ENSR
1835 South Bragaw Street, Suite 490, Anchorage, Alaska 99508-3439
T 907.561.5700 F 907.273.4555 www.ensr.aecom.com

October 23, 2007

Jim Frechione
Contaminated Sites Program
Division of Spill Prevention and Response
Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709-3643

Subject: Franklin Bluffs Repeater Closure Report

ENSR Project Number 00550-341

Dear Mr. Frechione,

ENSR Corporation (ENSR) is pleased to submit this report on behalf of Mr. Larry Bamberger, AT&T Environmental, Health, and Safety Operations Manager, in support of a Conditional Closure determination for the Franklin Bluffs Repeater. The following report presents the results of Site Assessment work conducted by ENSR at the Franklin Bluffs Repeater and summarizes all field activities performed at the site, including a review of sampling results, data quality, and site management recommendations. This report is being submitted as a supplement to the Conditional Closure Report submitted to the Alaska Department of Environmental Conservation (ADEC) in April 2007(finalized August 2007).[1]

PROGRAM HISTORY

ENSR, on behalf of AT&T Inc. (AT&T), has been conducting site characterization and petroleum hydrocarbon contamination cleanup actions at AT&T microwave repeater facilities along the Trans-Alaska Pipeline System (TAPS). Environmental investigations began in 2002 when a Phase I Site Assessment at each of 26 repeater sites was conducted in accordance with American Society for Testing of Materials (ASTM) standards. Based on information obtained during the Phase I, a more comprehensive Phase II investigation was implemented for the repeaters. For the next 4 years, the AT&T TAPS Site Assessment/Remediation Program was conducted in accordance with discussions and decisions between AT&T, Alyeska Pipeline Services Co. (APSC), and ADEC Prevention and Emergency Response Program (PERP). Stakeholder meetings were held biannually to review site characterization findings and remedial excavation activities and agree to any required follow-up work. As a result, each year's site characterization (site assessment) and cleanup actions (remediation) were conducted based on field observations, field screening measurements, and analytical laboratory sampling results mutually agreed to by AT&T, APSC, and ADEC PERP staff. The program was also conducted in accordance with requirements as specified in Title 18 of the Alaska Administrative Code,

[1] ENSR. 2007. Trans-Alaska Pipeline System Repeaters AT&T Site Assessment/Remediation Program Conditional Closure Report. August. ENSR Doc. No. 00550341.

Chapter 75 (18 AAC 75), also known as the Oil and Hazardous Substances Pollution Control Regulations.

The programmatic elements and risk evaluation for Franklin Bluffs were derived from the April 2007 report.[1] Figures illustrating the site location, facility layout, sampling locations, and field and analytical results are provided in Attachment 1. Laboratory analytical results from 2003 to the 2007 are provided in tables in Attachment 2. Site photos for each field visit are provided in Attachment 3. These attachments provide a historical reporting for the Franklin Bluffs Repeater site investigation and remediation work. Attachment 4 includes photographs of AT&T current site refueling process.

The remediation program was conducted in accordance with the ADEC-approved Work Plan[2] and the requirements specified in State of Alaska regulations in 18 AAC 75.335.

INTRODUCTION

The Franklin Bluffs Repeater is situated on top of a steep sandy bluff east of the Sagavanirktok River (see attached figures). The site is located north of the Brooks Range near Pump Station 2 of the TAPS. The repeater is accessible only by helicopter. The facility consists of four aboveground storage tanks (ASTs), a generator module, a battery (equipment) module, and a microwave repeater tower. The ASTs are on pilings reportedly driven over 10 feet into the native ground. A geofabric was encountered under the AST area; however, it did not underlie all of the AST area. Soils encountered at this site consisted of 6 to 9 inches of organic material, underlain by silt and sand with gravel. Bedrock was not encountered during the assessment. Permafrost was encountered between 12 and 18 inches below ground surface (bgs).

This repeater site was constructed in 1976 and is reported to be on State of Alaska-owned land within the TAPS corridor. According to the Site Plan, the current structure may have been moved approximately 30 feet south from a previous location. The ASTs are refueled annually by fuel bladders sling-loaded to the site by helicopter. The fuel bladder staging area is located approximately 15 feet south of the AST area.

In 2003, the ASTs and associated piping were completely retrofitted with new spill protection equipment. This retrofit included overfill protection, double wall supply and return lines, and other current performance based fuel system upgrades. The retrofit was followed by implementation of new best management practices for the fueling operations, including new procedures for the annual refueling operations. Currently, a portable secondary containment device is sling-loaded to the site prior to delivery of the fuel bladder and set up in designated areas near the ASTs. The bladders are subsequently placed inside the secondary containment during the refueling process. The secondary containment prevents any spillage during initial fuel line connections, fueling process and disconnection activities. Photographs of the refueling equipment and process are provided in Attachment 4.

Tundra vegetation is present throughout the site. Prior to field activities at the Franklin Bluffs Repeater, surface water was present at the site. Two tundra ponds surrounded the east and west sides of the AST area and beneath the Generator Module. During the initial site assessment activities it was apparent that the adjacent tundra ponds were not only a potential contaminant migration pathway to surface water, but they were also causing the permafrost below the AST and other areas to thaw, and destabilize the foundations of those structures. The rate of this thermal erosion was increasing as the

[2] ENSR Corporation. 2003. Investigation and Remediation Memorandum Work Plan. May 1.

size of the ponds grew larger with every annual freeze- thaw cycle. This created the potential for structural strain on the fuel system components which could lead to future fuel leakage. Further, any contaminated soils remaining under the AST structures could potentially migrate to surface water via the ponds. Consequently, AT&T determined the thermal erosion and site grade restoration must be addressed as part of the remediation program.

Under an approach developed by Larry Bamberger of AT&T, the tundra ponds were dewatered, backfilled, and graded for drainage. Each pond was dewatered using a pumping system and granular activated carbon (GAC) filters. The treated water was then discharged onto the surrounding tundra via a diffuser sprinkler system under a U.S. Army Corps of Engineers permit. After site and assessment activities were completed, the depression area of the former tundra ponds was backfilled with a combination of high-density Styrofoam board insulation, classified D-1 gravel fill, and native tundra material to promote the natural revegetation process. The backfill areas were graded to higher than surrounding areas to create positive drainage away from the structures. Details of the de-watering process are further described below. Presently the nearest surface water is in small tundra ponds that are located throughout the area.

SUMMARY OF ENVIRONMENTAL WORK

Several areas of potential contamination, as indicated by field screening or soil staining, were identified at the repeater site during the multiple year site assessment and remediation program beginning in 2002. Each area is discussed separately in the following paragraphs.

Soil cleanup levels at the Franklin Bluffs Repeater are established as ADEC Method One, Category D (1,000 mg/kg gasoline range organics [GRO], 2,000 mg/kg diesel range organics [DRO], and 2,000 mg/kg residual range organics [RRO]). Cleanup levels for GRO; benzene, toluene, ethylbenzene, and total xylenes (BTEX); and polycyclic aromatic hydrocarbon (PAH) compounds are adopted from the most stringent ADEC Method Two, Table B1 (under 40-inch zone) cleanup levels specific to ingestion, inhalation, and/or migration to groundwater pathways.[3]

Aboveground Storage Tanks

Field screening in the AST area indicated possible contamination under three of the four tanks. Contamination under the tanks is likely due to slow leakage over time and/or spillage at the tank fill valve during refueling. Very little potential contamination was encountered beneath Tanks 2 and 4. However higher concentrations of contamination were encountered beneath the valve end of Tank 3; remedial excavations were conducted to the maximum extent practical. In 2004 the presence of surface water inhibited the remedial excavation beneath the AST area.

Soils identified as potentially contaminated were removed from the AST area. In 2005 the excavation under Tank 3 extended until field screening and analytical samples indicated that there was no remaining contamination above the cleanup level. Approximately 3 cubic yards of contaminated soil was removed from the AST area. Excavations were advanced in the AST area in both 2004 and 2005 to refusal at permafrost 14 inches bgs beneath the valve end of AST 3. Approximately 5 cubic yards of D-1 and native tundra material were used to backfill the excavation beneath the AST area in 2004 and 2005

[3] ENSR. 2003. Technical Memorandum: Proposed Petroleum Hydrocarbon Soil Cleanup Levels for TAPS Corridor Repeater Sites. August 18.

Analytical samples collected from excavations and potentially contaminated soils remaining in the AST area reported concentrations of DRO in all samples, ranging from 22.5 mg/kg (estimated) to 98 mg/kg. Field screening and analytical results confirm that all of the contaminated soils above the cleanup level were removed from the AST area.

Surface water was present surrounding the AST area. In 2004 samples were collected from the surface water and reported DRO concentrations of 0.255 mg/kg and 0.315 mg/kg. In 2005 surface water samples were collected again, and the DRO concentrations were all estimated concentrations ranging from 0.136 mg/kg to 0.153 mg/kg.

In 2006 the surface water was pumped and treated with granular activated carbon (GAC) filters and discharged onto the surrounding tundra under U.S. Army Corps of Engineers permit POA-2005-1528D. The depression of the former tundra ponds were then backfilled with D-1 gravel and native tundra material. The reason for dewatering the tundra pond was to prevent any residual contamination from leaching into the tundra pond and also to increase the stability of the structures on site that were settling due to thawing permafrost.

Generator Module Area

On July 8, 2004, fuel sheen was observed on the surface water beneath the Generator Module at the Franklin Bluffs Repeater Site. The sheen was a result of lubricant oil dripping from the northeast corner of the Generator Module. Upon further investigation inside the Generator Module, the source of the lubricant oil release was determined to be an overflowing catch pan beneath the generator. The oil had flowed over the edge of the catch pan and was flowing toward the northeast corner of the module. AT&T was immediately notified of the release. ADEC was notified of the sheen on the surface water upon their site visit to a neighboring repeater site.

On July 22, 2004, a team of two ENSR employees and one SLR Consulting representative returned to Franklin Bluffs Repeater site in order to remove the contamination from the surface water.

Initially the surface water pond was lined around the edges with sorbent pads so that no contamination would spread onto the shore line of the pond. Next sorbent pads were laid onto the surface of the pond in an attempt to soak up the sheen. This technique was unsuccessful as very little visible product was absorbed into the pad. With the pond still lined in sorbent pads, a product called Absorbent W™ was spread out on the surface of the water. Absorbent W™ in a hydrophobic sorbent material that is designed to extract fuel from a fuel/water mix. The Absorbent W™ was corralled using sorbent booms and then collected using a net. Following the use of Absorbent W™, no reduction in sheen was observed. The most successful technique employed was the use of a suction pump and hose. B y holding the hose just below the surface of the water and running the pump, a small vortex was formed pulling the water and sheen from the surface of the pond. The water that was extracted with the pump was channeled through a GAC filter and then into a holding pool staged on site.

Analytical samples were collected both before and after the treatment of the tundra pond. Two surface water samples were collected before treatment and reported DRO concentrations of 1.45 mg/L and 0.512 mg/L, respectively. Two samples were collected from the surface water in the tundra pond after the treatment was completed with DRO results of 0.601 mg/L and 0.90 mg/L. The result of 0.512 mg/L and 0.90 mg/L were collected from the same location. An additional analytical sample was collected from the outflow of the GAC filter and reported a DRO concentration below the detection limit.

An excavation was completed beneath the generator module in 2005 to the extent practical to a maximum depth of approximately 20 inches bgs. The highest remaining DRO concentration at the site (5,610 mg/kg) was located beneath the Generator Module in the center of the excavation, collected from thawing permafrost. Further excavation is not practical because permafrost was encountered at 16 inches bgs and further excavation could compromise the structural integrity of the modules. Approximately 6 cubic yards of potentially contaminated material was removed in 2004, and an additional 8 cubic yards were removed in 2005. Approximately 8 cubic yards of D-1 and native tundra material were used to backfill the excavation beneath the Generator Module in 2005.

Of the 14 soil samples collected from the excavation beneath the Generator Module, 8 were collected from the sidewalls confirming the lateral extent of contamination. The DRO results ranged from 48.8 mg/kg to 5,610 mg/kg in the excavation beneath the Generator Module. Field screening and analytical results confirm that contaminated soils were removed to the extent practical from the Generator Module area.

Tundra Pond Dewatering

Under the approached described above, the tundra ponds were dewatered and backfilled in order to prevent additional destabilization of the footings and to prevent any residual contamination from migrating into the tundra ponds. The location of the dewatered tundra ponds are shown on figures in Attachment 1. The dewatering process was conducted in 2006 and 2007 under U.S. Army Corps of Engineers permit POA-2005-1528D. The surface water was pumped from the existing tundra ponds using a trash pump fitted with a pre-filter to prevent sediment and vegetation uptake. The trash pump then pumped the water to a four-outlet manifold. The manifold directed the water to four granular activated carbon (GAC) filters to remove any potential petroleum hydrocarbon compounds. Approximately 150 feet of discharge hose was connected to each GAC filter and the effluent was discharged downgradient through diffusers connected to the end of each discharge hose. After site and assessment activities were completed, the depression area of the former tundra ponds was backfilled with a combination of high-density Styrofoam board insulation, classified D-1 gravel fill, and native tundra material to promote the natural revegetation process. The backfill areas were graded to higher than surrounding areas to create positive drainage away from the structures. In 2006 and 2007 approximately 160 cubic yards of D-1 and native tundra material were used to backfill the depressions from the dewatered tundra ponds adjacent to the structures on site.

SUMMARY AND RECOMMENDATIONS

Bedrock was not encountered during the site investigation but permafrost was encountered at approximately 12 to 18 inches bgs in the AST area. Surface water was observed in the vicinity of the site but was removed during the 2006 and 2007 field seasons. The source of contamination at this site is likely due to surface releases that occurred during fueling of the ASTs. The likelihood of future surface spills has been significantly reduced because the ASTs and associated piping were completely retrofitted with new spill protection equipment in 2003, and concurrently implemented new refueling procedures; now SOP for the TAPS refueling operations.

The Franklin Bluffs Repeater site has been sufficiently characterized as a result of site assessment activities conducted during the program. Approximately 14 cubic yards of potentially contaminated soil was removed. Approximately 2 cubic yards of potentially contaminated material remains in the Generator Module Area.

In a meeting held on February 1, 2005, with ENSR, ADEC representatives, Alyeska Pipeline, and AT&T Corporation, all parties present agreed that a No Further Remedial Action Planned (NFRAP) determination is warranted for the Franklin Bluffs Repeater Site. ENSR recommends that the Franklin Bluffs Repeater site receive an NFRAP determination from the ADEC as all accessible contaminated material above the established cleanup levels has been removed from the site. Any residual contaminated material will not be encountered in the daily operation of the site, but the site should remain on the ADEC database in the event of site decommissioning in the future. Based on this information, ENSR respectfully requests a determination of Conditional Closure for the Slope Repeater site.

Sincerely yours,

Chris L. Humphrey, P.E.
Project Manager

ATTACHMENT 1: FIGURES

- Figure 1. Franklin Bluff Repeater Site Location
- Figure 2. No title [shows areas backfilled on site] (2007)
- Figure 2. No title [shows surface water and backfilled areas on site] (2007)
- Figure 1. Field Screening and Analytical Results (2005)
- Figure 1. Field and Analytical Results (2004)

ATTACHMENT 2: TABLES

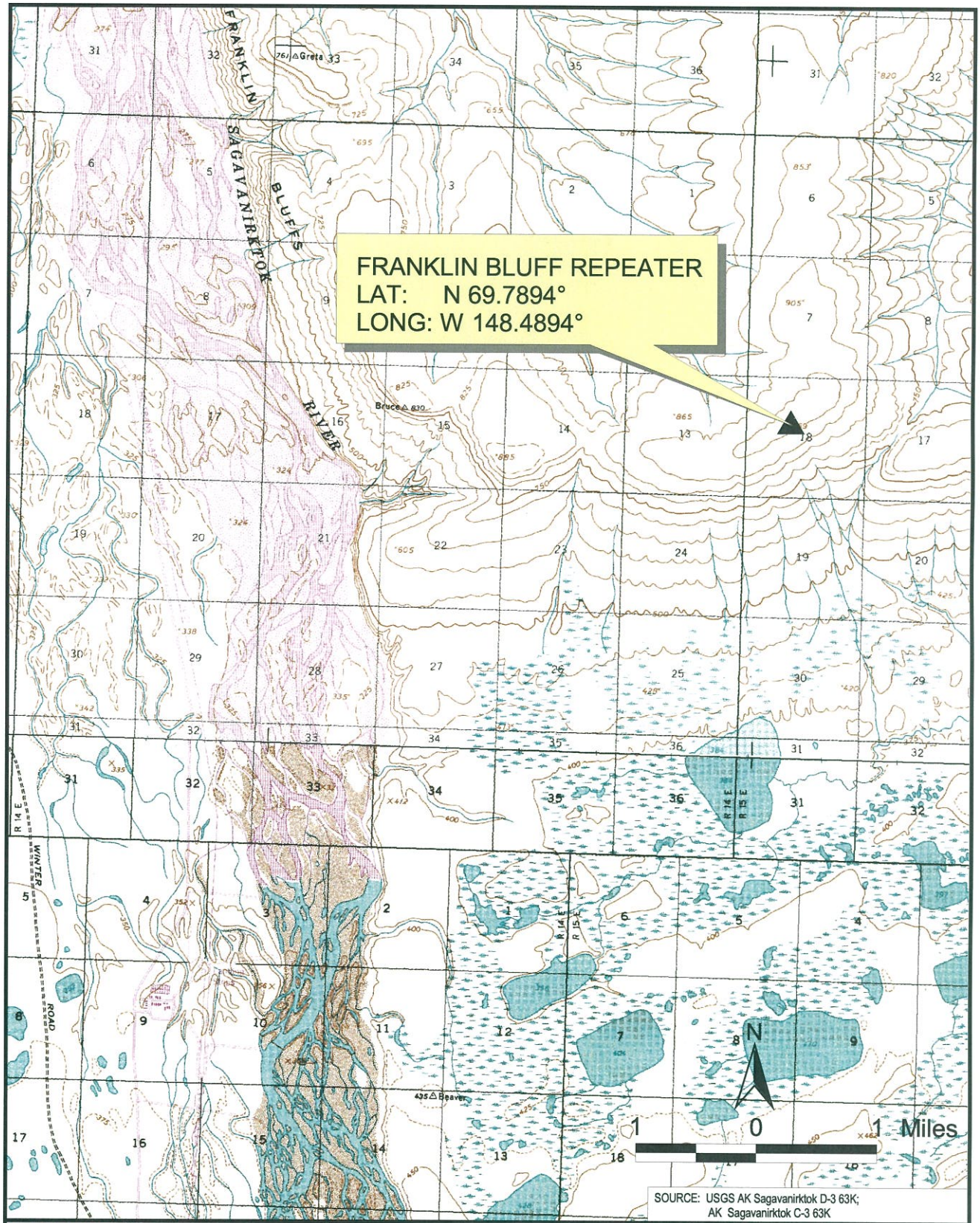
- Table 1: 2005 Soil Sampling Analytical Results
- Table 1: 2004 Soil Sampling Analytical Results
- Table 2: 2004 Surface Water Sampling Analytical Results

ATTACHMENT 3: AT&T SITE PHOTOGRAPHS

ATTACHMENT 4: AT&T REFUELING PROCESS PHOTOGRAPHS

ATTACHMENT 1

FIGURES



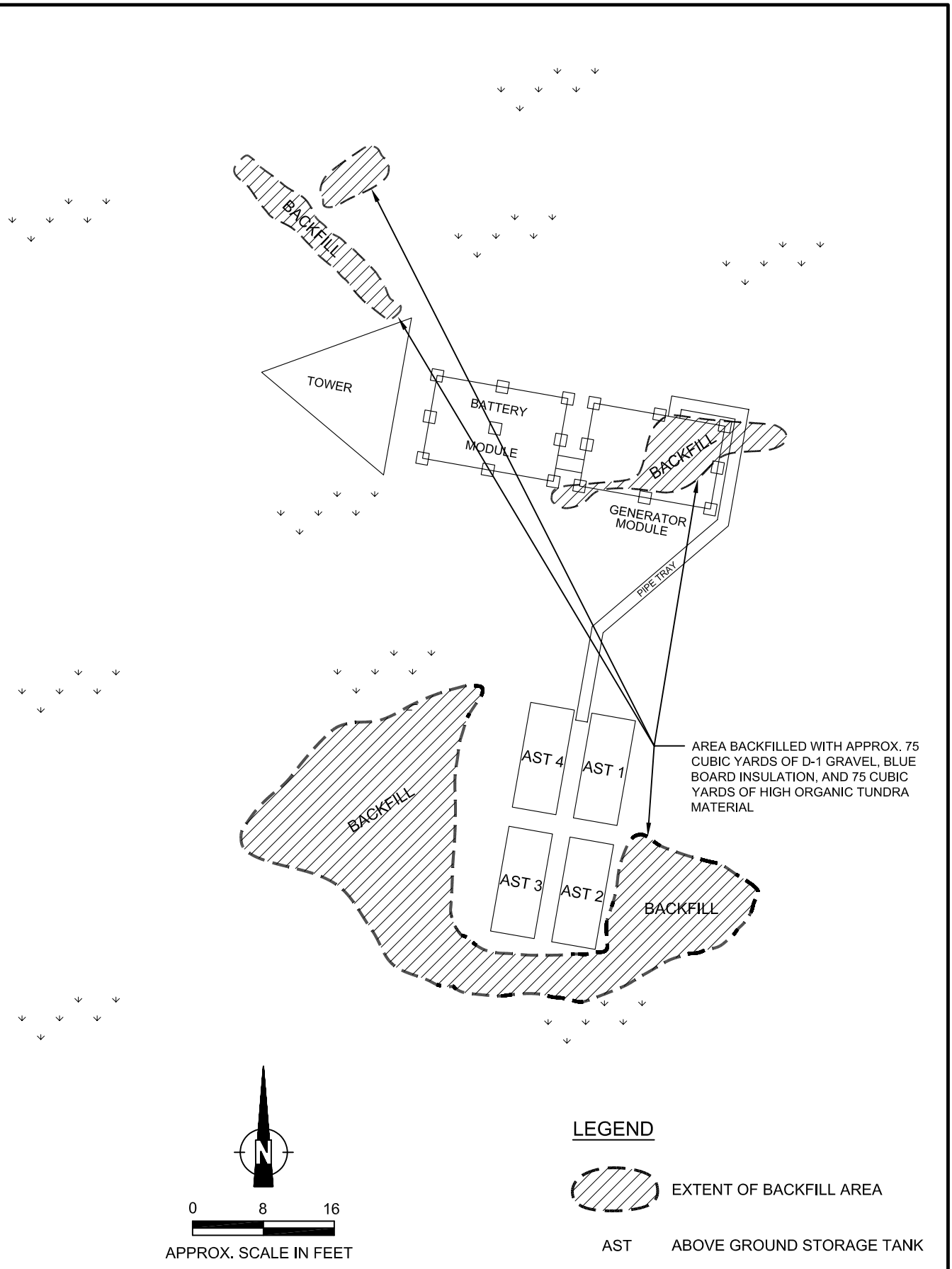
ENSR INTERNATIONAL
1835 S. BRAGAW STREET, #490
ANCHORAGE, AK 99512
(907) 561-5700
FAX: (907) 273-4555

FILE: AT&TRepeater DRAWN: JAH
VIEW: 01franklin CHECK: MAJ
DATE: 01/14/04 P.M.: M. JONES

FIGURE 1

FRANKLIN BLUFF REPEATER
SITE LOCATION

AT&T CORPORATION
PHASE III SITE ASSESSMENTS/
REMEDIATION PROGRAM
TAPS REPEATER SITES
PROJECT 00550-338-1500



FILENAME: 01FRANKLIN07

ENSR | AECOM

ENSR CORPORATION
1835 SOUTH BRAGAW, SUITE 490
ANCHORAGE, ALASKA 99512
PHONE: (907) 561-5700
FAX: (907) 273-4555
WEB: HTTP://WWW.ENSR.AECOM.COM

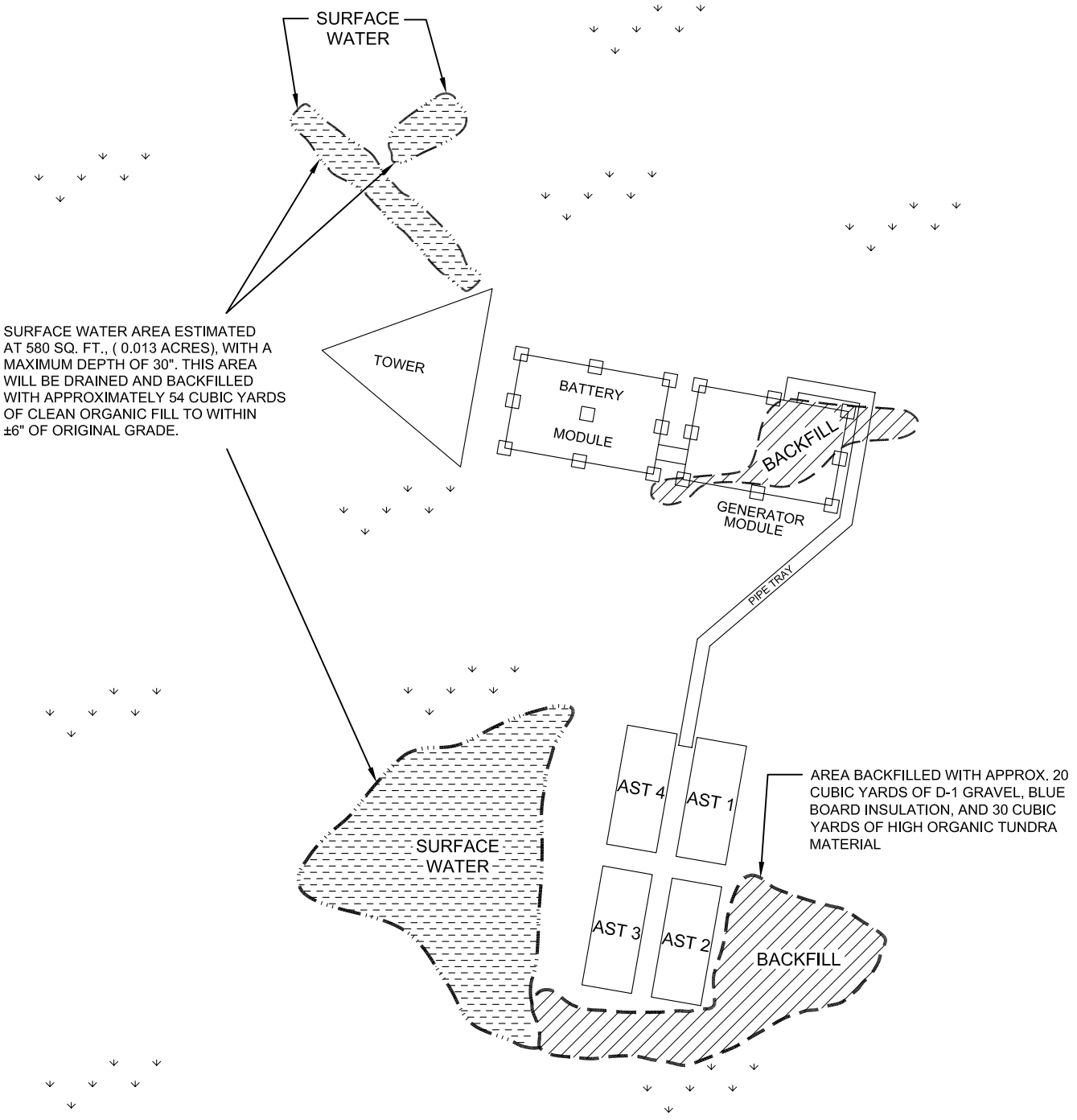
FRANKLIN BLUFF REPEATER

AT&T 2007 Field Program

T5N R15E SEC 18 UMIAT MERIDIAN

FIGURE NUMBER: 2

DRAWN BY:	DATE:	PROJECT NUMBER:	CHECKED BY:
KM	09/11/07	00550-341-2000	JS



ENSR | AECOM

ENSR CORPORATION
1835 SOUTH BRAGAW, SUITE 490
ANCHORAGE, ALASKA 99512
PHONE: (907) 561-5700
FAX: (907) 273-4555
WEB: HTTP://WWW.ENSR.AECOM.COM

FRANKLIN BLUFF REPEATER

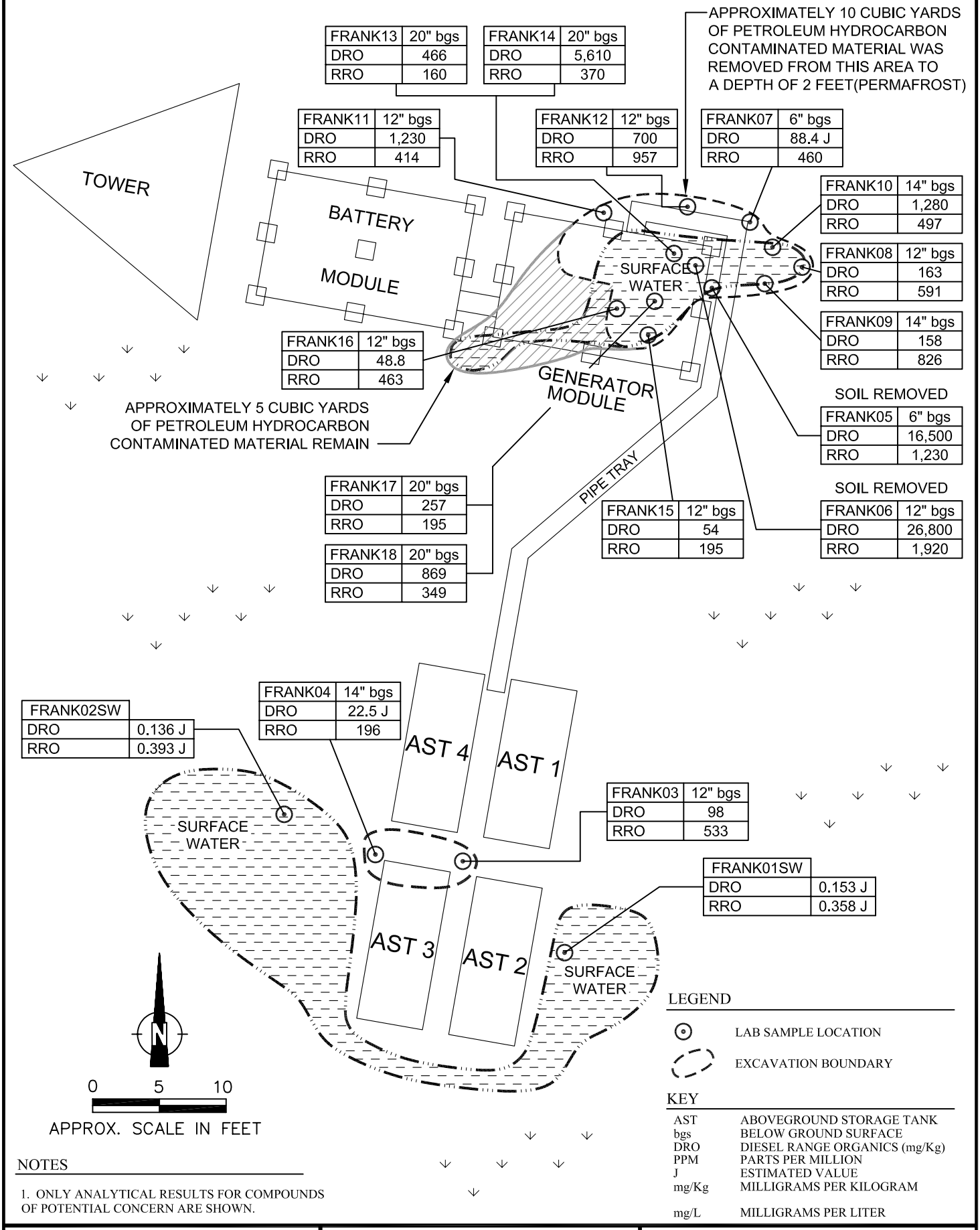
AT&T 2007 Field Program

T5N R15E SEC 18 UMIAT MERIDIAN

FIGURE NUMBER: 2

DRAWN BY:	DATE:	PROJECT NUMBER:	CHECKED BY:
KM	05/21/07	00550-341-2000	JS

FILENAME: 01FRANKLIN07



LEGEND

- LAB SAMPLE LOCATION
- EXCAVATION BOUNDARY

KEY

AST	ABOVEGROUND STORAGE TANK
bgs	BELOW GROUND SURFACE
DRO	DIESEL RANGE ORGANICS (mg/Kg)
PPM	PARTS PER MILLION
J	ESTIMATED VALUE
mg/Kg	MILLIGRAMS PER KILOGRAM
mg/L	MILLIGRAMS PER LITER

NOTES

1. ONLY ANALYTICAL RESULTS FOR COMPOUNDS OF POTENTIAL CONCERN ARE SHOWN.

ENSR INTERNATIONAL
1835 SOUTH BRAGAW STREET, #490
ANCHORAGE, AK 99512
(907) 561-5700
FAX: (907) 273-4555

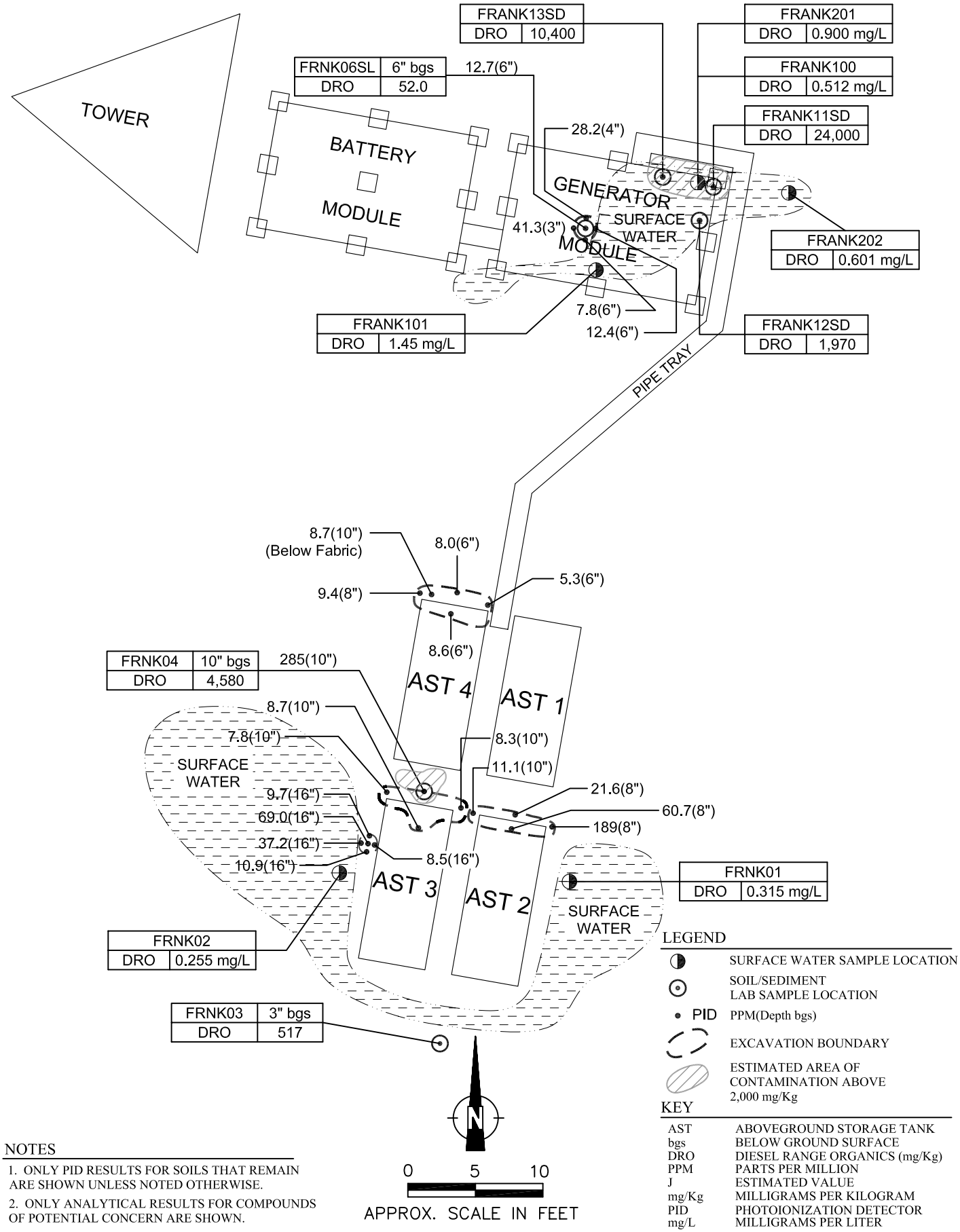
FILE: 01FRANKLIN05 DRAWN: K. MONGAR
C/SC: 1:10 ZIP: NA
DATE: 09/15/05 CHECK: J. SCHICK

FIGURE 1

FRANKLIN BLUFF REPEATER FIELD SCREENING AND ANALYTICAL RESULTS

2005 AT&T PHASE V SITE ASSESSMENT/ REMEDIATION PROGRAM

PROJECT 00550-338-300



LEGEND

- SURFACE WATER SAMPLE LOCATION
- SOIL/SEDIMENT LAB SAMPLE LOCATION
- PID PPM(Depth bgs)
- EXCAVATION BOUNDARY
- ESTIMATED AREA OF CONTAMINATION ABOVE 2,000 mg/Kg

KEY

AST	ABOVEGROUND STORAGE TANK
bgs	BELOW GROUND SURFACE
DRO	DIESEL RANGE ORGANICS (mg/Kg)
PPM	PARTS PER MILLION
J	ESTIMATED VALUE
mg/Kg	MILLIGRAMS PER KILOGRAM
PID	PHOTOIONIZATION DETECTOR
mg/L	MILLIGRAMS PER LITER

NOTES

1. ONLY PID RESULTS FOR SOILS THAT REMAIN ARE SHOWN UNLESS NOTED OTHERWISE.
2. ONLY ANALYTICAL RESULTS FOR COMPOUNDS OF POTENTIAL CONCERN ARE SHOWN.

ENSR INTERNATIONAL
1835 SOUTH BRAGAW STREET, #490
ANCHORAGE, AK 99512
(907) 561-5700
FAX: (907) 273-4555

FILE: 01FRANKLIN04 DRAWN: JAH/KCM
C/SC: 1:10 ZIP: NA
DATE: 08/18/04 CHECK: C. THOMPSON

FIGURE 1
FRANKLIN BLUFF REPEATER FIELD SCREENING AND ANALYTICAL RESULTS

2004 AT&T PHASE IV SITE ASSESSMENT/ REMEDIATION PROGRAM

PROJECT 00550-338-300

ATTACHMENT 2

TABLES

Table 1: 2005 Soil Sampling Analytical Results

Table 1: 2004 Soil Sampling Analytical Results

Table 2: 2004 Surface Water Sampling Analytical Results

Table 1: 2005 Soil Sampling Analytical Results, AT&T Phase V Site Assessment / Remediation Program
Franklin Bluff Repeater Site

Parameter	Units	MCL	Sample ID: 05FRANK03SL Sample Date: 7/24/2005 Sample QC Type: Laboratory ID(s): 1054568011	05FRANK04SL 7/24/2005 1054568012	05FRANK05SL 7/24/2005 1054568013	05FRANK06SL 7/24/2005 1054568014
Bulk Petroleum Hydrocarbons [AK102, AK103]						
Diesel Range Organics	mg/kg	2,000	98 [51.3]	22.5 [51.1] J	**16,500** [1,130]	**26,800** [2,020]
Residual Range Organics	mg/kg	2,000	533 [51.3]	196 [51.1]	1,230 [1,130]	1,920 [2,020] J

Parameter	Units	MCL	Sample ID: 05FRANK07SL Sample Date: 7/25/2005 Sample QC Type: Laboratory ID(s): 1054568015	05FRANK08SL 7/25/2005 1054568016	05FRANK09SL 7/25/2005 1054568017	05FRANK10SL 7/25/2005 1054568018
Bulk Petroleum Hydrocarbons [AK102, AK103]						
Diesel Range Organics	mg/kg	2,000	88.4 [98.3] J	163 [80.8]	158 [74.6]	1,280 [52.3]
Residual Range Organics	mg/kg	2,000	460 [98.3]	591 [80.8]	826 [74.6]	497 [52.3]

Key:

J = Result is considered an estimate.
MCL = minumum ADEC soil cleanup level per 18AAC75.341 with the following codes:
NA = not applicable.

Notes:

Values in brackets [ ] are PQLs.
Values in **bold** indicate exceedance of the ADEC Cleanup Level.

Table 1: 2005 Soil Sampling Analytical Results, AT&T Phase V Site Assessment / Remediation Program (Continued)
Franklin Bluff Repeater Site

Parameter	Units	MCL	Sample ID: 05FRANK11SL Sample Date: 7/28/2005 Sample QC Type: Laboratory ID(s): 1054568024	05FRANK12SL 7/28/2005 1054568025	05FRANK13SL 7/28/2005 1054568026	05FRANK14SL 7/28/2005 Field Duplicate 1054568027
Bulk Petroleum Hydrocarbons [AK102, AK103]						
Diesel Range Organics	mg/kg	2,000	1,230 [120]	700 [101]	466 [25.1]	**5,610** [272]
Residual Range Organics	mg/kg	2,000	414 [120]	957 [101]	160 [25.1]	370 [272]

Parameter	Units	MCL	Sample ID: 05FRANK15SL Sample Date: 7/28/2005 Sample QC Type: Laboratory ID(s): 1054568028	05FRANK16SL 7/28/2005 1054568029	05FRANK17SL 7/28/2005 1054568030	05FRANK18SL 7/28/2005 Field Duplicate 1054568031
Bulk Petroleum Hydrocarbons [AK102, AK103]						
Diesel Range Organics	mg/kg	2,000	54 [25.5]	48.8 [20.4]	257 [24.9]	869 [106]
Residual Range Organics	mg/kg	2,000	195 [25.5]	463 [20.4]	195 [24.9]	349 [106]

Key:

J = Result is considered an estimate.
MCL = minumum ADEC soil cleanup level per 18AAC75.341 with the following codes:
NA = not applicable.

Notes:

Values in brackets [ ] are PQLs.
Values in **bold** indicate exceedance of the ADEC Cleanup Level.

Table 1: 2004 Soil Sampling Analytical Results, AT&T Phase IV Site Assessment / Remediation Program
Franklin Bluff Repeater Site

Parameter	Units	Cleanup Level		Sample ID: 04FRNK03SL Sample Date: 7/9/2004 Sample QC Type: Laboratory ID(s): 1044107013	Sample ID: 04FRNK04SL Sample Date: 7/9/2004 Sample QC Type: Laboratory ID(s): 1044107014	Sample ID: 04FRNK06SL Sample Date: 7/10/2004 Sample QC Type: Laboratory ID(s): 1044107015
Petroleum Hydrocarbons [AK102, AK103]						
Diesel Range Organics	mg/kg	2,000	E	517 [40.9]	**4580** [200]	52 [23.9]
Residual Range Organics	mg/kg	2,000	E	310 [40.9]	605 [200]	77.7 [23.9]
Volatile Organic Compounds [SW8260B]						
Benzene	mg/kg	0.02	M	ND (0.00218) [0.00728]	ND (0.00621) [0.0207]	ND (0.00487) [0.0162]
Ethylbenzene	mg/kg	5.5	M	0.0077 [0.014] J	ND (0.0124) [0.0398]	ND (0.00973) [0.0312]
o-Xylene	mg/kg	78	M	0.0108 [0.014] J	0.0159 [0.0398] J	0.0131 [0.0312] J
Toluene	mg/kg	5.4	M	0.016 [0.028] J	ND (0.0239) [0.0796]	ND (0.0187) [0.0624]
Xylene, Isomers m & p	mg/kg	78	M	0.0321 [0.028]	ND (0.0239) [0.0796]	0.029 [0.0624] J
Total Solids [A2540G]						
Total Solids	mg/kg	na		84.6	68.8	75.9

Key:

-- = Analysis not performed on this sample.
J = Result is considered an estimate value.
M = migration to groundwater: ADEC Method Two Table B1.
E = See Technical Memorandum: Proposed Petroleum Hydrocarbon Cleanup Levels for TAPS Corridor Sites (August 18, 2003).
ND = analyte not detected above the practical quantitation limit (PQL).

Notes:

Values in brackets [ ] are PQLs and values in parentheses ( ) are laboratory detection limits.
Values in **bold** indicate exceedance of the ADEC Cleanup Level.

Table 1: 2004 Soil Sampling Analytical Results, AT&T Phase IV Site Assessment / Remediation Program
Franklin Bluff Repeater Site

Parameter	Units	Cleanup Level		Sample ID: 04FRANK11SD Sample Date: 7/22/2004 Sample QC Type: Laboratory ID(s): 1044497006	Sample ID: 04FRANK12SD Sample Date: 7/22/2004 Sample QC Type: Laboratory ID(s): 1044497009	Sample ID: 04FRANK13SD Sample Date: 7/22/2004 Sample QC Type: Laboratory ID(s): 1044497010
Petroleum Hydrocarbons [AK102, AK103]						
Diesel Range Organics	mg/kg	2,000	E	**24000** [981]	1970 [1570]	**10400** [628]
Residual Range Organics	mg/kg	2,000	E	1870 [981]	6380 [1570]	866 [628]
Volatile Organic Compounds [SW8260B]						
Benzene	mg/kg	0.02	M	--	--	--
Ethylbenzene	mg/kg	5.5	M	--	--	--
o-Xylene	mg/kg	78	M	--	--	--
Toluene	mg/kg	5.4	M	--	--	--
Xylene, Isomers m & p	mg/kg	78	M	--	--	--
Total Solids [A2540G]						
Total Solids	mg/kg	na		33.3	25.5	57.4

Key:

-- = Analysis not performed on this sample.
J = Result is considered an estimate value.
M = migration to groundwater: ADEC Method Two Table B1.
E = See Technical Memorandum: Proposed Petroleum Hydrocarbon Cleanup Levels for TAPS Corridor Sites (August 18, 2003).
ND = analyte not detected above the practical quantitation limit (PQL).

Notes:

Values in brackets [ ] are PQLs and values in parentheses ( ) are laboratory detection limits.
Values in **bold** indicate exceedance of the ADEC Cleanup Level.

Table 2: 2004 Surface Water Sampling Analytical Results, AT&T Phase IV Site Assessment / Remediation Program
Franklin Bluff Repeater Site

Parameter	Units	MCL		Sample ID: 04FRANK100SW Sample Date: 7/22/2004 Sample QC Type: Laboratory ID(s): 1044497001	Sample ID: 04FRANK101SW Sample Date: 7/22/2004 Sample QC Type: Laboratory ID(s): 1044497002	Sample ID: 04FRANK200SW Sample Date: 7/22/2004 Sample QC Type: Laboratory ID(s): 1044497003	Sample ID: 04FRANK201SW Sample Date: 7/22/2004 Sample QC Type: Laboratory ID(s): 1044497004
Petroleum Hydrocarbons [AK102, AK103]							
Diesel Range Organics	mg/L	1.5	G	0.512 [0.3]	1.45 [0.316]	0.128 [0.3] J,B	0.9 [0.309]
Residual Range Organics	mg/L	1.1	G	1.06 [0.5] B	**19** [0.526]	0.415 [0.5] J,B	**2.27** [0.515]
Volatile Organic Compounds [SW8260B]							
Benzene	mg/L	0.005	G	ND (0.00012) [0.0004]	ND (0.00012) [0.0004]	ND (0.00012) [0.0004]	ND (0.00012) [0.0004]
Ethylbenzene	mg/L	0.7	G	ND (0.00031) [0.001]	ND (0.00031) [0.001]	ND (0.00031) [0.001]	ND (0.00031) [0.001]
o-Xylene	mg/L	10	G	ND (0.00031) [0.001]	ND (0.00031) [0.001]	ND (0.00031) [0.001]	0.00087 [0.001] J
Toluene	mg/L	1	G	ND (0.00031) [0.001]	ND (0.00031) [0.001]	ND (0.00031) [0.001]	0.00031 [0.001] J
Xylene, Isomers m & p	mg/L	10	G	ND (0.00062) [0.002]	ND (0.00062) [0.002]	ND (0.00062) [0.002]	0.0014 [0.002] J
Polycyclic Aromatic Hydrocarbons (PAHs) [PAHSIM]							
Acenaphthene	mg/L	2.2	G	ND (0.0000167) [0.0000556]	--	--	0.000125 [0.0000505] B
Acenaphthylene	mg/L	na		0.0000173 [0.0000556] J,B	--	--	0.0000875 [0.0000505] B
Anthracene	mg/L	11	G	ND (0.0000167) [0.0000556]	--	--	0.0000166 [0.0000505] J
Benzo(a)anthracene	mg/L	0.001	G	ND (0.0000167) [0.0000556]	--	--	ND (0.0000152) [0.0000505]
Benzo(a)pyrene	mg/L	0.0002	G	0.0000255 [0.0000556] J	--	--	ND (0.0000152) [0.0000505]
Benzo(b)fluoranthene	mg/L	0.001	G	ND (0.0000167) [0.0000556]	--	--	ND (0.0000152) [0.0000505]
Benzo(g,h,i)perylene	mg/L	na		ND (0.0000167) [0.0000556]	--	--	ND (0.0000152) [0.0000505]
Benzo(k)fluoranthene	mg/L	0.01	G	ND (0.0000167) [0.0000556]	--	--	ND (0.0000152) [0.0000505]
Chrysene	mg/L	0.1	G	ND (0.0000167) [0.0000556]	--	--	ND (0.0000152) [0.0000505]
Dibenzo(a,h)anthracene	mg/L	0.0001	G	ND (0.0000111) [0.0000556]	--	--	ND (0.0000101) [0.0000505]
Fluoranthene	mg/L	1.46	G	ND (0.0000344) [0.000111]	--	--	ND (0.0000313) [0.000101]
Fluorene	mg/L	1.46	G	ND (0.0000167) [0.0000556]	--	--	0.000136 [0.0000505] B
Indeno(1,2,3-cd)pyrene	mg/L	0.001	G	ND (0.0000167) [0.0000556]	--	--	ND (0.0000152) [0.0000505]
Naphthalene	mg/L	0.7	G	0.0000586 [0.0000556]	--	--	0.00103 [0.0000505] J
Phenanthrene	mg/L	na		ND (0.0000344) [0.000111]	--	--	ND (0.0000313) [0.000101]
Pyrene	mg/L	1.1	G	ND (0.0000167) [0.0000556]	--	--	ND (0.0000152) [0.0000505]

Key:

-- = Analysis not performed on this sample.
J = Result is considered an estimate value.
B = Compound additionally found present in the associated method blank. Value is considered biased-high from laboratory-introduced contamination.
G = injestion pathway: ADEC Table C.
ND = analyte not detected above the practical quantitation limit (PQL).
na = no cleanup level applicable for this parameter.

Notes:

Values in brackets [ ] are PQLs and values in parentheses ( ) are laboratory detection limits.
Values in **bold** indicate exceedance of the ADEC Cleanup Level.

Table 2: 2004 Surface Water Sampling Analytical Results, AT&T Phase IV Site Assessment / Remediation Program
Franklin Bluff Repeater Site

Parameter	Units	MCL		Sample ID: 04FRANK202SW Sample Date: 7/22/2004 Sample QC Type: Laboratory ID(s): 1044497005	Sample ID: 04FRNK01SW Sample Date: 7/9/2004 Sample QC Type: Laboratory ID(s): 1044108001	Sample ID: 04FRNK02SW Sample Date: 7/9/2004 Sample QC Type: Laboratory ID(s): 1044108002
Petroleum Hydrocarbons [AK102, AK103]						
Diesel Range Organics	mg/L	1.5	G	0.601 [0.309]	0.315 [0.316] J,B	0.255 [0.323] J,B
Residual Range Organics	mg/L	1.1	G	**6.85** [0.515]	0.487 [0.526] J,B	0.448 [0.538] J,B
Volatile Organic Compounds [SW8260B]						
Benzene	mg/L	0.005	G	ND (0.00012) [0.0004]	ND (0.00012) [0.0004]	ND (0.00012) [0.0004]
Ethylbenzene	mg/L	0.7	G	ND (0.00031) [0.001]	ND (0.00031) [0.001]	ND (0.00031) [0.001]
o-Xylene	mg/L	10	G	ND (0.00031) [0.001]	ND (0.00031) [0.001]	ND (0.00031) [0.001]
Toluene	mg/L	1	G	ND (0.00031) [0.001]	ND (0.00031) [0.001]	ND (0.00031) [0.001]
Xylene, Isomers m & p	mg/L	10	G	ND (0.00062) [0.002]	ND (0.00062) [0.002]	ND (0.00062) [0.002]
Polycyclic Aromatic Hydrocarbons (PAHs) [PAHSIM]						
Acenaphthene	mg/L	2.2	G	--	--	--
Acenaphthylene	mg/L	na		--	--	--
Anthracene	mg/L	11	G	--	--	--
Benzo(a)anthracene	mg/L	0.001	G	--	--	--
Benzo(a)pyrene	mg/L	0.0002	G	--	--	--
Benzo(b)fluoranthene	mg/L	0.001	G	--	--	--
Benzo(g,h,i)perylene	mg/L	na		--	--	--
Benzo(k)fluoranthene	mg/L	0.01	G	--	--	--
Chrysene	mg/L	0.1	G	--	--	--
Dibenzo(a,h)anthracene	mg/L	0.0001	G	--	--	--
Fluoranthene	mg/L	1.46	G	--	--	--
Fluorene	mg/L	1.46	G	--	--	--
Indeno(1,2,3-cd)pyrene	mg/L	0.001	G	--	--	--
Naphthalene	mg/L	0.7	G	--	--	--
Phenanthrene	mg/L	na		--	--	--
Pyrene	mg/L	1.1	G	--	--	--

Key:

-- = Analysis not performed on this sample.
J = Result is considered an estimate value.
B = Compound additionally found present in the associated method blank. Value is considered biased-high from laboratory-introduced contamination.
G = injestion pathway: ADEC Table C.
ND = analyte not detected above the practical quantitation limit (PQL).
na = no cleanup level applicable for this parameter.

Notes:

Values in brackets [ ] are PQLs and values in parentheses ( ) are laboratory detection limits.
Values in **bold** indicate exceedance of the ADEC Cleanup Level.

ATTACHMENT 3

AT&T SITE PHOTOGRAPHS

AT&T SITE PHOTOGRAPHS

Site photograph of Franklin Bluff Repeater AST area looking north.

Contaminated soil to be excavated beneath valve end of AST 4 looking southeast.

AT&T SITE PHOTOGRAPHS

Excavation beneath AST 4 valve down to previously installed geofabric looking east.

Excavations beneath valve ends of ASTs 3 and 2 in the background looking east.

Hot spot excavation down to permafrost on the west side of the AST area looking north.

Hot spot excavation beneath the Generator Module down to clay layer looking north.

AT&T SITE PHOTOGRAPHS

Geofabric installation beneath valve end of AST 4 looking east.

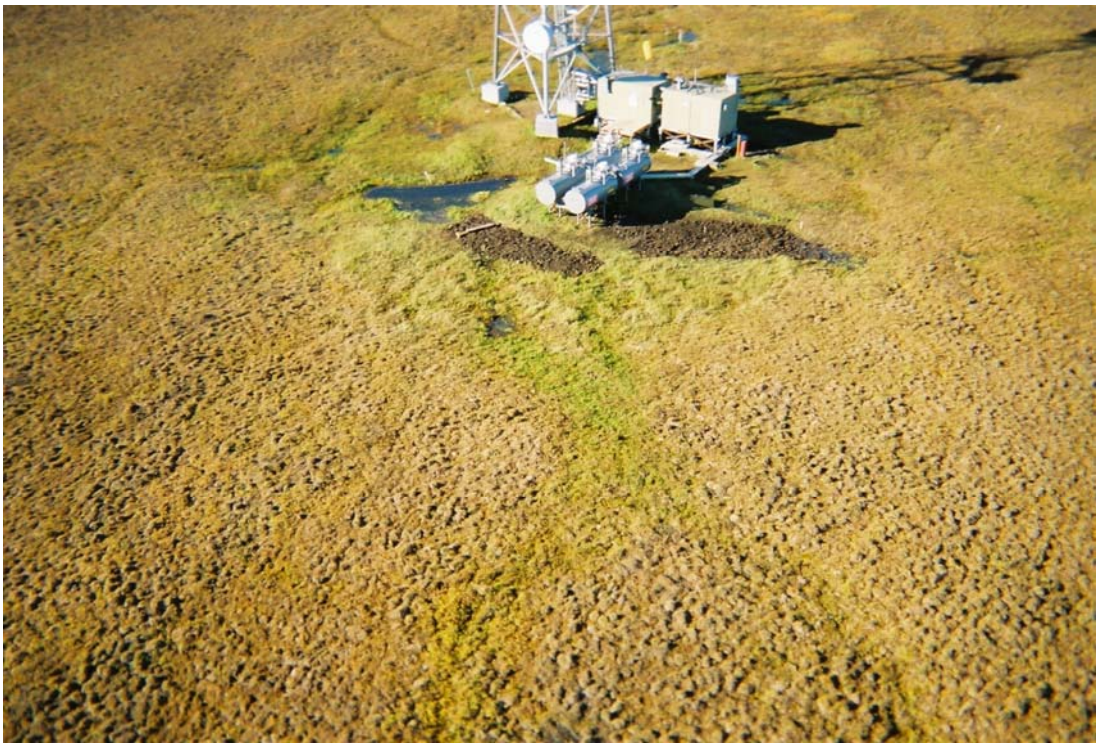
Geofabric installation beneath valve end of AST 3 looking east.

AT&T SITE PHOTOGRAPHS

Backfill and compaction complete beneath valve end of AST 4 looking southeast.

Backfill and compaction complete beneath valve end of AST 2 looking west.

Selected AT&T Site Photographs
August 2006 Field Activities at Franklin Bluff Repeater



Aerial view of site after backfill activities were completed at the two ponds that posed the greatest level of concern. The third unfilled pond is located downgradient and at a lower elevation than the ASTs. Note also the presence of surface water ponds near the tower.

Site view looking towards ASTs. Permafrost was located at 18 inches below grade in the elevated area between the tanks and remaining surface water.

Selected AT&T Site Photographs
August 2006 Field Activities at Franklin Bluff Repeater

A balanced fertilizer, intended to facilitate natural revegetation, was applied upon completion of backfill.

Site view looking north; some water remained at the furthest extreme of the backfill.

Franklin Bluffs Repeater

Tundra pond to the north of the ASTs prior to dewatering activities looking west**.**

Tundra pond to the east of the tower prior to dewatering activities looking west.

Franklin Bluffs Repeater

Dewatering tundra pond to the north of the ASTs while laying geofabric in the depression looking west.

Compacting D-1 gravel in the area north of the ASTs looking west.

Franklin Bluffs Repeater

Polystyrene blue board insulation placed on top of the D-1 gravel to insulate the permafrost.

Franklin Bluffs Repeater site after all dewatering and backfill activities complete looking southwest.

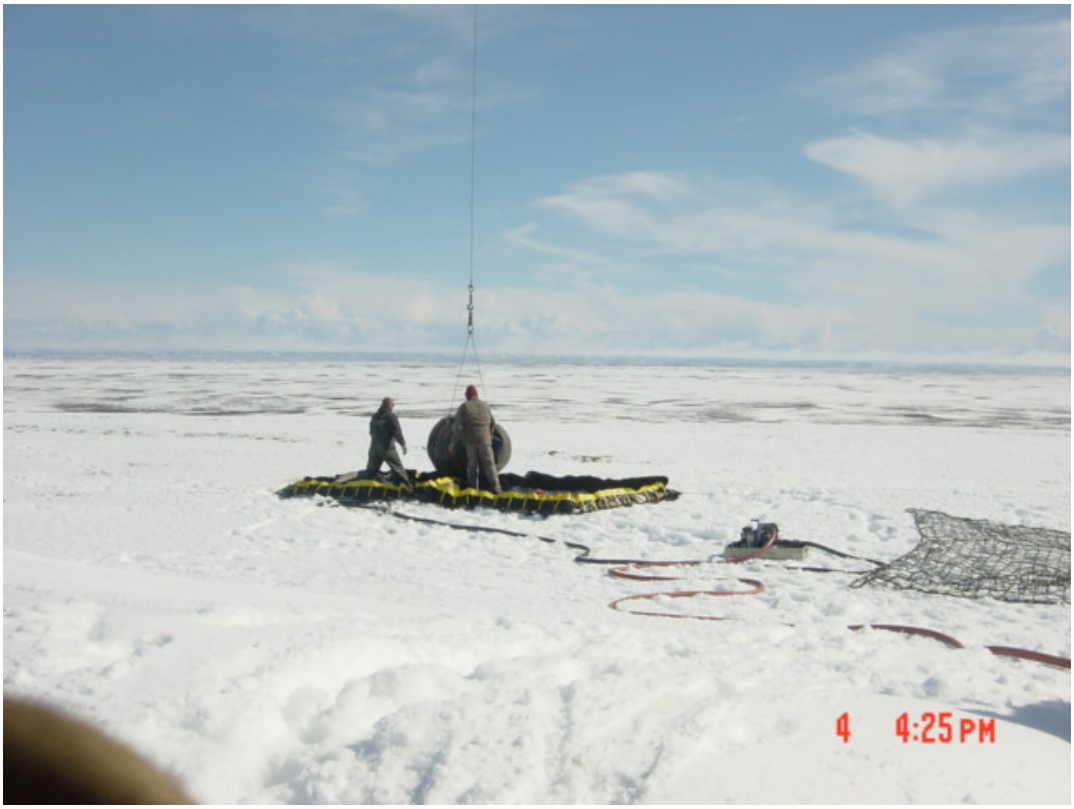
ATTACHMENT 4

AT&T REFUELING PROCESS PHOTOGRAPHS

AT&T TAPS REPEATER SITES REFUELING PROCESS PHOTOGRAPHS

Highway site staging area. Filling fuel bladders within portable secondary containment

Fuel bladder sling load to portable secondary containment system on ground at repeater site.



Landing fuel bladder within portable secondary containment system.

Pump fuel from bladder in secondary containment via modular portable pump with secondary containment.