad consisted of brown silt and fine sandy silt with varying amounts of partly decomposed grass and roots. Insulation was observed beneath the 6-inch concrete floor slab in the Service Shop, and geofabric was encountered at the base of the gravel pad in most borings. Below a depth of 2 to 3 feet, the soil was generally frozen.

6.2 Pad Porewater

Due to presence of the permafrost and the construction of the gravel pad, the site has unique hydrologic characteristics that are controlled by the seasonal freeze/thaw cycles in the gravel pad. The gravel pad and surrounding soils are frozen most of the year. During the short summer season, the gravel pad progressively thaws deeper until the surface begins to freeze and thawing in the deeper soils come to a halt. This cyclical freeze/thaw process results in areas of saturated soils overlying the frozen soil as interstitial ice is mobilized during thawing and snowmelt/rain infiltrate the surface. The thickness of the saturated soil was observed to vary across the site and is inferred to be controlled by the thickness of the thawed soil and the availability of water. The water encountered in these saturated soil zones is referred to as pad porewater.

Porewater was present in seven of the eight monitoring wells and was encountered at depths ranging from 0.3 to 2.2 feet bgs. Because the ground was frozen throughout the explored depth, water was not present in Monitoring Well B2MW. From our field observations and well elevation survey, it appears that the principal areas where porewater was encountered correspond to topographic low spots on the pad where snowmelt/rain accumulate and infiltrate, and that the porewater is not continuous beneath the site. Although theory would suggest that continued infiltration of surface water into the pad would result in water draining from the pad to the surrounding areas, surface water samples collected from adjacent to the pad did not contain contaminants detected in the porewater samples.

7.0 DISCUSSION OF ANALYTICAL RESULTS

The analytical results of the project samples are compared to federal and state regulations to determine the conditions present at the site and the disposal options for unwanted materials and waste. The ADEC Oil and Hazardous Substance Pollution Control Regulations 18 AAC 75 are used to determine cleanup levels for soil, surface water, and groundwater. The risk-based cleanup levels of Method Two for Arctic Zone sites, as established in 18 AAC 75.341, were used to establish the soil cleanup levels for the site. These cleanup levels assume the site is underlain by continuous permafrost and migration to groundwater is not a pathway for the spread of contamination. The soil cleanup levels consider exposure to contamination by ingestion and inhalation alone. The groundwater and surface water cleanup standards of 18 AAC 75.345 were used to evaluate the impact of site contaminants on surface water on or adjacent to the pad.

Federal regulation 40 Code of Federal Regulations (CFR) 261 (identification and listing of hazardous waste) was used to characterize container contents and wood samples, and 40 CFR 268 (land disposal restrictions) was used to evaluate disposal options for identified wastes. As appropriate, container contents were also evaluated using 40 CFR 279 (standards for the management of used oil).

Information obtained from the building material survey of the Service Shop and Pump House was evaluated using both state and federal regulations. LBP is regulated at any detectable concentration for worker safety. Disposal of debris containing LBP is regulated under 40 CFR 261.24. ACM is defined by Occupational Safety and Health Administration as materials containing more than 1% asbestos by weight. Removal of asbestos is regulated by 40 CFR 61 Subpart M and 29 CFR 1926.1101.

The applicable cleanup levels for soil, water and wood samples are listed in Tables 2 and 3, and the laboratory reports are presented in Appendix B.

7.1 Soil Samples

Ninety surface and subsurface soil samples were submitted for analytical testing. Of these, 89 samples were tested for DRO and RRO, 46 for GRO and BTEX, 35 for VOCs, 27 for SVOCs, 3 for PAHs and PCBs, and 18 samples were analyzed for RCRA metals.

Of the 89 surface and subsurface soil samples, including field duplicates, analyzed for DRO and RRO, 74 samples contained at least one of the two analytes at detectable levels. Five of these samples, including one field duplicate, exceed the applicable cleanup criteria for DRO and/or RRO. DRO concentrations of Sample SS16 and its duplicate, Sample SS116, were 27,000 milligrams per kilogram (mg/Kg) and 26,100 mg/Kg, respectively. Reported DRO and RRO levels in Sample SS27 were 34,100 mg/Kg and 19,300 mg/Kg, respectively. Samples SS46 and SS52 had 22,700 mg/Kg RRO and 15,300 mg/Kg RRO, respectively. As summarized in Table 1 and shown on Figure 6, each of these samples was collected from the vicinity of the drum storage docks located at the northeast portion of the site. Considering the number, location, and analytical results of surface and subsurface soil samples collected from this area, it appears that the DRO and RRO impacted soil is localized around the five soil sample locations.

Ten of the 46 soil samples analyzed for GRO and BTEX, including the field duplicates, had detectable GRO and 13 contained at least one BTEX constituent. GRO concentrations ranged from non-detectable to 98.4 mg/Kg (Sample B3S1, Service Shop Building). Reported GRO concentrations are less than the applicable ADEC cleanup level.

Benzene was reported in Samples SS13 (0.0163 mg/Kg, Drum Storage Docks) and B3S1 (0.0194 mg/Kg). Toluene was reported in six of the soil samples, with concentrations ranging from 0.0643 mg/Kg in Sample SS13 to 1.65 in Sample B6S2 (east of Service Shop Building). Ethylbenzene was detected in four samples, and xylenes were reported in ten samples. As listed in Table 2, the highest ethylbenzene (0.425 mg/Kg) and xylenes (2.723 mg/Kg) levels were reported in Samples B3S1 and SS74 (AST 16, east side of Service Shop Building), respectively. Reported BTEX constituent concentrations are less than the applicable cleanup levels.

One VOC constituent was detected in six of the 35 soil samples, with one sample containing methylene chloride and five containing trichlorofluoromethane. The methylene chloride concentration of Sample SS77 (Drum and Crates Storage Area) was 0.155 mg/Kg and is less than the 270 mg/Kg cleanup level. Trichlorofluoromethane concentrations ranged from 0.0530 mg/Kg in Sample SS60, to 9.41 mg/Kg in Sample B3S1. A cleanup level for trichlorofluoromethane is not listed in the Oil and Hazardous Substances Pollution Control Regulations, but can be calculated if requested by ADEC.

Two of 27 soil samples analyzed for SVOCs contained at least one SVOC constituent. Eleven compounds were detected in Sample SS86 (Creosote-Treated Poles Storage) and one was reported in Sample SS87 (PCP-Treated Lumber Storage). Two of the constituent concentrations reported for Sample SS86, benzo(a)anthracene (37.5 mg/Kg) and benzo(a)pyrene (13.7 mg/Kg),

exceed the applicable cleanup criteria. The remaining reported SVOCs do not have a referenced cleanup level or are less than the corresponding cleanup criteria. As shown on Figure 9 and Photo 10, Sample SS86 was collected from stained soil below the Creosote-Treated Poles. As depicted in Figure 9, Samples SS88 (and its duplicate Sample SS188), SS89, and SS90 were collected from the vicinity and downslope of Sample SS86 and the poles. These soil samples and a surface water sample (Sample SW5) were collected during the second phase of the field efforts to evaluate the extent of the contaminants reported in Sample SS86. As summarized in Tables 2 and 3, the contaminants of concern reported in Sample SS86, benzo(a)anthracene and benzo(a)pyrene, were not detected in other soil or surface water samples collected from that area.

Of the three samples analyzed for PAHs and PCBs, two samples contained at least one PAH compound. Sample SS9 (Drum Storage Docks) contained 0.0663 mg/Kg naphthalene, 0.335 mg/Kg acenaphthene, and 0.0167 mg/Kg phenanthrene. Fluoranthene (0.0624 mg/Kg) was detected in Sample SS16 (Drum Storage Docks). These constituent concentrations were either less than the applicable cleanup levels or are not regulated (phenanthrene). The three samples did not contain detectable concentrations of PCBs.

Eighteen of the 90 soil samples collected were analyzed for RCRA metals. Of these, all 18 contained at least four of the eight targeted RCRA metals. Arsenic levels ranged from 6.86 mg/Kg in Sample SS21 to 23.9 mg/Kg in Sample SS63 (Wood Storage Building). Arsenic concentrations in 16 samples exceed the ADEC's cleanup level of 8.0 mg/Kg. The other metals detected in the soil samples included barium, cadmium, chromium, and lead. Except for arsenic, targeted metals concentrations in the soil were either non-detected or less than the applicable cleanup criterion. Based on the information provided in Hart Crowser's June 15, 1999 draft memorandum titled "*Proposed Elimination of Specific Metals as Chemicals of Potential Concerns in Risk Assessments, Based on Background Concentrations, Airstrip and Powerhouse Sites, Former Naval Arctic Research Laboratory, Point Barrow, Alaska*", naturally-occurring arsenic concentrations of soil and freshwater sediment samples range from 3.3 mg/Kg to 32 mg/Kg. Considering the range of naturally-occurring background levels and the absence of obvious contamination at these sample locations, it is likely that the arsenic concentrations detected in the project samples are attributable to the composition of the gravel fill.

Based on results of the soil samples collected from the soil borings, target analyte concentrations in the soil cuttings generated during drilling activities do not exceed the applicable cleanup levels.

Except for five sample locations, petroleum hydrocarbon or other organic chemical concentrations of the 90 soil samples were less than the applicable cleanup criteria. Four sample locations at the Drum Storage Docks area exceed the cleanup levels for DRO and/or RRO, and benzo(a)anthracene and benzo(a)pyrene concentrations reported in Sample SS86 (Creosote-Treated Pole Storage) exceed the associated cleanup levels.

7.2 Water Samples

Five surface water and eight porewater samples, including one field duplicate, were submitted for analytical testing. Four of the five surface water samples (Samples SW1, SW2, SW3, and SW5) were collected from locations adjacent to the pad and Sample SW4 was obtained from water within the containment dike of AST 17. The porewater samples were collected from the monitoring wells. Of the five surface water samples, five were analyzed for GRO and BTEX, four for DRO, RRO, SVOCs, and RCRA metals, three for VOCs, and one for PAHs. Eight of the porewater samples were analyzed for DRO and RRO, six for VOCs, and two for GRO, BTEX, and SVOCs.

GRO and BTEX constituents were not detected in the five surface water samples. Samples SW1, SW2, SW3 also did not contain DRO, RRO, or VOCs. DRO, RRO, and PCB concentrations in Sample SW4 were less than the reporting limits.

Three of the four surface water samples collected from locations adjacent to the pad had at least one detectable SVOC constituent. Sample SW1 contained 0.042 milligrams per liter (mg/L) phenol and 0.022 mg/L 2-methylphenol(o-cresol). Samples SW3 and SW5 had 0.010 mg/L phenol. These phenol and o-cresol levels are less than the regulatory limits. Other SVOCs were not detected.

Of the targeted metals, Sample SW1 contained 0.0649 mg/L arsenic, 0.444 mg/L barium, and 0.00584 cadmium. Barium concentrations of Samples SW2 and SW3 were 0.0157 mg/L and 0.0699 mg/L, respectively. The arsenic concentration in Sample SW1 is the only analyte to exceed the associated cleanup level (0.05 mg/L). Because of the slightly turbid water samples, this elevated arsenic concentration may be attributable to naturally-occurring levels.

DRO and RRO were reported in porewater samples collected from six of the seven monitoring wells. DRO levels ranged from 1.62 mg/L in Sample B9MW to 6.56 mg/L in Sample B27MW. RRO concentrations were between 1.34 mg/L (Sample B9MW) and 5.32 mg/L

(Sample B27MW). Reported DRO and RRO concentrations exceed the applicable cleanup levels in six of the seven monitoring well samples.

Water samples B5MW and B9MW also had detectable concentrations of GRO, benzene, ethylbenzene, and xylenes. However, these levels do not exceed the applicable cleanup criterion.

A dichlorodifluoromethane concentration of 0.00449 mg/L was reported in the sample from Monitoring Well B9MW. Methylene chloride was reported in the five monitoring well samples analyzed for VOCs. Methylene chloride concentrations in these samples ranged from 0.00695 mg/L in Monitoring Well B5MW to 0.0122 mg/L in Monitoring Well B10MW. Phenol was reported in Monitoring Well B27MW (0.012 mg/L). Reported dichlorodifluoromethane and phenol levels are less than cleanup criteria. The remaining VOC and SVOC compounds were not detected. The methylene chloride concentrations reported in the five wells exceed the applicable cleanup level of 0.005 mg/L. Methylene chloride is used in laboratories and is a common laboratory contaminant. From our communications with the project laboratory, it was confirmed that similar methylene chloride levels were detected in another client's samples within the same batch. Based on the laboratory's review of the sample results, the laboratory indicated that the methylene chloride levels reported in the water samples were likely caused by cross-contamination in the laboratory.

Based on porewater sample results, DRO and RRO concentrations in the water generated from decontamination and monitoring well purging efforts exceed the cleanup criterion and will require treatment prior to disposal.

7.3 Wood Samples

PCP was detected at a concentration of 4.5 mg/L in Sample WS1, collected from the PCP-treated lumber. The creosote-treated wood sample, Sample WS2, contained PCP (0.0666 mg/L), o-cresol (0.036 mg/L), p&m-cresol (0.066 mg/L), and pyridine (0.012 mg/L). The reported constituent concentrations in both samples are less than EPA's toxicity characteristic criterion for each compound. Other targeted analytes were not detected in these samples.

7.4 Container Characterization Samples

Based on our field observations and results of HazCat screening and analytical testing, container contents are classified under 10 general categories. These include fuels, oil and grease, acids, solvents and cleaners, compressed gases, paint and paint products, asphalt and cement

patch, wastewater, treated wood, and used drums. These categories have been further divided into 38 waste streams. A summary of these waste streams and estimated volumes/mass are presented below:

Waste Streams Summary

Waste Stream	Estimated Quantity
Aviation Gas	**695** gallons in AST's and a 55-gallon drum
Diesel Fuel	**23,064** gallons in AST's, vehicles, heaters, and 55-gallon drums
Diesel/Xylenes Mixture	**21** gallons in 55-gallon drums
Diesel/Water Mixture	**80** gallons in AST#22 and heaters
ATF/Virgin Oils	**1,859** gallons, various size drums
ATF/Antifreeze Mixture	**28** gallons, 55-gallon drum
Lubricating Grease	**135** gallon, 16 and 55-gallon drums
Xylene	**220** gallons, 55-gallon drums
Antifreeze	**600** gallons, 55 and 85-gallon drums
Antifreeze/Water Mixture	**150** gallons, 55-gallon drum and 5-gallon cans
Antifreeze/Used Oil Mixture	**79** gallons, 55-gallon drums
Stoddard Solvent	**172** gallons, 55-gallon drums
Carburetor Cleaner	**76** gallons, various size drums and cans
Alkaline Cleaner	**25** gallons, 5-gallon cans
Calcium Hydroxide Solution	**120** gallons, 55 and 30-gallon drums
Used Oil	**736** gallons, various size drums and cans
Used Oil/Water Mixture	**305** gallons, 55 and 85-gallon drums
Oily Water	**5,639** gallons, AST#13 and a 55-gallon drum
Methanol Containing Windshield Washer Fluid	**83** gallons, 55-gallon drums
Asphalt Tar	**7,865** gallons, 55-gallon drums
Asphalt Coating	**365** gallons, 5-gallon pails
Calcium Hydroxide Containing Cement Patch	**50** gallons, 5-gallon pails
Grout	**950** gallons, 4'x4'x4' wooden crates
Latex Paint	**100** gallons, various size containers
Paint Related Materials (Flammable)	**4,530** gallons, various size containers
Consolidated Flammable Liquids	**157** gallons, 55-gallon drums
MEK Peroxide	**1** gallon, 1-gallon can
Adhesive Caulk	**1,095** gallons, 5-gallon pails
Magnesium Chloride	**24** cubic feet, 4'x4'x4' wooden crate
Compressed Gas Cylinders	**37** various size cylinders
Ethyl Ether Compressed Cylinder	**24** fl. oz. cylinder
Aerosols (Flammable)	**57** cans
Hydrochloric Acid	**60** gallons, 55-gallon drum
Sulfuric Acid	**131** gallons, various size containers
Nitric Acid	**85** gallons, 5-gallon containers
Lead-Acid Batteries	**20**, 2-gallon batteries
PCP Treated Lumber	**154,000** cubic feet
Empty Drums	**10**, 55-gallon drums

In addition to the characterization effort described above, four overpack drums of soil (dated May 14, 1993) are located in the Service Shop Building. The analytical samples collected from the boreholes associated with these soil cuttings contained petroleum hydrocarbon constituents. However, the reported concentrations are less than the applicable cleanup criteria.

7.5 Building Material Samples

As detailed in WEC's inspection report (Appendix D), 25 samples were collected from suspect building materials in the Service Shop and the Pump House were analyzed for asbestos content. A single sample was reported to contain ACM. The thermal system insulation in the Pump House contained 98% asbestos. Results of the 26 paint and dust samples indicated that lead was present within the paint on the building and in the dust found in the Service Shop. Precautionary measures should be taken prior to disturbing the ACM and lead containing materials. State-certified asbestos abatement personnel should remove the ACM, and lead compliance procedures should be implemented during work that may disturb lead containing dust and paint.

7.6 Quality Control Samples

Quality control for this project consisted of laboratory analyses of duplicate samples, trip blanks, and field blanks and assessment of the precision and accuracy of the sampling and analysis process. The project laboratory conducts on-going quality assurance/quality control procedures to meet ADEC data quality objectives (DQO). If a DQO was not met, the project laboratory provides a brief narrative in their laboratory reports (See Appendix B).

Eight trip blanks (two water and six soil) and two methanol-preserved field blanks were included in the analytical testing program to evaluate the potential for cross-contamination between sample jars, and to determine if target analytes may have been introduced during field activities. The trip and field blanks did not contain detectable levels of the target analytes indicating that cross-contamination and/or the introduction of contaminants during field activities did not likely occur.

For QC purposes, seven duplicate samples (six soil and one porewater) were collected and submitted for analysis. Samples SS116, SS174, SS188, B13S3, B14S3, B14S4, and B31MW were field duplicates of Samples SS16, SS174, SS88, B13S2, B14S1, B14S2, and B30MW, respectively. The precision of the analyses were determined using the summary statistic of Relative Percent Difference (RPD). Where the RPDs could be calculated, values were typically

within the DQO outlined in our project work plan. RPDs for DRO and RRO results in Samples B14S1 and B30MW (and respective duplicates) exceeded RPD goals. However, analytical results of the duplicate and the corresponding project samples agree with each other within a factor of two to three for the targeted analytes. A variance of within a factor of three to five is generally considered acceptable for results of the primary and duplicate soil samples since soil heterogeneity and contaminant distribution within the sample matrix can have a significant effect on duplicate results. Based on our data evaluation, we find the project data to be complete and useable to support the site assessment efforts.

8.0 CONCLUSIONS/RECOMMENDATIONS

These conclusions are based on the analytical sample results, our interpretations of the site conditions, and site-specific cleanup guidelines. Contaminant concentrations reported in the soil and water samples are compared to the risk-based cleanup levels listed in ADEC's Oil and Hazardous Substances Pollution Control Regulations (18 AAC 75 Sections 341 and 345). In addition, results of the waste characterization analyses were compared to both federal and state regulations for classification of the waste and determination of disposal options.

Based on the naturally-occurring background concentrations of arsenic in Alaska soil and the absence of obvious contamination at many of the subject sample locations, the elevated arsenic concentrations reported in 16 soil samples and one surface water sample (Sample SW1) are considered to be within the naturally-occurring background levels. In addition, methylene chloride concentrations were reported in five water samples that were analyzed for VOCs at concentrations exceeding the applicable cleanup level (0.005 mg/L). Based on the information provided by the laboratory, it is likely that the methylene chloride concentrations reported in the water samples were caused by cross-contamination in the laboratory. We therefore have not considered methylene chloride to be an identified contaminant at the monitoring wells. The presence of methylene chloride in the subject monitoring wells could be verified by resampling.

The following sections summarize our findings with respect to soil and water contamination as well as waste characterization efforts. Based on our site characterization efforts, we have identified remediation and/or disposal options for impacted media and waste materials identified at the site. The remediation and disposal options are presented as a basis for discussion prior to development of the CAP. The CAP will provide additional evaluation of potential correction action alternatives, and will present a recommendation for the preferred remedial and/or disposal option for the impacted media and waste materials identified at the site.

8.1 Surface and Subsurface Soil

A total of 162 surface and subsurface soil samples were collected, and based on field screening results, 90 samples were submitted for analytical testing. Except for five sample locations, petroleum hydrocarbon or other organic chemical concentrations of the 90 soil samples were less than the applicable cleanup criterion. Four sample locations at the Drum Storage Docks area exceeded the cleanup levels for DRO and/or RRO. Based on our estimation of a 20 feet by 20 feet area encompassing Samples SS27 and SS16 and two distinctive 15 feet by 15 feet areas surrounding Samples SS46 and SS52 with a vertical extent of about 2 feet bgs, we estimate

that about 60 to 70 cubic yards (cy) of petroleum hydrocarbon impacted soil are present at the Drum Storage Docks area. Benzo(a)anthracene and benzo(a)pyrene concentrations reported in Sample SS86 (Creosote-Treated Pole Storage) exceed the associated cleanup levels. Sample SS86 was collected from a small area (approximately two square feet) of grossly stained soil caused by drips of creosote from the poles. Considering the results of the samples collected from the vicinity and downslope of the source (the creosote poles), it is likely that the impacted soil is limited to the immediate vicinity of Sample SS86. Although the entire area beneath the pole pile could not be observed, the potentially creosote-impacted soil is expected to be limited to small drips, if any. From the available data, we estimate that up to 10 cy of creosote-impacted soil is present in the vicinity of Sample SS86 and beneath the pole pile.

Considering the volume and extent of the contaminated soil identified during this ESA, as well as climatic condition at the site, it is our opinion that in situ remedial technologies are not efficient or cost effective. The estimated volume of impacted soil (around 80 cy) should instead be addressed using an ex-situ method. The ex-situ technique consists of removal (excavation) and treatment or disposal of the impacted soil. Once the soil is excavated, one or more of the following options may be implemented.

Disposal: The excavated soil may be placed in a landfill. To implement this option, the contaminant types and concentrations should meet landfill requirements. We understand that the landfill compliance order for Barrow prohibits the disposal of soil with contaminants exceeding the 18 AAC 75 criteria and would preclude the use of the Barrow landfill for this option.

Landfarming or Landspreading: These methods involve spreading the contaminated soil in a thin layer on a liner over the ground surface. In landfarming, biological activity may be enhanced by the addition of nutrients and water, mechanical aeration, and pH adjustment. Landspreading relies primarily on aeration and unenhanced biological action to perform the treatment.

Cell Bioremediation: This technique requires a specially designed treatment cell to contain the contaminated soil and enhance biodegradation of the contaminants. Soil moisture, temperature, oxygen, and nutrients are controlled to optimize conditions for soil bacteria.

Asphalt Recycling: Cold or hot mix asphalt recycling involves blending petroleum hydrocarbon-impacted soil with sand and gravel aggregate to manufacture asphaltic concrete or lower grade mixtures for road beds. This method is generally used with soil contaminated by diesel and heavier chain petroleum hydrocarbon fuels.

Thermal Desorption: This method uses a rotary kiln heated to 300° to 700° Fahrenheit to volatilize hydrocarbons from the contaminated soil. The emissions are oxidized in an afterburner to prevent discharge of large quantities of unburned hydrocarbons into the atmosphere. Both permanent and mobile units are available to implement this technique.

8.2 Surface and Porewater

Except for arsenic content of Sample SW1, which was attributed to naturally-occurring background arsenic levels, target analyte concentrations in the five surface water samples were either not detected or less than the applicable cleanup criterion.

DRO and RRO concentrations exceeding the applicable cleanup levels were reported in six of the seven sampled monitoring wells. Considering results of the surface water samples, which did not contain detectable DRO or RRO, it appears that petroleum hydrocarbon constituents detected in the porewater samples from the onsite monitoring wells have not migrated to the surface water adjacent to the pad. One or more of the following corrective actions may be considered to remediate or contain the impacted porewater within the pad boundary.

Water Sampling: Because the petroleum hydrocarbon impacted porewater is contained within the gravel pad, an annual monitoring program may be implemented to evaluate surface water and porewater quality.

Treatment Barriers: Although the surface water samples collected from outside the fence, adjacent to the pad, did not contain DRO or RRO, treatment barriers that are placed along the edge of the pad adjacent to the impacted monitoring wells may mitigate the migration of contaminants off site.

Soil Excavation: Since the porewater at the site is localized in topographic depressions and unfrozen ground, the source of the DRO and RRO reported in the monitoring well samples are likely caused by the petroleum hydrocarbon containing soil located in the vicinity of the monitoring wells. Excavation and treatment or disposal of the soil with DRO or RRO concentrations exceeding the regulatory criterion (discussed in the previous section) will likely contribute to porewater cleanup. Once the source, the impacted soil, is removed, petroleum hydrocarbon constituents remaining in the porewater should dissipate over time. Further, soil with contaminant concentrations not exceeding the cleanup levels can also contribute to water contamination. Excavation of the petroleum hydrocarbon-containing soil in the vicinity of the

monitoring wells may also reduce the DRO and RRO levels in the porewater at that location. This excavated soil would not require remediation and could be landspread or stockpiled at an environmentally less sensitive portion of the site.

8.3 Treated Wood

Treated wood stored at the site consists of creosote-treated poles and dimensional lumber treated with PCP. Both wood products contain chemicals which are regulated as hazardous substances from a health and environmental standpoint. Target analyte concentrations of the composite wood samples were either not detected or less than EPA's toxicity characteristic levels indicating neither of the wood products would be considered a characteristic hazardous waste under RCRA. Because the wood products are not considered a hazardous waste, they may be disposed in a landfill. Alternatively, the wood products may be appropriate for use in certain applications which consider the chemical characteristics of the wood product and the degree of human health and environmental exposure. For example, the creosote-treated poles may be used for utility poles and the PCP-treated lumber may be used for a boardwalk or snow fence. The handling or use of these materials should be performed by trained personnel using appropriate health and safety precautions.

8.4 Container Contents

Up to 38 waste streams were identified during this ESA. These waste streams have been adequately characterized to determine and implement disposal options. Options for use and/or disposal of these waste streams include the following:

- Utilize for the intended product use;
- Recycle;
- Use for energy recovery in Barrow;
- Place in a landfill in Barrow; and
- Transport to a disposal facility out side Barrow.

The water generated during equipment decontamination and monitoring well purging efforts contains DRO and RRO levels exceeding the cleanup criteria and should be disposed properly.

Target analyte concentrations in the four overpack drums of soil generated in 1993 and the two supersacks of soil generated during our drilling efforts are less than applicable cleanup levels. Upon receiving ADEC approval, these soils may be landspread at the site.

8.5 Building Materials

WEC's inspection report, included in Appendix D, concluded that the thermal system insulation in the Pump House contains asbestos, and lead was present within the paint on the building and in the dust found in the Service Shop. Precautionary measures should be taken prior to renovation or demolition of the Service Shop or the Pump House. The thermal system insulation in the Pump House should be removed by State-certified asbestos abatement personnel. Lead compliance procedures should be implemented during work that may disturb the lead containing paint in the Service Shop Building.

8.6 Miscellaneous Materials and Equipment

The miscellaneous materials and equipment generally include construction equipment and materials (including piping), ASTs, and vehicles. A waste minimization approach should be preferred in the CAP. If the vehicles can not be used or repaired, after removal of their fluids, they should be taken for metal recycling and/or disposed at the landfill. Similarly, after emptied of their product and cleaned, the ASTs may be recycled or disposed at the landfill. Most of the construction materials appeared suitable for use or recycling.

9.0 CLOSURE/LIMITATIONS

Shannon & Wilson has prepared the attachments in Appendix E "Important Information About Your Geotechnical/Environmental Report" to assist you and others in understanding the use and limitations of our reports.

You are advised that various state and federal agencies (ADEC, EPA, etc.) may require the reporting of this information. Shannon & Wilson does not assume the responsibility for reporting these findings and therefore, has not, and will not, disclose the results of this study except as requested by you or as required by law.

We appreciate this opportunity to be of service. If you have questions or comments concerning this report, please call the undersigned at (907) 561-2120.

Sincerely,

SHANNON & WILSON, INC.

Prepared By:

H. Turker

Haydar Turker
Senior Engineer

Reviewed By:

John F. Spielman

John F. Spielman, C.P.G.
Principal Hydrogeologist

10.0 REFERENCES

Alaska Department of Environmental Conservation, *Oil and Hazardous Substances Pollution Control Regulations, 18 AAC 75*, January 22, 1999.

Alaska Department of Environmental Conservation, *Underground Storage Tanks Procedures Manual*, December 1, 1999.

CH2M Hill, *Final Report Evaluation of Alternatives Floor Slab Repairs, South Pad Maintenance Facility, Barrow, Alaska*, July 15, 1993

Code of Federal Regulations, Title 40, Parts 260 to 299, Revised as of July 1, 1995.

Hart Crowser, Inc., *Proposed Elimination of Specific Metals as Chemicals of Potential Concerns in Risk Assessments, Based on Background Concentrations, Airstrip and Powerhouse Sites, Former Naval Arctic Research Laboratory, Point Barrow, Alaska,* June 15, 1999

Travis/Peterson Environmental Consulting, Inc., *Phase I Environmental Site Assessment, South Pad*, March 2000

Woodward-Clyde Consultants, *Draft Report, Preliminary Environmental Site Assessment, NSB South Pad*, August 5, 1997

TABLE 1 - SAMPLE LOCATIONS AND DESCRIPTIONS

Matrix and Sample Number~	Date	Sample Location	Depth (feet)	Headspace (ppm) ^	Sample Classification
Surface Soil Samples					
SS1*	7/30/2001	South end of Drum Storage Dock 1	0.2 - 0.4	0.1	Brown, sandy GRAVEL; wet
SS2	7/30/2001	Southeast end of Drum Storage Dock 1	0.2 - 0.4	0.2	Brown, sandy GRAVEL; wet
SS3*	7/30/2001	East of Drum Storage Dock 1	0.2 - 0.4	0.9	Brown, gravelly SAND; moist
SS4	7/30/2001	East of Drum Storage Dock 1	0.2 - 0.4	1.0	Brown, gravelly SAND
SS5	7/30/2001	East of Drum Storage Dock 1	0.2 - 0.4	0.8	Brown, silty, sandy GRAVEL; moist to wet
SS6	7/30/2001	South of AST 1	0.2 - 0.4	9.5	Brown, sandy GRAVEL; wet
SS7	7/30/2001	East of AST 1	0.2 - 0.4	10.5	Brown, silty, sandy GRAVEL; wet
SS8	7/30/2001	North of AST 1	0.2 - 0.4	1.5	Brown, slightly silty, sandy GRAVEL; wet
SS9*	7/30/2001	West of AST 1	0.2 - 0.4	23.5	Brown SAND; moist
SS10*	7/30/2001	Below north end of Drum Storage Dock 1	0.2 - 0.4	3.5	Brown, gravelly SAND; moist
SS11	7/30/2001	Northeast end of Drum Storage Dock 1	0.2 - 0.4	0.7	Brown SAND
SS12	7/30/2001	Northeast end of Drum Storage Dock 1	0.2 - 0.4	1.8	Brown, gravelly SAND; moist
SS13*	7/30/2001	Northeast end of Drum Storage Dock 1	0.2 - 0.4	12.5	Brown, silty, sandy GRAVEL; moist
SS14	7/30/2001	Northeast end of Drum Storage Dock 1	0.2 - 0.4	0.4	Brown, silty, gravelly SAND; moist
SS15	7/30/2001	Northeast end of Drum Storage Dock 1	0.2 - 0.4	5.2	Brown, gravelly fine SAND; moist
SS16*	7/30/2001	Northeast corner of Drum Storage Dock 1	0.2 - 0.4	1.8	Brown, gravelly SAND; moist
SS17	7/30/2001	Northeast of Drum Storage Dock 1	0.2 - 0.4	1.3	Brown, gravelly SAND; moist
SS18*	7/30/2001	Northwest of Drum Storage Dock 2	0.2 - 0.4	25	Brown, sandy GRAVEL; wet
SS19	7/30/2001	Northeast of Drum Storage Dock 1	0.2 - 0.4	0.4	Brown, sandy GRAVEL; wet
SS20	7/30/2001	Northeast of Drum Storage Dock 1	0.2 - 0.4	0.7	Brown, gravelly SAND; moist
SS21*	7/30/2001	North of Drum Storage Dock 1	0.2 - 0.4	0.4	Brown, sandy GRAVEL; wet
SS22	7/30/2001	North of Drum Storage Dock 1	0.2 - 0.4	0.2	Brown, silty, sandy GRAVEL; wet
SS23	7/30/2001	North of Drum Storage Dock 1	0.2 - 0.4	0.2	Brown, slightly silty, sandy GRAVEL; wet
SS24*	7/30/2001	North of Drum Storage Dock 1	0.2 - 0.4	0.2	Brown, sandy GRAVEL; wet

KEY	DESCRIPTION
*	Sample analyzed by the project laboratory (See Tables 2, 3, and 4)
~	Sample numbers are preceded by '16383-4' on chain-of-custody forms
^	Field screening instrument was an OVM 580B photoionization detector (PID)
ppm	Parts per million
-	Not applicable

TABLE 1 - SAMPLE LOCATIONS AND DESCRIPTIONS

Matrix and Sample Number~	Date	Sample Location	Depth (feet)	Headspace (ppm) ^	Sample Classification
SS25	7/30/2001	North of Drum Storage Dock 1	0.2 - 0.4	0.2	Brown, gravelly SAND; moist
SS26	7/30/2001	North of Drum Storage Dock 1	0.2 - 0.4	0.2	Brown, gravelly SAND; moist
SS27*	7/30/2001	Northwest of Drum Storage Dock 1	0.2 - 0.4	0.6	Brown, gravelly SAND; moist
SS28	7/30/2001	Below north end of Drum Storage Dock 1	0.2 - 0.4	0.6	Brown, slightly silty, gravelly SAND; wet
SS29*	7/30/2001	Northwest end of Drum Storage Dock 1	0.2 - 0.4	0.3	Brown, silty, sandy GRAVEL; wet
SS30	7/30/2001	West of Drum Storage Dock 1	0.2 - 0.4	0.2	Brown, sandy GRAVEL; wet
SS31	7/30/2001	Southwest end of Drum Storage Dock 1	0.2 - 0.4	0.3	Brown, sandy GRAVEL; wet
SS32	7/30/2001	West of Drum Storage Dock 1	0.2 - 0.4	0.3	Brown, sandy GRAVEL; moist
SS33	7/30/2001	Northwest of Drum Storage Dock 1	0.2 - 0.4	0.5	Brown, sandy GRAVEL; wet
SS34	7/30/2001	Northwest of Drum Storage Dock 1	0.2 - 0.4	0.2	Brown, sandy GRAVEL; moist to wet
SS35	7/30/2001	South of the Storage Sheds	0.2 - 0.4	0.2	Brown, sandy GRAVEL; moist to wet
SS36	7/30/2001	West of the Storage Sheds	0.2 - 0.4	0.2	Brown, sandy GRAVEL; wet
SS37	7/30/2001	North of the Storage Sheds	0.2 - 0.4	0.2	Brown, sandy GRAVEL; wet
SS38	7/30/2001	Northwest of the Storage Sheds	0.2 - 0.4	0.5	Brown, slightly, sandy GRAVEL; wet
SS39	7/30/2001	North of the Storage Sheds	0.2 - 0.4	0.4	Brown, silty, sandy GRAVEL; wet
SS40	7/30/2001	West of Drum Storage Dock 2	0.2 - 0.4	1.2	Brown, silty, sandy GRAVEL; moist
SS41*	7/30/2001	Northwest end of Drum Storage Dock 1	1.0	0.6	Brown, sandy GRAVEL; wet
SS42	7/30/2001	Northwest of Drum Storage Dock 1	1.0	0.5	Brown, sandy GRAVEL; wet
SS43	7/30/2001	Northwest end of Drum Storage Dock 1	0.2 - 0.4	0.6	Brown, sandy GRAVEL; wet
SS44	7/30/2001	West of Drum Storage Dock 1	0.2 - 0.4	0.3	Brown, sandy GRAVEL; wet
SS45	7/30/2001	West of Drum Storage Dock 1	0.2 - 0.4	0.4	Brown, silty, gravelly SAND; moist to wet
SS46*	7/30/2001	North of Drum Storage Dock 2	0.2 - 0.4	1.0	Brown, gravelly SAND; wet
SS47*	7/30/2001	North of Drum Storage Dock 2	0.2 - 0.4	0.5	Brown, sandy GRAVEL; wet
SS48	7/30/2001	Northeast end of Drum Storage Dock 2	0.2 - 0.4	0.6	Brown, silty, gravelly SAND; wet
SS49	7/30/2001	East of Drum Storage Dock 2	0.2 - 0.4	0.4	Brown, sandy GRAVEL; wet
SS50*	7/30/2001	East of Drum Storage Dock 2	0.2 - 0.4	0.4	Brown, slightly sandy, silty GRAVEL; wet

KEY	DESCRIPTION
*	Sample analyzed by the project laboratory (See Tables 2, 3, and 4)
~	Sample numbers are preceded by '16383-4' on chain-of-custody forms
^	Field screening instrument was an OVM 580B photoionization detector (PID)
ppm	Parts per million
-	Not applicable

TABLE 1 - SAMPLE LOCATIONS AND DESCRIPTIONS

Matrix and Sample Number~	Date	Sample Location	Depth (feet)	Headspace (ppm) ^	Sample Classification
SS51	7/30/2001	East of Drum Storage Dock 2	0.2 - 0.4	0.6	Brown, silty, sandy GRAVEL; wet
SS52*	7/30/2001	Southwest corner of Drum Storage Dock 2	0.2 - 0.4	1.2	Brown, silty, sandy GRAVEL; wet
SS53	7/30/2001	Below Drum Storage Dock 2	0.2 - 0.4	0.8	Brown, silty, sandy GRAVEL; wet
SS54*	7/30/2001	West of Drum Storage Dock 2	0.2 - 0.4	43.5	Brown, silty, sandy GRAVEL; wet
SS55	7/30/2001	West of Drum Storage Dock 2	0.2 - 0.4	1.7	Brown, silty, sandy GRAVEL; wet
SS56	7/30/2001	North of AST 13	0.2 - 0.4	2.0	Brown, gravelly SAND; moist
SS57	7/30/2001	East of AST 13	0.2 - 0.4	1.0	Brown, gravelly SAND; moist
SS58	7/30/2001	South of AST 13	0.2 - 0.4	1.2	Brown, gravelly SAND; moist
SS59	7/30/2001	West of AST 13	0.2 - 0.4	1.2	Brown, gravelly SAND; moist
SS60*	7/30/2001	North of the Wood Storage Building	0.2 - 0.4	0.0	Brown, gravelly SAND; wet
SS61*	7/30/2001	North of the Wood Storage Building	0.2 - 0.4	0.0	Brown, gravelly SAND; wet
SS62*	7/30/2001	West of the Wood Storage Building	0.2 - 0.4	0.0	Brown, gravelly SAND; moist
SS63*	7/30/2001	South of the Wood Storage Building	0.2 - 0.4	0.0	Brown, gravelly SAND; trace of organics; wet
SS64	7/30/2001	Vehicles and Equipment Storage Area	0.2 - 0.4	0.5	Brown, gravelly SAND; wet
SS65*	7/30/2001	Vehicle Storage Area, north of the Treated Lumber Pile	0.2 - 0.4	0.5	Brown, sandy GRAVEL; wet
SS66*	7/30/2001	Vehicle Storage Area, north of the Treated Lumber Pile	0.2 - 0.4	0.7	Brown, gravelly SAND; wet
SS67	7/30/2001	Vehicle Storage Area, north of the Treated Lumber Pile	0.2 - 0.4	0.5	Brown, sandy GRAVEL; wet
SS68	7/30/2001	Vehicle Storage Area, north of the Treated Lumber Pile	0.2 - 0.4	0.5	Brown, sandy GRAVEL; wet
SS69	7/30/2001	Vehicle Storage Area, north of the Treated Lumber Pile	0.2 - 0.4	0.4	Brown, sandy GRAVEL; wet
SS70	7/30/2001	Vehicle Storage Area, next to the fence	0.2 - 0.4	0.3	Brown, sandy GRAVEL; wet
SS71*	7/30/2001	Vehicle Storage Area, next to the fence	0.2 - 0.4	0.4	Brown, gravelly SAND; moist
SS72	7/30/2001	South of AST 16	0.2 - 0.4	184	Brown, gravelly SAND; moist
SS73	7/30/2001	East of AST 16	0.2 - 0.4	69	Brown, gravelly SAND; moist
SS74*	7/30/2001	West of AST 16	0.2 - 0.4	294	Brown, gravelly SAND; moist
SS75*	7/30/2001	Next to the batteries, south of the Service Shop	0.2 - 0.4	0.6	Brown, sandy GRAVEL; moist
SS76*	7/31/2001	South of the Paint Crates	0.2 - 0.4	0.3	Dark brown, gravelly SAND; moist

KEY	DESCRIPTION
*	Sample analyzed by the project laboratory (See Tables 2, 3, and 4)
~	Sample numbers are preceded by '16383-4' on chain-of-custody forms
^	Field screening instrument was an OVM 580B photoionization detector (PID)
ppm	Parts per million
-	Not applicable

TABLE 1 - SAMPLE LOCATIONS AND DESCRIPTIONS

Matrix and Sample Number~	Date	Sample Location	Depth (feet)	Headspace (ppm) ^	Sample Classification
SS77*	7/31/2001	South of the Paint Crates, outside the fence	0.2 - 0.4	0.6	Dark brown, gravelly SAND; trace of organics; moist
SS78*	7/31/2001	East of the Vehicle Storage Area, outside the fence	0.2 - 0.4	0.2	Dark brown, gravelly SAND; wet
SS79	7/31/2001	South of AST 16, east of the transformer	0.2 - 0.4	12	Dark brown, gravelly SAND; moist
SS80	7/31/2001	East of AST 17	0.2 - 0.4	2.7	Dark brown, gravelly SAND; moist to wet
SS81	7/31/2001	Southeast of the Dispensing Station	0.2 - 0.4	1.0	Dark brown, gravelly SAND; wet
SS82	7/31/2001	Southwest of the Dispensing Station	0.2 - 0.4	0.7	Dark brown, gravelly SAND; wet
SS83	7/31/2001	West of AST 17, next to the Service Shop Building	0.2 - 0.4	0.5	Brown SAND; trace of gravel; moist
SS84*	7/31/2001	Southeast of the Service Shop Building	0.2 - 0.4	115	Light brown SAND; moist
SS85	7/31/2001	South of the Service Shop Building	0.2 - 0.4	1.7	Light brown SAND; moist
SS86*	7/31/2001	Southwest end of the Creosote Poles	0.2 - 0.4	0.7	Dark brown, silty, sandy GRAVEL; moist
SS87*	8/1/2001	East of the Treated Lumber	0.2 - 0.4	0.6	Brown, gravelly SAND; wet
SS88*	9/9/2001	South of the Creosote Poles	1.0	0.3	Brown, sandy GRAVEL; moist
SS89*	9/9/2001	South of the Creosote Poles	2.0	0.5	Brown, sandy GRAVEL; moist
SS90*	9/9/2001	South of the Creosote Poles, next to the fence	0.3	0.2	Brown, sandy GRAVEL; wet
SS116*	8/1/2001	Duplicate of Sample SS16	0.2 - 0.4	1.8	Brown, gravelly SAND; moist
SS174*	8/1/2001	Duplicate of Sample SS74	0.2 - 0.4	294	Brown, gravelly SAND; moist
SS188*	9/9/2001	Duplicate of Sample SS88	1.0	0.3	Brown, sandy GRAVEL; moist
Soil Boring Samples					
B1S1*	9/6/2001	Boring B1, Sample 1, the Service Shop Building	0.5 - 2.0	0.5	Brown to gray, sandy GRAVEL; moist
B1S2	9/6/2001	Boring B1, Sample 2, the Service Shop Building	2.5 - 3.5	0.5	Very dense, brown to gray, sandy GRAVEL; moist
B1S3*	9/6/2001	Boring B1, Sample 3, the Service Shop Building	4.0 - 5.5	2.4	Very dense, brown, sandy GRAVEL; frozen
B1S4	9/6/2001	Boring B1, Sample 4, the Service Shop Building	5.5 - 7.5	0.2	Brown, silty, sandy GRAVEL; frozen
B1S5	9/6/2001	Boring B1, Sample 5, the Service Shop Building	7.5 - 9.5	0.2	Dense, brown SILT, trace of organics; frozen
B2S1	9/6/2001	Boring B2, Sample 1, the Service Shop Building	0.5 - 2.5	0.2	Brown, sandy GRAVEL
B2S2	9/6/2001	Boring B2, Sample 2, the Service Shop Building	3.0 - 4.5	0.2	Very dense, brown, sandy GRAVEL; frozen
B2S3*	9/6/2001	Boring B2, Sample 3, the Service Shop Building	5.5 - 7.5	0.2	Very dense, brown to dark brown, sandy GRAVEL; frozen

KEY	DESCRIPTION
*	Sample analyzed by the project laboratory (See Tables 2, 3, and 4)
~	Sample numbers are preceded by '16383-4' on chain-of-custody forms
^	Field screening instrument was an OVM 580B photoionization detector (PID)
ppm	Parts per million
-	Not applicable

TABLE 1 - SAMPLE LOCATIONS AND DESCRIPTIONS

Matrix and Sample Number~	Date	Sample Location	Depth (feet)	Headspace (ppm) ^	Sample Classification
B3S1*	9/6/2001	Boring B3, Sample 1, the Service Shop Building	0.5 - 2.5	125	Brown, sandy GRAVEL; moist
B3S2	9/6/2001	Boring B3, Sample 2, the Service Shop Building	3.0 - 4.5	4.0	Very dense, brown, sandy GRAVEL; frozen
B3S3*	9/6/2001	Boring B3, Sample 3, the Service Shop Building	5.0 - 6.8	0.5	Very dense, brown to gray, sandy GRAVEL; frozen
B4S1	9/6/2001	Boring B4, Sample 1, the Service Shop Building	0.5 - 2.5	0.2	Brown, sandy GRAVEL; moist
B4S2*	9/6/2001	Boring B4, Sample 2, the Service Shop Building	3.0 - 4.5	0.5	Very dense, brown, sandy GRAVEL; frozen
B4S3	9/6/2001	Boring B4, Sample 3, the Service Shop Building	5.5 - 7.0	0.2	Very dense, brown, sandy GRAVEL; frozen
B5S1*	9/7/2001	Boring B5, Sample 1, next to the Pump House	0.0 - 2.0	5.4	Brown, sandy GRAVEL; moist to wet
B5S2	9/7/2001	Boring B5, Sample 2, next to the Pump House	3.0 - 5.0	0.2	Very dense, brown, sandy GRAVEL; wet
B5S3	9/7/2001	Boring B5, Sample 3, next to the Pump House	5.0 - 6.0	0.0	Very dense, brown, sandy GRAVEL; wet
B5S4	9/7/2001	Boring B5, Sample 4, next to the Pump House	7.0 - 8.5	0.0	Dense, brown, sandy, gravelly SILT; frozen
B6S1	9/7/2001	Boring B6, Sample 1, next to AST 16	0.0 - 2.0	0.0	Gray, gravelly SAND; moist to wet
B6S2*	9/7/2001	Boring B6, Sample 2, next to AST 16	5.0 - 7.0	5.6	Very dense, brown to gray, sandy GRAVEL; frozen
B7S1*	9/7/2001	Boring B7, Sample 1, east of AST 17	0.0 - 2.0	0.2	Gray, sandy GRAVEL; wet
B7S2*	9/7/2001	Boring B7, Sample 2, east of AST 17	4.5 - 6.5	0.8	Dense, gray, sandy GRAVEL; wet
B8S1	9/7/2001	Boring B8, Sample 1, south of the Service Shop Building	0.0 - 2.0	0.2	Gray SAND; moist to wet
B8S2*	9/7/2001	Boring B8, Sample 2, south of the Service Shop Building	4.5 - 6.5	0.6	Dense, brown to gray, sandy GRAVEL; frozen
B9S1	9/7/2001	Boring B9, Sample 1, south of AST 17	0.0 - 2.0	0.0	Gray SAND; moist
B9S2*	9/7/2001	Boring B9, Sample 2, south of AST 17	4.0 - 6.0	0.2	Dense, brown, sandy GRAVEL; frozen
B10S1*	9/7/2001	Boring B10, Sample 1, west of the Wood Storage Building	0.5 - 2.5	10.4	Brown, sandy GRAVEL; moist
B10S2*	9/7/2001	Boring B10, Sample 2, west of the Wood Storage Building	4.0 - 6.0	0.2	Dense, brown, sandy GRAVEL; moist to wet
B11S1	9/7/2001	Boring B11, Sample 1, south of the Wood Storage Building	0.5 - 2.5	0.2	Brown to gray, sandy GRAVEL; wet
B11S2*	9/7/2001	Boring B11, Sample 2, south of the Wood Storage Building	4.0 - 6.0	0.2	Very dense, brown to gray, sandy GRAVEL; frozen
B12S1*	9/8/2001	Boring B12, Sample 1, north of the Wood Storage Building	0.5 - 2.5	0.8	Brown, sandy GRAVEL; moist
B12S2*	9/8/2001	Boring B12, Sample 2, north of the Wood Storage Building	4.0 - 5.5	0.0	Very dense, brown, sandy GRAVEL; moist
B13S1	9/8/2001	Boring B13, Sample 1, Drum Storage Docks Area	0.5 - 2.5	0.5	Brown, sandy GRAVEL; wet
B13S2*	9/8/2001	Boring B13, Sample 2, Drum Storage Docks Area	4.0 - 6.0	1.2	Medium dense, brown to gray, sandy GRAVEL; frozen

KEY	DESCRIPTION
*	Sample analyzed by the project laboratory (See Tables 2, 3, and 4)
~	Sample numbers are preceded by '16383-4' on chain-of-custody forms
^	Field screening instrument was an OVM 580B photoionization detector (PID)
ppm	Parts per million
-	Not applicable

TABLE 1 - SAMPLE LOCATIONS AND DESCRIPTIONS

Matrix and Sample Number~	Date	Sample Location	Depth (feet)	Headspace (ppm) ^	Sample Classification
B13S3*	9/8/2001	Duplicate of Sample B13S2, Drum Storage Docks Area	4.0 - 6.0	1.2	Medium dense, brown to gray, sandy GRAVEL; frozen
B14S1*	9/8/2001	Boring B14, Sample 1, Drum Storage Docks Area	0.5 - 2.5	0.6	Brown, sandy GRAVEL; moist
B14S2*	9/8/2001	Boring B14, Sample 2, Drum Storage Docks Area	4.0 - 6.0	0.6	Medium dense, brown to gray, sandy GRAVEL; moist to wet
B14S3*	9/8/2001	Duplicate of Sample B14S1, Drum Storage Docks Area	0.5 - 2.5	0.6	Brown, sandy GRAVEL; moist
B14S4*	9/8/2001	Duplicate of Sample B14S2, Drum Storage Docks Area	4.0 - 6.0	0.6	Medium dense, brown to gray, sandy GRAVEL; moist to wet
B15S1	9/8/2001	Boring B15, Sample 1, Drum Storage Docks Area	0.5 - 2.5	2.2	Brown, sandy GRAVEL; moist
B15S2*	9/8/2001	Boring B15, Sample 2, Drum Storage Docks Area	4.0 - 6.0	2.4	Medium dense, brown to gray, sandy GRAVEL; moist
B16S1*	9/8/2001	Boring B16, Sample 1, Drum Storage Docks Area	0.5 - 2.5	0.2	Gray, sandy GRAVEL; moist to wet
B16S2*	9/8/2001	Boring B16, Sample 2, Drum Storage Docks Area	5.0 - 7.0	0.2	Medium dense, gray, sandy GRAVEL; wet
B17S1	9/8/2001	Boring B17, Sample 1, Drum Storage Docks Area	0.5 - 2.5	0.4	Brown to gray, sandy GRAVEL; moist
B17S2*	9/8/2001	Boring B17, Sample 2, Drum Storage Docks Area	4.5 - 6.5	0.4	Medium dense, brown to gray, sandy GRAVEL; wet
B18S1*	9/8/2001	Boring B18, Sample 1, Drum Storage Docks Area	0.5 - 2.5	9.8	Brown to gray, sandy GRAVEL; moist to wet
B18S2*	9/8/2001	Boring B18, Sample 2, Drum Storage Docks Area	4.0 - 6.0	0.8	Loose, brown to gray, sandy GRAVEL; wet
B19S1*	9/8/2001	Boring B19, Sample 1, Drum Storage Docks Area	0.5 - 2.5	3.8	Brown, sandy GRAVEL; moist
B19S2*	9/8/2001	Boring B19, Sample 2, Drum Storage Docks Area	4.0 - 6.0	0.8	Medium dense, brown to gray, sandy GRAVEL; moist/frozen
B20S1*	9/8/2001	Boring B20, Sample 1, Drum Storage Docks Area	0.5 - 2.5	0.2	Brown, sandy GRAVEL; moist
B20S2*	9/8/2001	Boring B20, Sample 2, Drum Storage Docks Area	4.0 - 6.0	0.2	Medium dense, brown to gray, sandy GRAVEL; moist/frozen
B21S1*	9/8/2001	Boring B21, Sample 1, Drum Storage Docks Area	0.5 - 2.5	0.3	Brown, gravelly SAND; moist
B21S2*	9/8/2001	Boring B21, Sample 2, Drum Storage Docks Area	4.0 - 6.0	0.4	Medium dense, brown to gray, sandy GRAVEL; moist to wet
B22S1*	9/8/2001	Boring B22, Sample 1, Vehicle Storage Area	0.0 - 1.0	0.4	Brown, sandy GRAVEL; moist
B22S2*	9/8/2001	Boring B22, Sample 2, Vehicle Storage Area	1.5 - 3.5	0.4	Medium dense, gray to dark gray, sandy GRAVEL; wet
B23S1	9/8/2001	Boring B23, Sample I, Vehicle Storage Area	0.5 - 1.5	0.2	Brown, sandy GRAVEL; moist to wet
B23S2*	9/8/2001	Boring B23, Sample 2, Vehicle Storage Area	3.5 - 5.5	0.3	Medium dense, brown to gray, sandy GRAVEL; wet
B24S1*	9/8/2001	Boring B24, Sample 1, south of the Treated Lumber Pile	0.5 - 1.5	0.0	Brown, sandy GRAVEL; moist to wet
B24S2*	9/8/2001	Boring B24, Sample 2, south of the Treated Lumber Pile	3.0 - 5.0	0.0	Dense, brown, sandy GRAVEL; moist/frozen
B25S1*	9/8/2001	Boring B25, Sample 1, west of the Treated Lumber Pile	0.5 - 2.0	0.0	Brown, sandy GRAVEL; wet

KEY	DESCRIPTION
*	Sample analyzed by the project laboratory (See Tables 2, 3, and 4)
~	Sample numbers are preceded by '16383-4' on chain-of-custody forms
^	Field screening instrument was an OVM 580B photoionization detector (PID)
ppm	Parts per million
-	Not applicable

TABLE 1 - SAMPLE LOCATIONS AND DESCRIPTIONS

Matrix and Sample Number~	Date	Sample Location	Depth (feet)	Headspace (ppm) ^	Sample Classification
B25S2*	9/8/2001	Boring B25, Sample 2, west of the Treated Lumber Pile	3.0 - 5.0	0.0	Dense, brown to gray, sandy GRAVEL; wet/frozen
B26S1*	9/8/2001	Boring B26, Sample 1, Drum Storage Docks Area	0.5 - 2.0	1.2	Brown, sandy GRAVEL; moist
B26S2*	9/8/2001	Boring B26, Sample 2, Drum Storage Docks Area	3.0 - 5.0	0.7	Loose, brown, sandy GRAVEL; moist to wet
B26S3	9/8/2001	Boring B26, Sample 3, Drum Storage Docks Area	5.0 - 6.5	0.2	Medium dense, brown, sandy GRAVEL; frozen
B27S1*	9/9/2001	Boring B27, Sample 1, next to the Creosote Poles Pile	0.0 - 2.0	0.2	Brown, sandy GRAVEL; moist
B27S2*	9/9/2001	Boring B27, Sample 2, next to the Creosote Poles Pile	5.0 - 7.0	1.8	Medium dense, brown, sandy GRAVEL; frozen
B28S1*	9/9/2001	Boring B28, Sample 1, next to the Creosote Poles Pile	0.0 - 1.5	0.4	Brown, sandy GRAVEL; moist
B28S2*	9/9/2001	Boring B28, Sample 2, next to the Creosote Poles Pile	5.0 - 7.0	1.8	Medium dense, brown to gray, sandy GRAVEL; wet
B29S1*	9/9/2001	Boring B29, Sample 1, next to the Crates Storage Area	0.0 - 2.0	0.2	Brown, sandy GRAVEL; moist
B29S2*	9/9/2001	Boring B29, Sample 2, next to the Crates Storage Area	5.0 - 7.0	0.2	Medium dense, brown to gray, sandy GRAVEL; wet
B30S1*	9/9/2001	Boring B30, Sample 1, Drum Storage Docks Area	0.0 - 1.0	0.4	Brown, sandy GRAVEL; moist to wet
B30S2*	9/9/2001	Boring B30, Sample 2, Drum Storage Docks Area	3.5 - 5.5	1.2	Medium dense, brown to gray, sandy GRAVEL; wet/frozen
Water Samples					
SW1*	7/31/2001	South of the fence, near the Paint Crates	-	-	Surface water
SW2*	7/31/2001	North of the fence, near Drum Dock 1	-	-	Surface water
SW3*	7/31/2001	East of the fence, near the Treated Lumber Pile	-	-	Surface water
SW4*	7/31/2001	East of the Service Shop Building	-	-	Surface water
SW5*	9/9/2001	South of the fence, near the Creosote Poles Pile	-	-	Surface water
B5MW*	9/10/2001	Monitoring Well B5MW	1.19	-	Pad Porewater
B9MW*	9/10/2001	Monitoring Well B9MW	0.34	-	Pad Porewater
B10MW*	9/10/2001	Monitoring Well B10MW	0.96	-	Pad Porewater
B25MW*	9/10/2001	Monitoring Well B25MW	0.08	-	Pad Porewater
B26MW*	9/10/2001	Monitoring Well B26MW	2.01	-	Pad Porewater
B27MW*	9/10/2001	Monitoring Well B27MW	2.68	-	Pad Porewater
B30MW*	9/10/2001	Monitoring Well B30MW	1.74	-	Pad Porewater
B31MW*	9/10/2001	Duplicate of Sample B30MW	1.74	-	Pad Porewater

KEY	DESCRIPTION
*	Sample analyzed by the project laboratory (See Tables 2, 3, and 4)
~	Sample numbers are preceded by '16383-4' on chain-of-custody forms
^	Field screening instrument was an OVM 580B photoionization detector (PID)
ppm	Parts per million
-	Not applicable

TABLE 1 - SAMPLE LOCATIONS AND DESCRIPTIONS

Matrix and Sample Number~	Date	Sample Location	Depth (feet)	Headspace (ppm) ^	Sample Classification
Wood Samples					
WS1*	8/1/2001	South end of the Treated Lumber	-	-	Pentachlorophenol Treated Lumber
WS2*	8/1/2001	West end of the Creosote Poles	-	-	Creosote Treated Poles
Quality Control Samples					
FB-1*	9/8/2001	Field blank	-	-	Ottawa sand with methanol added in the field
FB-2*	9/9/2001	Field blank	-	-	Ottawa sand with methanol added in the field
Trip Blank*	7/30/2001	Trip blank	-	-	Ottawa sand with methanol added in the laboratory
STB1*	7/30/2001	Trip blank	-	-	Ottawa sand with methanol added in the laboratory
STB2*	7/30/2001	Trip blank	-	-	Ottawa sand with methanol added in the laboratory
TB-1*	9/8/2001	Trip blank	-	-	Ottawa sand with methanol added in the laboratory
TB-2*	9/8/2001	Trip blank	-	-	Ottawa sand with methanol added in the laboratory
TB-3*	9/9/2001	Trip blank	-	-	Ottawa sand with methanol added in the laboratory
TB(W)*	7/31/2001	Trip blank	-	-	Water prepared in the laboratory
TB-4*	9/10/2001	Trip blank	-	-	Water prepared in the laboratory
Container Content Samples					
DS1*	7/31/2001	AST 13	-	-	Wastewater
DS2*	7/31/2001	Container 25	-	-	Methylene chloride and cresol based cleaner
DS3*	7/31/2001	Composite from 17 different containers	-	-	Lubricant
DS4*	7/31/2001	Containers 51, 57, and 62, Composite	-	-	Stoddard Solvent
DS5*	7/31/2001	Composite from 18 different containers	-	-	Used Oil
DS6*	7/31/2001	Containers 58 and 59, Composite	-	-	Diesel Fuel
DS7*	7/31/2001	Containers 33, 46, 80, 84, 85, and 142, Composite	-	-	Machine Oil
DS9*	7/31/2001	Containers 149, 154, and 156, Composite	-	-	Used Oil and Antifreeze
DS10*	7/31/2001	Containers 99, 102, 145, 147, 148, and 150, Composite	-	-	Oily Water
DS13*	7/31/2001	Container 107	-	-	Cleaner

KEY	DESCRIPTION
*	Sample analyzed by the project laboratory (See Tables 2, 3, and 4)
~	Sample numbers are preceded by '16383-4' on chain-of-custody forms
^	Field screening instrument was an OVM 580B photoionization detector (PID)
ppm	Parts per million
-	Not applicable

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) SS1 0.2-0.4	SS3 0.2-0.4	SS9 0.2-0.4	SS10 0.2-0.4	SS13 0.2-0.4	SS16 0.2-0.4
PID Headspace Reading - ppm	OVM 580B	-	0.1	0.9	24	3.5	13	1.8
Total Solids - Percent	SM20 2540G	-	91.9	92.2	91.2	95.8	96.0	96.1
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	894	1,260	57.5	4,880	2,640	27,000
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	2,300	3,320	65.5	9,650	9,920	7,440
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<3.31	<3.55	4.35	<3.27	15.7	<2.35
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.0165	<0.0177	<0.0194	<0.0163	0.0163	<0.0117
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0661	<0.0709	<0.0776	<0.0654	0.0643	<0.0470
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0661	<0.0709	<0.0776	<0.0654	<0.0506	<0.0470
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0661	<0.0709	<0.0776	<0.0654	0.241	<0.0470
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	0.0556	-	-	<0.0327	-	<0.0235
Methylene chloride - mg/Kg	EPA 8260B	270	<0.132	-	-	<0.131	-	<0.0940
Other VOCs - mg/Kg	EPA 8260B	Various	ND	-	-	ND	-	ND
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-	-	-	-	<5.20
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	-	-	-	<5.20
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	<5.20
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	-	-	-	<52.0
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	-	-	-	<5.20
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	-	-	-	<5.20
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	<5.20
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	-	-	-	<5.20
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	-	-	-	<5.20
Chrysene - mg/Kg	EPA 8270C	1,500	-	-	-	-	-	<5.20
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	-	-	-	<5.20
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	-	-	-	<5.20
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	-	-	-	ND
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	0.0663	-	-	<0.0623
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	0.335	-	-	<0.0623
Phenanthrene - mg/Kg	PAH SIM	-	-	-	0.0167	-	-	<0.0623
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	<0.0062	-	-	0.0624
Other PAHs - mg/Kg	PAH SIM	-	-	-	ND	-	-	ND
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	ND	-	-	ND
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	11.5	12.0	-	14.7
Barium - mg/Kg	EPA 6020	9,600	-	-	54.2	65.4	-	64.1
Cadmium - mg/Kg	EPA 6020	140	-	-	<0.207	<0.161	-	<0.184
Chromium - mg/Kg	EPA 6020	680	-	-	3.65	3.02	-	4.08
Lead - mg/Kg	EPA 6020	1,000	-	-	3.06	2.92	-	3.62
Mercury - mg/Kg	EPA 6020	26	-	-	<0.0365	<0.0346	-	<0.0343
Selenium - mg/Kg	EPA 6020	680	-	-	<1.04	<0.807	-	<0.918
Silver - mg/Kg	EPA 6020	680	-	-	<0.104	<0.0807	-	<0.0918

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) SS116^ 0.2-0.4	SS18 0.2-0.4	SS21 0.2-0.4	SS24 0.2-0.4	SS27 0.2-0.4	SS29 0.2-0.4
PID Headspace Reading - ppm	OVM 580B	-	1.8	25	0.4	0.2	0.6	0.3
Total Solids - Percent	SM20 2540G	-	96.3	94.5	90.9	90.9	94.7	94.5
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	26,100	291	123	91.1	84,100	3,290
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	6,680	472	374	244	19,300	6,750
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<2.41	3.55	<2.67	<2.38	<2.60	<2.63
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.0120	<0.0157	<0.0134	<0.0119	<0.0130	<0.0131
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0481	<0.0629	<0.0534	<0.0476	<0.0520	<0.0525
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0481	<0.0629	<0.0534	<0.0476	<0.0520	<0.0525
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0481	<0.0629	<0.0534	<0.0476	<0.0520	<0.0525
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	<0.0315	<0.0267	<0.0238	<0.0260	-
Methylene chloride - mg/Kg	EPA 8260B	270	-	<0.126	<0.107	<0.0952	<0.104	-
Other VOCs - mg/Kg	EPA 8260B	Various	-	ND	ND	ND	ND	-
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-	<0.549	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	<0.549	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	<0.549	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	<5.49	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	<0.549	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	<0.549	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	<0.549	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	<0.549	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	<0.549	-	-	-
ysene - mg/Kg	EPA 8270C	1,500	-	-	<0.549	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	<0.549	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	<0.549	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	ND	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)					-	-	-	-
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	<0.00659	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	<0.00659	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	<0.00659	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	<0.00659	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	ND	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	ND	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	7.56	6.86	9.69	17.9	-
Barium - mg/Kg	EPA 6020	9,600	-	57.2	40.1	61.4	69.7	-
Cadmium - mg/Kg	EPA 6020	140	-	<0.152	<0.144	<0.198	0.168	-
Chromium - mg/Kg	EPA 6020	680	-	2.29	1.91	2.71	6.11	-
Lead - mg/Kg	EPA 6020	1,000	-	2.49	1.97	2.43	4.55	-
Mercury - mg/Kg	EPA 6020	26	-	<0.0344	<0.0365	<0.0367	<0.0349	-
Selenium - mg/Kg	EPA 6020	680	-	<0.761	<0.719	<0.989	<0.829	-
Silver - mg/Kg	EPA 6020	680	-	<0.0761	<0.0719	<0.0989	<0.0829	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) SS41 1.0	SS46 0.2-0.4	SS47 0.2-0.4	SS50 0.2-0.4	SS52 0.2-0.4	SS54 0.2-0.4
PID Headspace Reading - ppm	OVM 580B	-	0.6	1.0	0.5	0.4	1.2	44
Total Solids - Percent	SM20 2540G	-	95.6	94.7	87.8	94.5	91.5	91.2
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	12,100	6,110	79.7	3,550	4,110	1,190
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	11,000	22,700	362	13,400	15,300	3,230
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<2.39	<4.45	<2.21	<3.02	<2.81	<3.82
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.0119	<0.0222	<0.0111	<0.0151	<0.0141	<0.0191
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0478	<0.0890	<0.0443	0.109	<0.0563	<0.0764
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0478	<0.0890	<0.0443	<0.0604	<0.0563	<0.0764
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0478	<0.0890	<0.0443	<0.0604	<0.0563	0.118
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	<0.0239	-	<0.0221	-	-	<0.0382
Methylene chloride - mg/Kg	EPA 8260B	270	<0.0956	-	<0.0885	-	-	<0.153
Other VOCs - mg/Kg	EPA 8260B	Various	ND	-	ND	-	-	ND
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-	-	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	-	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	-	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	-	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	-	-	-	-
Chrysene - mg/Kg	EPA 8270C	1,500	-	-	-	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	-	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	-	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)			-	-	-	-	-	-
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	12.1	-	10.9	-	-	13.4
Barium - mg/Kg	EPA 6020	9,600	49.8	-	66.6	-	-	61.6
Cadmium - mg/Kg	EPA 6020	140	<0.179	-	<0.199	-	-	<0.214
Chromium - mg/Kg	EPA 6020	680	2.27	-	3.52	-	-	10.5
Lead - mg/Kg	EPA 6020	1,000	2.98	-	3.03	-	-	18.6
Mercury - mg/Kg	EPA 6020	26	<0.0340	-	<0.0372	-	-	<0.0361
Selenium - mg/Kg	EPA 6020	680	<0.894	-	<0.996	-	-	<1.07
Silver - mg/Kg	EPA 6020	680	<0.0894	-	<0.0996	-	-	<0.107

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) SS60 0.2-0.4	SS61 0.2-0.4	SS62 0.2-0.4	SS63 0.2-0.4	SS65 0.2-0.4	SS66 0.2-0.4
PID Headspace Reading - ppm	OVM 580B	-	0.0	0.0	0.0	0.0	0.5	0.7
Total Solids - Percent	SM20 2540G	-	85.9	91.8	93.5	85.6	86.6	87.4
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	162	12.0	<1,070	11.8	21.6	15.3
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	650	60.3	10,300	35.8	99.8	61.1
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<2.42	<3.16	5.08	<2.38	<2.16	<2.32
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.0121	<0.0158	<0.0132	<0.0119	<0.0108	<0.0116
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0484	0.0930	<0.0529	<0.0476	<0.0432	<0.0464
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0484	<0.0632	<0.0529	<0.0476	<0.0432	<0.0464
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0484	0.0645	0.2351	<0.0476	<0.0432	<0.0464
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	0.0530	-	<0.0264	<0.0238	<0.0216	-
Methylene chloride - mg/Kg	EPA 8260B	270	<0.0968	-	<0.106	<0.0951	<0.0865	-
Other VOCs - mg/Kg	EPA 8260B	Various	ND	-	ND	ND	ND	-
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-	-	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	-	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	-	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	-	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	-	-	-	-
Chrysene - mg/Kg	EPA 8270C	1,500	-	-	-	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	-	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	-	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)			-	-				
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	14.1	-	-	23.9	11.7	8.80
Barium - mg/Kg	EPA 6020	9,600	96.9	-	-	73.5	68.0	44.8
Cadmium - mg/Kg	EPA 6020	140	0.312	-	-	<0.170	<0.146	<0.192
Chromium - mg/Kg	EPA 6020	680	4.13	-	-	3.93	3.23	2.01
Lead - mg/Kg	EPA 6020	1,000	6.44	-	-	4.36	4.14	2.22
Mercury - mg/Kg	EPA 6020	26	<0.0382	-	-	<0.0371	<0.0376	<0.0372
Selenium - mg/Kg	EPA 6020	680	<0.975	-	-	<0.851	<0.731	<0.960
Silver - mg/Kg	EPA 6020	680	<0.0975	-	-	<0.0851	<0.0731	<0.0960

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) SS71 0.2-0.4	SS74 0.2-0.4	SS174^ 0.2-0.4	SS75 0.2-0.4	SS76 0.2-0.4	SS77 0.2-0.4
PID Headspace Reading - ppm	OVM 580B	-	0.4	294	294	0.6	0.3	0.6
Total Solids - Percent	SM20 2540G	-	94.9	85.4	86.4	84.5	96.0	89.3
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	36.1	6,810	7,200	-	<10.2	<11.0
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	460	<460	<461	-	33.4	<22.1
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<3.33	90.7	73.6	-	<3.18	<2.59
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.0166	<0.0123	<0.0124	-	<0.0159	<0.0130
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0666	<0.0491	<0.0495	-	<0.0636	<0.0519
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0666	0.216	0.218	-	<0.0636	<0.0519
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0666	2.724	2.57	-	<0.0636	<0.0519
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	<0.246	-	-	<0.0318	<0.0259
Methylene chloride - mg/Kg	EPA 8260B	270	-	<0.983	-	-	<0.127	0.155
Other VOCs - mg/Kg	EPA 8260B	Various	-	ND	-	-	ND	ND
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-	-	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	-	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	-	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	-	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	-	-	-	-
rysene - mg/Kg	EPA 8270C	1,500	-	-	-	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	-	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	-	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	15.2	14.0	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	57.5	78.0	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	<0.226	0.234	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	3.76	4.66	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	5.49	3.78	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	<0.0394	<0.0336	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	<1.13	<0.913	-
Silver - mg/Kg	EPA 6020	680	-	-	-	<0.113	<0.0913	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) SS78 0.2-0.4	SS84 0.2-0.4	SS86 0.2-0.4	SS87 0.2-0.4	SS88 1.0	SS188^ 1.0
PID Headspace Reading - ppm	OVM 580B	-	0.2	115	0.7	0.6	0.3	0.3
Total Solids - Percent	SM20 2540G	-	90.6	85.8	98.4	91.2	95.8	95.0
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	<10.9	1,910	2,950	29.8	<10.5	<10.9
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	37.6	<120	1,220	69.5	<21.1	<21.8
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<1.40	13.1	<2.32	<2.53	-	-
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.00698	<0.0138	<0.0116	<0.0126	-	-
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0279	<0.0552	<0.0464	<0.0506	-	-
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0279	<0.0552	<0.0464	<0.0506	-	-
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0279	0.1557	<0.0464	<0.0506	-	-
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	0.391	-	-	-	-
Methylene chloride - mg/Kg	EPA 8260B	270	-	<0.110	-	-	-	-
Other VOCs - mg/Kg	EPA 8260B	Various	-	ND	-	-	-	-
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	<0.552	-	32.3	<0.548	<0.533	<0.535
Dibenzofuran - mg/Kg	EPA 8270C	-	<0.552	-	40.2	<0.548	<0.533	<0.535
Fluorene - mg/Kg	EPA 8270C	5,500	<0.552	-	93.6	<0.548	<0.533	<0.535
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	<5.52	-	<101	10.6	<5.33	<5.35
Phenanthrene - mg/Kg	EPA 8270C	-	<0.552	-	460	<0.548	<0.533	<0.535
Anthracene - mg/Kg	EPA 8270C	41,000	<0.552	-	24.6	<0.548	<0.533	<0.535
Fluoranthene - mg/Kg	EPA 8270C	5,500	<0.552	-	268	<0.548	<0.533	<0.535
Pyrene - mg/Kg	EPA 8270C	4,100	<0.552	-	191	<0.548	<0.533	<0.535
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	<0.552	-	377	<0.548	<0.533	<0.535
Chrysene - mg/Kg	EPA 8270C	1,500	<0.552	-	48.9	<0.548	<0.533	<0.535
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	<0.552	-	21.4	<0.548	<0.533	<0.535
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	<0.552	-	13.7	<0.548	<0.533	<0.535
Other SVOCs - mg/Kg	EPA 8270C	Various	ND	-	ND	ND	ND	ND
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	127	13.5	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	75.7	115	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	<0.195	<0.211	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	3.03	3.10	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	3.36	6.94	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	<0.0330	<0.0352	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	<0.974	<1.05	-	-
Silver - mg/Kg	EPA 6020	680	-	-	<0.0974	<0.105	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) SS89 2.0	SS90 0.3	B1S1 0.5 - 2.0	B1S3 4.0 - 5.5	B2S3 5.5 - 7.5	B3S1 0.5 - 2.5
PID Headspace Reading - ppm	OVM 580B	-	0.5	0.2	0.5	2.4	0.2	125
Total Solids - Percent	SM20 2540G	-	93.5	86.9	90.2	87.7	92.1	93.4
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	<11.0	<11.4	<11.3	<11.7	<11.0	216
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	<21.9	<22.9	<22.6	<23.5	76.1	211
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	-	-	-	<3.12	<2.94	98.4
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	-	-	-	<0.0156	<0.0147	0.0194
Toluene - mg/Kg	AK 101/EPA 8021B	89	-	-	-	<0.0625	<0.0589	0.115
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	-	-	-	<0.0625	<0.0589	0.425
Xylenes - mg/Kg	AK 101/EPA 8021B	81	-	-	-	<0.0625	<0.0589	2.112
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	-	-	<0.0312	0.208	9.41
Methylene chloride - mg/Kg	EPA 8260B	270	-	-	-	<0.125	<0.118	<0.878
Other VOCs - mg/Kg	EPA 8260B	Various	-	-	-	ND	ND	ND
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	3,200	<0.540	<0.574	-	<0.582	<0.547	<0.547
Dibenzofuran - mg/Kg	EPA 8270C	-	<0.540	<0.574	-	<0.582	<0.547	<0.547
Fluorene - mg/Kg	EPA 8270C	5,500	<0.540	<0.574	-	<0.582	<0.547	<0.547
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	<5.40	<5.74	-	<5.82	<5.47	<5.47
Phenanthrene - mg/Kg	EPA 8270C	-	<0.540	<0.574	-	<0.582	<0.547	<0.547
Anthracene - mg/Kg	EPA 8270C	41,000	<0.540	<0.574	-	<0.582	<0.547	<0.547
Fluoranthene - mg/Kg	EPA 8270C	5,500	<0.540	0.615	-	<0.582	<0.547	<0.547
Pyrene - mg/Kg	EPA 8270C	4,100	<0.540	<0.574	-	<0.582	<0.547	<0.547
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	<0.540	<0.574	-	<0.582	<0.547	<0.547
Chrysene - mg/Kg	EPA 8270C	1,500	<0.540	<0.574	-	<0.582	<0.547	<0.547
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	<0.540	<0.574	-	<0.582	<0.547	<0.547
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	<0.540	<0.574	-	<0.582	<0.547	<0.547
Other SVOCs - mg/Kg	EPA 8270C	Various	ND	ND	-	ND	ND	ND
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	3,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) B3S3 5.0 - 6.8	B4S2 3.0 - 4.5	B5S1 0.0 - 2.0	B6S2 5.0 - 7.0	B7S1 0.0 - 2.0	B7S2 4.5 - 6.5
PID Headspace Reading - ppm	OVM 580B	-	0.5	0.5	5.4	5.6	0.2	0.8
Total Solids - Percent	SM20 2540G	-	89.7	86.7	83.1	93.3	90.6	93.2
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	<11.5	<11.9	<12.4	<10.9	<10.7	<10.9
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	<23.0	<23.7	<24.9	52.4	36.4	51.9
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<2.71	<2.73	3.70	4.78	<3.12	<2.69
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.0136	<0.0136	<0.0119	<0.0132	<0.0156	<0.0134
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0542	<0.0546	<0.0477	1.65	<0.0624	0.0741
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0542	<0.0546	0.0743	<0.0530	<0.0624	<0.0537
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0542	0.0569	0.145	<0.0530	<0.0624	<0.0537
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	<0.0271	<0.0273	-	-	-	-
Methylene chloride - mg/Kg	EPA 8260B	270	<1.08	<0.109	-	-	-	-
Other VOCs - mg/Kg	EPA 8260B	Various	ND	ND	-	-	-	-
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	<0.572	<0.585	-	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	<0.572	<0.585	-	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	<0.572	<0.585	-	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	<5.72	<5.85	-	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	<0.572	<0.585	-	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	<0.572	<0.585	-	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	<0.572	<0.585	-	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	<0.572	<0.585	-	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	<0.572	<0.585	-	-	-	-
Chrysene - mg/Kg	EPA 8270C	1,500	<0.572	<0.585	-	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	<0.572	<0.585	-	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	<0.572	<0.585	-	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	ND	ND	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) B8S2 4.5 - 6.5	B9S2 4.0 - 6.0	B10S1 0.5 - 2.5	B10S2 4.0 - 6.0	B11S2 4.0 - 6.0	B12S1 0.5 - 2.5
PID Headspace Reading - ppm	OVM 580B	-	0.6	0.2	10.4	0.2	0.2	0.8
Total Solids - Percent	SM20 2540G	-	91.9	93.3	93.8	95.3	93.2	93.2
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	23.5	25.7	71.2	14.1	14.3	16.0
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	93.8	98.2	753	84.9	95.2	125
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<3.42	<4.14	-	<3.34	<3.91	-
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.0171	<0.0207	-	<0.0167	<0.0196	-
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0685	<0.0828	-	<00668	<0.0783	-
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0685	<0.0828	-	<00668	<0.0783	-
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0685	<0.0828	-	<00668	<0.0783	-
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	-	-	<0.0334	<0.0391	<0.0340
Methylene chloride - mg/Kg	EPA 8260B	270	-	-	-	<0.134	<0.157	<0.136
Other VOCs - mg/Kg	EPA 8260B	Various	-	-	-	ND	ND	ND
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	3,200	-	-	-	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	-	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	-	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	-	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	-	-	-	-
Chrysene - mg/Kg	EPA 8270C	1,500	-	-	-	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	-	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	-	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) B12S2 4.0 - 5.5	B13S2 4.0 - 6.0	B13S3^ 4.0 - 6.0	B14S1 0.5 - 2.5	B14S3^ 0.5 - 2.5	B14S2 4.0 - 6.0
PID Headspace Reading - ppm	OVM 580B	-	0.0	1.2	1.2	0.6	0.6	0.6
Total Solids - Percent	SM20 2540G	-	94.3	93.1	93.7	90.9	92.4	94.2
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	11.0	12.2	15.5	175	73.8	20.6
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	66.2	82.7	101	697	227	106
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	-	-	-	-	-	-
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	-	-	-	-	-	-
Toluene - mg/Kg	AK 101/EPA 8021B	89	-	-	-	-	-	-
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	-	-	-	-	-	-
Xylenes - mg/Kg	AK 101/EPA 8021B	81	-	-	-	-	-	-
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	<0.0344	-	-	-	-	-
Methylene chloride - mg/Kg	EPA 8260B	270	<0.138	-	-	-	-	-
Other VOCs - mg/Kg	EPA 8260B	Various	ND	-	-	-	-	-
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-	-	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	-	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	-	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	-	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	-	-	-	-
Chrysene - mg/Kg	EPA 8270C	1,500	-	-	-	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	-	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	-	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) B14S4^ 4.0 - 6.0	B15S2 4.0 - 6.0	B16S1 0.5 - 2.5	B16S2 5.0 - 7.0	B17S2 4.5 - 6.5	B18S1 0.5 - 2.5
PID Headspace Reading - ppm	OVM 580B	-	0.6	2.4	0.2	0.2	0.4	9.8
Total Solids - Percent	SM20 2540G	-	92.8	93.1	91.8	94.8	93.5	89.5
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	15.3	18.9	14.7	16.2	20.8	4,990
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	83.7	109	94.0	87.1	111	1,080
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	-	-	-	-	-	-
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	-	-	-	-	-	-
Toluene - mg/Kg	AK 101/EPA 8021B	89	-	-	-	-	-	-
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	-	-	-	-	-	-
Xylenes - mg/Kg	AK 101/EPA 8021B	81	-	-	-	-	-	-
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	-	-	-	-	<0.303
Methylene chloride - mg/Kg	EPA 8260B	270	-	-	-	-	-	<0.121
Other VOCs - mg/Kg	EPA 8260B	Various	-	-	-	-	-	ND
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-	-	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	-	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	-	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	-	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	-	-	-	-
Chrysene - mg/Kg	EPA 8270C	1,500	-	-	-	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	-	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	-	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) B18S2 4.0 - 6.0	B19S1 0.5 - 2.5	B19S2 4.0 - 6.0	B20S1 0.5 - 2.5	B20S2 4.0 - 6.0	B21S1 0.5 - 2.5
PID Headspace Reading - ppm	OVM 580B	-	0.8	3.8	0.8	0.2	0.2	0.3
Total Solids - Percent	SM20 2540G	-	91.0	91.2	92.9	91.9	93.7	84.6
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	29.4	397	23.1	<10.8	23.0	19.2
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	120	424	93.1	27.2	129	59.2
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	-	-	-	-	-	-
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	-	-	-	-	-	-
Toluene - mg/Kg	AK 101/EPA 8021B	89	-	-	-	-	-	-
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	-	-	-	-	-	-
Xylenes - mg/Kg	AK 101/EPA 8021B	81	-	-	-	-	-	-
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	<0.0315	-	-	-	-	-
Methylene chloride - mg/Kg	EPA 8260B	270	<0.126	-	-	-	-	-
Other VOCs - mg/Kg	EPA 8260B	Various	ND	-	-	-	-	-
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-	-	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	-	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	-	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	-	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	-	-	-	-
Chrysene - mg/Kg	EPA 8270C	1,500	-	-	-	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	-	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	-	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) B21S2 4.0 - 6.0	B22S1 0.0 - 1.0	B22S2 1.5 - 3.5	B23S2 3.5 - 5.5	B24S1 0.5 - 1.5	B24S2 3.0 - 5.0
PID Headspace Reading - ppm	OVM 580B	-	0.4	0.4	0.4	0.3	0.0	0.0
Total Solids - Percent	SM20 2540G	-	91.2	92.7	93.9	91.6	94.1	90.4
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	22.6	<10.5	16.3	18.1	<10.8	<10.8
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	117	40.8	101	73.5	24.2	<21.6
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	-	-	-	-	-	-
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	-	-	-	-	-	-
Toluene - mg/Kg	AK 101/EPA 8021B	39	-	-	-	-	-	-
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	-	-	-	-	-	-
Xylenes - mg/Kg	AK 101/EPA 8021B	81	-	-	-	-	-	-
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	-	-	-	-	-
Methylene chloride - mg/Kg	EPA 8260B	270	-	-	-	-	-	-
Other VOCs - mg/Kg	EPA 8260B	Various	-	-	-	-	-	-
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	<0.545	<0.544	<0.533	<0.538	<0.561
Dibenzofuran - mg/Kg	EPA 8270C	-	-	<0.545	<0.544	<0.533	<0.538	<0.561
Fluorene - mg/Kg	EPA 8270C	5,500	-	<0.545	<0.544	<0.533	<0.538	<0.561
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	<5.45	<5.44	<5.33	<5.38	<5.61
Phenanthrene - mg/Kg	EPA 8270C	-	-	<0.545	<0.544	<0.533	<0.538	<0.561
Anthracene - mg/Kg	EPA 8270C	41,000	-	<0.545	<0.544	<0.533	<0.538	<0.561
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	<0.545	<0.544	<0.533	<0.538	<0.561
Pyrene - mg/Kg	EPA 8270C	4,100	-	<0.545	<0.544	<0.533	<0.538	<0.561
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	<0.545	<0.544	<0.533	<0.538	<0.561
Chrysene - mg/Kg	EPA 8270C	1,500	-	<0.545	<0.544	<0.533	<0.538	<0.561
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	<0.545	<0.544	<0.533	<0.538	<0.561
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	<0.545	<0.544	<0.533	<0.538	<0.561
Other SVOCs - mg/Kg	EPA 8270C	Various	-	ND	ND	ND	ND	ND
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) B25S1 0.5 - 2.0	B25S2 3.0 - 5.0	B26S1 0.5 - 2.0	B26S2 3.0 - 5.0	B27S1 0.0 - 2.0	B27S2 5.0 - 7.0
PID Headspace Reading - ppm	OVM 580B	-	0.0	0.0	1.2	0.7	0.2	1.8
Total Solids - Percent	SM20 2540G	-	90.0	92.6	94.0	92.4	95.6	87.9
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	18.1	39.2	14.1	<107	<10.7	26.3
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	113	143	90.0	<214	22.6	140
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	-	-	-	-	-	-
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	-	-	-	-	-	-
Toluene - mg/Kg	AK 101/EPA 8021B	89	-	-	-	-	-	-
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	-	-	-	-	-	-
Xylenes - mg/Kg	AK 101/EPA 8021B	81	-	-	-	-	-	-
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	-	<0.0369	<0.0345	-	-
Methylene chloride - mg/Kg	EPA 8260B	270	-	-	<0.148	<0.138	-	-
Other VOCs - mg/Kg	EPA 8260B	Various	-	-	ND	ND	-	-
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	<0.567	<0.538	-	-	<0.533	<0.580
Dibenzofuran - mg/Kg	EPA 8270C	-	<0.567	<0.538	-	-	<0.533	<0.580
Fluorene - mg/Kg	EPA 8270C	5,500	<0.567	<0.538	-	-	<0.533	<0.580
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	<5.67	<5.38	-	-	<5.33	<5.80
Phenanthrene - mg/Kg	EPA 8270C	-	<0.567	<0.538	-	-	<0.533	<0.580
Anthracene - mg/Kg	EPA 8270C	41,000	<0.567	<0.538	-	-	<0.533	<0.580
Fluoranthene - mg/Kg	EPA 8270C	5,500	<0.567	<0.538	-	-	<0.533	<0.580
Pyrene - mg/Kg	EPA 8270C	4,100	<0.567	<0.538	-	-	<0.533	<0.580
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	<0.567	<0.538	-	-	<0.533	<0.580
Chrysene - mg/Kg	EPA 8270C	1,500	<0.567	<0.538	-	-	<0.533	<0.580
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	<0.567	<0.538	-	-	<0.533	<0.580
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	<0.567	<0.538	-	-	<0.533	<0.580
Other SVOCs - mg/Kg	EPA 8270C	Various	ND	ND	-	-	ND	ND
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) B28S1 0.0 - 1.5	B28S2 5.0 - 7.0	B29S1 0.0 - 2.0	B29S2 5.0 - 7.0	B30S1 0.0 - 1.0	B30S2 3.5 - 5.5
PID Headspace Reading - ppm	OVM 580B	-	0.4	1.8	0.2	0.2	0.4	1.2
Total Solids - Percent	SM20 2540G	-	94.7	92.2	96.8	89.9	91.2	94.6
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	<10.7	<10.5	<10.3	41.3	19.3	<10.8
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	25.9	40.9	29.2	182	83.5	67.5
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	-	-	-	-	-	-
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	-	-	-	-	-	-
Toluene - mg/Kg	AK 101/EPA 8021B	89	-	-	-	-	-	-
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	-	-	-	-	-	-
Xylenes - mg/Kg	AK 101/EPA 8021B	81	-	-	-	-	-	-
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	-	<0.0301	<0.0250	<0.0376	<0.0339
Methylene chloride - mg/Kg	EPA 8260B	270	-	-	<0.120	<0.0999	<0.150	<0.136
Other VOCs - mg/Kg	EPA 8260B	Various	-	-	ND	ND	ND	ND
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	<0.533	<0.541	<0.522	<0.554	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	<0.533	<0.541	<0.522	<0.554	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	<0.533	<0.541	<0.522	<0.554	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	<5.33	<5.41	<5.22	<5.54	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	<0.533	<0.541	<0.522	<0.554	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	<0.533	<0.541	<0.522	<0.554	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	<0.533	<0.541	<0.522	<0.554	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	<0.533	<0.541	<0.522	<0.554	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	<0.533	<0.541	<0.522	<0.554	-	-
Chrysene - mg/Kg	EPA 8270C	1,500	<0.533	<0.541	<0.522	<0.554	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	<0.533	<0.541	<0.522	<0.554	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	<0.533	<0.541	<0.522	<0.554	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	ND	ND	ND	ND	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) FB-1 -	FB-2 -	Trip Blank	STB1 -	STB2 -	TB-1 -
PID Headspace Reading - ppm	OVM 580B	-	-	-	-	-	-	-
Total Solids - Percent	SM20 2540G	-	100	100	100	100	100	100
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	-	-	-	-	-	-
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	-	-	-	-	-	-
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<2.63	<2.64	<2.80	<2.59	<2.60	<2.61
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.0131	<0.0132	<0.0140	<0.0130	<0.0130	<0.0131
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0525	<0.0527	<0.0559	<0.0519	<0.0519	<0.0523
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0525	<0.0527	<0.0559	<0.0519	<0.0519	<0.0523
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0525	<0.0527	<0.0559	<0.0519	<0.0519	<0.0523
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	-	<0.0280	-	-	-
Methylene chloride - mg/Kg	EPA 8260B	270	-	-	<0.112	-	-	-
Other VOCs - mg/Kg	EPA 8260B	Various	-	-	ND	-	-	-
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-	-	-	-	-
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Fluorene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-	-	-	-	-
Phenanthrene - mg/Kg	EPA 8270C	-	-	-	-	-	-	-
Anthracene - mg/Kg	EPA 8270C	41,000	-	-	-	-	-	-
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-	-	-	-	-
Pyrene - mg/Kg	EPA 8270C	4,100	-	-	-	-	-	-
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-	-	-	-	-
Chrysene - mg/Kg	EPA 8270C	1,500	-	-	-	-	-	-
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-	-	-	-	-
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-	-	-	-	-
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-	-	-	-	-
Phenanthrene - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-	-	-	-	-
Other PAHs - mg/Kg	PAH SIM	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-	-	-	-	-
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-	-	-	-	-
Barium - mg/Kg	EPA 6020	9,600	-	-	-	-	-	-
Cadmium - mg/Kg	EPA 6020	140	-	-	-	-	-	-
Chromium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Lead - mg/Kg	EPA 6020	1,000	-	-	-	-	-	-
Mercury - mg/Kg	EPA 6020	26	-	-	-	-	-	-
Selenium - mg/Kg	EPA 6020	680	-	-	-	-	-	-
Silver - mg/Kg	EPA 6020	680	-	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 2 - SUMMARY OF ANALYTICAL RESULTS - SOIL SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/Kg)**	Sample Number and Collection Depth in Feet (See Table 1) TB-2 -	TB-3 -				
PID Headspace Reading - ppm	OVM 580B	-	-	-				
Total Solids - Percent	SM20 2540G	-	100	100				
Diesel Range Organics (DRO) - mg/Kg	AK 102	12,500	-	-				
Residual Range Organics (RRO) - mg/Kg	AK 103	13,700	-	-				
Gasoline Range Organics (GRO) - mg/Kg	AK 101/EPA 8021B	1,400	<2.58	<2.59				
Aromatic Volatile Organics (BTEX)								
Benzene - mg/Kg	AK 101/EPA 8021B	13	<0.0129	<0.0129				
Toluene - mg/Kg	AK 101/EPA 8021B	89	<0.0516	<0.0517				
Ethylbenzene - mg/Kg	AK 101/EPA 8021B	180	<0.0516	<0.0517				
Xylenes - mg/Kg	AK 101/EPA 8021B	81	<0.0516	<0.0517				
Volatile Organic Compounds (VOCs)								
Trichlorofluoromethane - mg/Kg	EPA 8260B	-	-	-				
Methylene chloride - mg/Kg	EPA 8260B	270		-				
Other VOCs - mg/Kg	EPA 8260B	Various	-	-				
Semi-Volatile Organic Compounds (SVOCs)								
Acenaphthene - mg/Kg	EPA 8270C	8,200	-	-				
Dibenzofuran - mg/Kg	EPA 8270C	-	-	-				
Fluorene - mg/Kg	EPA 8270C	5,500	-	-				
Pentachlorophenol - mg/Kg	EPA 8270C	46.7	-	-				
Phenanthrene - mg/Kg	EPA 8270C	-	-	-				
Anthracene - mg/Kg	EPA 8270C	41,000	-	-				
Fluoranthene - mg/Kg	EPA 8270C	5,500	-	-				
Pyrene - mg/Kg	EPA 8270C	4,100	-	-				
Benzo(a)Anthracene - mg/Kg	EPA 8270C	15	-	-				
rysene - mg/Kg	EPA 8270C	1,500	-	-				
Benzo(k)fluoranthene - mg/Kg	EPA 8270C	150	-	-				
Benzo(a)pyrene - mg/Kg	EPA 8270C	1.5	-	-				
Other SVOCs - mg/Kg	EPA 8270C	Various	-	-				
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene - mg/Kg	PAH SIM	5,500	-	-				
Acenaphthene - mg/Kg	PAH SIM	8,200	-	-				
Phenanthrene - mg/Kg	PAH SIM	[illegible]	-	-				
Fluoranthene - mg/Kg	PAH SIM	5,500	-	-				
Other PAHs - mg/Kg	PAH SIM	-	-	-				
Polychlorinated Biphenyls (PCBs) - mg/Kg	EPA 8082	10	-	-				
RCRA Metals								
Arsenic - mg/Kg	EPA 6020	8	-	-				
Barium - mg/Kg	EPA 6020	9,600	-	-				
Cadmium - mg/Kg	EPA 6020	140	-	-				
Chromium - mg/Kg	EPA 6020	680	-	-				
Lead - mg/Kg	EPA 6020	1,000	-	-				
Mercury - mg/Kg	EPA 6020	26	-	-				
Selenium - mg/Kg	EPA 6020	680	-	-				
Silver - mg/Kg	EPA 6020	680	-	-				

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and laboratory reporting limits
**	Soil cleanup level is the most stringent standard listed in Table B1 or B2, 18 AAC 75.341, for the "Arctic Zone" or EPA Standards
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/Kg	Milligrams per kilogram

TABLE 3 - SUMMARY OF ANALYTICAL RESULTS - WATER AND WOOD SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/L)**	Sample Number and Depth in Feet (See Table 1) SW1 -	SW2 -	SW3 -	SW4 -	SW5 -
Diesel Range Organics (DRO) - mg/L	AK 102	1.5	<0.532	<0.500	0.668	<0.515	-
Residual Range Organics (RRO) - mg/L	AK 103	1.1	<1.06	<1.00	<0.990	<1.03	-
Gasoline Range Organics (GRO) - mg/L	AK 101	1.3	<0.0900	<0.0900	<0.0900	<0.0900	<0.0900
Aromatic Volatile Organics (BTEX)							
Benzene - mg/L	AK 101/EPA 8021B	0.005	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Toluene - mg/L	AK 101/EPA 8021B	1.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
Ethylbenzene - mg/L	AK 101/EPA 8021B	0.7	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
Xylenes - mg/L	AK 101/EPA 8021B	10	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
Volatile Organic Compounds (VOCs)							
Dichlorodifluoromethane - mg/L	EPA 8260B	9.0	<0.00100	<0.00100	<0.00100	-	-
Methylene chloride - mg/L	EPA 8260B	0.005	<0.00500	<0.00500	<0.00500	-	-
Other VOCs - mg/L	EPA 8260B	Various	ND	ND	ND	-	-
Semi-Volatile Organic Compounds (SVOCs)							
Phenol - mg/L	EPA 8270C	22.0	0.042	<0.010	0.010	-	0.010
2-Methylphenol (o-Cresol) - mg/L	EPA 8270C	1.8	0.022	<0.020	<0.020	-	<0.020
Other SVOCs - mg/L	EPA 8270C	Various	ND	ND	ND	-	ND
TCLP - SVOCs							
Pentachlorophenol - mg/L	EPA 1311/8270C	100	-	-	-	-	-
2-Methylphenol (o-Cresol) - mg/L	EPA 1311/8270C	200	-	-	-	-	-
3&4-Methylphenol (p&m-Cresol) - mg/L	EPA 1311/8270C	200	-	-	-	-	-
Pyridine - mg/L	EPA 1311/8270C	5.0	-	-	-	-	-
Other SVOCs - mg/L	EPA 1311/8270C	Various	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs) - mg/L			-	-	-	ND	-
RCRA Metals							
Arsenic - mg/L	EPA 6020	0.05	0.0649	<0.00500	<0.00500	<0.00511	-
Barium - mg/L	EPA 6020	2.0	0.444	0.0157	0.0699	<0.00307	-
Cadmium - mg/L	EPA 6020	0.005	<0.00200	<0.00200	<0.00200	<0.00205	-
Chromium - mg/L	EPA 6020	0.1	0.00584	<0.00400	<0.00400	<0.00409	-
Lead - mg/L	EPA 6020	0.015	<0.00200	<0.00200	<0.00200	<0.00205	-
Mercury - mg/L	EPA 6020	0.002	<0.000200	<0.000200	<0.000200	<0.000200	-
Selenium - mg/L	EPA 6020	0.05	<0.00500	<0.00500	<0.00500	<0.00511	-
Silver - mg/L	EPA 6020	0.18	<0.00200	<0.00200	<0.00200	<0.00205	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and reporting limits
**	Water cleanup level is based on 18 AAC 75.345, Table C or EPA Standard
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/L	Milligrams per liter
!	Suspected laboratory contamination (See Section 7.2)
a	RCRA Metals were analyzed using TCLP method
b	Maximum concentration of contaminant for the toxicity characteristic

TABLE 3 - SUMMARY OF ANALYTICAL RESULTS - WATER AND WOOD SAMPLES

Parameter Tested	Method*	Cleanup Level (mg/L)**	Sample Number and Depth in Feet (See Table 1) B5MW 1.19	B9MW 0.34	B10MW 0.96	B25MW 0.08	B26MW 2.01
Diesel Range Organics (DRO) - mg/L	AK 102	1.5	<0.610	1.62	2.67	3.26	1.67
Residual Range Organics (RRO) - mg/L	AK 103	1.1	<1.22	1.34	1.49	2.04	1.39
Gasoline Range Organics (GRO) - mg/L	AK 101	1.3	0.330	0.319	-	-	-
Aromatic Volatile Organics (BTEX)							
Benzene - mg/L	AK 101/EPA 8021B	0.005	0.000988	0.00222	-	-	-
Toluene - mg/L	AK 101/EPA 8021B	1.0	<0.00200	<0.00200	-	-	-
Ethylbenzene - mg/L	AK 101/EPA 8021B	0.7	0.0115	0.0391	-	-	-
Xylenes - mg/L	AK 101/EPA 8021B	10	0.0196	0.0425	-	-	-
Volatile Organic Compounds (VOCs)							
Dichlorodifluoromethane - mg/L	EPA 8260B	9.0	<0.00100	0.00449	<0.00100	-	<0.00100
Methylene chloride - mg/L	EPA 8260B	0.005	0.00695!	0.00796!	0.0122!	-	0.0095!
Other VOCs - mg/L	EPA 8260B	Various	ND	ND	ND	-	ND
Semi-Volatile Organic Compounds (SVOCs)							
Phenol - mg/L	EPA 8270C	22.0	-	-	-	<0.012	-
2-Methylphenol (o-Cresol) - mg/L	EPA 8270C	1.8	-	-	-	<0.024	-
Other SVOCs - mg/L	EPA 8270C	Various	-	-	-	ND	-
TCLP - SVOCs							
Pentachlorophenol - mg/L	EPA 1311/8270C	100	-	-	-	-	-
2-Methylphenol (o-Cresol) - mg/L	EPA 1311/8270C	200	-	-	-	-	-
3&4-Methylphenol (p&m-Cresol) - mg/L	EPA 1311/8270C	200	-	-	-	-	-
Pyridine - mg/L	EPA 1311/8270C	5.0	-	-	-	-	-
Other SVOCs - mg/L	EPA 1311/8270C	Various	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs) - mg/L			-	-	-	-	-
RCRA Metals							
Arsenic - mg/L	EPA 6020	0.05	-	-	-	-	-
Barium - mg/L	EPA 6020	2.0	-	-	-	-	-
Cadmium - mg/L	EPA 6020	0.005	-	-	-	-	-
Chromium - mg/L	EPA 6020	0.1	-	-	-	-	-
Lead - mg/L	EPA 6020	0.015	-	-	-	-	-
Mercury - mg/L	EPA 6020	0.002	-	-	-	-	-
Selenium - mg/L	EPA 6020	0.05	-	-	-	-	-
Silver - mg/L	EPA 6020	0.18	-	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and reporting limits
**	Water cleanup level is based on 18 AAC 75.345, Table C or EPA Standard
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/L	Parts per million
!	Suspected laboratory contamination (See Section 7.2)
a	RCRA Metals were analyzed using TCLP method
b	Maximum concentration of contaminant for the toxicity characteristic

TABLE 3 - SUMMARY OF ANALYTICAL RESULTS - WATER AND WOOD SAMPLES

			Sample Number and Depth in Feet (See Table 1)				
Parameter Tested	Method*	Cleanup Level (mg/L)**	B27MW 2.68	B30MW 1.74	B31MW^ 1.74	WS1 -	WS2a -
Diesel Range Organics (DRO) - mg/L	AK 102	1.5	6.56	4.84	2.69	-	-
Residual Range Organics (RRO) - mg/L	AK 103	1.1	5.32	3.19	1.64	-	-
Gasoline Range Organics (GRO) - mg/L	AK 101	1.3		-	-	-	-
Aromatic Volatile Organics (BTEX)							
Benzene - mg/L	AK 101/EPA 8021B	0.005	-	-	-	-	-
Toluene - mg/L	AK 101/EPA 8021B	1.0	-	-	-	-	-
Ethylbenzene - mg/L	AK 101/EPA 8021B	0.7	-	-	-	-	-
Xylenes - mg/L	AK 101/EPA 8021B	10	-	-	-	-	-
Volatile Organic Compounds (VOCs)							
Dichlorodifluoromethane - mg/L	EPA 8260B	9.0	-	<0.00100	<0.00100	-	-
Methylene chloride - mg/L	EPA 8260B	0.005	-	0.00887!	0.00903!	-	-
Other VOCs - mg/L	EPA 8260B	Various	-	ND	ND	-	-
Semi-Volatile Organic Compounds (SVOCs)							
Phenol - mg/L	EPA 8270C	22.0	0.012	-	-	-	-
2-Methylphenol (o-Cresol) - mg/L	EPA 8270C	1.8	<0.020	-	-	-	-
Other SVOCs - mg/L	EPA 8270C	Various	ND	-	-	-	-
TCLP - SVOCs							
Pentachlorophenol - mg/L	EPA 1311/8270C	100	-	-	-	4.5	0.0666
2-Methylphenol (o-Cresol) - mg/L	EPA 1311/8270C	200	-	-	-	<0.0109	0.036
3&4-Methylphenol (p&m-Cresol) - mg/L	EPA 1311/8270C	200	-	-	-	<0.0109	0.066
Pyridine - mg/L	EPA 1311/8270C	5.0	-	-	-	<0.0109	0.012
Other SVOCs - mg/L	EPA 1311/8270C	Various	-	-	-	ND	ND
lynuclear Aromatic Hydrocarbons (PAHs) - mg/L			-	-	-	-	-
RCRA Metals							
Arsenic - mg/L	EPA 6020	5.0[b]	-	-	-	-	<0.00500
Barium - mg/L	EPA 6020	100[b]	-	-	-	-	<0.0450
Cadmium - mg/L	EPA 6020	1.0[b]	-	-	-	-	<0.0450
Chromium - mg/L	EPA 6020	5.0[b]	-	-	-	-	<0.180
Lead - mg/L	EPA 6020	5.0[b]	-	-	-	-	<0.450
Mercury - mg/L	EPA 6020	0.2[b]	-	-	-	-	<0.00200
Selenium - mg/L	EPA 6020	1.0[b]	-	-	-	-	<0.0100
Silver - mg/L	EPA 6020	5.0[b]	-	-	-	-	<0.250

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and reporting limits
**	Water cleanup level is based on 18 AAC 75.345, Table C or EPA Standard
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/L	Parts per million
!	Suspected laboratory contamination (See Section 7.2)
a	RCRA Metals were analyzed using TCLP method
b	Maximum concentration of contaminant for the toxicity characteristic

TABLE 3 - SUMMARY OF ANALYTICAL RESULTS - WATER AND WOOD SAMPLES

			Sample Number and Depth in Feet (See Table 1)				
Parameter Tested	**Method***	**Cleanup Level (mg/L)****	TB(W) -	TB-4 -			
Diesel Range Organics (DRO) - mg/L	AK 102	1.5	-	-			
Residual Range Organics (RRO) - mg/L	AK 103	1.1	-	-			
Gasoline Range Organics (GRO) - mg/L	AK 101	1.3	<0.0900	<0.0900			
Aromatic Volatile Organics (BTEX)							
Benzene - mg/L	AK 101/EPA 8021B	0.005	<0.000500	<0.000500			
Toluene - mg/L	AK 101/EPA 8021B	1.0	<0.00200	<0.00200			
Ethylbenzene - mg/L	AK 101/EPA 8021B	0.7	<0.00200	<0.00200			
Xylenes - mg/L	AK 101/EPA 8021B	10	<0.00200	<0.00200			
Volatile Organic Compounds (VOCs)							
Dichlorodifluoromethane - mg/L	EPA 8260B	9.0	-	-			
Methylene chloride - mg/L	EPA 8260B	0.005	-	-			
Other VOCs - mg/L	EPA 8260B	Various	-	-			
Semi-Volatile Organic Compounds (SVOCs)							
Phenol - mg/L	EPA 8270C	22.0	-	-			
2-Methylphenol (o-Cresol) - mg/L	EPA 8270C	1.8	-	-			
Other SVOCs - mg/L	EPA 8270C	Various	-	-			
TCLP - SVOCs							
Pentachlorophenol - mg/L	EPA 1311/8270C	100	-	-			
2-Methylphenol (o-Cresol) - mg/L	EPA 1311/8270C	200	-	-			
3&4-Methylphenol (p&m-Cresol) - mg/L	EPA 1311/8270C	200	-	-			
Pyridine - mg/L	EPA 1311/8270C	5.0	-	-			
Other SVOCs - mg/L	EPA 1311/8270C	Various	-	-			
olynuclear Aromatic Hydrocarbons (PAHs) - mg/L			-	-			
RCRA Metals							
Arsenic - mg/L	EPA 6020	0.05	-	-			
Barium - mg/L	EPA 6020	2.0	-	-			
Cadmium - mg/L	EPA 6020	0.005	-	-			
Chromium - mg/L	EPA 6020	0.1	-	-			
Lead - mg/L	EPA 6020	0.015	-	-			
Mercury - mg/L	EPA 6020	0.002	-	-			
Selenium - mg/L	EPA 6020	0.05	-	-			
Silver - mg/L	EPA 6020	0.18	-	-			

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and reporting limits
**	Water cleanup level is based on 18 AAC 75.345, Table C or EPA Standard
	Analyte concentration exceeds the applicable cleanup level
-	Not applicable or not analyzed for this parameter
ND	Analyte concentrations less than the laboratory reporting limits
^	Duplicate of preceding sample
mg/L	Parts per million
!	Suspected laboratory contamination (See Section 7.2)
a	RCRA Metals were analyzed using TCLP method
b	Maximum concentration of contaminant for the toxicity characteristic

TABLE 4 - SUMMARY OF ANALYTICAL RESULTS - CONTAINER CONTENT SAMPLES

		Sample Number (See Table 1)				
Parameter Tested	**Method***	DS1	DS2	DS3	DS4	DS5
Oil Burning Specifications, 40 CFR 279.11						
Arsenic - mg/Kg	EPA 6010	-	-	<2.50	<5.00	<2.50
Cadmium - mg/Kg	EPA 6010	-	-	0.540	<0.600	0.788
Chromium - mg/Kg	EPA 6010	-	-	<1.00	<2.00	1.20
Lead - mg/Kg	EPA 6010	-	-	<2.50	<5.00	125
Ignitability Seta Flash - degrees F	EPA 1020A	-	>200	>200	<70	142
Toatal Halogens - ppm	ASTM D-808	-	-	<131	<132	450
Total PCB - ppm	EPA 8082	-	-	<0.955	<0.989	<0.975
pH, Corrosivity - pH units	EPA 9040	-	-	-	-	-
Volatile Organic Compounds (VOCs)						
Chloromethane - mg/L	EPA 8260B	<0.00100	5.93	-	-	-
1,1-Dichloroethane - mg/L	EPA 8260B	<0.00100	85.2	-	-	-
Methylene chloride - mg/L	EPA 8260B	<0.00500	729,000	-	-	-
Trans-1,2-Dichloroethane - mg/L	EPA 8260B	<0.00100	72.0	-	-	-
Bromochloromethane - mg/L	EPA 8260B	<0.00100	53.8	-	-	-
Chloroform - mg/L	EPA 8260B	<0.00100	8.55	-	-	-
1,1,1-Trichloroethane - mg/L	EPA 8260B	<0.00100	3.79	-	-	-
Benzene - mg/L	EPA 8260B	<0.000500	0.730	-	-	-
Toluene - mg/L	EPA 8260B	<0.00100	122	-	-	-
Tetrachloroethene - mg/L	EPA 8260B	<0.00100	3.08	-	-	-
Ethylbenzene - mg/L	EPA 8260B	<0.00100	18.9	-	-	-
Xylenes - mg/L	EPA 8260B	<0.00200	43.4	-	-	-
Isopropylbenzene (Cumene) - mg/L	EPA 8260B	<0.00100	1.23	-	-	-
n-Propylbenzene - mg/L	EPA 8260B	<0.00100	<1.00	-	-	-
1,3,5-Trimethylbenzene - mg/L	EPA 8260B	<0.00100	4.87	-	-	-
1,2,4-Trimethylbenzene - mg/L	EPA 8260B	<0.00100	14.1	-	-	-
4-Isopropyltoluene - mg/L	EPA 8260B	<0.00100	16.4	-	-	-
1,4-Dichlorobenzene - mg/L	EPA 8260B	0.00277	<1.00	-	-	-
Naphthalene - mg/L	EPA 8260B	<0.00200	23.4	-	-	-
1,2-Dichloroethane - mg/L	EPA 8260B	<0.00200	16.5	-	-	-
Other VOCs - mg/L	EPA 8260B	ND	ND	-	-	-
Semi-Volatile Organic Compounds (SVOCs)						
Phenol - mg/L	EPA 8270C	-	17,000	-	-	-
2-Methylphenol (o-Cresol) - mg/L	EPA 8270C	-	9,700	-	-	-
3&4-Methylphenol (p&m-Cresol) - mg/L	EPA 8270C	-	11,000	-	-	-
2,4-Dimethylphenol (p&m-Cresol) - mg/L	EPA 8270C	-	3,300	-	-	-
Other SVOCs - mg/L	EPA 8270C	-	ND	-	-	-
RCRA Metals						
Arsenic - mg/L	EPA 6020	<0.0450	-	-	-	-
Barium - mg/L	EPA 6020	<0.0270	-	-	-	-
Cadmium - mg/L	EPA 6020	<0.0180	-	-	-	-
Chromium - mg/L	EPA 6020	<0.0360	-	-	-	-
Lead - mg/L	EPA 6020	<0.0180	-	-	-	-
Mercury - mg/L	EPA 6020	<0.000200	-	-	-	-
Selenium - mg/L	EPA 6020	<0.0450	-	-	-	-
Silver - mg/L	EPA 6020	<0.0180	-	-	-	-

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and reporting limits
-	Not applicable or not analyzed for this parameter
	Analyte exceeds allowable limits
ND	Analyte concentrations less than the laboratory reporting limits
ppm	Parts per million
mg/L	Milligrams per liter
mg/Kg	Milligrams per kilogram

TABLE 4 - SUMMARY OF ANALYTICAL RESULTS - CONTAINER CONTENT SAMPLES

		Sample Number (See Table 1)				
Parameter Tested	**Method***	DS6	DS7	DS9	DS10	DS13
Oil Burning Specifications, 40 CFR 279.11						
Arsenic - mg/Kg	EPA 6010	<2.50	<2.50	-	-	-
Cadmium - mg/Kg	EPA 6010	<0.300	0.349	-	-	-
Chromium - mg/Kg	EPA 6010	<1.00	<1.00	-	-	-
Lead - mg/Kg	EPA 6010	6.42	<2.50	-	-	-
Ignitability Seta Flash - degrees F	EPA 1020A	140	>200	>200	>200	-
Toatal Halogens - ppm	ASTM D-808	<130	<130	-	-	-
Total PCB - ppm	EPA 8082	<0.943	<0.978	-	-	-
pH, Corrosivity - pH units	EPA 9040	-	-	-	-	13.1
Volatile Organic Compounds (VOCs)						
Chloromethane - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
1,1-Dichloroethane - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
Methylene chloride - mg/L	EPA 8260B	-	-	<0.500	<0.0500	-
Trans-1,2-Dichloroethane - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
Bromochloromethane - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
Chloroform - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
1,1,1-Trichloroethane - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
Benzene - mg/L	EPA 8260B	-	-	3.33	0.0130	-
Toluene - mg/L	EPA 8260B	-	-	7.35	0.0949	-
Tetrachloroethene - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
Ethylbenzene - mg/L	EPA 8260B	-	-	1.17	0.0311	-
Xylenes - mg/L	EPA 8260B	-	-	6.07	0.2014	-
Isopropylbenzene (Cumene) - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
n-Propylbenzene - mg/L	EPA 8260B	-	-	0.473	0.0118	-
1,3,5-Trimethylbenzene - mg/L	EPA 8260B	-	-	<0.100	0.0255	-
1,2,4-Trimethylbenzene - mg/L	EPA 8260B	-	-	2.61	0.0927	-
4-Isopropyltoluene - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
1,4-Dichlorobenzene - mg/L	EPA 8260B	-	-	<0.100	<0.0100	-
Naphthalene - mg/L	EPA 8260B	-	-	2.33	0.106	-
1,2-Dichloroethane - mg/L	EPA 8260B	-	-	<0.200	<0.0200	-
Other VOCs - mg/L	EPA 8260B	-	-	ND	ND	-
Semi-Volatile Organic Compounds (SVOCs)						
Phenol - mg/L	EPA 8270C	-	-	-	-	-
2-Methylphenol (o-Cresol) - mg/L	EPA 8270C	-	-	-	-	-
3&4-Methylphenol (p&m-Cresol) - mg/L	EPA 8270C	-	-	-	-	-
2,4-Dimethylphenol (p&m-Cresol) - mg/L	EPA 8270C	-	-	-	-	-
Other SVOCs - mg/L	EPA 8270C	-	-	-	-	-
RCRA Metals						
Arsenic - mg/L	EPA 6020	-	-	<5.00	<0.0250	0.318
Barium - mg/L	EPA 6020	-	-	<0.0500	<0.0150	2.190
Cadmium - mg/L	EPA 6020	-	-	<0.0500	<0.0100	<0.0180
Chromium - mg/L	EPA 6020	-	-	<0.200	<0.0200	0.478
Lead - mg/L	EPA 6020	-	-	<0.500	0.484	0.104
Mercury - mg/L	EPA 6020	-	-	<0.00200	<0.000200	<0.00200
Selenium - mg/L	EPA 6020	-	-	<5.00	<0.0250	0.146
Silver - mg/L	EPA 6020	-	-	<0.200	<0.0100	<0.0180

KEY	DESCRIPTION
*	See Appendix B for compounds tested, methods, and reporting limits
-	Not applicable or not analyzed for this parameter
	Analyte exceeds allowable limits
ND	Analyte concentrations less than the laboratory reporting limits
ppm	Parts per million
mg/L	Milligrams per liter
mg/Kg	Milligrams per kilogram

TABLE 5 - WATER SAMPLING LOG

WATER LEVEL MEASUREMENT DATA

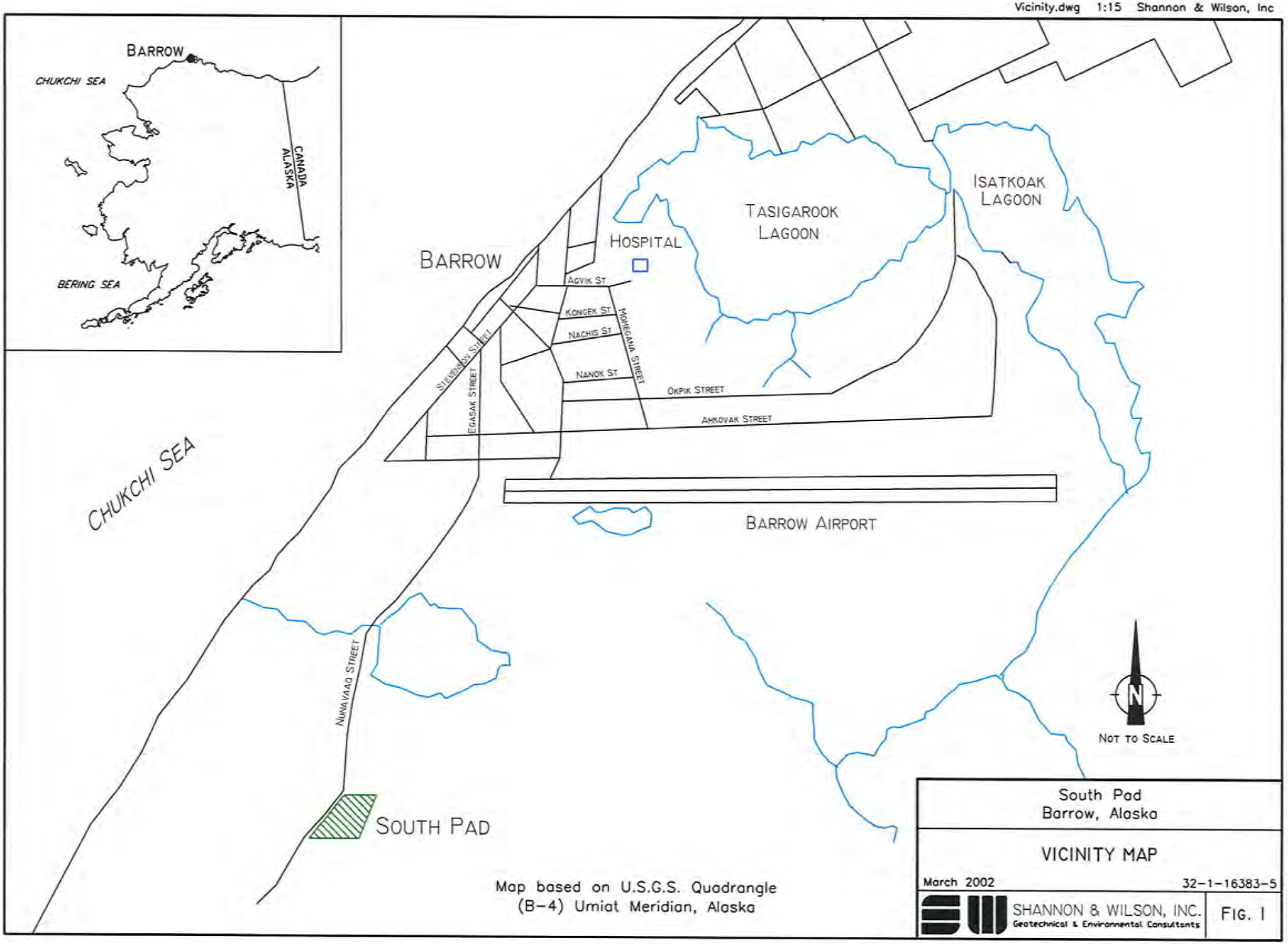
MONITORING WELL NUMBER	B2MW	B5MW	B9MW	B10MW	B25MW	B26MW	B27MW	B30MW
DATE WATER LEVEL MEASURED	9/10/2001	9/10/2001	9/10/2001	9/10/2001	9/10/2001	9/10/2001	9/10/2001	9/10/2001
TIME WATER LEVEL MEASURED	17:11	17:16	17:48	17:31	18:10	18:35	19:07	18:46
MP ELEVATION, FT	100.14	98.35	98.01	98.93	97.11	97.28	93.52	96.87
DEPTH TO WATER BELOW MP, FT	NA	1.19	0.34	0.96	0.08	2.01	2.68	1.74
WATER LEVEL ELEVATION, FT	NA	97.16	97.67	97.97	97.03	95.27	90.84	95.13

PURGING/SAMPLING DATA

LOCATION	B2MW	B5MW	B9MW	B10MW	B25MW	B26MW	B27MW	B30MW
DATE SAMPLED	NA	9/10/2001	9/10/2001	9/10/2001	9/10/2001	9/10/2001	9/10/2001	9/10/2001
TIME SAMPLED	NA	11:38	12:10	12:50	13:10	13:40	13:52	14:10
DEPTH TO WATER BELOW MP, FT	NA	1.19	0.34	0.96	0.08	2.01	2.68	1.74
TOTAL DEPTH OF WELL BELOW MP, FT	7.3	5.6	4.9	7.85	4.4	5.3	5.82	6.2
WATER COLUMN IN WELL, FT	NA	4.41	4.56	6.9	4.3	3.3	3.1	4.46
GALLONS PER FOOT	NA	0.16	0.16	0.16	0.16	0.16	0.16	0.16
GALLONS IN WELL	NA	0.71	0.73	1.10	0.69	0.53	0.50	0.71
TOTAL GALLONS PUMPED/BAILED	NA	2.0	5.0	3.0	2.0	5.0	3.0	3.0
TEMPERATURE, C	NA	2.2	1.8	1.8	2.2	1.7	1.9	1.9
SPECIFIC CONDUCTANCE, mS/cm	NA	1.11	0.71	2.32	0.72	2.62	2.34	0.63
pH	NA	6.42	6.94	7.02	6.82	6.82	6.72	6.82
TURBIDITY	NA	660	>999	>999	>999	>999	>999	>999
DIAMETER OF WELL CASING	2-inch	2-inch	2-inch	2-inch	2-inch	2-inch	2-inch	2-inch
REMARKS	Frozen							

Development Method: Disposable Bailer
Sampling Method: Disposable Bailer
Sampling Personnel: Scott Knoflicek

KEY	DESCRIPTION
NA	Not Applicable
MP	Measuring point
mS/cm	milli Siemens per centimeter



Map based on U.S.G.S. Quadrangle
(B-4) Umiat Meridian, Alaska

South Pad
Barrow, Alaska

VICINITY MAP

March 2002 32-1-16383-5

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 1

July 14, 2000 Aerial Photo
Approximate Scale 1" = 200'

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 2

Site.dwg 1:100 Shannon & Wilson, Inc

LEGEND

—x— Fenceline

—A— Grid Sections and Designations for Inventory

Excluded from ESA

NUNAVAAQ STREET

GATE

DRUMS

PIPE

GATE

CITY OF BARROW STORAGE AREA

GATE

ASTs

DREDGE EQUIPMENT

STORAGE CONNEXES & TRAILERS

PIPE & UTILITY MATERIALS

DREDGE EQUIPMENT

ASPHALT PLANT & EQUIPMENT

STORAGE SHEDS

ASPHALT DRUMS

ASTs

DRUM STORAGE DOCKS

PIPE

ASTs

METAL SCRAP

AST

A

B

C

SERVICE SHOP

PUMP HOUSE

DRUMS

WOOD STORAGE BUILDING

CONSTRUCTION MATERIALS

MISCELLANEOUS MATERIALS

AST

DRUMS

STORAGE DOCKS

AST

D

F

DISPENSING STATION

EQUIPMENT & VEHICLES

TREATED LUMBER

TREATED LUMBER

TREATED LUMBER

TREATED LUMBER

TREATED LUMBER

TREATED LUMBER

TREATED LUMBER

CONNEXES & STORAGE SHEDS

MISCELLANEOUS CONSTRUCTION MATERIALS & SUPPLIES

DRUM

CONNEX

MANHOLES

G

H

I

ASTs

ASTs

LUMBER

CONSTRUCTION MATERIALS

CREOSOTE POLES

LUMBER

ATCO TRAILERS

DRUM AND CRATES STORAGE

N

0 50 100 200

APPROXIMATE SCALE IN FEET

Base drawing adapted from As Built Survey of Lot 2 Block B, U.S. Survey No. 4615 prepared by ASCG, Inc.

South Pad
Barrow, Alaska

SITE LAYOUT AND INVENTORY GRID

March 2002

32-1-16383-5

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 3

Sampling Plan.dwg 1:100 Shannon & Wilson, Inc

LEGEND

- Fenceline
- Excluded from ESA
- Figure 6 — Area of Detail provided in Referenced Figure
- SS75 — Surface Soil Sample SS75, collected in Summer 2001
- B20 — Boring B20, advanced in Summer 2001
- B27MW — Monitoring Well B27MW, Installed in Summer 2001
- SW1 — Surface Water Sample 1, collected in Summer 2001
- WS1 — Wood Sample, WS1, collected in Summer 2001

WATER	
DRO	6.56 MG/L
RRO	5.32 MG/L

Analytes which exceed ADEC Cleanup Levels and the Reported Concentrations

NUNAVAAQ STREET

GATE

PIPE & UTILITY MATERIALS

DREDGE EQUIPMENT

PLANT & EQUIPMENT

WATER	
DRO	4.84/2.69 MG/L
RRO	3.19/1.64 MG/L

WATER	
DRO	1.67 MG/L
RRO	1.39 MG/L

Figure 6

SW2

B30MW

B26MW

B14

B19

AST

B15

B18

B16

B20

B13

B21

B17

PIPE

METAL SCRAP

ASTs

STORAGE SHEDS

DRUM STORAGE DOCKS

AST

WATER	
DRO	2.67 MG/L
RRO	1.49 MG/L

Figure 5

SERVICE SHOP

B3

B5MW

B2MW

AST

B6

B4

B1

SW4

AST

B8

B9MW

Figure 7

B12

B10MW

WOOD STORAGE BUILDING

B11

B7

CONSTRUCTION MATERIALS

MISCELLANEOUS MATERIALS

WATER	
DRO	1.62 MG/L
RRO	1.34 MG/L

EQUIPMENT & VEHICLES

B23

B22

TREATED LUMBER

TREATED LUMBER

TREATED LUMBER

TREATED LUMBER

TREATED LUMBER

WATER	
DRO	3.26 MG/L
RRO	2.04 MG/L

SS75

B25MW

SW3

Figure 8

B24

WS1

WOODEN CRATES

CONNEX

MANHOLES

CITY OF BARROW STORAGE AREA

DRUMS

PIPE

GATE

GATE

ASTs

STORAGE CONNEXES & TRAILERS

ASTs

ASTs

DRUM AND CRATES STORAGE

WATER	
DRO	6.56 MG/L
RRO	5.32 MG/L

B29

LUMBER

CONSTRUCTION MATERIALS

B27MW

B28

WS2

CREOSOTE POLES

LUMBER

Figure 9

SW1

SW5

WATER	
ARSENIC	0.0649 MG/L

N

0 50 100 200

APPROXIMATE SCALE IN FEET

South Pad
Barrow, Alaska

SITE PLAN

March 2002

32-1-16383-5

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

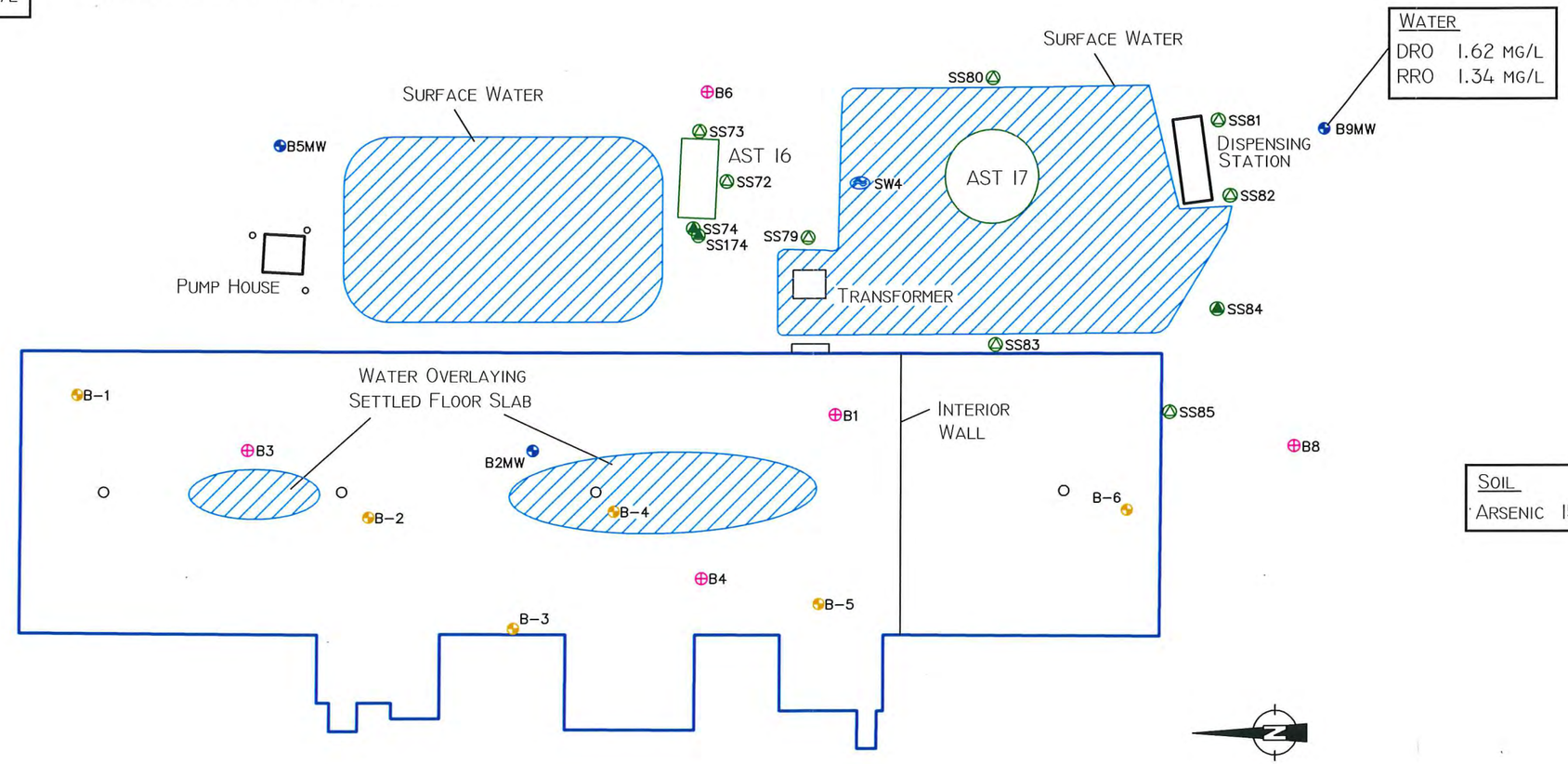
FIG. 4

LEGEND

- B-6 — Approximate location of borings by CH2M Hill Study, 1993
- SS72 — Headspace Sample SS72, collected in Summer 2001
- SS84 — Analytical Sample SS74, collected in Summer 2001
- B8 — Soil Boring B1, advanced in Summer 2001
- SW4 — Surface Water Sample SW4, collected in Summer 2001
- B9MW — Monitoring Well B9MW, installed in Summer 2001
- ○ — Floor sump

WATER	
DRO	1.62 MG/L
RRO	1.34 MG/L

Analytes which Exceed ADEC Cleanup Levels and the Reported Concentrations



WATER	
DRO	1.62 MG/L
RRO	1.34 MG/L

SOIL		
ARSENIC	15.2 PPM	0.2-0.4 FEET BGS

SS75

South Pad
Barrow, Alaska

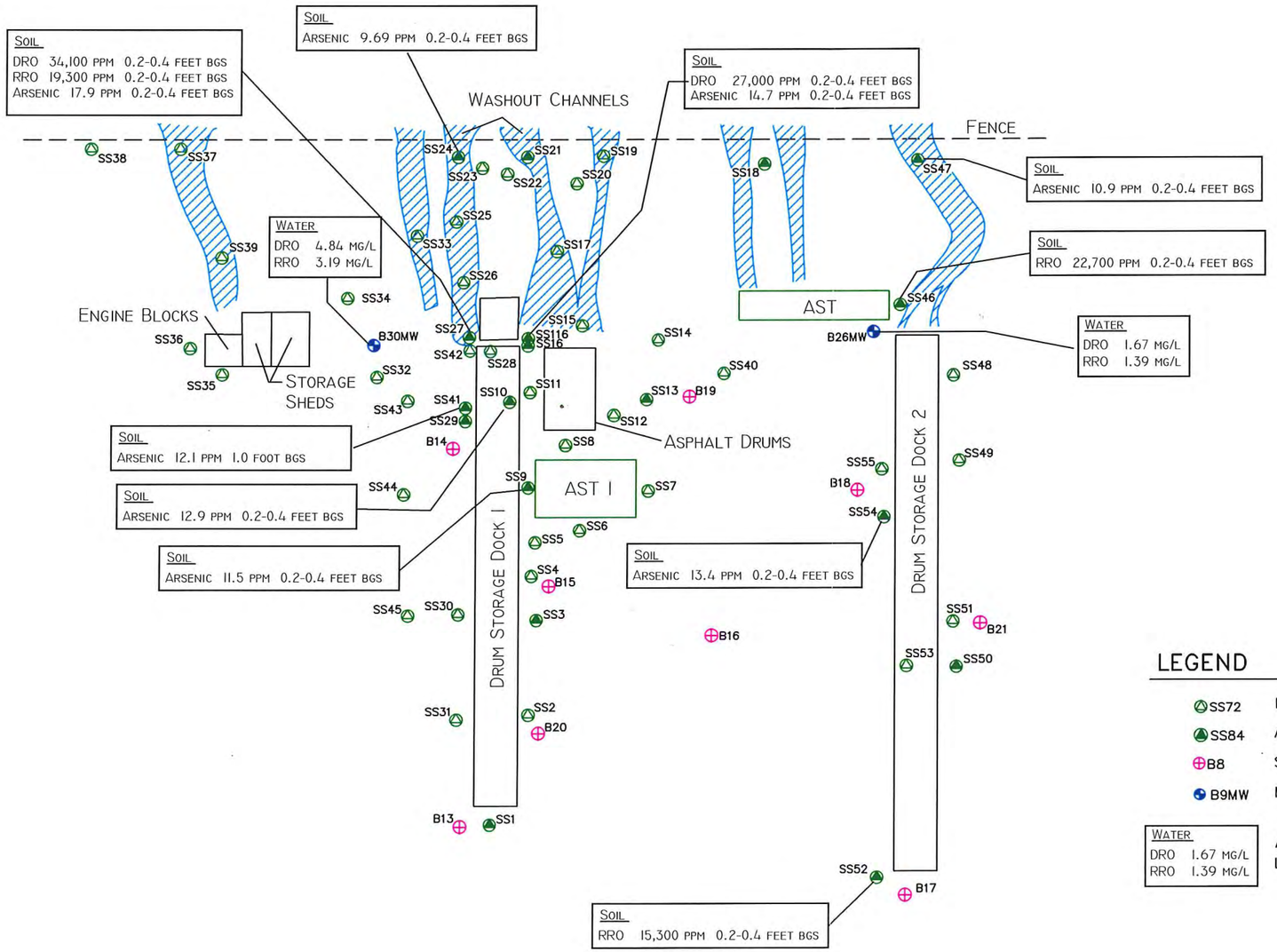
SERVICE SHOP BUILDING

March 2002 — 32-1-16383-5

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 5

Service.dwg 1:1 Shannon & Wilson, Inc



LEGEND

- SS72 — Headspace Sample SS72, collected in Summer 2001
- SS84 — Analytical Sample SS74, collected in Summer 2001
- B8 — Soil Boring B1, advanced in Summer 2001
- B9MW — Monitoring Well B9MW, installed in Summer 2001

Water	
DRO	1.67 mg/L
RRO	1.39 mg/L

Analytes which Exceed ADEC Cleanup Levels and the Reported Concentrations

South Pad
Barrow, Alaska

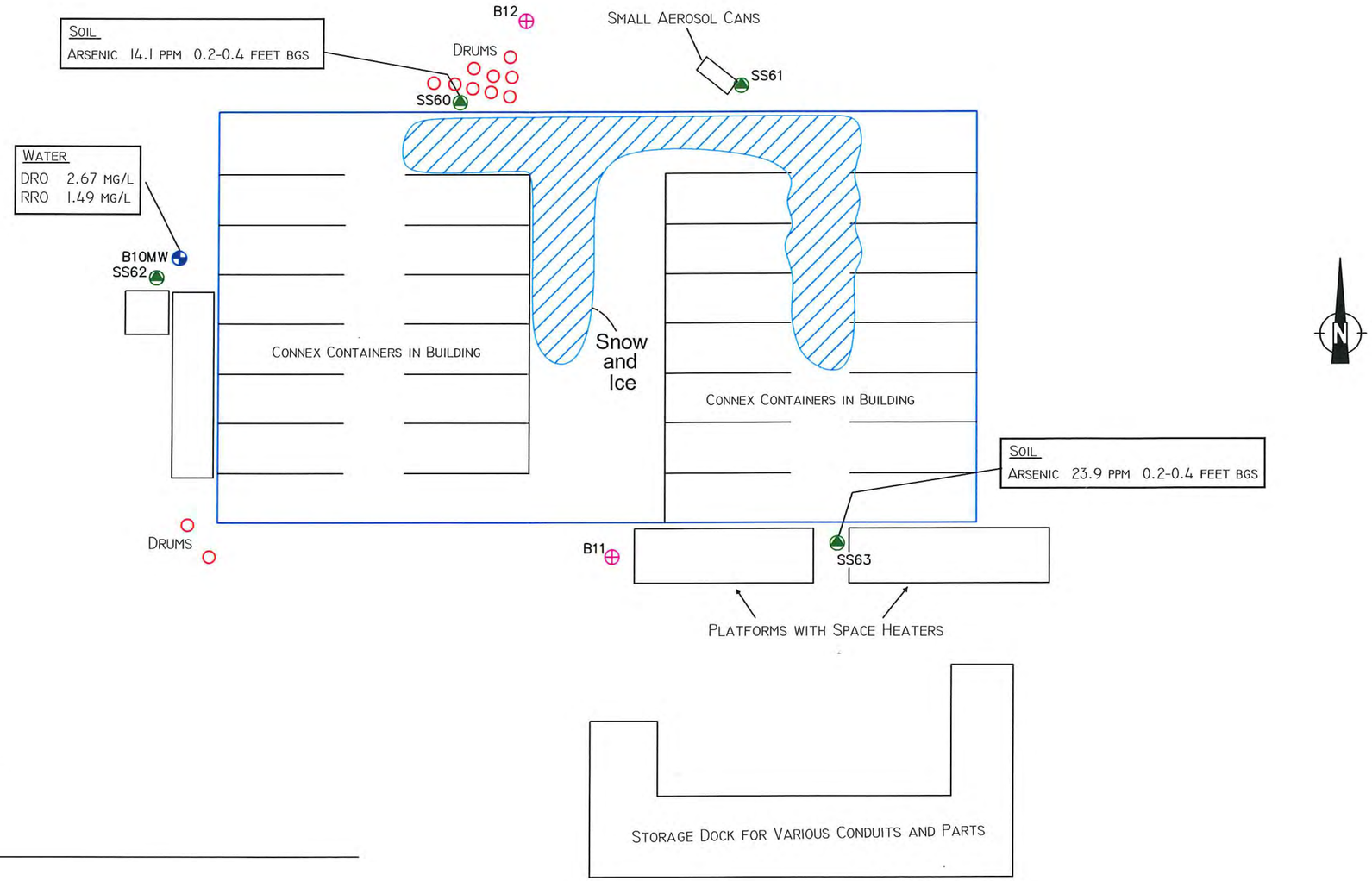
DRUM STORAGE DOCKS

March 2002 — 32-1-16383-5

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 6

Drum.dwg 1:1 Shannon & Wilson, Inc



B7

LEGEND

SS60	Headspace Sample SS60, collected in Summer 2001
SS62	Analytical Sample SS62, collected in Summer 2001
B11	Soil Boring B11, advanced in Summer 2001
B10MW	Monitoring Well B10MW, installed in Summer 2001
WATER DRO 2.67 MG/L RRO 1.49 MG/L	Analytes which Exceed ADEC Cleanup Levels and the Reported Concentrations

0 10 20 40

APPROXIMATE SCALE IN FEET

South Pad
Barrow, Alaska

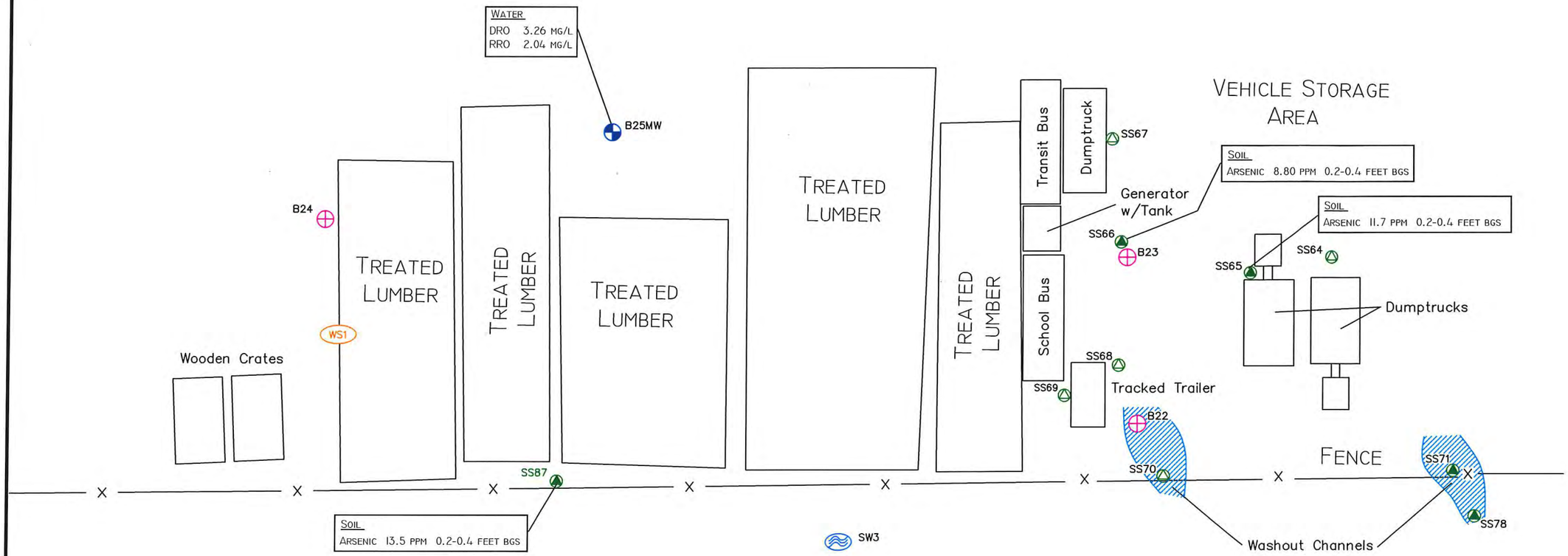
WOOD STORAGE BUILDING

March 2002 32-1-16383-5

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 7

Wood.dwg 1:1 Shannon & Wilson, Inc



LEGEND

SS68	Headspace Sample SS68, collected in Summer 2001
SS66	Analytical Sample SS66, collected in Summer 2001
B24	Soil Boring B24, advanced in Summer 2001
B25MW	Monitoring Well B25MW, installed in Summer 2001
SW3	Surface Water Sample SW3, collected in Summer 2001
WS1	Treated Wood Sample WS1, collected in Summer 2001

WATER
DRO 3.26 MG/L
RRO 2.04 MG/L

Analytes which Exceed ADEC Cleanup Levels and the Reported Concentrations

0 15 30 60
APPROXIMATE SCALE IN FEET

South Pad
Barrow, Alaska

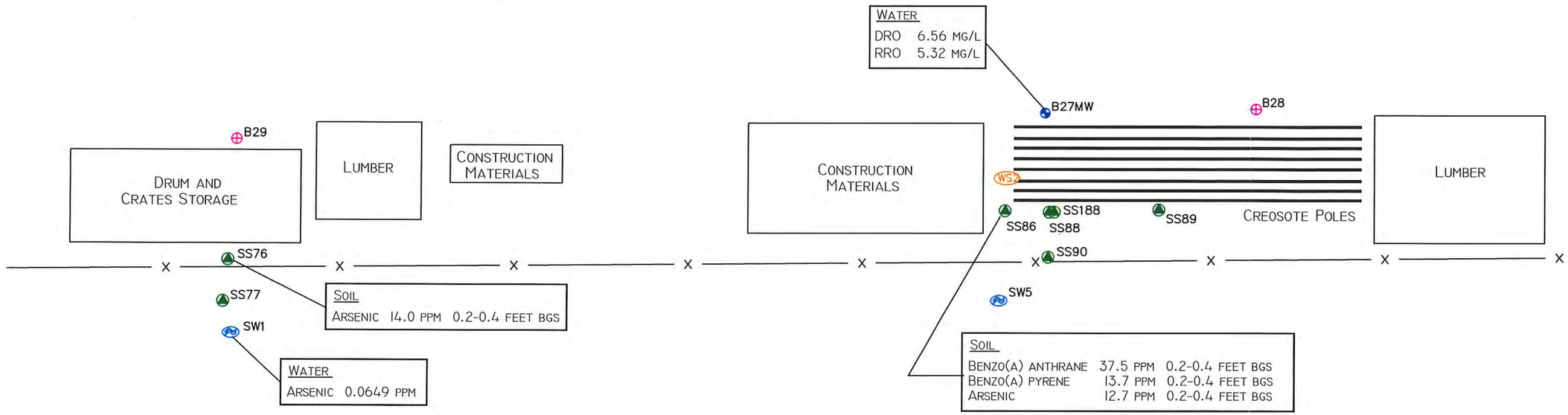
TREATED LUMBER AND VEHICLE STORAGE

March 2002 32-1-16383-5

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 8

Treated.dwg 1:1 Shannon & Wilson, Inc



LEGEND

- SS89 — Headspace Sample SS89, collected in Summer 2001
- SS76 — Analytical Sample SS76, collected in Summer 2001
- B29 — Soil Boring B29, advanced in Summer 2001
- SW1 — Surface Water Sample SW1, collected in Summer 2001
- B27MW — Monitoring Well B27MW, installed in Summer 2001
- WS2 — Wood Sample WS2, collected in Summer 2001

WATER
DRO 6.56 MG/L
RRO 5.32 MG/L

Analytes which Exceed ADEC Cleanup Levels and the Reported Concentrations

0 10 20 40
APPROXIMATE SCALE IN FEET

South Pad
Barrow, Alaska

CRATE AND CREOSOTE POLE STORAGE

March 2002 32-1-16383-5

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 9

Crates.dwg 1:1 Shannon & Wilson, Inc