

**PHASE 1 ENVIRONMENTAL SITE ASSESSMENT
WITH LIMITED SITE CHARACTERIZATION
FORMER UTICA MINE SITE
INMACHUK RIVER, ALASKA**

PROJECT # 004.0065.05002

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Prepared for

Dennis Harwood
Alaska Department Of Environmental Conservation
Spill Prevention And Response Division
Response Fund Administration Program
Contract Management Section
555 Cordova Street
Anchorage, Alaska 99501

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Prepared by

SLR Alaska
2525 Blueberry Rd., Suite 206
Anchorage, AK 99503

3522 International Street
Fairbanks, AK 99701



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The material and data in this report were prepared under the supervision and direction of the undersigned.



Dennis Filler, Ph.D., P.E.
Fairbanks Manager



Andrew Dimitriou
SLR Alaska Manager



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ACRONYMS

ACM	asbestos-containing materials
ADEC	Alaska Department of Environmental Conservation
ANCSA	Alaska Native Claims Settlement Act
ASTM	American Society for Testing and Materials
AST	aboveground storage tank
ATV	All-terrain vehicle
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CoC	contaminants of concern
DRO	Diesel Range Organics
DOD	Department of Defense
EDR	Environmental Data Resources, Inc.
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FIFRA	Federal Insecticide, Fungicide & Rodenticide Act
FINDS	Facility Index System
FUDS	Formerly Used Defense Sites
GEM	GEM Exploration, Inc.
GRO	Gasoline Range Organics
IC	Interim Conveyance
IGC	Inmachuk Gold Corporation
IRA	Indian Reorganization Act
LCS	laboratory control spiked
LUST	leaking underground storage tank
mg/kg	milligram/kilogram
MMS	Minerals Management Service
MS	Matrix spike
NAB	Northwest Arctic Borough

ACRONYMS (CONTINUED)

NANA	NANA Regional Corporation, Inc.
NCA	North Creek Analytical
NFRAP	No Further Remedial Action Planned
NPL	National Priorities List
PCB	Polychlorinated Biphenyls
PID	Photo-ionization detector
POL	petroleum, oil, and lubricant
QA/QC	Quality Assurance/Quality Control
QAR	Quality Assurance Review
RCRA	Resource Conservation and Recovery Act
RCRIS	RCRA Information System
RPD	relative percent difference
RRO	Residual Range Organics
SLR	SLR Alaska
TSCA	Toxic Substances Control Act
USEPA	U.S. Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank

1 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (ESA) with limited site characterization of property owned by NANA Regional Corporation, Inc. (NANA) near Deering, Alaska. The focus of this Phase I ESA was Utica Camp, a historic mining camp located approximately 18 miles south-southwest of Deering, on the Inmachuk River, and a 7-mile stretch of heavily mined river (Figure 1) encompassing it (“area of interest” herein). Objectives of this ESA are to document historic infrastructure (buildings) and mining artifacts, and develop a professional opinion about the presence of petroleum hydrocarbons, heavy metals, and/or other hazardous substances on or near the subject property that may have had an impact on soil and/or ground water at the site. This report is published as a requirement of a Northwest Arctic Borough (NAB) assessment grant obtained under the U.S. Environmental Protection Agency (USEPA) Brownfields Program.

1.1 Purpose

The purpose of a Phase I ESA is to provide for a due diligence or all appropriate inquiry into the previous ownership and uses of a property. A Phase I ESA includes review of reasonably ascertainable information about the property and site reconnaissance for identification of potential environmental concerns. A Phase I ESA may also be performed in an effort to identify potential risk or liability associated with environmental and public health considerations concerning a property. The report of findings presents technical information regarding the subject property for decisions regarding property transfers and intended uses. As such, this practice is intended to permit a user or property owner to satisfy one of the requirements to qualify for innocent landowner defense under state and federal regulations.

This Phase I ESA was performed in accordance with American Society of Testing and Materials (ASTM) Standard E1527-00, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. This professional standard is used to guide the records review, site reconnaissance, interviews, and reporting for this work. Limited site characterization was integral to this Phase I ESA because of the known mining history at the camp. Contents of this report are consistent with the ASTM standard to a reasonable and practical extent; site characterization sampling and analyses exceeds standard site reconnaissance requirements for Phase I ESA.

The goal of the records review and site reconnaissance with limited sampling was to identify recognized environmental conditions in connection with the subject property. The term “recognized environmental condition” as defined by ASTM standard means the “presence or likely presence of any hazardous substances or petroleum products on a property under

conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.” The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include “de minimis” conditions that generally do not present a material risk of harm to public health or the environment that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

1.2 Scope

Five tasks were completed for this Phase I ESA: 1) interviews with knowledgeable parties, 2) a review of records, 3) site reconnaissance, 4) limited soil sampling and analyses, and 5) a report of observations and findings. Information about the physical setting of the subject property, including a title search, is presented in Section 2. Pertinent information gathered during discussions/communications with the NAB, NANA, at a Deering city council meeting, and through personal interviews is included as Section 3. Our records search included review of historical documents of mining history in the area, Alaska Department of Environmental Conservation (ADEC) and USEPA environmental databases, aerial photographs, and other miscellaneous records as accessible. Pertinent information from the records review is presented in Section 4. Our site visit from June 6-9, 2005 and observations of recognized potential environmental concerns in connection with the subject property are documented in Section 5 Site Reconnaissance. Results of soil analyses are presented in Section 6. Section 7 summarizes our findings and presents recommendations based on relevant history and the findings. Conclusions are presented in Section 8.

1.3 Report Tables, Figures, and Appendices

Table and figures are included with this report where consolidation of information and visual aids are warranted to support understanding and readability. Table 1 documents mining claims ownership, Table 2 documents mining artifacts observed in the area of interest, and Table 3 summarizes soil analytical results. Figures 1 through 4 identify the site location and give a visual perspective of Utica Camp and surrounding lands. Figures 5 through 8 identify the mining claims that comprise the area of interest and the interim conveyances that relinquished the claims to the NANA Regional Corporation, the current land owner. Figures 9 and 10 show Utica Camp, and Figures 11 and 12 show the camp dump sites. Appendices A and B are copies of title and environmental reports submitted by others, and Appendix C is the NCA laboratory analytical report with SLR Quality Assurance Review. Appendix D is the three-part photographic log: Artifacts photo log, Utica Camp buildings photo log, and photo log of soil sample locations at Utica Camp.

2 SITE DESCRIPTION

2.1 Location and Legal Description

Utica Camp today comprises 23 remnant buildings and associated dumps located on approximately 10 acres of land on the west bank of the Inmachuk River, approximately 18 miles south-southwest of Deering, Alaska. The camp is situated between the confluences of Fink and Arizona creeks, near the intersection of Sections 23, 24, 25 and 26, in Township 6 North, Range 21 West, in the Bendeleben quadrangle of the Seward Peninsula, in western Alaska. This camp and other contiguous mining claims along 7 miles of the Inmachuk River and the bottom reach of the Pinnell River, together with a few independent claims on Hannum and Eureka creeks, were collectively relinquished to NANA through Interim Conveyance (IC) 1516 and 1517 in 1993, a consequence of the Alaska Native Claims Settlement Act (ANCSA) of 1971. Figure 1 is the site location map with area of interest shown; Utica Camp is the green star within the red border that defines this conveyed land. IC 735 and 736 conveyed other adjacent lands to NANA in 1983. The legal description of land conveyed through IC 1516 and 1517 (Utica Camp inclusive) is:

The “surface estate”, as described in IC 1516 recorded December 17, 1991 in Book 331, Page 797; Records of the Cape Nome recording District, Second Judicial District, State of Alaska, in the following described lands of the Kateel River Meridian, Alaska:

Township 6 North, Range 20 West

Section 7, those lands formerly within Mineral Survey application F-69596; containing approximately 19 acres.

Township 6 North, Range 21 West

Section 12, those lands formerly within Mineral Survey application F-69596 and unsurveyed mining claims F-63694 and F-63695;

Section 13, those lands formerly within Mineral Survey application F-69596, Mineral Survey application F-81225 and unsurveyed mining claim F-63693;

Section 23, those lands formerly within Mineral Survey application F-69596;

Section 24, those lands formerly within Mineral Survey application F-69596 and unsurveyed mining claims F-63689 and F-63690;

Sections 25 to 28, inclusive, those lands formerly within Mineral Survey application F-69596;

Sections 32 to 35, inclusive, those lands formerly within Mineral Survey application F-69596; containing approximately 1,211 acres.

Aggregating approximately 1,230 acres.

Excepting there from the "subsurface estate" as conveyed to NANA Regional Corporation, Inc. by IC 1517, recorded December 17, 1991 in Book 331, Page 801.

A copy of the Fairbanks Title Agency title search report is included in Appendix A.

2.2 Site Setting

The subject property is located in the remote north-central region of the Seward Peninsula. Other than for few small native communities scattered in the region, this region of Alaska has not been developed other than for historic placer mining. The Innachuk River drains an ancient lava plateau. The Innachuk, its two main tributaries the Pinnell River and Hannum Creek, and their smaller creeks drain shallow valleys between gently sloping hills that form the northern steppe of this plateau. The Pinnell and Hannum merge with the Innachuk approximately 1.5 and 2.5 miles above Utica Camp, respectively. The Innachuk flows north approximately 26 miles through rolling hills and then the coastal plain as it empties into Kotzebue Sound at Deering. A lava rim (distinct in Figure 2 and 3, east/south side of river) is a striking feature of the Innachuk valley, extending from the Pinnell River nearly to the coastal plain. Hills along the upper and middle reaches of the Innachuk exhibit sharp ridgelines with rocky outcrops, with gentle terrain beyond. Tundra vegetation predominates the landscape. Local stand of willows, cottonwoods and aspen can be found in ravines and small valleys close to the river. Otherwise, few trees are found in this arctic setting. Figures 2 through 4 aerial photographs show the general terrain that is typical of the region. Utica Camp and the many mined tailings piles along the Innachuk River in this vicinity are visible.

2.3 Past and Current Uses of the Property

Archeological finds near Deering and other coastal sites on the Seward Peninsula suggest that native peoples occupied the region for thousands of years before Danish explorer Vitus Bering first explored Alaska for Russia in 1741. A native settlement existed just west of present day Deering, prior to the establishment of present day Deering as a supply depot for mining interests in 1900. Native populations traditionally used the land for subsistence hunting, fishing, and gathering. Then in 1900, individual miners prospected for gold on tributaries of the Innachuk River near its headwaters. Gold was discovered and for the next 80 years placer mining occurred intermittently along the Innachuk and its tributaries. Today, prominent features in the Innachuk River valley are the gravel road along the river, an airstrip located about a mile north of Utica Camp, and remnant infrastructure of the Fairhaven Ditch, which can be seen about 0.5-mile south of Utica Camp, above the east bank of the Innachuk as it traverses back over the hill towards the Pinnell and on to Imuruk Lake.

Mining has ceased along the Inmachuk River drainage. Today the people of Deering use the land for subsistence hunting, fishing and gathering, and infrequent bird-watching guided tours. Utica Camp is abandoned and its buildings are significantly weathered and degraded. Recent observations suggest all terrain vehicle (ATV) travelers typically bypass the camp on their way to the interior or Deering.

2.4 Current Use of Adjacent Land

Other than for the native village of Deering and a few scattered fish camps along the coast and Inmachuk and Kugruk rivers, land adjacent to Utica Camp and beyond (Figure 1) is presently undeveloped in its natural setting. Remains of at least four remnant mining camps are found within IC 1516 and 1517; Utica Camp is the dominant of these. A trail system connects the end of the gravel road at the Inmachuk River with the peninsula's interior and Nome on the south coast. Native people's use this trail system for subsistence hunting, fishing, and gathering. ATVs and snow machines are the primary modes of transportation.

3 INTERVIEWS AND HISTORY

During the course of this Phase I ESA, SLR Alaska (SLR) staff communicated with numerous agency, Deering Indian Reorganization Act (IRA) Council members, and villagers. Ms. Annabelle Alvite, with the NAB, and Dr. Dennis Filler, SLR Project Manager, coordinated a public meeting through the Deering IRA Council which was held in Deering on June 6, 2005. Twenty three people, including Mr. Walter Porter, NAB Director, Ms. Alvite, the SLR field team (Dr. Filler and Ms. Ariel Blanc), and representatives from the Deering IRA Council and NANA (Mr. Emerson Moto) attended this meeting. Ms. Alvite acted as moderator and the meeting discussions included the EPA Brownfields Program and grant process, land ownership and NANA participation, stakeholder cooperation, ecotourism benefits to Deering, and the nature of SLR field reconnaissance at Utica Camp.

Agency personnel contacted for historical information include Mr. Logan Hovis, with the National Park Service, Ms. Paula Sutton, with the Bureau of Indian Affairs (BIA) in Juneau, Alaska, and the Bureau of Land Management (BLM) in Anchorage, Alaska. Mr. Jeff Nelson, of NANA Lands Management, and the Maryland Historical Society were also contacted for information. Mr. Gil Barr, our hired guide from Deering, was interviewed extensively during the three days of our reconnaissance. Mr. Barr, a descendant of miners, is well versed in the native culture and mining history of the Inmachuk valley.

3.1 Ownership Information

NANA Regional Corporation currently owns title to the area of interest (Utica Camp inclusive) along the Inmachuk River, and much of the surrounding lands (Figure 1). Area of interest lands (former mining claims) was officially relinquished by the Inmachuk Gold Corporation (IGC), d.b.a. GEM Exploration, of Utah (GEM) to NANA through IC 1516 and 1517 on April 27, 1993. Mr. Roger J. Martineau was the apparent owner of IGC/GEM at that time. This conveyance pair, together with an associated Sale of Personal Property and Option Agreement, grant NANA title to surface and subsurface rights to the land, and ownership of remnant mining infrastructure and equipment thereon. Exhibits D and E of the documents indicate that most of the personal property referred to are the buildings and machinery left behind at Utica Camp. Figure 5 is a mural of Mineral Survey 2453, dated January 1984, as included in IC 1516 and 1517. The mural identifies the contiguous line of mining claims that comprise the 7-mile mining area of interest as shown in Figure 1. Figure 6, Exhibit C of IC 1516 and 1517, correlates the list of relinquished mining claims with their corresponding BLM survey numbers. Also included in this land transfer was one claim on Hannum Creek (U.S. Survey No. 11398) and an adjacent claim group on Eureka Creek (Mineral Survey 1106); these claims are depicted in Figures 7 and 8.

Mining claims in the Inmachuk valley were not well chronicled during the early gold rush years after 1900. Names of some claim owners and mining companies that pioneered placer mining in the Inmachuk region can be found in archived editions of the *Nome Nugget*. However, the old newspaper stories do not typically identify a name with a specific claim. Our research indicates that Minerals Management Service (MMS) and United States Geological Survey (USGS) surveyors working in the various mining districts began to plat claims sometime after 1910. For instance, Mineral Survey 1106 (Figure 8) is an early example of a platted claim, dated at March 3, 1914.

The BLM operates the web-based LR2000 system through their Land and Mineral Records division. This public access archive is a database of legal land and mining claim recordation. However, this database does not contain Alaska records. Consequently, SLR requisitioned a BLM manual search of 47 claims for chain-of-ownership records. The 47 claims comprise those listed in Figure 6. The BLM ownership research is compiled in Table 1. The ownership research chronicles ownership back from the current land owner to a time when a Mr. Stanley Sobocienski owned the claims. SLR annotated Table 1 in a few instances where our research indicated earlier ownership. Table 1 represents only a partial ownership chronicle; more research is required to determine ownership prior to Mr. Sobocienski.

3.2 Historical Development

Placer deposits were the main source of gold in the Inmachuk region. Gold was discovered near the confluence of the Pinnell and Inmachuk rivers in 1900. Record City, the first mining camp on the Inmachuk was established above the mouth of the Pinnell River. By 1906, several other mining camps including Utica were established in the middle reaches of the Inmachuk. First developed as an offshoot of the Nome gold rush, the Inmachuk drainage became the most productive gold producing part of the Fairhaven Mining District. Deering, located at the mouth of the river, was the principal port of entry and supply depot for the district (Hovis, 1999).

A 26-mile gravel road was constructed along the Inmachuk from Deering by the Alaska Road Commission in 1906-07. However, large-scale mining operations in the area did not become possible until 1908, when the Fairhaven Ditch was completed. This viaduct brought water more than 40 miles from Imuruk Lake, and provided 500 feet of head to support hydraulicking. A 7-mile stretch of the Inmachuk River (Figure 1, IC 1516 & 1517 boundary) became the focus of heavy placer mining for the next 40 or so years until World War II. Placer mining picked back up in 1946 and continued intermittently in the area through the early 1960s. IGC (or GEM) purchased all claims within this stretch sometime after 1946. GEM mined the area from Utica Camp until about 1980. (A file cabinet inside Building 13 – the mess hall and office - and a weathered manifest posted outside date paperwork to 1980.)

Placer Mining

Placer mining on the Inmachuk River was accomplished with several techniques including steam mining, hydraulicking, shoveling, drifting, and dredging. Early prospecting was

accomplished with steam mining using a tripod and bucket setup. The setup required a boiler, pipes connecting the boiler to tripod, and water. The process used steam to thaw a small area in which a prospect hole was manually dug. The hole was excavated to bedrock layer by thawed layer, or widened or trenched by moving the tripod around to expand the area of thawed ground. By 1908, a steam scrapper and derrick setup, complete with double drum hoist and china pump powered by a diesel engine, was used on the river. Once on bedrock, the miner tunneled laterally (drifting), all the while removing the *pay dirt* to a dump on the surface for sluicing. Drifting was performed in winter and discontinued in spring because drifts were generally not timbered since permafrost, coupled with cold winter temperatures, eliminated the need for shoring.

Between 1903 and 1941, hydraulicking (or hydraulic mining) and steam drilling and shoveling were the methods of choice for miners who could not afford to dredge. In hydraulic mining, the gold-bearing gravel was washed with a jet of water that passed through a high-velocity nozzle (monitor or water cannon). On the Inmachuk, the Fairhaven Ditch, which conveyed water from Imuruk Lake some 40 miles away, provided sufficient head for the water cannons. This powerful jet of water produced a slurry that passed through a sluice or long lines of sluice boxes to separate and recover gold. A.V. Cordovado operated the largest hydraulic mine in northern Alaska on No. 5-½ Below Pinnell and No. 6 Below Pinnell (Figure 5) in 1929 (USGS, 1929). These claims were located between ¼-and ½-mile above Utica Camp. Bedrock was typically encountered beneath 15 to 25 feet of alluvium along the Inmachuk. Steam shovels and steam drills (after about 1933) supplemented hydraulicking and enabled processing of the upper 2-3 feet of bedrock ore.

The first dredge on the Inmachuk, a bucket dredge, was hauled from Nome to the Inmachuk via a tractor trail in 1912 (Nome Nugget, 1914). Because the Inmachuk was so remote and dredging was expensive, few bucket dredges are known to have worked the river during the dredging periods of 1912-18, 1931-40, and 1946-63. Three relic dredges exist on the river today; two are located within 4 miles below Utica Camp, and the third near the confluence with the Pinnell.

Mercury in Placer Mining

Mercury amalgamation was the method of choice for gold recovery for 150+ years of placer mining in the western U.S. and Alaska. Potential risk to human health and the environment are associated with mercury use at historic placer mines. In amalgamation, alluvium (placer deposits) and pulverized rock (bedrock lode) was washed through sluices or sluice systems charged with mercury (or quicksilver). Because gold has a high affinity for mercury and bonds easily with it, an amalgam of mercury and gold/silver-bearing aggregate forms on plates or riffles designed to trap the gold. Workers would scrape the amalgam off the plates/riffles and heat or smelt it to vaporize the mercury for collection and reuse, leaving the gold. Amalgamation is a physical mixing process that works only with free-milling ores. Cyanidization is a more modern chemical process of separation, whereby crushed ore is ground into fine powder that is chemically treated with cyanide to dissolve the gold.

With hydraulicking, bulk mercury was introduced into sluices. Larger aggregate in the sluice would cause the mercury to *flour* into tiny particles upon collision. A U.S. Geological Survey fact sheet on historic gold mining in California indicates that flouring, combined with the large volumes of turbulent water passing through the sluice, and settlement in bottom fines resulted in losses of mercury into tailings from 10 to 30 percent per season (Alpers and Hunerlach, 2005).

Mercury is also introduced at the dredge, after buckets convey alluvium up to the sluice line. Depending of the sluice/sieve configuration on the dredge, mercury laden tailings are left in the wake of the dredge after the gold/silver-mercury amalgam is separated. Dredge tailing piles can be wholly composed of mixed aggregate and fines, or may comprise segregated layers of sluice tailings (sand, silt and clay fines) and stacker tailings (gravels, pebbles and cobbles). Sluice tailings often contain higher concentrations of mercury due to smaller pore spaces and larger specific surface area en masse.

3.3 Property Use Information

Review of historical records indicate the entire 7-mile area of interest (Utica Camp inclusive) along the Inmachuk River endured heavy placer mining over the period between 1900 and 1980. Artifacts strewn along the river drainage through this area are testament to the mining history, methodology and development, and related activity. Association can be made between the location of remnant mining camps and level of worked areas (sediment ponds and tailing piles) that exist along the river.

NANA, the current owner of the area of interest, has left Utica Camp to the elements. We did not observe indications of on-going mining, building and equipment rehabilitation, or other signs of work activity within the 4-mile stretch of the river we traversed during our reconnaissance of the Utica area. Our reconnaissance indicates that land within the area of interest is solely used for subsistence hunting, fishing, and gathering.

4 RECORDS REVIEW

The purpose of this records review is to gather and review environmental information about the area of interest from available sources. Available sources of information can be public access, agency and private records. This information review enables SLR to attempt to identify previous activities which may have had or continue to have potential environmental impact on the subject property. Information to further support understanding of historical development of property is included.

Data gaps identified during the document review were filled by interviewing knowledgeable parties and by visual observations during our site reconnaissance (see Section 5). Discrepancies and/or information gaps in reported information are discussed where applicable. An exhaustive literature review of historical mining in the Innachuk River drainage was not performed for this Phase I ESA report.

4.1 Aerial Photographs

Aerial photographs from AeroMap U.S., Inc. and satellite imagery from the GeoData Center, in the University of Alaska Fairbanks Geophysical Institute, were reviewed to evaluate land use and changes in the area of interest over time. The available photographs/imagery were from June 1978, September 1980 and October 1998. 1949 high resolution images from the U.S. Geological Survey, National Center for EROS did not arrive in time for this printing. Annotated 1978, 1980 and 1998 aerial photographs are included in Figures 2 through 4.

June 1978 Satellite Image

The 1978 satellite image shows the middle and upper reaches of the Innachuk River, a portion of the Pinnell River, and other tributaries. In stark contrast is the 7-mile section of the Innachuk (area of interest) that was heavily mined, when compared to lesser mined drainages such as the lower section of the Pinnell River. Figure 2 is the 2.5-mile length of river that encompasses Utica Camp, magnified to illustrate the extent of mining and to enhance mined features, e.g., tailing piles and sediment ponds, in this heavily worked area. The large pond located just below Utica Camp is a suspected sediment pond that may have been recently worked, as suggestive of its distinct light blue coloration. Further magnification suggests that lighter, off-white locations along the river near Utica Camp may be associated with recently worked areas of that time. Burned tracts of land along the east bank of the river are visible as darkened terrain in the right half of this image.

September 1980 and October 1998 Aerial Photographs

When compared with the 1978 image, the September 1980 aerial photograph shows little if any changes to the Inmachuk River course of mine features. No indications or recent mining are evident in this photograph. Utica Camp appears abandoned. The Utica Camp landing strip is visible at upper right. Other possible sediment ponds are visible on the west banks of the river, between Utica Camp and the airstrip.

No significant changes are noted between the 1980 and October 1998 aerial photographs. Coloration in the 1998 aerial better distinguishes topographic features of the landscape. For example, the rocky ridgeline above the west bank of the river is distinct in the left half of the image.

Footnote

Further comparison of all three images does not indicate significant change in course of the Inmachuk River from 1978 through 1998. One noticeable minor change in the river is observed at a subtle bend in the river located east and slightly downstream of the farthest north of the Utica Camp North Dumps (Figures 2 and 4). The main channel of the river is well established at this bend where the river was more braided in 1978. Changes in river stage from early summer to fall are noticeable when looking at the comparative extents of water and river braiding.

4.2 Environmental Records Search

SLR contracted Environmental Data Resources, Inc. (EDR) to compile an ASTM Radius Map Report with Utica Camp as the focal point. The EDR report is a standard environmental records compilation of state and federal databases that meets the requirements of ASTM E 1527-00. In addition, SLR reviewed the ADEC Contaminated Sites Database to substantiate the EDR report.

The EDR search queries government databases according to the ASTM standard practice for a specific search radius in relation to the focus property (Utica Camp), expanding the search distance out from the focus property to include properties within a 1-mile radius. The EDR report No. TC01449156.1r summarizes the details of the database search.

The following USEPA database sources were reviewed in accordance with the federal ASTM standard:

- National Priorities List (NPL)
- Proposed NPL List
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Information System
- CERCLA No Further Remedial Action Planned List (CERC-NFRAP)
- Corrective Action Report

- Resource Conservation and Recovery Act (RCRA) Information System (RCRIS) of large and small quantity [waste] generators
- Emergency Response Notification System (ERNS)

The following supplemental USEPA records were queried:

- Superfund (CERCLA) Consent Decrees
- NPL/CERLCA Records of Decision
- National Priority List Deletions (Delisted NPL)
- Facility Index System (FINDS)
- Hazardous Materials Information Reporting System
- Material Licensing Tracking System
- Mines Master Index File
- Federal Superfund Liens (NPL Liens)
- Polychlorinated Biphenyls (PCB) Activity Database System
- Department of Defense (DOD) Sites and Formerly Used Defense Sites (FUDS)
- Open Dump Inventory
- Uranium Mill Tailings Sites
- Indian Reservations
- A Listing of Brownfields Sites and Identified and/or Proposed Brownfields Sites
- RCRA Administrative Action Tracking System
- Toxic Chemical Release Inventory System
- Toxic Substances Control Act (TSCA) Inventory
- Federal Insecticide, Fungicide & Rodenticide Act (FIFRA) / TSCA Tracking System

The following ADEC and Region 10 USEPA database sources were reviewed in accordance with state ASTM standard:

- Contaminated Sites Database
- Solid Waste Facilities
- Underground Storage Tank (UST) Database
- Leaking Underground Storage Tank (LUST) Database
- Underground Storage Tanks on Indian Land
- Voluntary Cleanup Program Sites

The following supplemental state or local records were queried:

- Contaminated Sites with Institutional Controls
- Regulated Aboveground Storage Tanks (AST)
- Spills Database (AK Spills)

4.3 Government Database Search Results

An executive summary of the search results is provided in the EDR report on Executive Summary pages 1 through 3. An overview map and detail map are provided in the EDR report immediately following the Executive Summary. A Map Findings Summary is provided on pages 4 and 5 of the EDR report. This summary identifies the number of environmental facilities/sites by database classification, and proximity to the focus site. An Orphan Summary of sites that are listed in the various databases with inadequate address information and/or location is included as page 7. Location and proximity of orphan sites to the focus site were determined through other means (e.g., map review, additional database inquiry, or interview).

Utica Mine (focus site) is not listed in any of the federal or state databases identified in Section 4.2 and reviewed for this search. It is however, being considered as a Proposed Brownfields Site. No adjacent properties or property within a 1-mile radius of Utica Camp was identified with environmental concerns in the EDR report. The ADEC Contaminated Sites Database does not identify any contaminated site within a 1-mile radius of Utica Camp. Based on the EDR findings and review of ADEC Contaminated Sites Database, the nearest contaminated site to Utica Camp is an orphan site identified at "Lava Lake". This site is located approximately 30 miles southwest of Utica Camp. ADEC maintains file number 475.38.003 for this site.

A copy of the EDR report is included in Appendix B.

5 SITE RECONNAISSANCE

SLR staff visited the area of interest from June 6-9, 2005. Our reconnaissance included documentation of Utica Camp and mining artifacts along the Inmachuk River. GPS positions of artifacts are recorded and correlated with photographs of artifacts. Observations of perceived environmental concerns are discussed. This information fosters understanding of previous activities which may have had or continue to have potential environmental impact on the area of interest, and presents an overview of the historic mining setting as it exists today.

5.1 The Land and Artifacts

The reconnaissance team used ATVs and the gravel road along the river to locate mining artifacts. Artifacts were documented from approximately $\frac{3}{4}$ - mile above Utica Camp, where the road is washed out, to about 4 miles below this camp (road mile 14 from Deering). Artifacts observed scattered across worked areas of the river include horse drawn equipment, old cars and trucks, dozers and a crane, dredges, ball and roller mills, various sluices, iron pipes and pipelines, boilers and tanks, and other miscellaneous equipment. The river in this stretch is replete with tailing piles, dredge cuts, and sediment ponds of various sizes and shapes; artifacts are scattered throughout these surface features. Table 2 is a listing of mining artifacts encountered, correlated with GPS coordinates and photographs. The referenced photographs are included in Appendix D.

5.2 Utica Camp Infrastructure

Utica Camp today comprises 23 wood frame buildings arranged around a loop spur off of the river road and two pairs of dumps, one pair located at the south end of the camp, the other at the north end. Some buildings have wood floors on framing that allows the buildings to be moved around. Once in place, these buildings' floors are raised above the ground a few inches. Other buildings have no constructed floors and reside on bare ground. Figures 9 and 10 show the camp with buildings numbered. Figures 11 and 12 show a magnified satellite image of Utica Camp with features highlighted, and photographic highlights of the north and south dumps.

Referring to Figures 9 and 10, the buildings are identified:

- Buildings 1, 2, 4, and 8 through 12 appear to have been used as residence quarters;
- Building 3 was a residence quarter converted to a shower house;
- Building 5 is a mobile home unit likely used as an office;
- Building 6 may have been an equipment storage warehouse;
- Building 7 may have been an oil/fuel storage and/or fuel service depot;

- Building 13 was the mess hall with a small service shop and file cabinet storage;
- Building 14 appears to have been a fish/meat hanging shed;
- Building 15 was a primary residence with a small work shop;
- Building 16 has three sections: the south section was used for coal storage, the middle section may have been used for assaying, and use of the north section is unknown;
- Building 17 was a crusher or mill house;
- Building 18 was a heavy equipment parts store;
- Building 19 was a large service garage with three sections: the north section appears to have been storage, the other two sections were used to service heavy equipment;
- Building 20 was likely the well house;
- Building 21 was likely a power station;
- Building 22 was apparently used for fuel drum and hose storage; and
- Building 23 is known as Sergeant Grandfield's smokehouse.

A photographic log of the Utica Camp buildings and their interiors is included in Appendix D.

Referring to Figures 11 and 12, the dumps are described:

- North Dump #1 comprises four debris fields between tailing piles and adjacent a wetland. Two are waste areas comprising miscellaneous metals, appliances and camp/household wastes (Figure 11, upper right photograph), one is a pit filled with 5- and 55-gallon drums, oil filters and miscellaneous refuse (Figure 11, lower left photograph), and the fourth area is a rill littered with 55-gallon drums (Figure 11, lower right photograph). The wetland marsh to the west was draining through this rill during our site visit; the rill drains to the gravel road and on to the Inmachuk River located a few hundred yards to the east.
- North Dump #2 is a tailings area littered with used mining artifacts: pipes, plates, miscellaneous metallic objects and some drums.
- South Dump #1 is a waste dump built over a pond. The dump appears to be layered with vast quantities of heavy equipment and mine machinery parts, cylinders, drums, batteries, and other miscellaneous metallic debris (Figure 12, lower left and bottom middle photographs). Waste from this dump has spilled over into the pond along the dump's eastern edge; a truck may be submerged in the pond (Figure 12, upper and lower right photographs). Drainage from the remnant pond is via percolation; overflow would drain off to the south and southeast toward the river.
- South Dump #2 is a gravel pad or tailings area littered with used mining artifacts: a steam drill rig, dredge buckets, an automobile, pipes, plates, gears, miscellaneous metallic objects and few drums.

Other remnant structures exist at Utica Camp. Examples include a pair of collapsed timber caches located between buildings 21 and 22, and remains of sod-wood buildings behind Building 18 and adjacent to Building 16. The sod buildings may be examples of older structures that pre-date the consolidation of buildings at Utica Camp.

5.3 Environmental Concerns

Reconnaissance at Utica Camp revealed a number of environmental concerns. Remnant buildings that were apparently used to store petroleum products and/or service machinery and vehicles exhibit stained ground or floors, or both. Several of these buildings contained fuel drums in various states of decay and fullness. Building 19, the main service garage, had open-ended containers of chemical wastes. Other buildings exhibited fuel-stained floors where oil heaters once existed.

Inspection of the Utica Camp buildings suggests that many were renovated and/or refurbished with new flooring, wall board, and ceiling textures probably during the period when GEM Exploration worked from the camp. Many of these finishes are considered suspect for asbestos-containing materials (ACM). Painted interior surfaces are considered suspect for lead-based paint. The Utica Camp buildings photo log in Appendix D shows the many finishes that exist inside the camp buildings.

Old fuel drums, cracked batteries, and other miscellaneous tanks/containers can be found outside some buildings. Numerous abandoned machinery, heavy equipment and engines with stained soil underneath litter the ground between buildings 19 and 20 and 21. Stained soils and denuded ground suggest a history of spills/leaks at the camp dumps, particularly at South Dump #1 and North Dump #1. Heavy metal accumulations in soil may be significant at the four dumps; impacts to ground water and pond and rill sediments at the dumps are suspected. Heavy-metal laden runoff is a concern at North Dump #1. Analytical results from soil testing confirm the presence of petroleum and heavy metals contamination in buildings and at dumps. These findings are further discussed in Section 6.

In general, the aforementioned environmental concerns may also pertain to other remnant camps within the area of interest along the Innachuk River. Other camps are known to have existed in the area, but the locations of some have yet to be determined.

In general, the majority of mining artifacts observed along the river are benign with respect to environmental impact, with exception of the dredges. This is to say that other than for iron oxidation and local metal accumulation in underlying soils, most artifacts are not considered to have negative environmental impact on the land. Dredges, on the other hand were powered by coal and later fuel; their hulls, now flooded, bear further investigation.

6 LIMITED SITE CHARACTERIZATION

Limited site characterization of soils at Utica Camp was performed during our site reconnaissance trip. The intent of this limited assessment was to confirm/deny the presence of contamination at locations with high potential for contamination as identified in the field. Our limited site characterization was confined to surface soil sampling only at Utica Camp and related dumps.

6.1 Surface Soil Sampling

Through reconnaissance of Utica Camp buildings, surrounding grounds, and the north and south dumps, SLR identified locations with likelihood of soil contamination. Initial samples were collected for organic vapor analysis using a photoionization detector (PID). These samples were collected in a zip-loc baggies and field-screened with the PID to infer presence of organic contaminants. Field-screen samples were allowed to warm in the sun for about 15 minutes before finger agitation and insertion of the PID probe to assess headspace. However, PID measurements at five of the ten locations sampled were low, despite obvious presence of contaminants as detected with the senses. We surmised that organic contamination was weathered and residual, and that light hydrocarbon fractions were lost to the atmosphere long ago. In addition, the degree of saturation of some samples appeared high, as a consequence of high moisture contents or contamination, or both.

A total of eleven samples (one duplicate inclusive) were collected for laboratory analysis. Soil samples were collected from the uppermost few inches of soils in buildings 7, 16, 19, and 21, from behind Building 17, at a leaking drum outside Building 22, and at two dump locations. One duplicate sample was collected from the ground in Building 19. Soil samples for analytical testing were collected using nitrile gloves, a digging spoon, and single-use sterile sample scoops. The digging spoon was decontaminated with Liquinox® detergent and water, followed by a distilled water rinse, and then dried with a paper towel before reuse. The representative samples were collected in laboratory-supplied jars which were labeled and logged before being placed into coolers with ice-substitute for cold storage until submittal to the laboratory. A chain-of-custody and seal accompanied each cooler of samples to North Creek Analytical (NCA) laboratory in Anchorage, Alaska as a quality control measure.

Soil samples were hand-delivered to NCA for laboratory analysis of gasoline, diesel, and residual range organics (GRO, DRO and RRO) in accordance with Alaska Methods 101, 102 and 103, respectively, benzene, ethylbenzene, toluene, and xylenes (BTEX) in accordance with EPA Method 8021B, and Resource Conservation and Recovery Act (RCRA) Metals in accordance with EPA Method 6020; mercury was analyzed for using EPA Method 7471A. Samples were analyzed for specific contaminants of concern (CoC) based on historical

information and perceived source or presence of contamination. Table 2 summarizes the testing schedule, PID data and analytical results. Sample locations are identified and correlated with reference photographs (see Appendix C, Photo log of soil sample locations at Utica Camp). Table 3 includes ADEC regulation 18 AAC 75.340, Method Two soil cleanup criteria and EPA guidance criteria for soil screening for purpose of comparison. The ADEC criteria are “under 40 inch zone, migration to groundwater” values, as applicable to this site. (Although the Inmachuk River is in the Arctic, much of its drainage remains unfrozen year-round.) The NCA laboratory analytical report with quality control review is included in Appendix C.

6.2 Quality Assurance/Quality Control

Quality assurance and quality control (QA/QC) procedures are used to assure sampling, documentation and laboratory results are of acceptable quality and are deemed reliable. QA procedures used to validate results include standard field sampling techniques, sample duplication, laboratory QC, and analysis of trip blanks.

Our field sampling procedures follow ADEC quality assurance program plan guidelines. Sample duplication was performed at a minimum frequency of ten percent of the total number of samples collected, with at least one duplicate collected for each analytical method used. Laboratory QC measures included analysis of method blanks, matrix and matrix spike (MS) samples with duplication, and laboratory control spiked (LCS) samples with duplication. Surrogate recoveries and relative percent difference (RPD) calculations between MS and LCS samples and their associated duplicates are integral to laboratory QC.

A trip blank, which accompanies a sample kit through the duration of sampling and during transit to and from the laboratory, is by design as a negative control for field sampling procedures. If analysis detects contamination in a ‘clean’ trip blank, cross-contamination resulting from poor handling of samples in the field is indicated. However, contaminants (e.g., cleaning agents, refrigerants, surrogates) can accidentally be introduced into a trip blank at the laboratory during sample kit preparations. A trip blank was analyzed for GRO and BTEX for this project. Field duplication of soil samples is a better way to assess the quality of sample collection and storage procedures, and the precision of laboratory testing.

In addition to the standard QA/QC procedures outlined above, SLR performed a quality assurance review (QAR) of the NCA laboratory report, supplemented with field-duplicate precision calculations for each field sample and its duplicate counterpart. Expressed as RPDs for individual analytes or parameters detected above reporting or method detection limits in both samples, these RPD values are a way for us to assess data quality objectives. RPD is defined as

$$RPD = 100 \times \frac{(\text{field result} - \text{duplicate result})}{(\text{field result} + \text{duplicate result}) \div 2}$$

Our data quality objectives for petroleum contamination in soil is ± 50 . When RPDs exceed these precision goals, review of sampling procedures and laboratory case narratives and data qualifiers is warranted to assess reliability of the affected results. Examples of phenomena that can cause elevated RPDs include collection of co-located rather than true duplicate samples (common with surface soil sampling and sampling from excavations), laboratory results flagged as 'estimated' due to surrogate recoveries outside control limits or matrix effects, and poor laboratory analysis. In general, our review of the NCA laboratory report indicated overall satisfaction with precision, accuracy, and completeness of the analytical results. The QA/QC measures that were applied to sampling and analyses are sufficient to warrant reliability in the results. Our Quality Assurance Review of the NCA report is included in Appendix C.

6.3 Analytical Results

High concentrations of DRO and RRO were reported in eight of nine samples tested for petroleum. Benzene was reported above the ADEC cleanup level and EPA soil screening guidance level in two samples. Arsenic was reported above ADEC and EPA regulatory standards in the nine samples tested for RCRA Metals, cadmium in one sample, chromium in five samples, silver in one sample, lead in four samples, and mercury in four samples. A breakdown of contaminant exceedence by building and site follows:

Building 19

Three samples were collected from this building.

Petroleum:

- Concentrations of DRO in the three samples ranged from 5,030 to 9,970 milligrams/kilogram (mg/kg) soil.
- Concentrations of RRO in two samples were reported at 31,600 and 48,400 mg/kg soil.

Metals:

Arsenic was reported at 25.8, 26.2 and 28.2 mg/kg soil in the three samples.

Cadmium was reported at 29.5 mg/kg soil in one sample.

Chromium (total) was reported at 61.0, 67.9 and 314 mg/kg soil in the three samples.

Silver was reported at 62.8 mg/kg soil in one sample.

Lead was reported at 451 and 622 mg/kg soil in two samples.

Mercury was reported at 2.45 and 10.6 mg/kg soil in two samples.

Building 7

One sample was collected from this building.

Petroleum:

- DRO was reported at 7,180 mg/kg soil.
- RRO was reported at 63,700 mg/kg soil.

Metals:

Arsenic was reported at 14.2 mg/kg soil.

South Dump #1 (near Bldg. 7)

One sample was collected from this dump site.

Petroleum:

- DRO was reported at 20,100 mg/kg soil.
- RRO was reported at 75,300 mg/kg soil.

Drum spill adjacent Building 22

One sample was collected from this site.

Petroleum:

- DRO was reported at 31,100 mg/kg soil.
- RRO was reported at 111,000 mg/kg soil.
- Benzene was reported at 0.187 mg/kg soil.

Metals:

Arsenic was reported at 9.65 mg/kg soil.

Chromium (total) was reported at 38.6 mg/kg soil.

Lead was reported at 414 mg/kg soil.

Building 16

One sample was collected from this building. The sample was analyzed for RCRA Metals only.

Metals:

Arsenic was reported at 17.2 mg/kg soil.

Mercury was reported at 1.65 mg/kg soil.

Behind Building 17

One sample was collected from this site. The sample was analyzed for DRO, RRO and RCRA Metals:

Arsenic was reported at 508 mg/kg soil.

Lead was reported at 1470 mg/kg soil.

Mercury was reported at 125 mg/kg soil.

Building 21

One sample was collected from this building.

Petroleum:

- DRO was reported at 8,290 mg/kg soil.
- RRO was reported at 41,500 mg/kg soil.
- Benzene was reported at 0.109 mg/kg soil.

Metals:

Arsenic was reported at 82.7 mg/kg soil.

Chromium (total) was reported at 81.9 mg/kg soil.

North Dump #1 (pit)

One sample was collected from this site.

Petroleum:

- DRO was reported at 8,090 mg/kg soil.

- RRO was reported at 30,300 mg/kg soil.

Metals:

Arsenic was reported at 43.8 mg/kg soil.

Chromium (total) was reported at 81.9 mg/kg soil.

7 CONCLUSIONS AND RECOMMENDATIONS

Petroleum and heavy metals contamination exists in surface soils at Utica Camp. Petroleum contamination is from petroleum, oil, and lubricant (POL) liquids, most likely diesel fuel and waste oils from fueling, heating, heavy equipment and machinery service, and dumping practices. Examples of abandoned POL or other unknown chemicals include open-end containers in buildings 7 and 19, partially filled 5- and 55-gallon drums in buildings 6, 7, 18, 19, and 22, and at the dump sites.

Our limited site reconnaissance indicates that ground inside buildings 7, 16, 19 and 21 and north and south dump sites have been impacted by petroleum and heavy metals contamination. Ground under other buildings, including several former residence quarters are suspect for petroleum contamination. Other areas in camp that are devoid of vegetation and piles of soil fines may represent locations that have been impacted by contamination. Runoff from a wetland about 1-acre in size drains through North Dump #1; South Dump #1 was built over a pond. North Dump #2 and South Dump #2 contain predominately metallic refuse and mining artifacts.

At least four primary mining camps are known to have existed along the Inmachuk River area of interest. They are Utica, Hoogendorn (may be site of original Record City camp), Fries (now known as Black's Camp), and DeBuhr. Other lesser known camps probably existed. Historic literature suggests the remains of older smaller camps may have "sunk into the ground". SLR visited two camps; other former camp locations are unknown to us at this time.

In general, the majority of mining artifacts observed along the river are benign with respect to environmental impact, with exception of the dredges. This is to say that other than for iron oxidation and local metal accumulation in underlying soils, most artifacts are not considered to have negative environmental impact on the land. Dredges, on the other hand were powered by coal and later fuel; their hulls, now flooded, bear further investigation.

The likelihood that bulk mercury was used in this placer mine setting is high. Its presence in soil has been confirmed at Utica Camp. A plausible scenario is which mercury was used at Utica Camp is construed from soil sample 17-1 results (Table 3) and understanding of the Building 17 crushing operation. Referring to Appendix D, photograph 9 of the 'Photo log of soil sample locations in Utica Camp', and photograph 32 of the 'Utica Camp buildings photo log', soil sample 17-1 was collected from a pile of soil fines behind Building 17. The composition of this approximately 8-inch deep pile is several layers of different colored mineral soil. Remains of the crushing setup is seen inside Building 17. A crusher (now

removed) was positioned between engine mount and cylinder with red belt drive (photograph 32). A sluice box protruded through an opening in the back wall, behind the belt-drives. As crushed material was sent down the sluice, mercury was added to separate the gold (amalgamation). After amalgam was removed, residual fines were piled in the area of sample 17-1. The high concentrations of arsenic, lead and mercury in this sample attest to the metals accumulation scenario. Furthermore, a truck's wear pattern leading from this pile area suggests that sluice tailings were hauled from this pile to another location for disposal. With placer mining, sediment ponds are dredged ponds that have been used for disposal of sluice fines. Mercury in tailings, sediment ponds, and surface and ground water is suspect in this heavily worked placer mined area.

7.1 Recommendations

General recommendations are made with consideration for the people of Deering and remediation of the placer mined section of Inmachuk River that is the area of interest for this project.

The following recommendations are made with respect to investigation of mercury and heavy metals contamination:

- The Deering water supply (i.e., Inmachuk River at pump station) should be tested for RCRA Metals. Results should be compared with ADEC drinking water standards and historical data for sufficiency. This recommendation is made because the water and sewer utilities in Deering failed during the past winter, and the village is now drawing water supply directly from the Inmachuk at a pump station near the airport.
- A Topographic Survey should be performed to:
 - 1) Delineate mined areas and features (i.e., classify tailing piles, sediment ponds, etc.).
 - 2) Identify and classify all mining artifacts by type/class.
 - 3) Identify all camps and their former locations.Additional research is warranted for this recommendation.
- A Geochemical Study of Metals should be performed. The fourteen toxic metals found most frequently at Alaska placer mines are aluminum, antimony, arsenic, calcium, copper, chromium, cadmium, magnesium, mercury, nickel, lead, selenium, silver and zinc. The study should evaluate metals distribution in camp soils, tailing piles, sediment ponds and the Inmachuk River. Emphasis should be given mercury speciation with focus on presence and distribution of elemental mercury, ionic mercury (Hg(II)) and methyl-mercury (CH_3Hg^+) and evaluation of transformation processes, mercury mobility, and extent of mercury bioaccumulation in the food chain.

- A Background Study of Arsenic should be performed to assess natural versus anthropogenic occurrences. A Geochemical Study of Arsenic should be subject to findings of the Background Study of Arsenic.

The following recommendations are made with respect to investigation at Utica Camp, with consideration for potential camp restoration and ecotourism:

- A building survey for ACM and LBP (lead-based paint) should be performed on all structures. The survey should quantify materials and include representative sampling and analyses.
- Comprehensive site characterization for petroleum and heavy metals contamination. This effort should include provision for waste characterization, containment and management. Reporting should include recommendations for corrective action as necessary.

8 REFERENCES

- Hovis, Logan, 1999. *Proposed Deering-Inmachuk River NHL Study: Northern Placer Mining and Native Labor*" (draft mss., October, 1999).
- United States Department of the Interior, Bureau of Indian Affairs, Alaska Region, 2002. *The Report of Cultural Resource Investigations, The Deering Road Project No. 466, Deering, Alaska*, prepared by John Allison.
- Alpers, N. Charles and Michael P. Hunerlach, 2005. *Mercury Contaminatino from Historic Gold Mining in California*, United States Geological Survey Fact Sheet FS-061-00.

LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

The purpose of an environmental assessment is to reasonably evaluate the potential for or actual impact of past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation is thorough enough to exclude the presence of hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

Environmental conditions may exist at the site that cannot be identified by visual observation. Where subsurface work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at unsampled locations.

Except where there is express concern of our client, or where specific environmental contaminants have been previously reported by others, naturally occurring toxic substances, potential environmental contaminants inside buildings, or contaminant concentrations that are not of current environmental concern may not be reflected in this document.

TABLES

Table 1
Inmachuk River
Area of Interest
Mining Claims Ownership Chain

Number	Claim Name	BLM Number	Ownership Chain (most current to back)	
1	No. 4 Below Hannum	FF065155	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
2	No. 5 Below Hannum	FF065156	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
3	No. 7 Bench Below Hannum	FF065137	1929	D.H. Hoogendorn
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
4	No. 6 Below Hannum	FF065157	4	Sobocienski Stanley L
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
5	No. 14 Bench Below Hannum	FF065134	4	Sobocienski Stanley L
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
6	No. 8 Bench Below Hannum	FF065140	4	Sobocienski Stanley L
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
7	No. 7 Below Hannum	FF065136	4	Sobocienski Stanley L
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
8	No. 9 Bench Below Hannum	FF065141	4	Sobocienski Stanley L
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H

Table 1
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Number	Claim Name	BLM Number	Ownership Chain (most current to back)	
9	No. 8 Below Hannum	FF065138	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
10	No. 1 Below Pinnell	FF065161	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
11	No. 21/2 Below Disc. on Pinnell	FF065153	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
12	No. 11/2 Below Disc. on Pinnell	FF065149	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
13	No. 1 Below Disc. on Pinnell	FF065151	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
14	Disc. of Pinnell Cr.	FF065146	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
15	Disc. Bench No. 1 on Pinnell	FF065147	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
16	No. 9 Fraction Below Hannum	FF065159	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L

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Number	Claim Name	BLM Number	Ownership Chain (most current to back)	
17	No. 12 Below Hannum Bench	FF065132	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
18	No. 9 Below Hannum	FF065158	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
19	No. 13 Below Hannum	FF065133	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
20	No. 2 Below Pinnell	FF065162	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
21	No. 3 Below Pinnell	FF065163	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
22	No. 4 Below Pinnell	FF065166	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
23	No. 4 Bench Below Pinnell	FF065167	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
24	No. 5 Below Pinnell	FF065164	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L

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Mining Claims Ownership Chain

Number	Claim Name	BLM Number	Ownership Chain (most current to back)	
25	No. 51/2 Below Pinnell Left Limit	FF065139	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
26	No. 51/2 Below Pinnell	FF065165	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
27	No. 6 Below Pinnell Left Limit	FF065142	1929	A.V. Cordovado
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
28	No. 7 Below Pinnell Left Limit	FF065143	4	Sobocienski Stanley L
			1929	A.V. Cordovado
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
29	No. 5 Bench Below Disc. On Pinne	FF065160	3	Nelson Grant H
			4	Sobocienski Stanley L
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
30	Disc. Bench No. 2	FF065148	3	Nelson Grant H
			4	Sobocienski Stanley L
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
31	Utica ASS	FF065135	3	Nelson Grant H
			4	Sobocienski Stanley L
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
32	No. 3 Bench	FF065150	3	Nelson Grant H
			4	Sobocienski Stanley L
			1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau

Table 1
Inmachuk River
Area of Interest
Mining Claims Ownership Chain

Number	Claim Name	BLM Number	Ownership Chain (most current to back)	
33	No. 4 Bench	FF065152	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
34	No. 4 1/2 Bench	FF065154	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
35	Black Horse Claims	FF065173	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
36	Rainbow	FF065171	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
37	No. 6 Below Pinnell	FF065168	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
38	Sunflower	FF065169	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
39	No. 8 Below Pinnell	FF065144	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
40	Polar Bear	FF065174	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L

Table 1
Inmachuk River
Area of Interest
Mining Claims Ownership Chain

Number	Claim Name	BLM Number	Ownership Chain (most current to back)	
41	Little Rainbow	FF065172	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
42	North Star	FF065176	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
43	Superior	FF065170	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
44	Eagle	FF065177	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
45	Homestake	FF065145	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
46	Good Luck Bench	FF065178	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
47	Arctic	FF065175	1993	NANA Regional Corp. Gem Exploration Co.
			2	Inmachuck Gold Corp. Attn: Rodger J. Martineau
			3	Nelson Grant H
			4	Sobocienski Stanley L
60	Lucky Dutchman Bench (opposite No. 2, 3, 4 and 5 Below Pinnell)	??	1929	H.I. Stull/Inmachuk Sublava Mining Co.

TABLE 2
MINING ARTIFACTS
(Vicinity of Inmachuk River road mileposts 14 to 18.7 - approx.)

No.	Artifact or Location	GPS Coordinates	Elevation (feet above MSL) ¹	Artifacts Photo Log (Appendix D): Photograph #
1	North entrance to Utica Camp	N 65° 54.017' W 163° 00.517'	206	1
2	South end of Utica Camp, at South Dump #1	N 65° 53.948' W 163° 00.652'	208	2 and Figure 12
3	[Utica Camp] North Dumps	N 65° 54.087' W 163° 00.412'	189	3 and Figure 11
4	Roller Mill	N 65° 54.208' W 163° 00.217'	196	4
5	South end of Utica Airstrip	N 65° 54.419' W 163° 59.812'	186	5
6	Black's Camp, vicinity of former Fries Camp (milepost 16)	N 65° 54.873' W 162° 59.258'	190	6
7	Dredge #2 (milepost 15.5)	N 65° 55.278' W 162° 59.258'	177	7
8	Dredge #1 (milepost 14)	N 65° 56.684' W 162° 58.319'	122	8
9	Artifacts 300 yards east of road, east bank of Inmachuk River	N 65° 56.331' W 162° 58.737'		no photo
10	Artifact iron pipe as culvert	N 65° 56.191' W 162° 58.803'	151	9
11	Mining artifacts	N 65° 58.121' W 162° 58.184'	155	10
12	Mining artifacts	N 65° 55.980' W 162° 58.817'	156	11
13	Crusher or ball mill and sieve	N 65° 55.929' W 162° 58.860'	160	12
14	Artifacts at road and 400 yards east of road, east bank of Inmachuk River	N 65° 55.628' W 162° 59.285'	176	13

Notes:

Milepost references with respect to gravel road along Inmachuk River; distances approximate from Deering.

MSL - mean sea level

¹ GPS estimate.

TABLE 3
SUMMARY OF SOIL ANALYTICAL RESULTS
UTICA CAMP - LIMITED SITE CHARACTERIZATION
(concentrations in mg/kg dry soil)

Sample ID	Date Sampled	Location	Sample Depth (fbgs)	PID (ppm)	Dry Weight (%)	DRO AK 102	RRO AK 103	GRO AK 101	BTEX EPA Method 8021B				Dry Weight (%)	RCRA Metals EPA Method 6020							RCRA Metals EPA Method 7471A
									Benzene	Toluene	Ethylbenzene	Xylenes		Arsenic	Barium	Cadmium	Chromium (total)	Selenium	Silver	Lead	Mercury
ADEC Method Two Soil Cleanup Levels EPA Guidance for Soil Screening ¹						250 ^a —	11000 ^a —	300 ^a —	0.02 ^b 0.002	5.4 ^b 0.6	5.5 ^b 0.7	78 ^b 10		2.0 ^c 1.0	1100 ^c 82	5.0 ^c 0.4	26 ^c 2.0	3.5 ^c 0.3	21 ^c 2	400 ^d —	1.4 ^c —
19-1	6/8/2005	Bldg. 19 floor; sample log photo 1.	surficial	8.6	94.9	5030	10200	ND[12.1]	ND[0.0486]	ND[0.121]	ND[0.121]	ND[0.182]	91.6	28.2	146	3.33	67.9	0.604	ND[0.588]	622	0.732
19-2	6/8/2005	Bldg. 19 floor adjacent chemical waste sump and bucket; sample log photos 2 and 3.	surficial	4.6	92.8	9970	48400	ND[2.55]	ND[0.0102]	ND[0.0255]	ND[0.0255]	ND[0.0382]	93.9	25.8	164	29.5	50.9	0.652	62.8	381	4.33
19-3		Duplicate of 19-2			90.8	6060	17800	ND[12.4]	ND[0.0497]	ND[0.124]	ND[0.124]	ND[0.186]	92.7	25.0	422	9.28	61.0	0.481	1.60	451	10.6
19-4	6/8/2005	Bldg. 19 floor adjacent engine skid; sample log photo 4.	surficial	9.4	95.2	18000	31600	ND[2.5]	ND[0.00999]	0.0401	ND[0.025]	0.0416 ^e	91.5	26.2	134	4.08	314	ND[0.5]	ND[0.5]	242	2.45
7-1	6/8/2005	Bldg. 7 floor (@ south dump #1); sample log photos 5 and 6.	surficial	—	96.6	7180	63700	ND[3.07]	0.0176	0.0978	0.0331 ^e	0.155 ^e	93.0	14.2	26.6	0.569	14.0	0.559	ND[0.5]	32.2	ND[0.1]
7-2	6/8/2005	South Dump #1, SW of Bldg. 7; sample log photo 7.	surficial	—	96.3	20100	75300	ND[2.56]	ND[0.0102]	ND[0.0256]	ND[0.0256]	ND[0.0384]	na	na	na	na	na	na	na	na	na
22-1	6/8/2005	Drum adjacent Bldg. 22; sample log photo 10.	surficial	51.3	90.1	31100	111000	ND[22.3]	0.187	ND[0.223]	ND[0.223]	ND[0.334]	74.3	9.65	1050	1.37	38.6	ND[0.5]	ND[0.5]	414	0.568
16-1	6/8/2005	Bldg. 16 floor, sample log photo 11.	surficial	—	na	na	na	na	na	na	na	na	85.7	17.2	85.8	2.40	11.4	0.895	ND[0.5]	64.6	1.65
17-1	6/8/2005	Behind Bldg. 17; sample log photos 8 and 9.	surficial	—	83.7	ND[25.0]	ND[50.0]	na	na	na	na	na	86.6	508	83.2	1.24	25.2	3.01	2.75	1470	125
21-1	6/8/2005	Bldg. 21 floor, at base of Witte generator; sample log photo 12.	surficial	—	90.5	8290	41500	ND[20.0]	0.109	0.704	0.390	1.54	93.0	82.7	95.6	1.75	81.9	ND[0.5]	ND[0.5]	116	0.264
D3	6/8/2005	North Dump #1, at debris pit; sample log photos 13. and 14	surficial	25.3	89.9	8080	30300	ND[27.9]	ND[0.112]	ND[0.279]	ND[0.279]	ND[0.418]	92.9	43.8	77.9	1.26	14.2	ND[0.5]	ND[0.5]	187	ND[0.1]
Trip Blank	6/8/2005		surficial	—	100.0	na	na	ND[3.33]	ND[0.0133]	ND[0.0333]	ND[0.0333]	ND[0.05]	na	na	na	na	na	na	na	na	na

Notes:

^a From 18 AAC 75.340, Method Two, Table B2, under 40 inch zone, migration to groundwater criteria.

^b From 18 AAC 75.340, Method Two, Table B1, under 40 inch zone, migration to ground water criteria.

^c From 18 AAC 75.340, Method Two, Table B1, under 40 inch zone, migration to ground water criteria.

^d From 18 AAC 75.340, Method Two, Table B1, ingestion and inhalation criteria by default.

^e Estimated value.

¹ EPA Preliminary Remediation Goals, Soil Screening Levels, migration to ground water (dilution attenuation factor =1) criteria.

ND - not detected above method reporting limit in brackets [###].

na - not analyzed

FIGURES

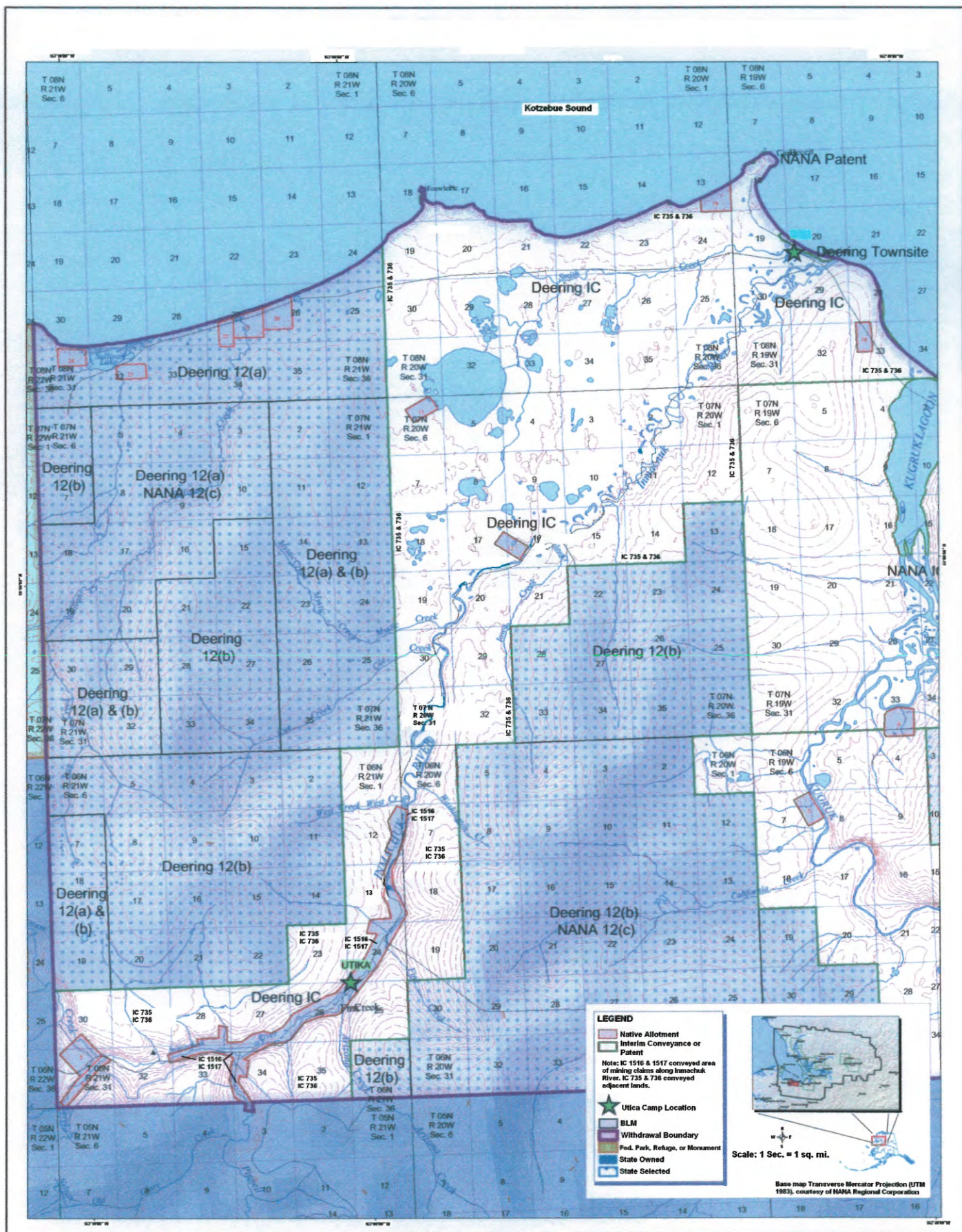


Figure 1. Site location map and area of interest.

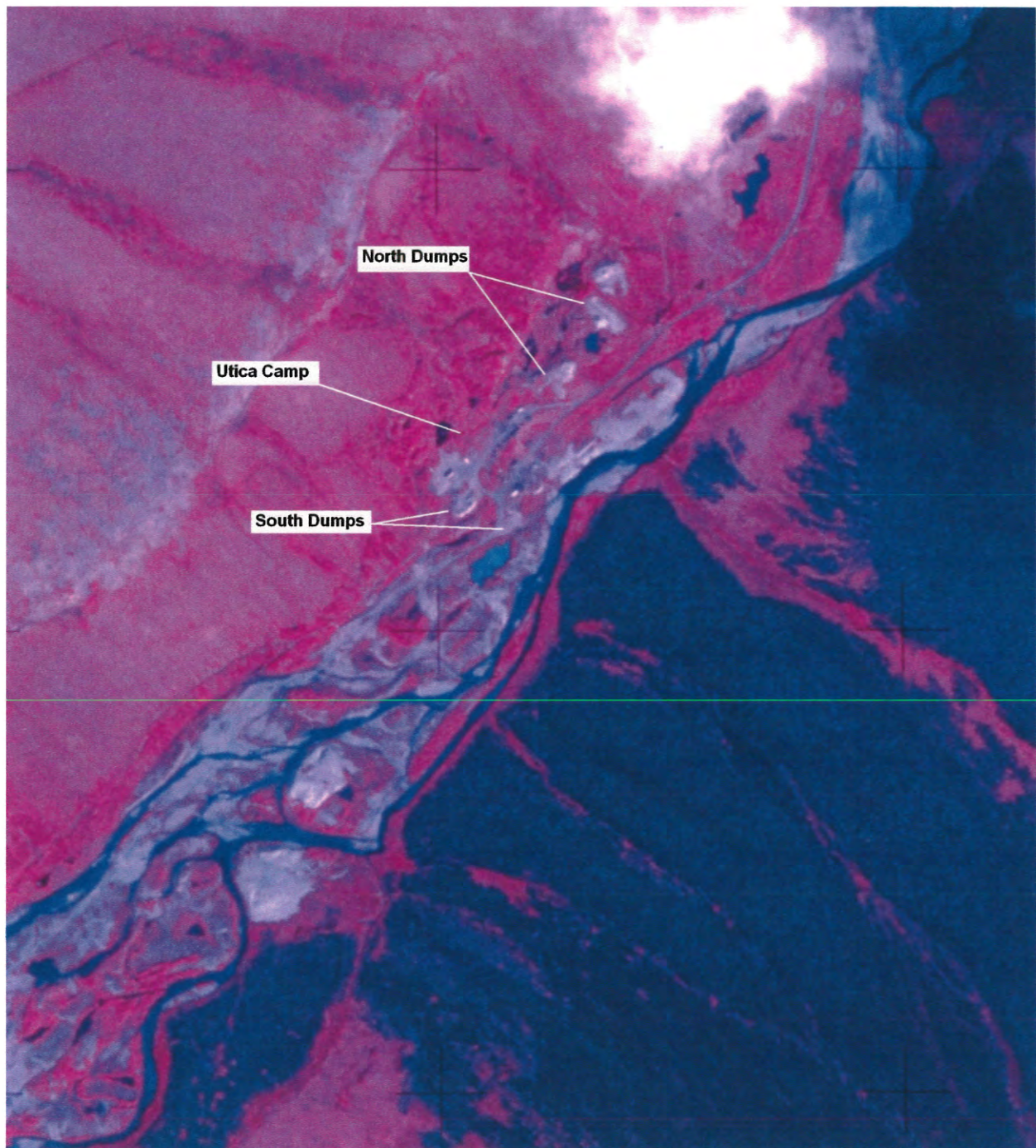


Figure 2. 1978 aerial photograph.

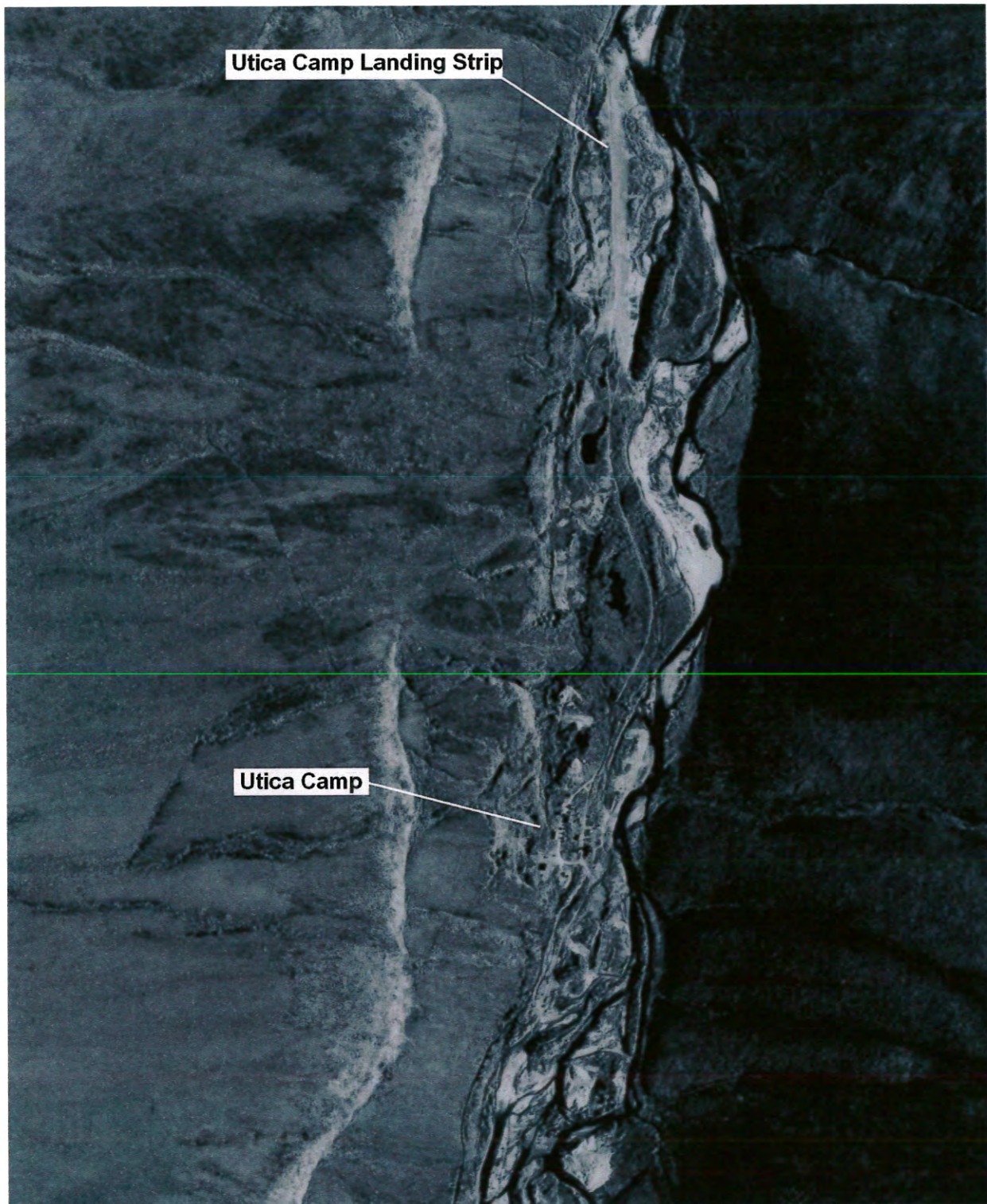


Figure 3. 1980 aerial photograph.



Figure 4. 1998 aerial photograph.

EXHIBIT C
(Attached to and Part of Sale of Personal Property
and Option Agreement, dated April 1, 1993)

**NOTICE OF RELINQUISHMENT
OF MINING CLAIMS**

The undersigned, Innachuk Gold Corporation, a Utah corporation, of 1573 East 5600 South, Salt Lake City, Utah 84121 ("IGC"), being the holder of the following listed mining claims ("Mining Claims") located in the Nome Recording District, Second Judicial District, State of Alaska:

<u>No.</u>	<u>Claim Name</u>	<u>BLM No.</u>
1	No. 4 Below Hannum	FF065155
2	No. 5 Below Hannum	FF065156
3	No. 7 Bench Below Hannum	FF065137
4	No. 6 Below Hannum	FF065157
5	No. 14 Below Hannum	FF065134
6	No. 8 Bench Below Hannum	FF065140
7	No. 7 Below Hannum	FF065136
8	No. 9 Bench Below Hannum	FF065141
9	No. 8 Below Hannum	FF065138
10	No. 1 Below Pinnell	FF065161
11	No. 2½ Below Disc. on Pinnell	FF065153
12	No. 1½ Below Disc. on Pinnell	FF065149
13	No. 1 Below Disc. on Pinnell	FF065151
14	Disc. of Pinnell Cr	FF065146
15	Disc. Bench No. 1 on Pinnell	FF065147
16	No. 9 Fraction Below Hannum	FF065159
17	No. 12 Below Hannum Bench	FF065132
18	No. 9 Below Hannum	FF065158
19	No. 13 Below Hannum	FF065133
20	No. 2 Below Pinnell	FF065162
21	No. 3 Below Pinnell	FF065163
22	No. 4 Below Pinnell	FF065166
23	No. 4 Bench Below Pinnell	FF065167
24	No. 5 Below Pinnell	FF065164
25	No. 5½ Below Pinnell Left Limit	FF065139
26	No. 5½ Below Pinnell	FF065165
27	No. 6 Below Pinnell Left Limit	FF065142
28	No. 7 Below Pinnell Left Limit	FF065143
29	No. 5 Bench Below Disc. on Pinnell	FF065160
30	Disc. Bench No. 2	FF065148
31	UTICA ASS.	FF065135
32	No. 3 Bench	FF065150
33	No. 4 Bench	FF065152
34	No. 4½ Bench	FF065154
35	Black Horse Claims	FF065173
36	Rainbow	FF065171
37	No. 6 Below Pinnell	FF065168
38	Sunflower	FF065169
39	No. 8 Below Pinnell	FF065144
40	Polar Bear	FF065174
41	Little Rainbow	FF065172
42	North Star	FF065176
43	Superior	FF065170
44	Eagle	FF065177
45	Homestake	FF065145
46	Good Luck Bench	FF065178
47	Arctic	FF065175

Figure 6. Interim Conveyance 1516 & 1517, Exhibit C, list of mining claims relinquished by Innachuk Gold Corporation on April 27, 1993.

STUDIES

ON MANNING CREEK
APPROXIMATELY 18 MILES SOUTHWESTERLY OF DEERING,
WITHIN TOWNSHIP 6 NORTH, RANGE 21 WEST,
KATEL RIVER WETIDIAN, ALASKA

APPROXIMATE GEOGRAPHIC POSITION
OF

CORNER NO. 1
IDENTICAL WITH CORNER NO. 4, NO. 12 FRACTION PLACER,
MINERAL SURVEY NO. 1106

15:

LATITUDE: 65° 53' 00.83" NORTH
LONGITUDE: 163° 09' 28.04" WEST
AREA: 159.88 ACRES
(NAD 27)

BY

WILLIAM W. MCCLINTOCK
REGISTERED ALASKA LAND SURVEYOR NO. LS-3460
FOR MANITOAG ASSOCIATION

JULY 9 THROUGH JULY 11, 1997

UNDER SPECIAL INSTRUCTIONS

DATED MARCH 25, 1994

APPROVED AUGUST 25, 1995

CONTRACT NO. 1423-N660-C96-3

Acceptances of this survey does not purport to transfer any interest in submerged lands to which the State of Alaska is entitled under the Equal Footing Doctrine and Section 6(m) of the Alaska Statutes Act, P.L. 85-508, notwithstanding the use, location, or absence of marker lines to depict water bodies.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Anchorage, Alaska

This plan is strictly conformable to the approved field notes, and the survey, having been correctly executed in accordance with the requirement of law and the regulations of this Bureau, is hereby

For the Director

Wendell C. Powers
(Acting)
Deputy State Director for Coastal Survey, Alaska

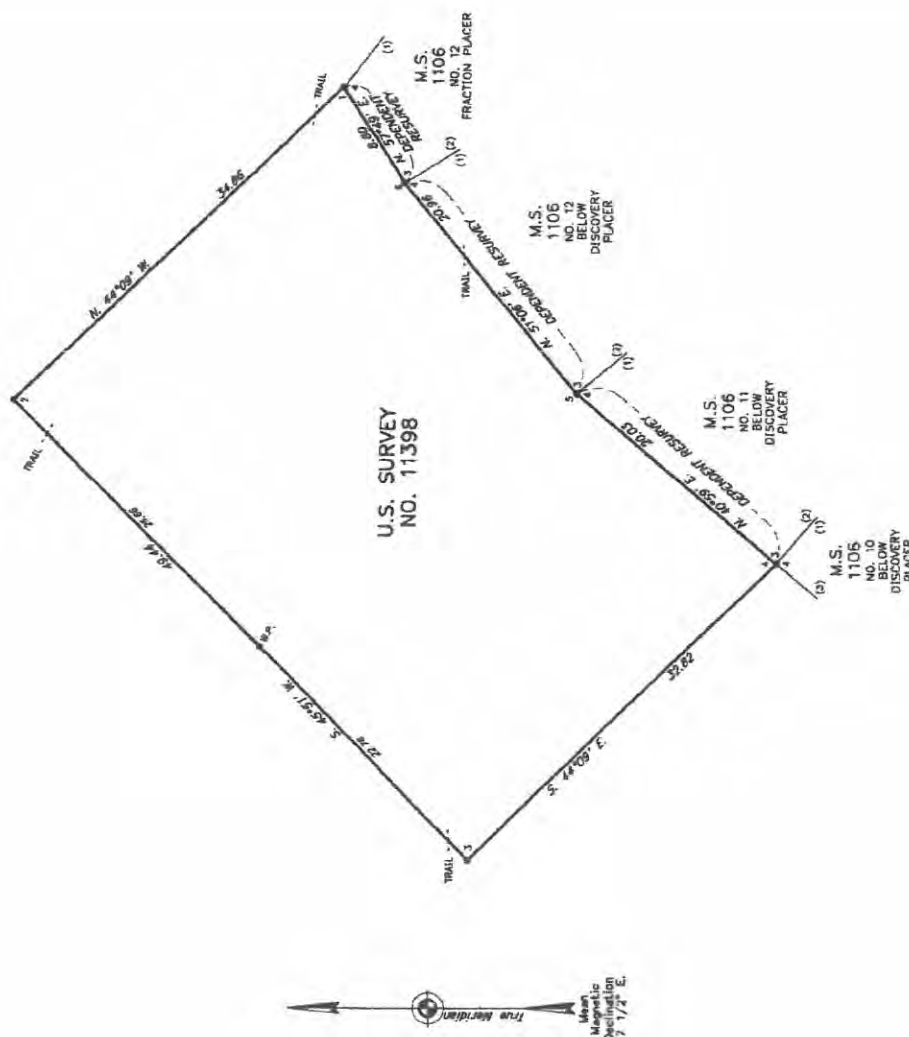


Figure 7. U.S. Survey No. 11398, July 9-11, 1997, as included in Interim Conveyance 1516 & 1517.

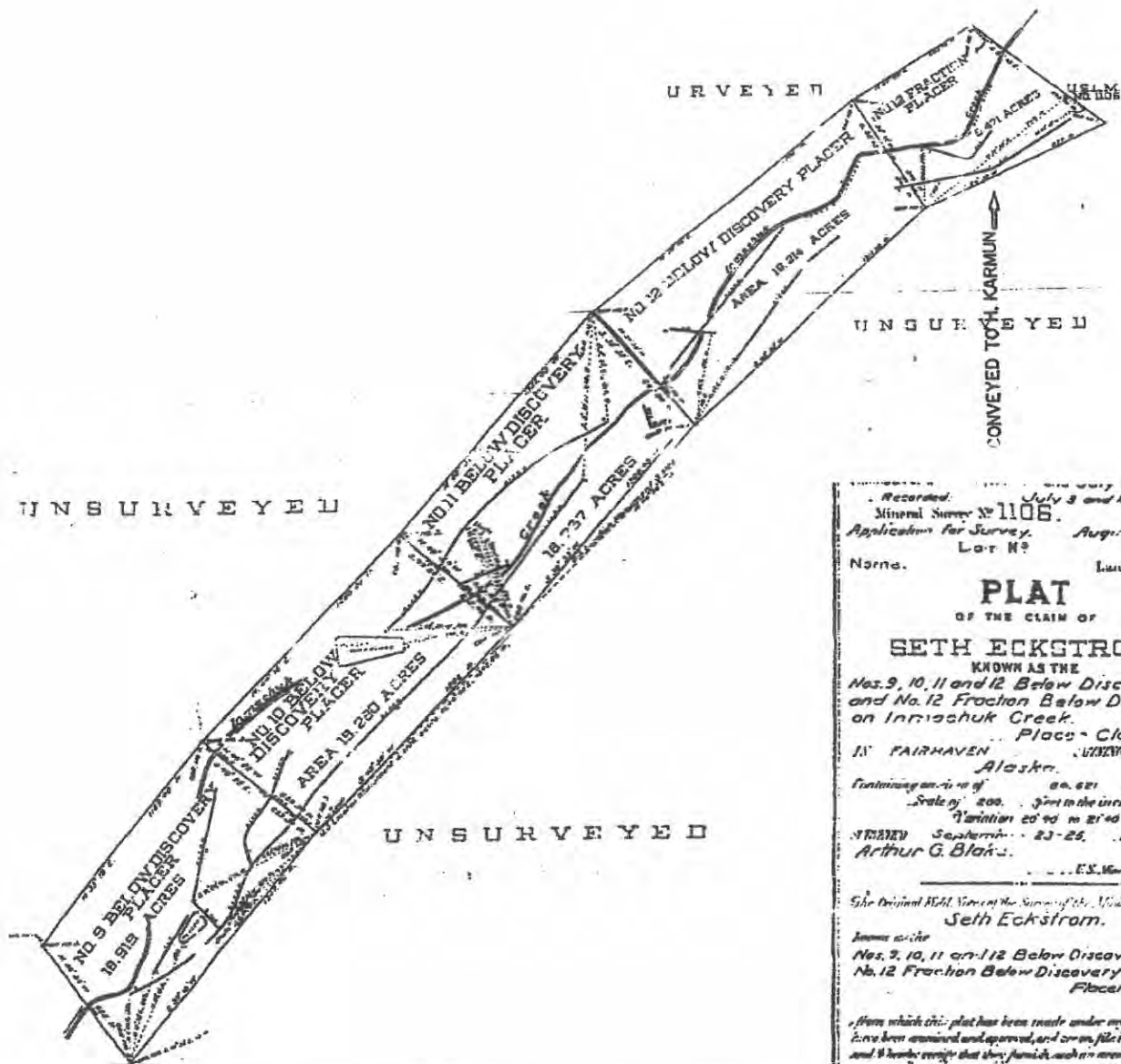


EXHIBIT A
(Attached to and Part of Sale of Personal Property
and Option Agreement, dated April 1, 1993)

REAL PROPERTY

The real property referenced in Section 1.1 located in the Nome Recording District, Second Judicial District, State of Alaska, is more particularly described as follows:

U. S. Mineral Survey No. 1106, which mineral survey is comprised of the following patented placer mining claims:

No. 9	Below Discovery
No. 10	Below Discovery
No. 11	Below Discovery
No. 12	Below Discovery
No. 12	Fraction

Excluding: that area encompassed by No. 12 Fraction,
for a total of 75.15 acres.

As depicted on the map attached hereto and incorporated herein by reference.

Figure 8. Mineral Survey 1106, March 3, 1914, as included in Interim Conveyance 1516 & 1517.

Recorded July 3 and 15.
Mineral Survey No. 1106.
Application for Survey. August 4, 1913.
Lot No. 1
Nome. Land District.

PLAT
OF THE CLAIM OF
SETH ECKSTROM
KNOWN AS THE
Nos. 9, 10, 11 and 12 Below Discovery
and No. 12 Fraction Below Discovery
on Innishuk Creek.
Placer Claims.
IN FAIRHAVEN DISTRICT,
Alaska.
Containing an area of 66.621 Acres.
Scale of 200 feet to the inch.
Variation 60° 00' to 21° 00' E.
STATED September 23-25, 1913. By
Arthur G. Blake.

Sub Original Filed Name of the Survey of the Mining Claim
Seth Eckstrom.
Known as the
Nos. 9, 10, 11 and 12 Below Discovery and
No. 12 Fraction Below Discovery
Placer Claims.

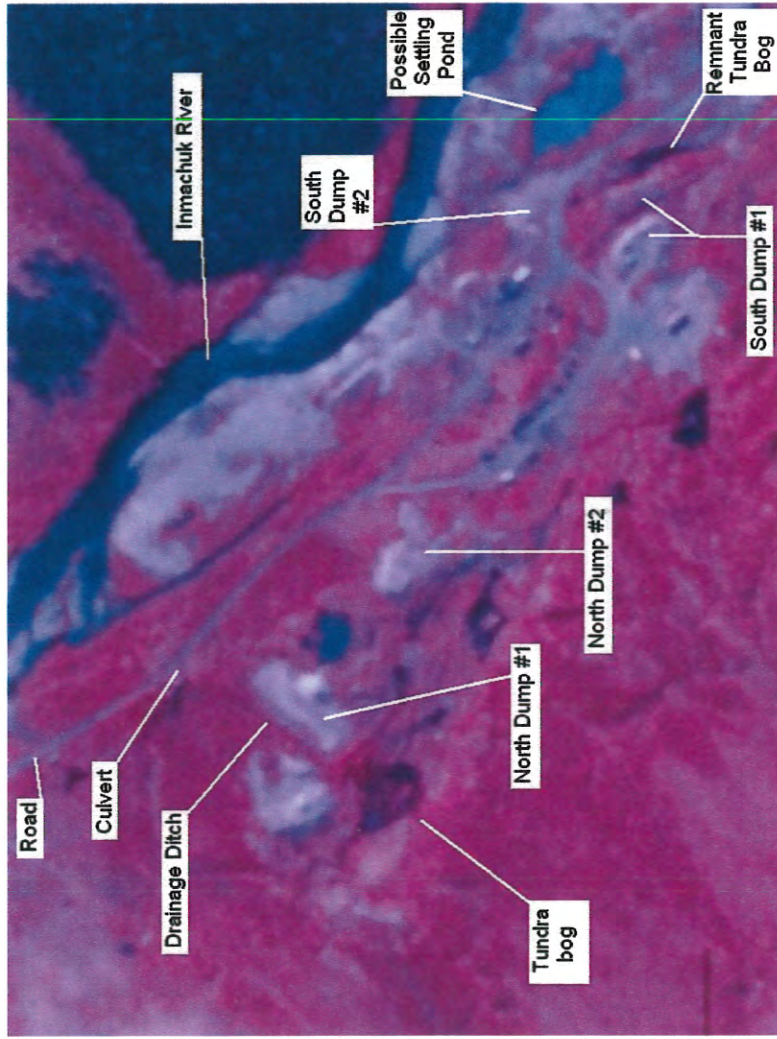
From which this plat has been made under my direction
have been examined and approved, and on file in this Office
and I hereby certify that they furnish such an accurate description
of said Mining Claim as will, if incorporated into a patent,
serve fully to identify the premises, and that such reference
is made to the natural objects or permanent monuments
as will perpetuate and fix the locus thereof.
I further certify that five hundred dollars worth of labor has
been expended or improvements made upon said Mining
Claim by claimant or his grantor, and that
said improvements consist of: placer workings, 2
shafts, 10 ditches and 8 cuts.
Total value. \$843.00
The survey is in a line with the line of the survey
and is in conformity with the original field notes of the
survey thereof, and the same is hereby approved.
T. S. Mineral Survey No. 1106.
Juneau, Alaska. Charles E. Davidson
March 3, 1914. T. S. Survey General for
Alaska.



Figure 9. Utica Camp buildings and south dump locations indicated.



Figure 10. Utica Camp buildings (river side).



Utica Camp dumps and drainage features.



Debris pit @ SW.

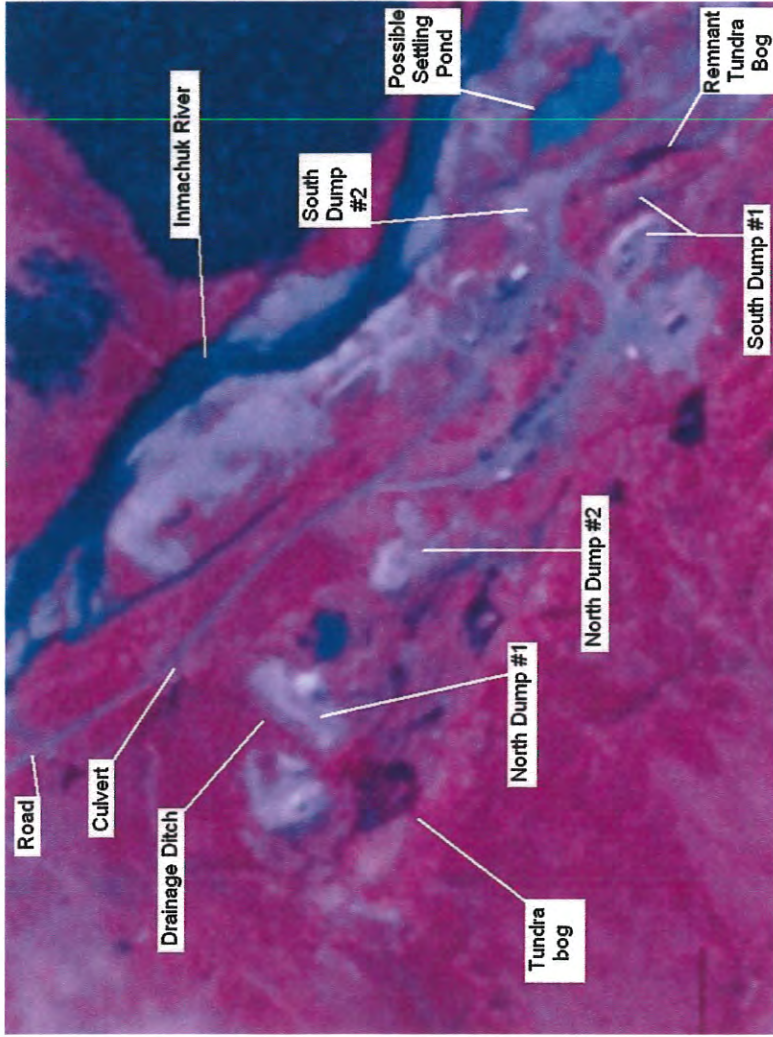


North Dump #1 overview.



Drums along/in drainage ditch.

Figure 11. Utica Camp dumps (North Dump #1 focus).



Utica Camp dumps and drainage features.



Metals debris in remnant tundra bog.



South Dump #1 overview.



Oil ground @ South Dump #1.



Truck in remnant tundra bog.

Figure 12. Utica Camp dumps (South Dump #1 focus).

APPENDIX A

FAIRBANKS TITLE AGENCY
TITLE SEARCH REPORT

Complete
Title & Escrow
Services



FAIRBANKS TITLE AGENCY

TEAM APPROACH

714 Third Avenue, Fairbanks, AK 99701 email – team@fairbankstitle.com
907-456-6626 ♦ TITLE FAX 907-452-5406 ♦ ESCROW FAX 907-457-7676

Dennis Filler
SLR CORPORATION
3522 International Street
Fairbanks, AK 99701

Your Reference: 004.0065.05002

LIMITED LIABILITY REPORT

- FILE NUMBER: 63435
- EFFECTIVE DATE: May 4, 2005 at 8:00 a.m.
- FEE: \$250.00
- VESTING: NANA REGIONAL CORPORATION, INC., successor in interest to Deering Ipnatchiak Corporation
- LEGAL DESCRIPTION:

The "surface estate", as described in the Interim Conveyance recorded November 2, 1983 in Book 306, Page 866 and recorded December 17, 1991 in Book 331, Page 797; Records of the Cape Nome Recording District, Second Judicial District, State of Alaska, in the following described land:

Sections Twenty-Three (23), Twenty-Four (24), Twenty-Five (25), Twenty-Six (26), Twenty-Seven (27) and Twenty-Eight (28), Township Six North (T6N), Range Twenty-One West (21W), Kateel River Meridian, located in the Cape Nome Recording District, Second Judicial District, State of Alaska.

EXCEPTING THEREFROM the Subsurface Estate as conveyed to NANA Regional Corporation, Inc. by Interim Conveyance recorded November 2, 1983 in Book 306, Page 878 and recorded December 17, 1991 in Book 331, Page 801.

SUBJECT TO:

1. **Any defect or invalidity of the title** to said land based on the fact that the United States of America has issued no patent. Upon the issuance of said patent and recordation thereof in the Cape Nome Recording District, said land will be subject to all the provisions and reservations contained therein.
2. **The rights and provisions** contained in the Interim Conveyance from the United States of America dated September 29, 1983, recorded November 2, 1983 in Book 306, Page 866 and recorded December 17, 1991 in Book 331, Page 797, as follows:
 - a) Valid existing rights therein, if any, including but not limited to those created by any lease (including leases issued under Sec. 6 (g) of the Alaska Statehood Act of July 7, 1958, (72 Stat. 339, 341; 48 U.S.C. Ch. 2 Sec. 6 (g) (1976)), contract, permit, right of way or easement, and the right of the lessee, contractee, permittee, or grantee to the complete enjoyment of all rights, privileges, and benefits thereby granted to him. Further, pursuant to Section 17 (b) (2) of the Alaska Native Claims Settlement Act, any valid existing right recognized by the Alaska Native Claims Settlement Act shall continue to have whatever right of access as is now provided by law.
 - b) Requirements of 14 (c) of the Alaska Native Claims Settlement Act of December 18, 1971.

The exception and reservation contained in the above mentioned Interim Conveyance, as follows:

"The subsurface estate therein, and all rights, privileges, immunities and appurtenances, of whatsoever nature, accruing unto said estate pursuant to the Alaska Native Claims Settlement Act of December 18, 1971 (85 Stat. 688, 707; 43 U.S.C. 1601, 1613 (h) (3) (1976))."

NOTE: Section 14 of said Act provides as follows:

"That the right to explore, develop or remove minerals from the subsurface estate in the lands within the boundaries of any native village shall be subject to the consent of the Village Corporation."

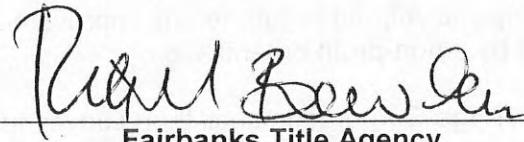
3. **Easements** over said land as may be necessary for full public use and access to public lands pursuant to Section 17 (b) of the Alaska Native Claims Settlement Act of December 18, 1971 (85 Stat. 688, 708, 43 U.S.C. 1601, 1601 (b) (Supp. V. 1975)).
4. **This Policy** does not insure the exact extent or nature of the surface estate described in Schedule A herein, since said surface estate as conveyed in the Interim Conveyance from the United States recorded November 2, 1983 in Book 306, Page 866 and recorded December 17, 1991 in Book 331, Page 797, has not been defined by law.
5. **Any adverse claim** of right, title or interest based upon the assertion that any portion of said land should be reconveyed to the United States of America as an adjustment under Section 22 (j) of the Alaska Native Claims Settlement Act of December 18, 1971 (85 Stat. 688) and as amended December 2, 1980 (94 Stat. 2371, Section 1410).

6. **Any rights or claims of interest** to said land by reason of the provisions of Section 14 (c), (1) (2) (3) (4) (5) of the Alaska Native Claims Settlement Act of December 18, 1971, as follows:
 - (c) Each patent issued pursuant to Subsections (a) and (b) shall be subject to the requirements of this subsection. Upon receipt of the patent or patents:
 - (1) The Village Corporation shall first convey to any Native or non-native occupant, without consideration, title to the surface estate in the tract occupied as a primary place of residence, or as headquarters for reindeer husbandry;
 - (2) The Village Corporation shall then convey to the occupant, either without consideration or upon payment of an amount not in excess of fair market value, determined as of the date of initial occupancy and without regard to any improvements thereon, title to the surface estate in any tract occupied by a non-profit organization;
 - (3) The Village Corporation shall then convey to any Municipal Corporation established in the Native village in the future, title to the remaining surface estate of the improved land on which the Native village is located and as much additional land as is necessary for community expansion, and appropriate rights-of-way for public use, and other foreseeable community needs: Provided, that the amount of lands to be transferred to the Municipal Corporation or in trust shall be no less than 1,280 acres;
 - (4) The Village Corporation shall convey to the Federal Government, State or to the appropriate Municipal Corporation title to the surface estate for existing airport sites, airway beacons, and other navigation aids, together with such additional acreage and/or easements are necessary to provide related services and to insure safe approaches to airport runways;
 - (5) For a period of ten years after the date of enactment of this Act, the Regional Corporation shall be afforded the opportunity to review and render advice of the Village Corporation on all land sales, leases or other transactions prior to any final commitment.
7. **Valid existing rights therein**, if any, including but not limited to those created by any lease (including leases issued under Sec. 6 (g) of the Alaska Statehood Act of July 7, 1958, (72 Stat. 339, 341; 48 U.S.C. Ch. 2, Sec. 6 (g) (1976)), contract, permit, right of way or easement, and the right of the lessee, contractee, permittee, or grantee to the complete enjoyment of all rights, privileges, and benefits thereby granted to him. Further, pursuant to Section 17 (b) (2) of the Alaska Native Claims Settlement Act, any valid existing right recognized by said Act shall continue to have whatever right of access as is now provided for under existing law.
8. **Any right to vacate and annul the patent** to said land within 6 years after its issuance, as provided in the Act of Congress approved March 3, 1891, 26 Stats 1095 and amended by Act approved March 3, 1891 Stats 1093, Title 43 U.S.C. Sec. 1166.
9. **Reservations**, restrictions, conditions and easements as contained in the Interim Conveyance recorded November 2, 1983 in Book 306, Page 866 and recorded December 17, 1991 in Book 331, Page 797.
10. **Rights of the public and governmental bodies** in and to any portion of said land lying below the ordinary high water line of **any navigable waterways**.

Title Number: 63435

11. **Rights of the public and governmental bodies** in and to any portion of said land lying within a public highway or right of way.
12. **No search of the public records for UCC filings**, including but not limited to any purchase money security interest in fixtures on the real estate herein described pursuant to Alaska Statute AS 45.09.2313 and any amendments thereto, has been made.
13. **Rights of parties in possession.**

NOTE: This report is restricted to the use of the addressee and is not to be used for closing any transaction affecting title to said property. Liability of the company is limited to the amount paid herein.



Fairbanks Title Agency

May 12, 2005

FAIRBANKS TITLE AGENCY

714 Third Avenue, Fairbanks, AK 99701

PRIVACY ACT POLICY

We recognize and respect the privacy expectations of today's consumers and the requirements of applicable federal and state privacy laws. We believe that making you aware of how we use your non-public personal information ("Personal Information"), and to whom it is disclosed, will form the basis for a relationship of trust between us and the public that we serve. This Privacy Statement provides that explanation. We reserve the right to change this Privacy Statement from time to time consistent with applicable privacy laws.

In the course of our business, we may collect Personal Information about you from the following sources:

- From applications or other forms we receive from you or your authorized representative;
- From your transactions with, or from the services being performed by, us, our affiliates, or others;
- From our internet web sites;
- From the public records maintained by governmental entities that we either obtain directly from those entities, or from our affiliates or others; and
- From consumer or other reporting agencies.

Our Policies Regarding the Protection of the Confidentiality and Security of Your Personal Information

We maintain physical, electronic and procedural safeguards to protect your Personal Information from unauthorized access or intrusion. We limit access to the Personal Information only to those employees who need such access in connection with providing products or services to you or for other legitimate business purposes.

Our Policies and Practices Regarding the Sharing of Your Personal Information

We may share your Personal Information with our affiliates, such as insurance companies, agents, and other real estate settlement service providers. We also may disclose your Personal Information:

- to agents, brokers or representatives to provide you with services you have requested;
- to third-party contractors or service providers who provide services or perform marketing or other functions on our behalf; and
- to others with whom we enter into joint marketing agreements for products or services that we believe you may find of interest.

In addition, we will disclose your Personal Information when you direct or give us permission, when we are required by law to do so, or when we suspect fraudulent or criminal activities. We also may disclose your personal Information when otherwise permitted by applicable privacy laws such as, for example, when disclosure is needed to enforce our right arising out of any agreement, transaction or relationship with you. One of the important responsibilities of some of our affiliated companies is to record documents in the public domain. Such documents may contain your Personal Information.

Right to Access Your Personal Information and Ability To Correct Errors Or Request Changes Or Deletion

Certain states afford you the right to access your Personal Information and, under certain circumstances, to find out to whom your Personal Information has been disclosed. Also, certain states afford you the right to request correction, amendment or deletion of your Personal Information. We reserve the right, where permitted by law, to charge a reasonable fee to cover the costs incurred in responding to such requests. All requests must be made in writing to the above address.

Thank you for choosing Fairbanks Title Agency.

We value you as a customer and appreciate the opportunity to serve you.

F-14851-A
through
F-14851-H
F-14851-L

INTERIM CONVEYANCE

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Nome Recording District

WHEREAS

NANA Regional Corporation, Inc.,
Successor in Interest to Deering Ipnatchiak Corporation

is entitled to a conveyance pursuant to Secs. 14(a) and 22(j) of
the Alaska Native Claims Settlement Act of December 18, 1971
(43 U.S.C. 1601, 1613(a), 1621(j)) of the surface estate in the
following described lands:

Kateel River Meridian, Alaska (Surveyed)

✓ T. 7 N., R. 17 W.

Secs. 2 and 3;
Secs. 4 and 5 (fractional), excluding Native allotment
F-17574;
Secs. 6 and 7 (fractional);
Secs. 8, 9, and 18.

Containing approximately 4,654 acres.

T6N, R18, 19, 20, 21W

T7N, R17, 18, 20W

T8N, R19, 20W

✓ T. 6 N., R. 18 W.

Secs. 19, 20, 21, and 22;
Secs. 27 and 28, excluding Mineral Survey No. 2303;
Secs. 29 and 30;
Secs. 33 and 34, excluding Mineral Survey No. 2303.

Containing approximately 6,090 acres.

SEE ORIGINAL

COPY in
T6N, R18W

✓ T. 7 N., R. 18 W.

Sec. 2 (fractional), excluding Native allotment F-18762;
Sec. 3 (fractional);
Sec. 4;
Sec. 5 (fractional);
Sec. 6 (fractional), excluding Native allotment F-18572
Parcel A;
Secs. 7, 8, 9, and 10;
Secs. 11 and 12 (fractional), excluding Native allotment
F-18762;
Secs. 13, 14, and 15.

Containing approximately 7,775 acres.

✓ T. 6 N., R. 19 W.

Sec. 4, excluding Native allotment F-17660;
Secs. 5 and 6;
Secs. 7 and 8, excluding Native allotment F-17662 Parcel B;
Sec. 9;
Secs. 14 to 18, inclusive;
Secs. 20 to 24, inclusive;
Sec. 25, excluding Native allotment F-18071;
Secs. 26, 27, and 28;
Secs. 33, 34, and 35;
Sec. 36, excluding Native allotment F-18071.

Containing approximately 15,012 acres.

✓ T. 8 N., R. 19 W.

Sec. 7 (fractional);
Sec. 18 (fractional), excluding ANCSA Sec. 3(e) application
F-23137;
Sec. 19 (fractional);

Interim Conveyance No. 735

Date SEP 29 1983

NANA
4700 H. H. D.

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F-14851-L

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Sec. 20 (fractional), excluding ANCSA Sec. 3(e) application
F-80757;
Secs. 21 and 28 (fractional);
Secs. 29, 30, 31, and 32;
Sec. 33 (fractional), excluding Native allotment F-16614
Parcel A;
Sec. 34 (fractional).

Containing approximately 4,207 acres.

✓ T. 6 N., R. 20 W.
Secs. 1 and 6;
Sec. 7, excluding Mineral Survey application F-69596;
Secs. 18 and 19.

Containing approximately 3,095 acres.

✓ T. 7 N., R. 20 W.
Secs. 1 to 5, inclusive;
Sec. 6, excluding Native allotment F-17475 Parcel A;
Secs. 7 to 12, inclusive;
Secs. 14 and 15;
Secs. 16 and 17, excluding Native allotment F-17474 Parcel A;
Secs. 18 to 21, inclusive;
Secs. 29 to 32, inclusive.

Containing approximately 15,006 acres.

✓ T. 8 N., R. 20 W.
Sec. 13 (fractional), excluding Native allotment F-17571;
Sec. 14 (fractional);
Secs. 16, 17, 18, and 19 (fractional);
Sec. 20;
Secs. 21, 22, and 23 (fractional);
Secs. 24 to 36, inclusive.

Containing approximately 11,283 acres.

✓ T. 6 N., R. 21 W.
Sec. 1;
Sec. 12, excluding Mineral Survey application F-69596 and
unsurveyed mining claims F-63694 and F-63695;
Sec. 13, excluding Mineral Survey application F-69596, Mineral
Survey application F-81225, and unsurveyed mining claim
F-63693;
Sec. 23, excluding Mineral Survey application F-69596;
Sec. 24, excluding Mineral Survey application F-69596 and
unsurveyed mining claims F-63689 and F-63690;
Secs. 25, 26, 27, and 28, excluding Mineral Survey application
F-69596;
Sec. 29;
Sec. 30, excluding Native allotment F-13794;
Sec. 31, excluding Mineral Survey No. 1106 and Native
allotment F-13794;
Secs. 32, 33, 34, and 35, excluding Mineral Survey application
F-69596.

Containing approximately 8,754 acres.

Aggregating approximately 75,876 acres.

Interim Conveyance No. 735
Date SEP 29 1983

Excluded from the above-described lands herein conveyed are the submerged lands, up to the ordinary high water mark, beneath all water bodies determined by the Bureau of Land Management to be tidally influenced as depicted on the attached maps, the originals of which will be found in easement case file F-14851-EE.

NOW KNOW YE, that there is, therefore, granted by the UNITED STATES OF AMERICA, unto the above-named corporation the surface estate in the lands above described, TO HAVE AND TO HOLD the said estate with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said corporation, its successors and assigns, forever:

EXCEPTING AND RESERVING TO THE UNITED STATES from the lands so granted:

1. The subsurface estate therein, and all rights, privileges, immunities, and appurtenances, of whatsoever nature, accruing unto said estate pursuant to the Alaska Native Claims Settlement Act of December 18, 1971 (43 U.S.C. 1601, 1613(f)); and
2. Pursuant to Sec. 17(b) of the Alaska Native Claims Settlement Act of December 18, 1971 (43 U.S.C. 1601, 1616(b)), the following public easements, referenced by easement identification number (EIN) on the easement maps attached to this document, copies of which will be found in case file F-14851-EE, are reserved to the United States. All easements are subject to applicable Federal, State, or Municipal corporation regulation. The following is a listing of uses allowed for each type of easement. Any uses which are not specifically listed are prohibited.

25 Foot Trail - The uses allowed on a twenty-five (25) foot wide trail easement are: travel by foot, dogsled, animals, snowmobiles, two- and three-wheel vehicles, and small all-terrain vehicles (less than 3,000 lbs. Gross Vehicle Weight (GVW)).

50 Foot Trail - The uses allowed on a fifty (50) foot wide trail easement are: travel by foot, dogsled, animals, snowmobiles, two- and three-wheel vehicles, small and large all-terrain vehicles, track vehicles, and four-wheel drive vehicles.

- a. (EIN 6 D1) An easement for an existing access trail, twenty-five (25) feet in width, from the village of Deering in Sec. 20, T. 8 N., R. 19 W., Kateel River Meridian, westerly to public lands. The uses allowed are those listed above for a twenty-five (25) foot wide trail easement. The season of use will be limited to winter.
- b. (EIN 7 C5) An easement for an existing access trail, twenty-five (25) feet in width, from Cue Creek in Sec. 30, T. 7 N., R. 20 W., Kateel River Meridian, southwesterly from Federal Aid Secondary Route No. 1510 (Deering-Inmachuk Road) to public

Interim Conveyance No. 735

Date SEP 29 1983

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F-14851-H
F-14851-L

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Nome Recording District

land in Sec. 36, T. 7 N., R. 21 W., Kateel River Meridian. The uses allowed are those listed above for a twenty-five (25) foot wide trail easement.

- c. (EIN 9a D1, O) An easement, twenty-five (25) feet in width, for an existing access trail, from the junction with Federal Aid Secondary Route No. 1510 (Deering-Inmachuk Road), in Sec. 32, T. 6 N., R. 21 W., Kateel River Meridian, westerly to public lands. The uses allowed are those listed above for a twenty-five (25) foot wide trail easement.
- d. (EIN 9b D1) An easement, fifty (50) feet in width, for an existing access trail from Federal Aid Secondary Route No. 1510 (Deering-Inmachuk Road), in Sec. 24, T. 6 N., R. 21 W., Kateel River Meridian, easterly to the junction with trail EIN 13a D1, thence continuing southeasterly to the junction with trail EIN 9c C3, D1, D9, O, thence southwesterly to public lands. The uses allowed are those listed above for a fifty (50) foot wide trail easement. Large all-terrain vehicles (greater than 3,000 lbs. Gross Vehicle Weight (GVW)), track vehicles, and four-wheel drive vehicles will be limited to winter use only.
- e. (EIN 9c C3, D1, D9, O) An easement for an existing access trail, fifty (50) feet in width, from the junction with EIN 9b D1 in Sec. 34, T. 6 N., R. 18 W., Kateel River Meridian, easterly to public lands. The uses allowed are those listed above for a fifty (50) foot wide trail easement.
- f. (EIN 10 C5) An easement fifty (50) feet in width for an existing access trail from Federal Aid Secondary Route No. 1510 in the NW $\frac{1}{4}$, Sec. 34, T. 6 N., R. 21 W., Kateel River Meridian, southerly, generally paralleling the Pinnell River to public land. The uses allowed are those listed for a fifty (50) foot wide trail easement. Large all-terrain vehicles (greater than 3,000 lbs. Gross Vehicle Weight), track vehicles, and four-wheel drive vehicles will be limited to winter use only.
- g. (EIN 13a D1) An easement for an existing access trail, twenty-five (25) feet in width, from the west side of Ninemile Point in Sec. 33, T. 8 N., R. 18 W., Kateel River Meridian, southerly through public lands to a junction with trail EIN 9b D1 in Sec. 21, T. 6 N., R. 18 W., Kateel River Meridian. The uses allowed are those listed above for a twenty-five (25) foot wide trail easement.
- h. (EIN 14 D1) An easement for an existing access trail, twenty-five (25) feet in width, from the village of Deering in Sec. 20, T. 8 N., R. 19 W., Kateel River Meridian, easterly to public lands. The uses allowed are those listed above for a twenty-five (25) foot wide trail easement. The season of use will be limited to winter.

Interim Conveyance No. 735

Date _____

SEP 29 1983

1. (EIN 28b C5) An easement, fifty (50) feet in width, for a proposed access trail from Federal Aid Secondary Route No. 1510 (Deering-Inmachuk Road) in Sec. 16, T. 7 N., R. 20 W., Kateel River Meridian, southerly to public lands. The uses allowed are those listed above for a fifty (50) foot wide trail easement. Large all-terrain vehicles (greater than 3,000 lbs. Gross Vehicle Weight (GVW)), track vehicles, and four-wheel drive vehicles will be limited to winter use only.

THE GRANT OF THE ABOVE-DESCRIBED LANDS IS SUBJECT TO:

1. Issuance of a patent after approval and filing by the Bureau of Land Management of the official supplemental plat of survey confirming the boundary description and acreage of the lands hereinabove granted;
2. Valid existing rights therein, if any, including but not limited to those created by any lease, (including a lease issued under Sec. 6(g) of the Alaska Statehood Act of July 7, 1958 (48 U.S.C. Ch. 2, Sec. 6(g))), contract, permit, right-of-way, or easement, and the right of the lessee, contractee, permittee, or grantee to the complete enjoyment of all rights, privileges, and benefits thereby granted to him. Further, pursuant to Sec. 17(b)(2) of the Alaska Native Claims Settlement Act of December 18, 1971 (43 U.S.C. 1601, 1616(b)(2)) (ANCSA), any valid existing right recognized by ANCSA shall continue to have whatever right of access as is now provided for under existing law;
3. Any right-of-way interest in Federal Aid Secondary Route No. 1510 (Deering-Inmachuk Road) from Deering village airstrip southwest along Inmachuk River to mining area, transferred to the State of Alaska by the quitclaim deed dated June 30, 1959, executed by the Secretary of Commerce under the authority of the Alaska Omnibus Act, Public Law 86-70 (73 Stat. 141), as to T. 8 N., Rs. 19 and 20 W., Tps. 6 and 7 N., R. 20 W., and T. 6 N., R. 21 W., Kateel River Meridian;
4. Airport lease F-034588, located within Secs. 19 and 30, T. 8 N., R. 19 W., and Secs. 24 and 25, T. 8 N., R. 20 W., Kateel River Meridian, issued to the State of Alaska, Division of Aviation, under the provisions of the act of May 24, 1928 (49 U.S.C. 211-214); and
5. Requirements of Sec. 14(c) of the Alaska Native Claims Settlement Act of December 18, 1971 (43 U.S.C. 1601, 1613(c)), that the grantee hereunder convey those portions, if any, of the lands hereinabove granted, as are prescribed in said section.

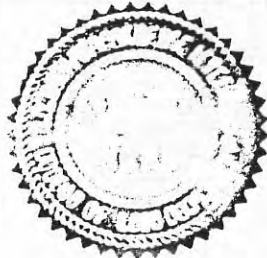
Interim Conveyance No. 735

Date SEP 29 1983

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through
F-14851-H
F-14851-L

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IN WITNESS WHEREOF, the undersigned authorized officer of the Bureau of Land Management has, in the name of the United States, set her hand and caused the seal of the Bureau to be hereunto affixed on this 29th day of September, 1983, in Anchorage, Alaska.



UNITED STATES OF AMERICA

Ann Johnson
Chief, Branch of ANCSA Adjudication

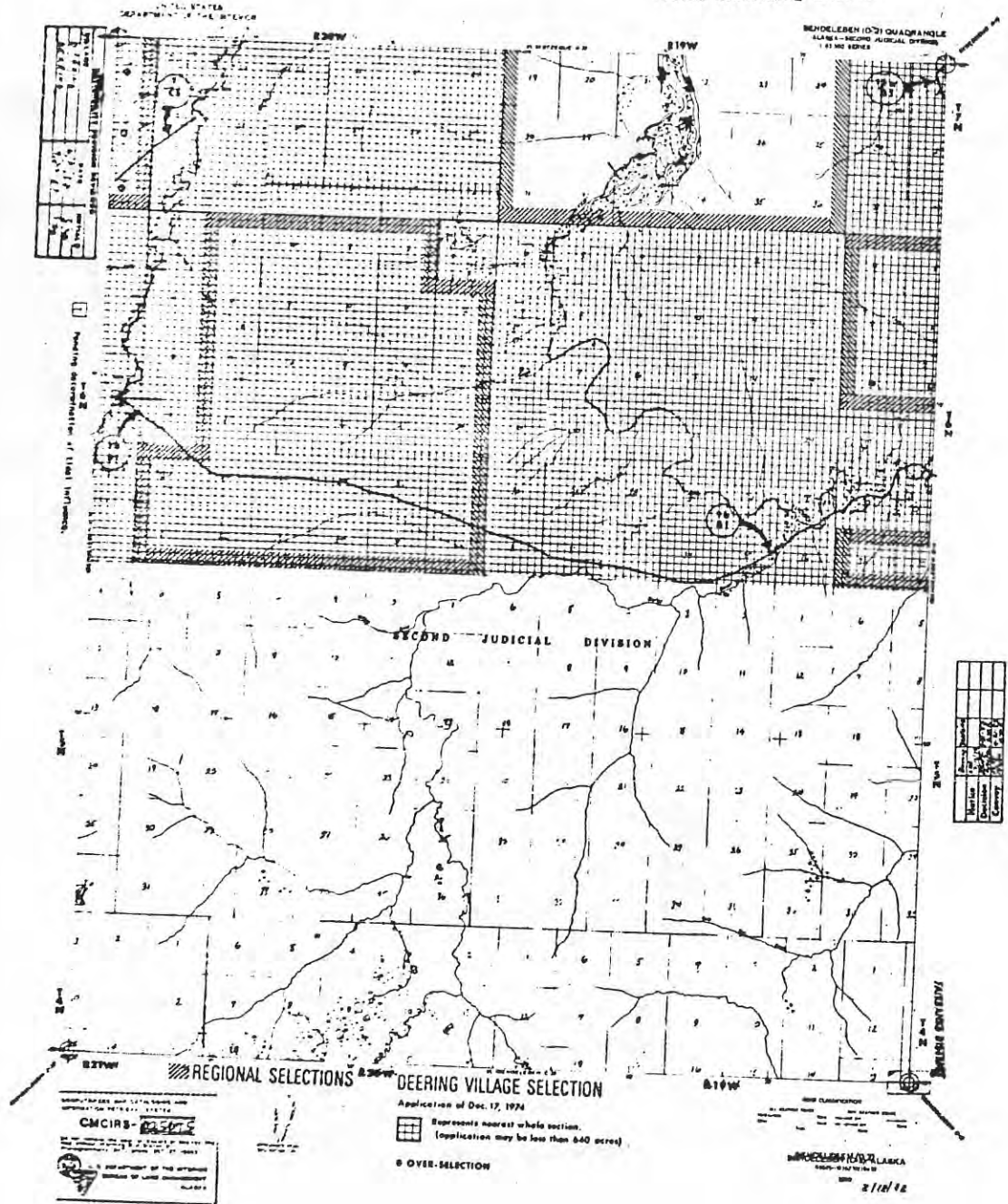
Interim Conveyance No. 735

Date SEP 29 1983



of the official record on file in this
Dean Johnson
 Agent in Charge

735



NANA
4706 Harding Dr.
Anchorage, Alaska 99503

SEP 29 1983 Alaska State Office
Anchorage, Alaska

DATE

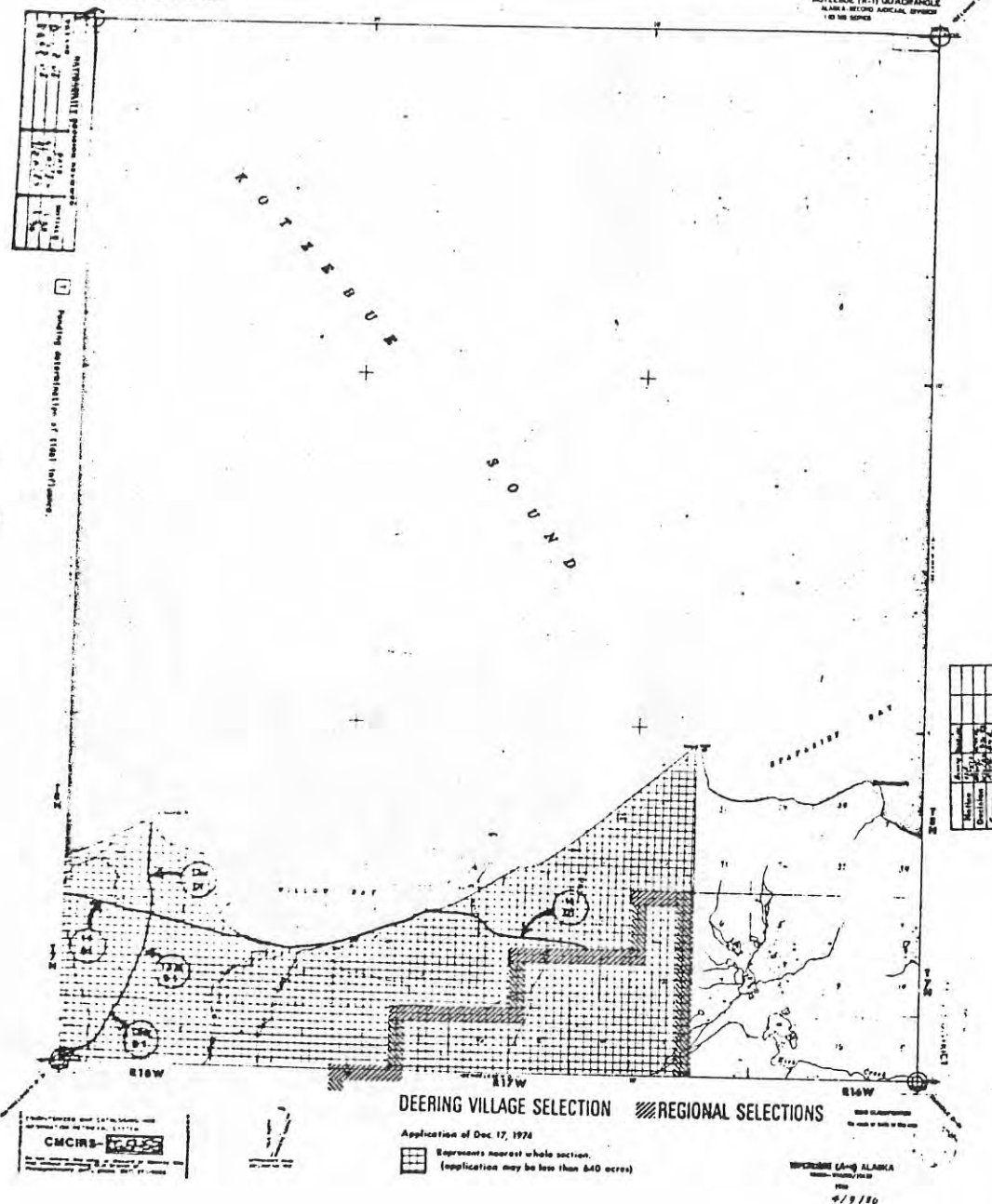
I hereby certify that this reproduction is a
copy of the official record on file in this office.

John Johnson
AUTHORITY: 48 USC 11116

735

Name Recording District

NOTES: (A-1) QUADRANGLE
ALABAMA SECOND ADICAD, DIVISION
1-23-58, 10-1-58



NANA
4700 Harding Dr.
Anchorage, Alaska 99503

SEP 29 1983 Alaska State Office
Anchorage, Alaska

DATE _____

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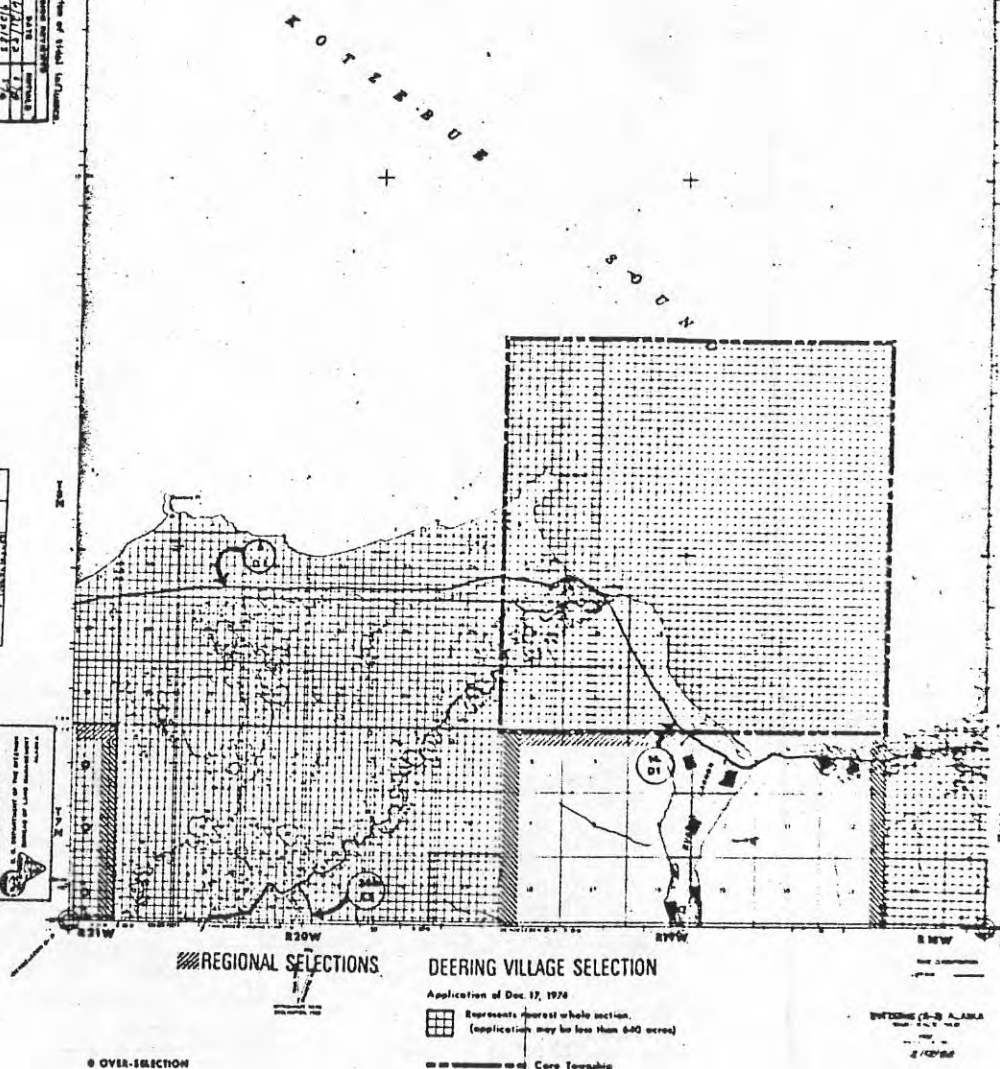
AUTHORIZED SIGNATURE

735

RECEIVED - 12-2-40

WILDLIFE	DATE	SURVEYED
DUCK	6/21/52	170
CHICKEN	9/20/53	170

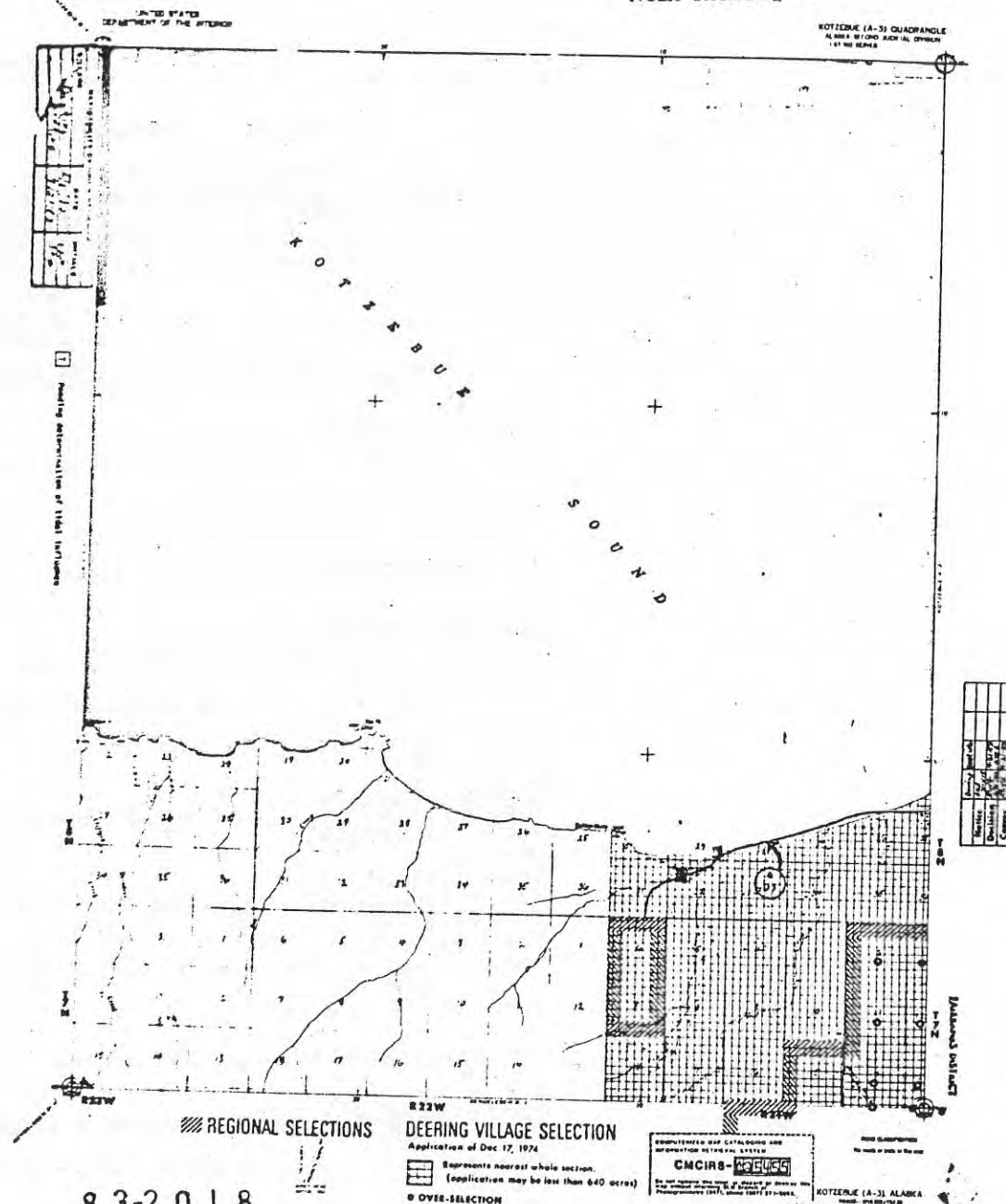
Portico	Agave	Agave			
Division	Agave	Agave			
Convey	Agave	Agave			



DATE _____

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James H. Johnson



83-2018

41-

RECORDED-FILED
NOME REC.
DISTRICT

Nov 2 11 19 AM '83

REQUESTED BY NRCT

ADDRESS _____

DEERING VILLAGE SELECTION

Application of Dec 17, 1974

Represents nearest whole section.
(Application may be less than 640 acres)

OVER-SELECTION

CMCIRS-REGUES

KOTZEBUE (A-3) ALASKA
KOTZEBUE (A-3) 1980
5-27-79

NANA

4700 Harding Dr.
Anchorage, Alaska 99503

735

SEP 29 1983

Alaska State Office
Anchorage, Alaska

DATE

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copy of the official record on file in this office.

Anna Johnson

WHEREAS

NANA Regional Corporation, Inc.

is entitled to a conveyance pursuant to Secs. 14(f) and 22(j) of the Alaska Native Claims Settlement Act of December 18, 1971 (43 U.S.C. 1601, 1613(f), 1621(j)), of the subsurface estate reserved to the United States in the hereinbelow identified interim conveyance of the surface estate in the following described lands:

Interim Conveyance No. 735

Kateel River Meridian, Alaska (Surveyed)

T. 7 N., R. 17 W.

Secs. 2 and 3;
Secs. 4 and 5 (fractional), excluding Native allotment F-17574;
Secs. 6 and 7 (fractional);
Secs. 8, 9, and 18.

Containing approximately 4,654 acres.

T6N R18-21W
T7N R17, 18, 20W
T8N R19, 20W

T. 6 N., R. 18 W.

Secs. 19, 20, 21, and 22;
Secs. 27 and 28, excluding Mineral Survey No. 2303;
Secs. 29 and 30;
Secs. 33 and 34, excluding Mineral Survey No. 2303.

Containing approximately 6,090 acres.

T. 7 N., R. 18 W.

Sec. 2 (fractional), excluding Native allotment F-18762;
Sec. 3 (fractional);
Sec. 4;
Sec. 5 (fractional);
Sec. 6 (fractional), excluding Native allotment F-18572 Parcel A;
Secs. 7, 8, 9, and 10;
Secs. 11 and 12 (fractional), excluding Native allotment F-18762;
Secs. 13, 14, and 15.

Containing approximately 7,775 acres.

T. 6 N., R. 19 W.

Sec. 4, excluding Native allotment F-17660;
Secs. 5 and 6;
Secs. 7 and 8, excluding Native allotment F-17662 Parcel B;
Sec. 9;
Secs. 14 to 18, inclusive;
Secs. 20 to 24, inclusive;
Sec. 25, excluding Native allotment F-18071;
Secs. 26, 27, and 28;
Secs. 33, 34, and 35;
Sec. 36, excluding Native allotment F-18071.

Containing approximately 15,012 acres.

Interim Conveyance No. 736

Date _____

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F-14851-H
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Nome Recording District

✓ T. 8 N., R. 19 W.
Sec. 7 (fractional);
Sec. 18 (fractional), excluding ANCSA Sec. 3(e) application
F-23137;
Sec. 19 (fractional);
Sec. 20 (fractional), excluding ANCSA Sec. 3(e) application
F-80757;
Secs. 21 and 28 (fractional);
Secs. 29, 30, 31, and 32;
Sec. 33 (fractional), excluding Native allotment F-16614
Parcel A;
Sec. 34 (fractional).

Containing approximately 4,207 acres.

✓ T. 6 N., R. 20 W.
Secs. 1 and 6;
Sec. 7, excluding Mineral Survey application F-69596;
Secs. 18 and 19.

Containing approximately 3,095 acres.

✓ T. 7 N., R. 20 W.
Secs. 1 to 5, inclusive;
Sec. 6, excluding Native allotment F-17475 Parcel A;
Secs. 7 to 12, inclusive;
Secs. 14 and 15;
Secs. 16 and 17, excluding Native allotment F-17474 Parcel A;
Secs. 18 to 21, inclusive;
Secs. 29 to 32, inclusive.

Containing approximately 15,006 acres.

✓ T. 8 N., R. 20 W.
Sec. 13 (fractional), excluding Native allotment F-17571;
Sec. 14 (fractional);
Secs. 16, 17, 18, and 19 (fractional);
Sec. 20;
Secs. 21, 22, and 23 (fractional);
Secs. 24 to 36, inclusive.

Containing approximately 11,283 acres.

✓ T. 6 N., R. 21 W.
Sec. 1;
Sec. 12, excluding Mineral Survey application F-69596 and
unsurveyed mining claims F-63694 and F-63695;
Sec. 13, excluding Mineral Survey application F-69596, Mineral
Survey application F-81225, and unsurveyed mining claim
F-63693;
Sec. 23, excluding Mineral Survey application F-69596;
Sec. 24, excluding Mineral Survey application F-69596 and
unsurveyed mining claims F-63689 and F-63690;
Secs. 25, 26, 27, and 28, excluding Mineral Survey
application F-69596;
Sec. 29;
Sec. 30, excluding Native allotment F-13794;
Sec. 31, excluding Mineral Survey No. 1106 and Native
allotment F-13794;

Interim Conveyance No. 736

Date SEP 29 1993

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through
F-14851-H
F-14851-L

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Nome Recording District

Secs. 32, 33, 34, and 35, excluding Mineral Survey
application F-69596.

Containing approximately 8,754 acres.

Aggregating approximately 75,876 acres.

Excluded from the above-described lands herein conveyed are the submerged lands, up to the ordinary high water mark, beneath all water bodies determined by the Bureau of Land Management to be tidally influenced as depicted on the attached maps, the original of which will be found in easement case file F-14851-EE.

NOW KNOW YE, that there is, therefore, granted by the UNITED STATES OF AMERICA, unto the above-named corporation the subsurface estate in the land above described, TO HAVE AND TO HOLD the said estate with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said corporation, its successors and assigns, forever:

THE GRANT OF THE ABOVE-DESCRIBED LANDS IS SUBJECT TO all the easements and rights-of-way reserved in the aforementioned conveyance of the surface estate, and to valid existing rights therein, if any, in the said subsurface estate, including but not limited to those created by any lease (including a lease issued under Sec. 6(g) of the Alaska Statehood Act of July 7, 1958 (48 U.S.C. Ch. 2, Sec. 6(g))), contract, permit, right-of-way, or easement, and the right of the lessee, contractee, permittee, or grantee to the complete enjoyment of all rights, privileges, and benefits thereby granted to him.

IN WITNESS WHEREOF, the undersigned authorized officer of the Bureau of Land Management has, in the name of the United States, set her hand and caused the seal of the Bureau to be hereunto affixed on this 29th day of September, 1983, in Anchorage, Alaska.



UNITED STATES OF AMERICA

Ann Johnson
Chief, Branch of ANCSA Adjudication

83-2019

14-

RECORDED-FILED
NOME REC.
DISTRICT

Nov 2 11 23 AM '83
Hana Regional
RECEIVED
4706 Harding Dr.
Anchorage, Ak.
99503

#241867

Interim Conveyance No. 736

Date SEP 29 1983

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
222 WEST SEVENTH AVENUE, #13
ANCHORAGE, ALASKA 99513-7599

INTERIM CONVEYANCE

WHEREAS

NANA Regional Corporation, Inc.,
Successor in Interest to Deering Ipnatchiak Corporation

is entitled to a conveyance pursuant to Secs. 14(a) and 22(j), as amended, of the Alaska Native Claims Settlement Act of December 18, 1971, 43 U.S.C. 1601, 1613(a), 1621(j), of the surface estate in the following-described lands:

Kateel River Meridian, Alaska

T. 6 N., R. 20 W. (Surveyed)

Sec. 7, those lands formerly within Mineral Survey application F-69596.

Containing approximately 19 acres.

T. 6 N., R. 21 W. (Surveyed)

Sec. 12, those lands formerly within Mineral Survey application F-69596 and unsurveyed mining claims F-63694 and F-63695;

Sec. 13, those lands formerly within Mineral Survey application F-69596, Mineral Survey application F-81225 and unsurveyed mining claim F-63693;

Sec. 23, those lands formerly within Mineral Survey application F-69596;

Sec. 24, those lands formerly within Mineral Survey application F-69596 and unsurveyed mining claims F-63689 and F-63690;

Secs. 25 to 28, inclusive, those lands formerly within Mineral Survey application F-69596;

Interim Conveyance No. _____

1516

Walter Sampson, Director
Land Department
NANA Regional Corp, Inc.
P.O. Box 49
Kotzebue, Alaska 99752

F-14851-D
F-14851-E

Secs. 32 to 35, inclusive, those lands formerly within Mineral Survey application F-69596.

Containing approximately 1,211 acres.

Aggregating approximately 1,230 acres.

Excluded from the above-described lands herein conveyed are the submerged lands, if any, up to the ordinary high water mark, beneath rivers or streams 3 chains wide (198 feet) and wider and lakes 50 acres and larger, which are meanderable according to the 1973 Bureau of Land Management Manual of Surveying Instructions, as modified by Departmental regulation 43 CFR 2650.5-1, and navigable waters, if any, of lesser size. These submerged lands will be identified at the time of survey.

NOW KNOW YE, that there is, therefore, granted by the UNITED STATES OF AMERICA, unto the above-named corporation the surface estate in the lands above described; TO HAVE AND TO HOLD the said estate with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said corporation, its successors and assigns, forever.

EXCEPTING AND RESERVING TO THE UNITED STATES from the lands so granted:

1. The subsurface estate therein, and all rights, privileges, immunities, and appurtenances, of whatsoever nature, accruing unto said estate pursuant to the Alaska Native Claims Settlement Act of December 18, 1971, 43 U.S.C. 1601, 1613(f); and
2. Pursuant to Sec. 17(b) of the Alaska Native Claims Settlement Act of December 18, 1971, 43 U.S.C. 1601, 1616(b), the following public easement, referenced by easement identification number (EIN) on the easement map, a copy of which can be found in the Bureau of Land Management's Public Land Records, is reserved to the United States. This easement is subject to applicable Federal, State, or municipal corporation regulation. The following is a listing of uses allowed for this type of easement. Any uses which are not specifically listed are prohibited.

50 Foot Trail - The uses allowed on a fifty (50) foot wide trail easement are: travel by foot, dogsled, animals, snowmobiles, two- and three-wheel vehicles, small and large all-terrain vehicles, track vehicles, and four-wheel drive vehicles.

Interim Conveyance No. _____

1516

2

Walter Sampson, Director
Land Department
NANA Regional Corp, Inc.
P.O. Box 49
Kotzebue, Alaska 99752

F-14851-D
F-14851-E

(EIN 10 C5) An easement fifty (50) feet in width for an existing access trail from Federal Aid Secondary Route No. 1510 in the NW¼ Sec. 34, T. 6 N., R. 21 W., Kateel River Meridian, southerly generally paralleling the Pinnell River to public land. The uses allowed are those listed for a fifty (50) foot wide trail easement. Large all-terrain vehicles (greater than 3,000 lbs. Gross Vehicle Weight (GVW)), track vehicles and four-wheel drive vehicles will be limited to winter use only.

THE GRANT OF THE ABOVE-DESCRIBED LANDS IS SUBJECT TO:

1. Issuance of a patent after approval and filing by the Bureau of Land Management of the official supplemental plat of survey confirming the boundary description and acreage of the lands hereinabove granted;
2. Valid existing rights therein, if any, including but not limited to those created by any lease, contract, permit, right-of-way, or easement, and the right of the lessee, contractee, permittee, or grantee to the complete enjoyment of all rights, privileges, and benefits thereby granted to him. Further, pursuant to Sec. 17(b)(2) of the Alaska Native Claims Settlement Act of December 18, 1971 (ANCSA), 43 U.S.C. 1601, 1616(b)(2), any valid existing right recognized by ANCSA shall continue to have whatever right of access as is now provided for under existing law;
3. Any right-of-way interest in Federal Aid Secondary Route No. 1510 (Deering-Inmachuk Road) from Deering village airstrip southwest along Inmachuk River to mining area, transferred to the State of Alaska by quitclaim deed dated June 30, 1959, executed by the Secretary of Commerce under the authority of the Alaska Omnibus Act, Public Law 86-70 (73 Stat. 141) as to T. 6 N., Rs. 20 and 21 W., Kateel River Meridian, Alaska; and
4. Requirements of Sec. 14 (c) of the Alaska Native Claims Settlement Act of December 18, 1971, 43 U.S.C. 1601, 1613(c), as amended, that the grantee hereunder convey those portions, if any, of the lands hereinabove granted, as are prescribed in said section.

Interim Conveyance No. _____

1516

3

Walter Sampson, Director
Land Department
NANA Regional Corp., Inc.
P.O. Box 49
Kotzebue, Alaska 99752

F-14851-D
F-14851-E

BOOK 0331 PAGE 800

IN WITNESS WHEREOF, the undersigned authorized officer of the Bureau of Land Management has, in the name of the United States, set her hand and caused the seal of the Bureau to be hereunto affixed on this 3rd day of October, 1991, in Anchorage, Alaska.

UNITED STATES OF AMERICA



Barbara S. Knudsen
Barbara S. Knudsen
Acting Chief, Branch of Doyon/Northwest
Adjudication

9 1-1 8 5 5
24-

RECORDED-FILED
NOPE REC.
DISTRICT

DEC 17 10 24 AM '91

REQUESTED BY *NANA Regional*

ADDRESS *Corp.*

Return to
445786 ✓

Walter Sampson, Director
Land Department
NANA Regional Corp, Inc.
Kotzebue, Alaska 99752
P.O. Box 49

Interim Conveyance No. 1516

F-14851-D
F-14851-E

15N R 20W KK11
21W
BOOK 0331 PAGE 801

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
222 WEST SEVENTH AVENUE, #13
ANCHORAGE, ALASKA 99513-7599

INTERIM CONVEYANCE

WHEREAS

NANA Regional Corporation, Inc.

is entitled to a conveyance pursuant to Secs. 14(f) and 22(j), as amended, of the Alaska Native Claims Settlement Act of December 18, 1971, 43 U.S.C. 1601, 1613(f), 1621(j), of the subsurface estate reserved to the United States in the hereinbelow identified interim conveyance of the surface estate in the following-described lands:

Interim Conveyance No.

1516

Kateel River Meridian, Alaska

T. 6 N., R. 20 W. (Surveyed)

Sec. 7, those lands formerly within Mineral Survey application F-69596.

Containing approximately 19 acres.

T. 6 N., R. 21 W. (Surveyed)

Sec. 12, those lands formerly within Mineral Survey application F-69596 and unsurveyed mining claims F-63694 and F-63695;

Sec. 13, those lands formerly within Mineral Survey application F-69596, Mineral Survey application F-81225 and unsurveyed mining claim F-63693;

Sec. 23, those lands formerly within Mineral Survey application F-69596;

Sec. 24, those lands formerly within Mineral Survey application F-69596 and unsurveyed mining claims F-63689 and F-63690;

Secs. 25 to 28, inclusive, those lands formerly within Mineral

Interim Conveyance No.

1517

Walter Sampson, Director
Land Department
NANA Regional Corp., Inc.
P.O. Box 49
Kotzebue, Alaska 99752

Survey application F-69596;
Secs. 32 to 35, inclusive, those lands formerly within Mineral
Survey application F-69596.

Containing approximately 1,211 acres.

Aggregating approximately 1,230 acres.

Excluded from the above-described lands herein conveyed are the submerged lands, up to the ordinary high water mark, beneath rivers or streams 3 chains wide (198 feet) and wider and lakes 50 acres and larger, which are meanderable according to the 1973 Bureau of Land Management Manual of Surveying Instructions, as modified by Departmental regulation 43 CFR 2650.5-1, and navigable waters, if any, of lesser size. These submerged lands will be identified at the time of survey.

NOW KNOW YE, that there is, therefore, granted by the UNITED STATES OF AMERICA, unto the above-named corporation the subsurface estate in the lands above described; TO HAVE AND TO HOLD the said estate with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said corporation, its successors and assigns, forever.

THE GRANT OF THE ABOVE-DESCRIBED LANDS IS SUBJECT TO:

1. All the easements and rights-of-way referenced in the aforementioned conveyance of the surface estate, and to valid existing rights, if any, in the said subsurface estate, including but not limited to those created by any lease, contract, permit, right-of-way, or easement, and the right of the lessee, contractee, permittee, or grantee to the complete enjoyment of all rights, privileges, and benefits thereby granted to him; and
2. The requirements of Secs. 14(f) and 30(e) of the Alaska Native Claims Settlement Act of December 18, 1971, 43 U.S.C. 1601, 1613(f), 1627(e), that the right to explore, develop, or remove minerals from the subsurface estate in the lands herein conveyed which are within the boundaries of the Native village of Deering shall be subject to the consent of an entity composed of Native residents of Deering.

Walter Sampson, Director
Land Department
NANA Regional Corp., Inc.
P.O. Box 49
Kotzebue, Alaska 99752

Interim Conveyance No.

1517

F-14851-D
F-14851-E

BOOK 0331 PAGE 803

IN WITNESS WHEREOF, the undersigned authorized officer of the Bureau of Land Management has, in the name of the United States, set her hand and caused the seal of the Bureau to be hereunto affixed on this 3rd day of October, 1991, in Anchorage, Alaska.



UNITED STATES OF AMERICA

Barbara S. Knudsen
Barbara S. Knudsen
Acting Chief, Branch of Doyon/Northwest
Adjudication

91-1856

21-

RECORDED-FILED
NOME REC.
DISTRICT

Dec 17 10 26 AM '91

REQUESTED BY *Nana Regional*

ADDRESS *Corp.*

Return to
48578

Walter Sampson, Director
Land Department
NANA Regional Corp, Inc.
P.O. Box 49
Kotzebue, Alaska 99752

Interim Conveyance No. _____

1517

MTP

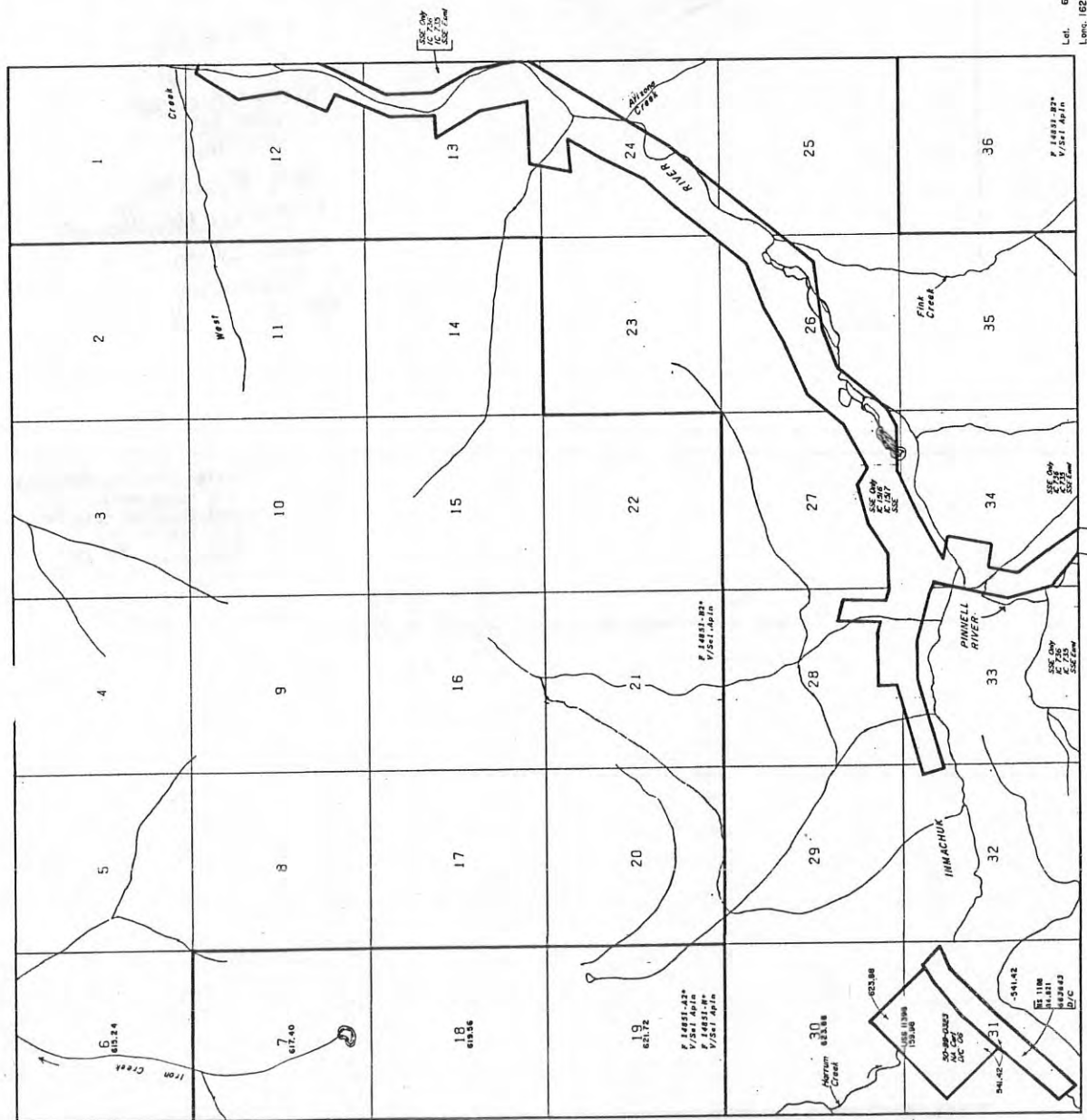
FOR ORDERS EFFECTING DISPOSAL OR USE OF UNIDENTIFIED LANDS. REFER TO INDEX OF MISCELLANEOUS DOCUMENTS.

PL 92-203 W&B F14851 Lds W/1 F14851-A2, F14851-E,

PLO 5/84 Wdi CI affects Lds/interest not conveyed

F85604 Reindeer Gr Per attacks Unapprop Lds this

F44177 SS Amdt Pl 95-487 Sac 906(a) Too illud



Lat. 65°52'15.13"N
Long. 162°58'34.24"W

WARNING STATEMENT

This plot is the Bureau's Record of Title, and should be used only as a graphic display of the township survey data. Records herein do not reflect title changes which may have been effected by lateral movements of rivers or other bodies of water. Refer to the meander surveys for official survey information.

SCALE in chords

CURRENT TO	AM-K,KOTZ,NPS.	KR Mer
9-29-1999	MA,GFZ,NRC.	T 6 N 8 21 3

APPENDIX B

EDR ASTM RADIUS SEARCH REPORT



EDR™ Environmental
Data Resources Inc

The EDR Radius Map with GeoCheck®

**Utica Mine
Utica Mine
Near Deering, AK 99736**

Inquiry Number: 01449156.1r

June 20, 2005

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Overview Map.....	2
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Map Findings Summary.....	4
Map Findings.....	6
Orphan Summary.....	7
Government Records Searched/Data Currency Tracking.....	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum.....	A-1
Physical Setting Source Summary.....	A-2
Physical Setting Source Map.....	A-7
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Physical Setting Source Records Searched.....	A-9

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

UTICA MINE
NEAR DEERING, AK 99736

COORDINATES

Latitude (North):	65.900910 - 65° 54' 3.3"
Longitude (West):	163.001120 - 163° 0' 4.0"
Universal Transverse Mercator:	Zone 3
UTM X (Meters):	591065.7
UTM Y (Meters):	7310125.5
Elevation:	169 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	N/A
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL.....	National Priority List
Proposed NPL.....	Proposed National Priority List Sites
CERCLIS.....	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP.....	CERCLIS No Further Remedial Action Planned
CORRACTS.....	Corrective Action Report
RCRA-TSDF.....	Resource Conservation and Recovery Act Information
RCRA-LQG.....	Resource Conservation and Recovery Act Information
RCRA-SQG.....	Resource Conservation and Recovery Act Information
ERNS.....	Emergency Response Notification System

STATE ASTM STANDARD

SHWS.....	Contaminated Sites Database
-----------	-----------------------------

EXECUTIVE SUMMARY

SWF/LF	Solid Waste Facilities
LUST	Leaking Underground Storage Tank Database
UST	Underground Storage Tank Database
INDIAN UST	Underground Storage Tanks on Indian Land
VCP	Voluntary Cleanup Program sites

FEDERAL ASTM SUPPLEMENTAL

CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
Delisted NPL	National Priority List Deletions
FINDS	Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS	Hazardous Materials Information Reporting System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
NPL Liens	Federal Superfund Liens
PADS	PCB Activity Database System
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
US ENG CONTROLS	Engineering Controls Sites List
ODI	Open Dump Inventory
UMTRA	Uranium Mill Tailings Sites
INDIAN RESERV	Indian Reservations
RAATS	RCRA Administrative Action Tracking System
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
SSTS	Section 7 Tracking Systems
FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

AST	Regulated Aboveground Storage Tanks
AK Spills	Spills Database
DRYCLEANERS	Drycleaner Facility Listing

BROWNFIELDS DATABASES

US BROWNFIELDS	A Listing of Brownfields Sites
US INST CONTROL	Sites with Institutional Controls
Inst Control	Contaminated Sites with Institutional Controls
BROWNFIELDS	Identified and/or Proposed Brownfields Sites
VCP	Voluntary Cleanup Program sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

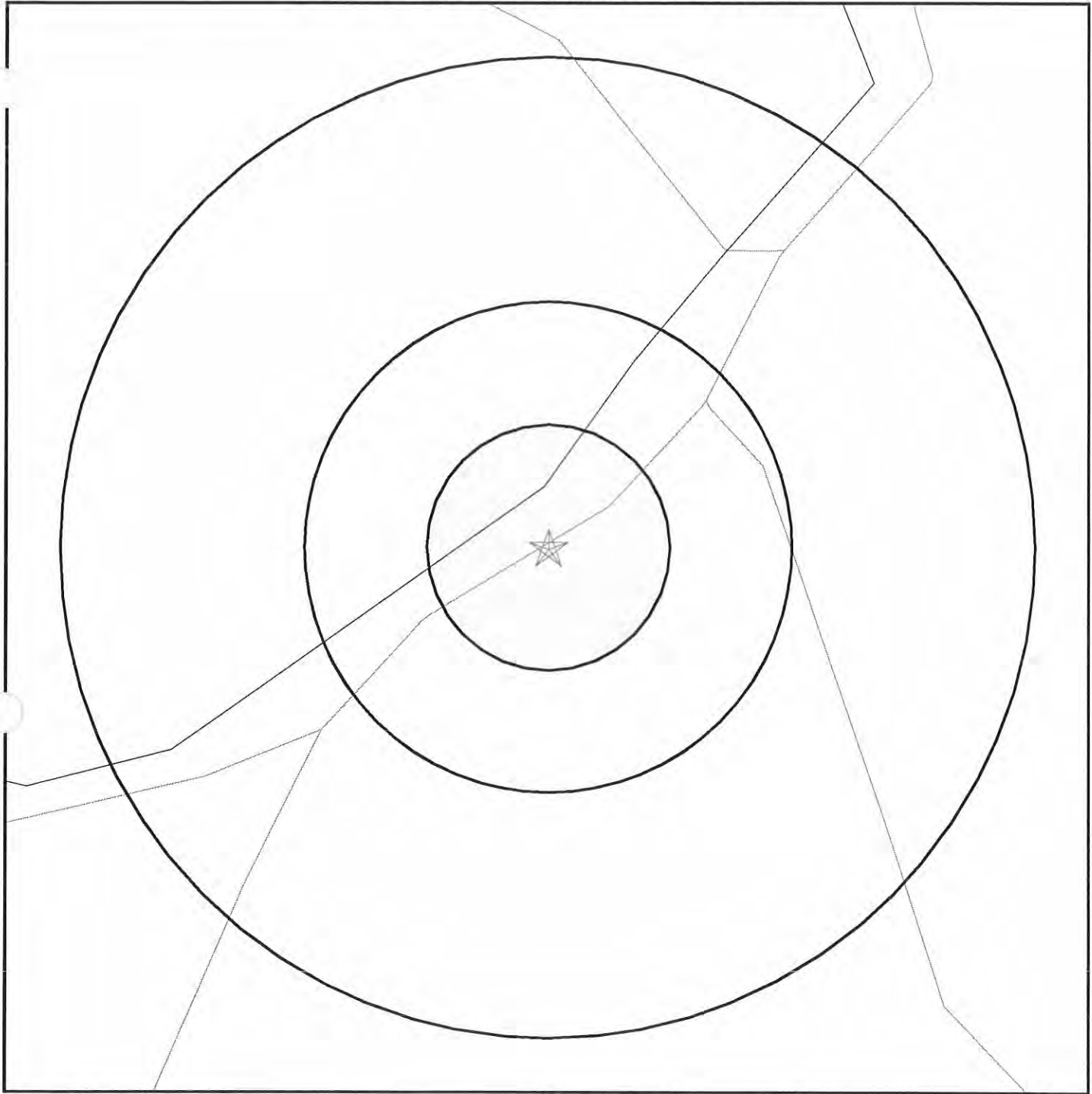
Site Name _____

LAVA LAKE / DERP

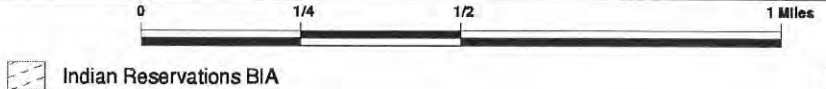
Database(s) _____

SHWS

OVERVIEW MAP - 01449156.1r - SLR Alaska



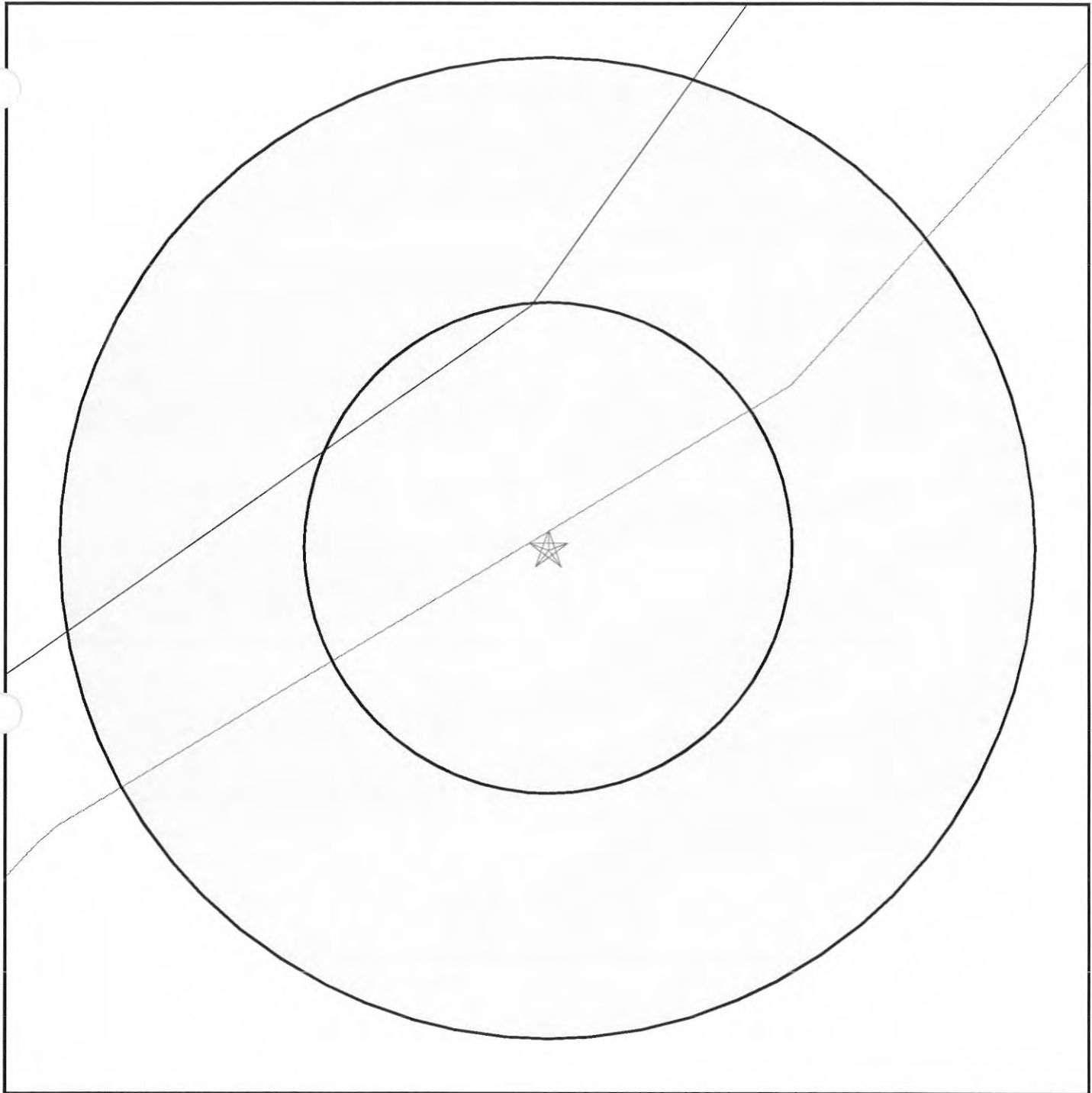
- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Coal Gasification Sites
- ▨ National Priority List Sites
- ▩ Landfill Sites
- ▤ Dept. Defense Sites



TARGET PROPERTY: Utica Mine
 ADDRESS: Utica Mine
 CITY/STATE/ZIP: Near Deering AK 99736
 LAT/LONG: 65.9009 / 163.0011

CUSTOMER: SLR Alaska
 CONTACT: Dennis Filler
 INQUIRY #: 01449156.1r
 DATE: June 20, 2005 1:53 pm

DETAIL MAP - 01449156.1r - SLR Alaska



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Coal Gasification Sites
- ▲ Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA



TARGET PROPERTY: Utica Mine
 ADDRESS: Utica Mine
 CITY/STATE/ZIP: Near Deering AK 99736
 LAT/LONG: 65.9009 / 163.0011

CUSTOMER: SLR Alaska
 CONTACT: Dennis Filler
 INQUIRY #: 01449156.1r
 DATE: June 20, 2005 1:53 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>FEDERAL ASTM STANDARD</u>								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
<u>STATE ASTM STANDARD</u>								
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
<u>FEDERAL ASTM SUPPLEMENTAL</u>								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
<u>STATE OR LOCAL ASTM SUPPLEMENTAL</u>								
AST		TP	NR	NR	NR	NR	NR	0
AK Spills		TP	NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
<u>BROWNFIELDS DATABASES</u>								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
Inst Control		0.500	0	0	0	NR	NR	0
BROWNFIELDS		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0

NOTES:

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

Coal Gas Site Search: EDR does not presently have coal gas site information available in this state.

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
DEERING (NEAR)	S104892489	LAVA LAKE / DERP	48 MILES SW OF DEERING	99736	SHWS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List

Source: EPA

Telephone: N/A

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/28/05

Date Made Active at EDR: 05/16/05

Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 05/04/05

Elapsed ASTM days: 12

Date of Last EDR Contact: 05/04/05

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)

Telephone: 202-564-7333

EPA Region 1

Telephone 617-918-1143

EPA Region 6

Telephone: 214-655-6659

EPA Region 3

Telephone 215-814-5418

EPA Region 8

Telephone: 303-312-6774

EPA Region 4

Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Source: EPA

Telephone: N/A

Date of Government Version: 04/27/05

Date Made Active at EDR: 05/16/05

Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 05/04/05

Elapsed ASTM days: 12

Date of Last EDR Contact: 05/04/05

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

Source: EPA

Telephone: 703-413-0223

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/15/05

Date Made Active at EDR: 04/06/05

Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 03/22/05

Elapsed ASTM days: 15

Date of Last EDR Contact: 03/22/05

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Source: EPA

Telephone: 703-413-0223

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/22/05
Date Made Active at EDR: 04/06/05
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 04/01/05
Elapsed ASTM days: 5
Date of Last EDR Contact: 04/01/05

CORRACTS: Corrective Action Report

Source: EPA

Telephone: 800-424-9346

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/29/05
Date Made Active at EDR: 05/16/05
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 04/11/05
Elapsed ASTM days: 35
Date of Last EDR Contact: 03/07/05

RCRA: Resource Conservation and Recovery Act Information

Source: EPA

Telephone: 800-424-9346

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 05/20/05
Date Made Active at EDR: 06/09/05
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 05/24/05
Elapsed ASTM days: 16
Date of Last EDR Contact: 05/24/05

ERNS: Emergency Response Notification System

Source: National Response Center, United States Coast Guard

Telephone: 202-260-2342

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/04
Date Made Active at EDR: 03/24/05
Database Release Frequency: Annually

Date of Data Arrival at EDR: 01/27/05
Elapsed ASTM days: 56
Date of Last EDR Contact: 04/25/05

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System

Source: EPA/NTIS

Telephone: 800-424-9346

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/01/01
Database Release Frequency: Biennially

Date of Last EDR Contact: 04/15/05
Date of Next Scheduled EDR Contact: 06/13/05

CONSENT: Superfund (CERCLA) Consent Decrees

Source: Department of Justice, Consent Decree Library

Telephone: Varies

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/14/04
Database Release Frequency: Varies

Date of Last EDR Contact: 04/26/05
Date of Next Scheduled EDR Contact: 07/25/05

ROD: Records Of Decision

Source: EPA
Telephone: 703-416-0223

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/10/05
Database Release Frequency: Annually

Date of Last EDR Contact: 04/04/05
Date of Next Scheduled EDR Contact: 07/04/05

DELISTED NPL: National Priority List Deletions

Source: EPA
Telephone: N/A

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/28/05
Database Release Frequency: Quarterly

Date of Last EDR Contact: 05/04/05
Date of Next Scheduled EDR Contact: 08/01/05

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report

Source: EPA
Telephone: N/A

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/11/05
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/04/05
Date of Next Scheduled EDR Contact: 07/04/05

HMIRS: Hazardous Materials Information Reporting System

Source: U.S. Department of Transportation
Telephone: 202-366-4555

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/04
Database Release Frequency: Annually

Date of Last EDR Contact: 04/19/05
Date of Next Scheduled EDR Contact: 07/18/05

MLTS: Material Licensing Tracking System

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/14/05
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/04/05
Date of Next Scheduled EDR Contact: 07/04/05

MINES: Mines Master Index File

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/11/05
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 03/30/05
Date of Next Scheduled EDR Contact: 06/27/05

NPL LIENS: Federal Superfund Liens

Source: EPA
Telephone: 202-564-4267

Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 02/22/05
Date of Next Scheduled EDR Contact: 05/23/05

PADS: PCB Activity Database System

Source: EPA
Telephone: 202-564-3887

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/30/05
Database Release Frequency: Annually

Date of Last EDR Contact: 05/10/05
Date of Next Scheduled EDR Contact: 08/08/05

DOD: Department of Defense Sites

Source: USGS
Telephone: 703-692-8801

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 02/08/05
Date of Next Scheduled EDR Contact: 05/09/05

UMTRA: Uranium Mill Tailings Sites

Source: Department of Energy
Telephone: 505-845-0011

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized. In 1978, 24 inactive uranium mill tailings sites in Oregon, Idaho, Wyoming, Utah, Colorado, New Mexico, Texas, North Dakota, South Dakota, Pennsylvania, and on Navajo and Hopi tribal lands, were targeted for cleanup by the Department of Energy.

Date of Government Version: 12/29/04
Database Release Frequency: Varies

Date of Last EDR Contact: 03/22/05
Date of Next Scheduled EDR Contact: 06/20/05

ODI: Open Dump Inventory

Source: Environmental Protection Agency
Telephone: 800-424-9346

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/85
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 05/23/95
Date of Next Scheduled EDR Contact: N/A

FUDS: Formerly Used Defense Sites

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/03
Database Release Frequency: Varies

Date of Last EDR Contact: 04/04/05
Date of Next Scheduled EDR Contact: 07/04/05

INDIAN RESERV: Indian Reservations

Source: USGS

Telephone: 202-208-3710

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 10/01/03
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 02/08/05
Date of Next Scheduled EDR Contact: 05/09/05

US ENG CONTROLS: Engineering Controls Sites List

Source: Environmental Protection Agency

Telephone: 703-603-8867

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 01/10/05
Database Release Frequency: Varies

Date of Last EDR Contact: 04/04/05
Date of Next Scheduled EDR Contact: 07/04/05

RAATS: RCRA Administrative Action Tracking System

Source: EPA

Telephone: 202-564-4104

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 03/07/05
Date of Next Scheduled EDR Contact: 06/06/05

TRIS: Toxic Chemical Release Inventory System

Source: EPA

Telephone: 202-566-0250

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/02
Database Release Frequency: Annually

Date of Last EDR Contact: 03/22/05
Date of Next Scheduled EDR Contact: 06/20/05

TSCA: Toxic Substances Control Act

Source: EPA

Telephone: 202-260-5521

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/02
Database Release Frequency: Every 4 Years

Date of Last EDR Contact: 04/05/05
Date of Next Scheduled EDR Contact: 06/06/05

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Source: EPA

Telephone: 202-566-1667

Date of Government Version: 04/13/05
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/21/05
Date of Next Scheduled EDR Contact: 06/20/05

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SSTS: Section 7 Tracking Systems

Source: EPA

Telephone: 202-564-4203

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/03

Database Release Frequency: Annually

Date of Last EDR Contact: 04/19/05

Date of Next Scheduled EDR Contact: 07/18/05

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/13/05

Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/21/05

Date of Next Scheduled EDR Contact: 06/20/05

STATE OF ALASKA ASTM STANDARD RECORDS

SHWS: Contaminated Sites Database

Source: Department of Environmental Conservation

Telephone: 907-269-7546

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 03/14/05

Date Made Active at EDR: 04/07/05

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 03/14/05

Elapsed ASTM days: 24

Date of Last EDR Contact: 03/14/05

SWF/LF: Solid Waste Facilities

Source: Department of Environmental Conservation

Telephone: 907-269-7632

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/25/05

Date Made Active at EDR: 05/19/05

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 04/26/05

Elapsed ASTM days: 23

Date of Last EDR Contact: 04/25/05

LUST: Leaking Underground Storage Tank Database

Source: Department of Environmental Conservation

Telephone: 907-465-5301

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 03/15/05

Date Made Active at EDR: 04/07/05

Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 03/15/05

Elapsed ASTM days: 23

Date of Last EDR Contact: 03/15/05

UST: Underground Storage Tank Database

Source: Department of Environmental Conservation

Telephone: 907-269-7504

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/15/05
Date Made Active at EDR: 04/12/05
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 03/15/05
Elapsed ASTM days: 28
Date of Last EDR Contact: 03/15/05

INDIAN UST: Underground Storage Tanks on Indian Land

Source: EPA Region 10
Telephone: 206-553-2857
Underground storage tanks on Indian Land.

Date of Government Version: 02/02/05
Date Made Active at EDR: 03/11/05
Database Release Frequency: Varies

Date of Data Arrival at EDR: 02/02/05
Elapsed ASTM days: 37
Date of Last EDR Contact: 01/31/05

VCP: Voluntary Cleanup Program sites

Source: Department of Environmental Conservation
Telephone: 907-451-2182
Sites involved in the Voluntary Cleanup Program.

Date of Government Version: 04/20/05
Date Made Active at EDR: 05/04/05
Database Release Frequency: Varies

Date of Data Arrival at EDR: 04/20/05
Elapsed ASTM days: 14
Date of Last EDR Contact: 04/04/05

STATE OF ALASKA ASTM SUPPLEMENTAL RECORDS

AST: Regulated Aboveground Storage Tanks

Source: Department of Environmental Conservation
Telephone: 907-465-5231

The list covers "regulated" facilities with storage capacities above 10,000 barrels (or 5,000 barrels of crude).

Date of Government Version: 01/05/05
Database Release Frequency: Varies

Date of Last EDR Contact: 03/14/05
Date of Next Scheduled EDR Contact: 06/13/05

SPILLS: Spills Database

Source: Department of Environmental Conservation
Telephone: 907-465-5242

Date of Government Version: 05/19/05
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 05/16/05
Date of Next Scheduled EDR Contact: 08/01/05

DRYCLEANERS: Drycleaner Facility Listing

Source: Department of Environmental Conservation
Telephone: 907-269-7577

A listing of drycleaning facilities in Alaska.

Date of Government Version: 08/27/04
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 04/26/05
Date of Next Scheduled EDR Contact: 07/25/05

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

BROWNFIELDS DATABASES

Inst Control: Contaminated Sites with Institutional Controls

Source: Department of Environmental Conservation

Telephone: 907-269-3063

Contaminated sites that have institutional controls.

Date of Government Version: 04/20/05

Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 04/04/05

Date of Next Scheduled EDR Contact: 06/13/05

VCP: Voluntary Cleanup Program Sites

Source: Department of Environmental Conservation

Telephone: 907-451-2182

Sites involved in the Voluntary Cleanup Program.

Date of Government Version: 04/20/05

Database Release Frequency: Varies

Date of Last EDR Contact: 04/04/05

Date of Next Scheduled EDR Contact: 06/13/05

US BROWNFIELDS: A Listing of Brownfields Sites

Source: Environmental Protection Agency

Telephone: 202-566-2777

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 01/10/05

Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 03/14/05

Date of Next Scheduled EDR Contact: 06/13/05

BROWNFIELDS: Identified and/or Proposed Brownfields Sites

Source: Department of Environmental Conservation

Telephone: 907-451-2166

Brownfield properties are defined by U.S Environmental Protection Agency (EPA) as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contamination." DEC is developing resources to assist eligible entities in Alaska in applying for EPA brownfields grants. The program also will provide technical assistance and perform some site assessments. The purpose of these assessments is to assist local redevelopment efforts on previously contaminated properties that are vacant or underused.

Date of Government Version: 03/15/05

Database Release Frequency: Varies

Date of Last EDR Contact: 03/18/05

Date of Next Scheduled EDR Contact: 06/13/05

US INST CONTROL: Sites with Institutional Controls

Source: Environmental Protection Agency

Telephone: 703-603-8867

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/10/05

Database Release Frequency: Varies

Date of Last EDR Contact: 04/04/05

Date of Next Scheduled EDR Contact: 07/04/05

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation

Telephone: (800) 823-6277

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facilities Database

Source: Department of Education & Early Development

Telephone: 907-465-2800

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK® - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

UTICA MINE
UTICA MINE
NEAR DEERING, AK 99736

TARGET PROPERTY COORDINATES

Latitude (North):	65.900909 - 65° 54' 3.3"
Longitude (West):	163.001114 - 163° 0' 4.0"
Universal Transverse Mercator:	Zone 3
UTM X (Meters):	591065.7
UTM Y (Meters):	7310125.5
Elevation:	169 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

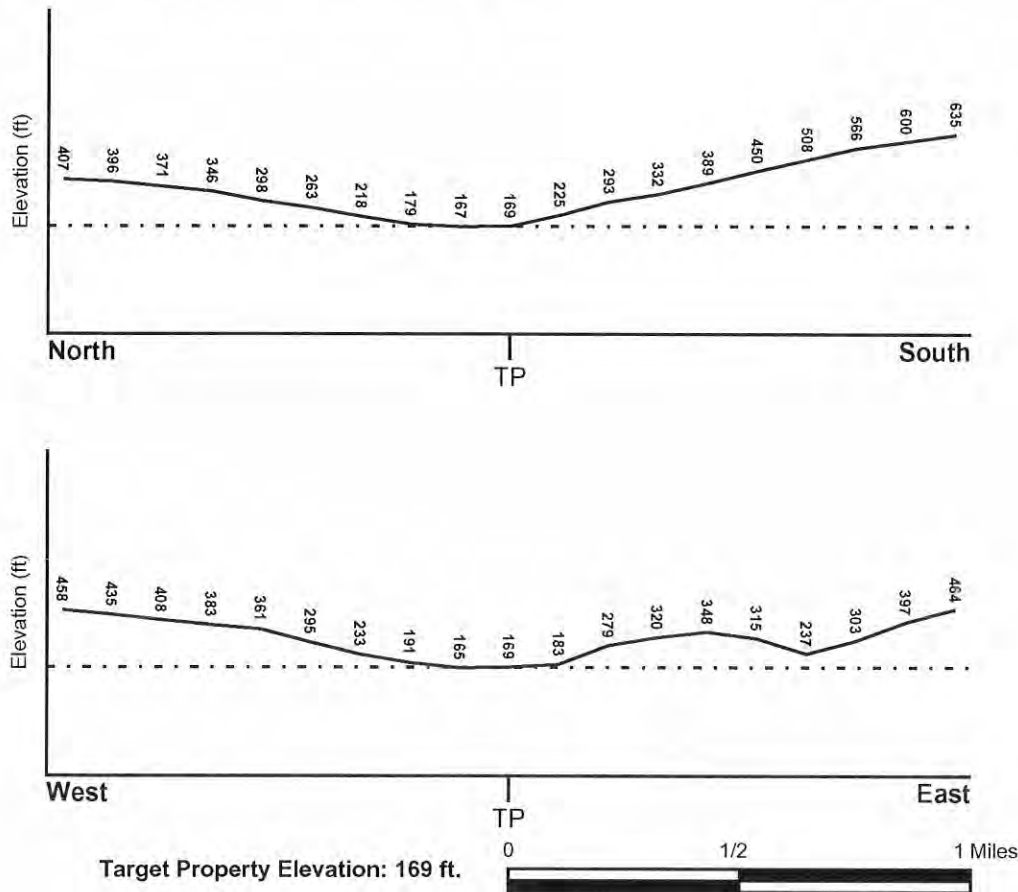
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map: N/A
General Topographic Gradient: General NW
Source: USGS 7.5 min quad index

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Target Property County</u> NORTHWEST_ARCTIC, AK	<u>FEMA Flood Electronic Data</u> Not Available
Flood Plain Panel at Target Property:	Not Reported
Additional Panels in search area:	Not Reported

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u> Not Reported	<u>NWI Electronic Data Coverage</u> N
--	--

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: -
System: -
Series: -
Code: N/A (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: -

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: HISTIC PERGELIC CRYAQUEPTS

Soil Surface Texture: peat

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly. Soils may have a saturated zone, a layer of low hydraulic conductivity, or seepage. Depth to water table is less than 1 foot.

Hydric Status: Soil meets the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Permeability Rate (in/hr)	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	8 inches	0 inches	peat	A-8	Highly organic soils, Peat.	Max: 2.00 Min: 0.60	Max: 5.00 Min: 4.50
2	9 inches	60 inches	ice or frozen soil	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: very gravelly - silt loam
gravelly - silt loam
silt loam
flaggy - silt loam
fragmental material

Surficial Soil Types: very gravelly - silt loam
gravelly - silt loam
silt loam
flaggy - silt loam
fragmental material

Shallow Soil Types: very gravelly - loam

Deeper Soil Types: unweathered bedrock
fragmental material

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID

No Wells Found

WELL ID

LOCATION
FROM TP

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID

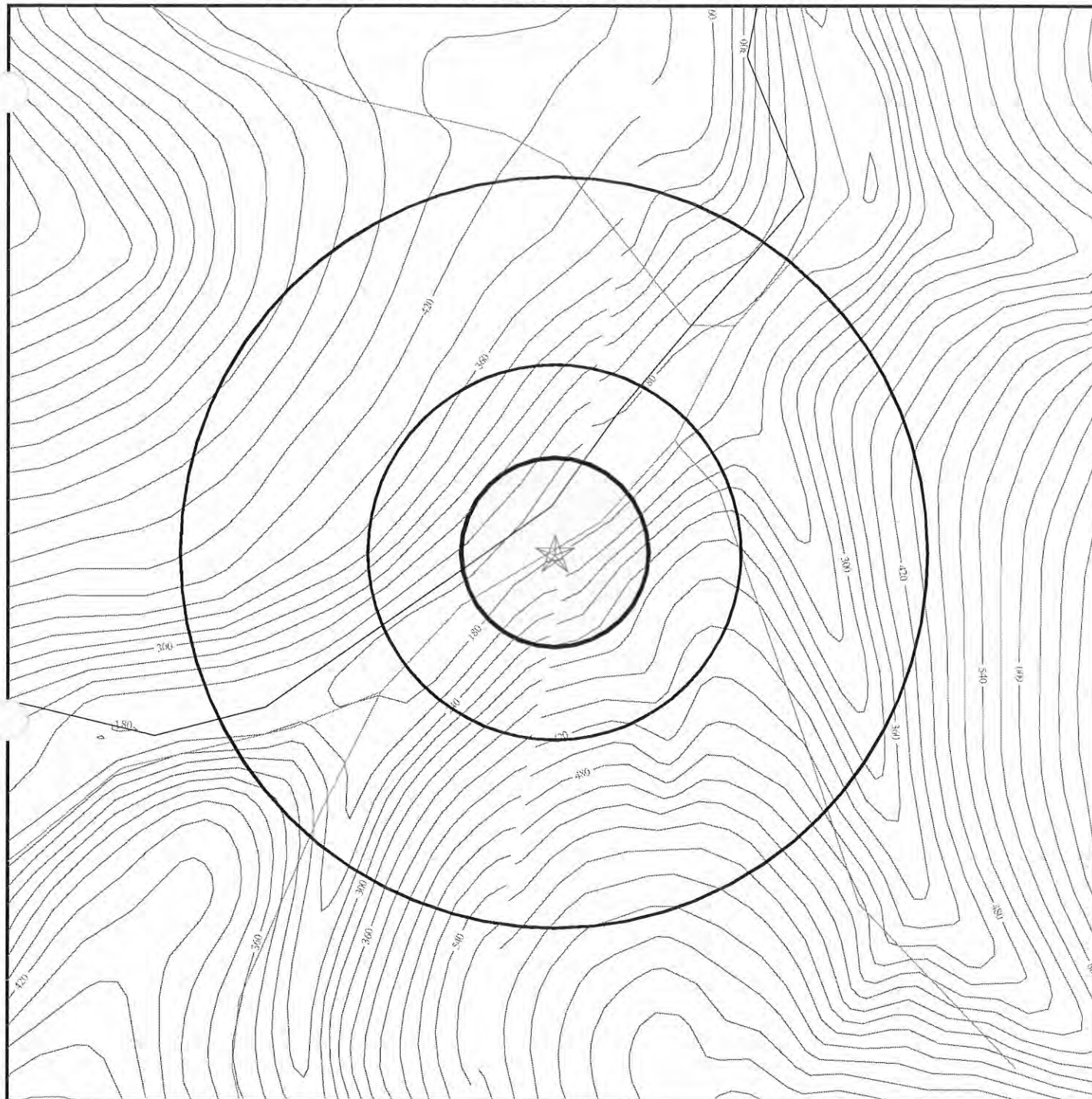
No PWS System Found

WELL ID

LOCATION
FROM TP

Note: PWS System location is not always the same as well location.

PHYSICAL SETTING SOURCE MAP - 01449156.1r



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location

TARGET PROPERTY: Utica Mine
 ADDRESS: Utica Mine
 CITY/STATE/ZIP: Near Deering AK 99736
 LAT/LONG: 65.9009 / 163.0011

CUSTOMER: SLR Alaska
 CONTACT: Dennis Filler
 INQUIRY #: 01449156.1r
 DATE: June 20, 2005 1:53 pm

**GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON**

AREA RADON INFORMATION

Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

RADON

State Database: AK Radon

Source: University of Alaska Fairbanks
Telephone: 907-474-7201
Radon Information

Area Radon Information

Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRRA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

APPENDIX C

NCA LABORATORY REPORT AND SLR QUALITY ASSURANCE REVIEW



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
425.420.9200 fax 425.420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
541.383.9310 fax 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
907.563.9200 fax 907.563.9210

June 17, 2005

Dennis Filler
SLR Alaska
3522 International St.
Fairbanks, AK 99701

RE: Utica Mine

Enclosed are the results of analyses for samples received by the laboratory on 06/09/05 14:45.
The following list is a summary of the NCA Work Orders contained in this report.
If you have any questions concerning this report, please feel free to contact me.

<u>Work</u>	<u>Project</u>	<u>ProjectNumber</u>
A5F0031	Utica Mine	[none]

Thank You,

Stephen Wilson, Laboratory Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

North Creek Analytical, Inc.
Environmental Laboratory Network

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

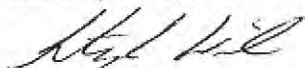
Dennis Filler

Report Created:

06/17/05 14:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
19-1	A5F0031-01	Soil	06/08/05 11:41	06/09/05 14:45
19-2	A5F0031-02	Soil	06/08/05 11:54	06/09/05 14:45
19-3	A5F0031-03	Soil	06/08/05 12:15	06/09/05 14:45
19-4	A5F0031-04	Soil	06/08/05 12:17	06/09/05 14:45
7-1	A5F0031-05	Soil	06/08/05 13:50	06/09/05 14:45
7-2	A5F0031-06	Soil	06/08/05 14:00	06/09/05 14:45
22-1	A5F0031-07	Soil	06/08/05 15:40	06/09/05 14:45
16-1	A5F0031-08	Soil	06/08/05 15:00	06/09/05 14:45
17-1	A5F0031-09	Soil	06/08/05 14:20	06/09/05 14:45
21-1	A5F0031-10	Soil	06/08/05 15:50	06/09/05 14:45
D3	A5F0031-11	Soil	06/08/05 17:05	06/09/05 14:45
Trip Blank	A5F0031-12	Soil	06/08/05 00:00	06/09/05 14:45



SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**
Project Number: [none]
Project Manager: Dennis Filler

Report Created
06/17/05 14:47

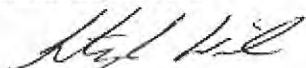
Gasoline Range Organics (C6-C10) and BTEX per AK101

North Creek Analytical - Alaska

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-01	Soil	19-1	Sampled: 06/08/05 11:41							
Gasoline Range Organics	AK101	ND	----	12.1	mg/kg dry	6.01x	5060035	06/13/05	06/13/05 22:55	
Benzene	"	ND	----	0.0486	"	"	"	"	"	
Toluene	"	ND	----	0.121	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.121	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.182	"	"	"	"	"	
Surrogate(s):	a,a,a-TFT (FID)	Recovery: 98.7%		Limits: 50 - 150 %	"				"	
	a,a,a-TFT (PID)	82.5%		47.4 - 142 %	"				"	E-02
A5F0031-02	Soil	19-2	Sampled: 06/08/05 11:54							
Gasoline Range Organics	AK101	ND	----	2.55	mg/kg dry	1x	5060035	06/13/05	06/14/05 12:30	
Benzene	"	ND	----	0.0102	"	"	"	"	"	
Toluene	"	ND	----	0.0255	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.0255	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.0382	"	"	"	"	"	
Surrogate(s):	a,a,a-TFT (FID)	Recovery: 73.7%		Limits: 50 - 150 %	"				"	
	a,a,a-TFT (PID)	64.6%		47.4 - 142 %	"				"	
A5F0031-03	Soil	19-3	Sampled: 06/08/05 12:15							
Gasoline Range Organics	AK101	ND	----	12.4	mg/kg dry	6.01x	5060035	06/13/05	06/15/05 09:51	
Benzene	"	ND	----	0.0497	"	"	"	"	"	
Toluene	"	ND	----	0.124	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.124	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.186	"	"	"	"	"	
Surrogate(s):	a,a,a-TFT (FID)	Recovery: 89.6%		Limits: 50 - 150 %	"				"	
	a,a,a-TFT (PID)	81.1%		47.4 - 142 %	"				"	E-02

North Creek Analytical - Alaska

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Stephen Wilson, Laboratory Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Gasoline Range Organics (C6-C10) and BTEX per AK101

North Creek Analytical - Alaska

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-04	Soil	19-4	Sampled: 06/08/05 12:17							
Gasoline Range Organics	AK101	ND	-----	2.50	mg/kg dry	1x	5060035	06/13/05	06/14/05 13:35	
Benzene	"	ND	-----	0.00999	"	"	"	"	"	
Toluene	"	0.0401	-----	0.0250	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0250	"	"	"	"	"	
Xylenes (total)	"	0.0416	-----	0.0375	"	"	"	"	"	J, P-02
Surrogate(s): a,a,a-TFT (FID)										
		Recovery: 84.1%			Limits: 50 - 150 %	"				
		a,a,a-TFT (PID)			76.2%	47.4 - 142 %	"			

A5F0031-05	Soil	7-1	Sampled: 06/08/05 13:50							
Gasoline Range Organics	AK101	ND	-----	3.07	mg/kg dry	1.5x	5060035	06/13/05	06/14/05 14:08	
Benzene	"	0.0176	-----	0.0123	"	"	"	"	"	
Toluene	"	0.0978	-----	0.0307	"	"	"	"	"	
Ethylbenzene	"	0.0331	-----	0.0307	"	"	"	"	"	J, P-02
Xylenes (total)	"	0.155	-----	0.0460	"	"	"	"	"	J, P-02
Surrogate(s): a,a,a-TFT (FID)										
		Recovery: 82.2%			Limits: 50 - 150 %	"				
		a,a,a-TFT (PID)			75.0%	47.4 - 142 %	"			

A5F0031-06	Soil	7-2	Sampled: 06/08/05 14:00							
Gasoline Range Organics	AK101	ND	-----	2.56	mg/kg dry	1x	5060035	06/13/05	06/14/05 14:41	
Benzene	"	ND	-----	0.0102	"	"	"	"	"	
Toluene	"	ND	-----	0.0256	"	"	"	"	"	
Ethylbenzene	"	ND	-----	0.0256	"	"	"	"	"	
Xylenes (total)	"	ND	-----	0.0384	"	"	"	"	"	
Surrogate(s): a,a,a-TFT (FID)										
		Recovery: 82.7%			Limits: 50 - 150 %	"				
		a,a,a-TFT (PID)			75.4%	47.4 - 142 %	"			

North Creek Analytical - Alaska

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Stephen Wilson, Laboratory Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9200
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
phone: (503) 906.9200 fax: (503) 906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
phone: (541) 383.9310 fax: 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

SIR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**
Project Number: [none]
Project Manager: Dennis Filler

Report Created:
06/17/05 14:47

Gasoline Range Organics (C6-C10) and BTEX per AK101

North Creek Analytical - Alaska

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	-------	----------	----------	-------

A5F0031-07 Soil 22-1 Sampled: 06/08/05 15:40

Gasoline Range Organics	AK101	ND	----	22.3	mg/kg dry	6.01x	5060035	06/13/05	06/15/05 09:19	
Benzene	"	0.187	----	0.0890	"	"	"	"	"	
Toluene	"	ND	----	0.223	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.223	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.334	"	"	"	"	"	
Surrogate(s):	a,a,a-TFT (FID)	Recovery: 76.7%		Limits: 50 - 150 %	"				"	E-02
	a,a,a-TFT (PID)	64.5%		47.4 - 142 %	"				"	E-02

A5F0031-10 Soil 21-1 Sampled: 06/08/05 15:50

Gasoline Range Organics	AK101	ND	----	20.0	mg/kg dry	6.01x	5060042	06/15/05	06/16/05 10:39	
Benzene	"	0.109	----	0.0800	"	"	"	"	"	
Toluene	"	0.704	----	0.200	"	"	"	"	"	
Ethylbenzene	"	0.390	----	0.200	"	"	"	"	"	
Xylenes (total)	"	1.54	----	0.300	"	"	"	"	"	
Surrogate(s):	a,a,a-TFT (FID)	Recovery: 96.0%		Limits: 50 - 150 %	"				"	
	a,a,a-TFT (PID)	88.8%		47.4 - 142 %	"				"	

A5F0031-11 Soil D3 Sampled: 06/08/05 17:05

Gasoline Range Organics	AK101	ND	----	27.9	mg/kg dry	6.01x	5060042	06/15/05	06/16/05 11:12	
Benzene	"	ND	----	0.112	"	"	"	"	"	
Toluene	"	ND	----	0.279	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.279	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.418	"	"	"	"	"	
Surrogate(s):	a,a,a-TFT (FID)	Recovery: 87.1%		Limits: 50 - 150 %	"				"	
	a,a,a-TFT (PID)	81.7%		47.4 - 142 %	"				"	

North Creek Analytical - Alaska

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Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
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phone: (541) 383.9310 fax: 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Gasoline Range Organics (C6-C10) and BTEX per AK101

North Creek Analytical - Alaska

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-12	Soil	Trip Blank	Sampled: 06/08/05 00:00							
Gasoline Range Organics	AK101	ND	----	3.33	mg/kg dry	1x	5060035	06/13/05	06/13/05 21:11	
Benzene	"	ND	----	0.0133	"	"	"	"	"	
Toluene	"	ND	----	0.0333	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.0333	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.0500	"	"	"	"	"	
Surrogate(s):		a,a,a-TFT (FID)	Recovery: 91.7%	Limits: 50 - 150 %		"		"		
		a,a,a-TFT (PID)	80.8%	47.4 - 142 %		"		"		

North Creek Analytical - Alaska

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Stephen Wilson, Laboratory Manager

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Environmental Laboratory Network

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Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
phone: (503) 906.9200 fax: (503) 906.9210
Bend 20332 Emprle Avenue, Suite F-1, Bend, OR 97701-5711
phone: (541) 383.9310 fax: 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

North Creek Analytical - Alaska

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-01	Soil	19-1	Sampled: 06/08/05 11:41							
Diesel Range Organics	AK102/103	5030	-----	600	mg/kg dry	20x	5060029	06/10/05	06/14/05 12:14	R-01
Residual Range Organics	"	10200	-----	1200	"	"	"	"	"	R-01
Surrogate(s):	1-Chlorooctadecane	Recovery: 100%		Limits: 50 - 150 %	"				"	R-01
	Triacotane	142%		50 - 150 %	"				"	R-01
A5F0031-02RE1	Soil	19-2	Sampled: 06/08/05 11:54							
Diesel Range Organics	AK102/103	9970	-----	6130	mg/kg dry	100x	5060034	06/13/05	06/14/05 14:23	R-01
Residual Range Organics	"	48400	-----	12300	"	"	"	"	"	R-01
Surrogate(s):	1-Chlorooctadecane	Recovery: NR		Limits: 50 - 150 %	"				"	R-01, S-01
	Triacotane	NR		50 - 150 %	"				"	R-01, S-01
A5F0031-03	Soil	19-3	Sampled: 06/08/05 12:15							
Diesel Range Organics	AK102/103	6060	-----	1210	mg/kg dry	40x	5060029	06/10/05	06/14/05 10:38	R-01
Residual Range Organics	"	17800	-----	2430	"	"	"	"	"	R-01
Surrogate(s):	1-Chlorooctadecane	Recovery: 93.4%		Limits: 50 - 150 %	"				"	S-01, R-01
	Triacotane	87.4%		50 - 150 %	"				"	S-01, R-01
A5F0031-04	Soil	19-4	Sampled: 06/08/05 12:17							
Diesel Range Organics	AK102/103	18000	-----	2970	mg/kg dry	100x	5060029	06/10/05	06/16/05 10:21	R-01
Residual Range Organics	"	31600	-----	5940	"	"	"	"	"	R-01
Surrogate(s):	1-Chlorooctadecane	Recovery: NR		Limits: 50 - 150 %	"				"	S-01, R-01
	Triacotane	NR		50 - 150 %	"				"	R-01, S-01

North Creek Analytical - Alaska

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Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
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SLR Alaska

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Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

North Creek Analytical - Alaska

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-05RE1	Soil	7-1	Sampled: 06/08/05 13:50							
Diesel Range Organics	AK102/103	7180	-----	5970	mg/kg dry	100x	5060034	06/13/05	06/14/05 14:55	R-01
Residual Range Organics	"	63700	-----	11900	"	"	"	"	"	R-01
Surrogate(s):	1-Chlorooctadecane	Recovery: NR		Limits: 50 - 150 %	"				"	R-01, S-01
	Triacotane	NR		50 - 150 %	"				"	S-01, R-01
A5F0031-06	Soil	7-2	Sampled: 06/08/05 14:00							
Diesel Range Organics	AK102/103	20100	-----	3110	mg/kg dry	100x	5060029	06/10/05	06/14/05 17:39	R-01
Residual Range Organics	"	75300	-----	6210	"	"	"	"	"	R-01
Surrogate(s):	1-Chlorooctadecane	Recovery: 157%		Limits: 50 - 150 %	"				"	S-01, R-01
	Triacotane	>300%		50 - 150 %	"				"	S-01, R-01
A5F0031-07	Soil	22-1	Sampled: 06/08/05 15:40							
Diesel Range Organics	AK102/103	31100	-----	6390	mg/kg dry	20x	5060029	06/10/05	06/14/05 11:42	R-01
Residual Range Organics	"	111000	-----	12800	"	"	"	"	"	R-01
Surrogate(s):	1-Chlorooctadecane	Recovery: 219%		Limits: 50 - 150 %	"				"	S-01, R-01
	Triacotane	>300%		50 - 150 %	"				"	S-01, R-01
A5F0031-09	Soil	17-1	Sampled: 06/08/05 14:20							
Diesel Range Organics	AK102/103	ND	-----	25.0	mg/kg dry	1x	5060029	06/10/05	06/14/05 12:46	
Residual Range Organics	"	ND	-----	50.0	"	"	"	"	"	
Surrogate(s):	1-Chlorooctadecane	Recovery: 98.2%		Limits: 50 - 150 %	"				"	
	Triacotane	94.5%		50 - 150 %	"				"	

North Creek Analytical - Alaska

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Fairbanks, AK 99701

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Utica Mine

Project Number:

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Project Manager:

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Report Created:

06/17/05 14:47

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

North Creek Analytical - Alaska

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-10RE1	Soil	21-1	Sampled: 06/08/05 15:50							
Diesel Range Organics	AK102/103	8290	-----	5590	mg/kg dry	100x	5060034	06/13/05	06/14/05 15:28	R-01
Residual Range Organics	"	41500	-----	11200	"	"	"	"	"	R-01
Surrogate(s):	1-Chlorooctadecane	Recovery: NR		Limits: 50 - 150 %	"				"	S-01, R-01
	Triacontane	NR		50 - 150 %	"				"	S-01, R-01
A5F0031-11	Soil	D3	Sampled: 06/08/05 17:05							
Diesel Range Organics	AK102/103	8080	-----	1150	mg/kg dry	40x	5060029	06/10/05	06/15/05 13:09	R-01
Residual Range Organics	"	30300	-----	2300	"	"	"	"	"	R-01
Surrogate(s):	1-Chlorooctadecane	Recovery: 148%		Limits: 50 - 150 %	"				"	R-01, S-01
	Triacontane	91.2%		50 - 150 %	"				"	R-01, S-01

North Creek Analytical - Alaska

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Project Name:

Utica Mine

Project Number:

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Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Physical Parameters by APHA/ASTM/EPA Methods**North Creek Analytical - Alaska**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-01	Soil	19-1	Sampled: 06/08/05 11:41							
Dry Weight	BSOPSPL003R0	94.9	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	
A5F0031-02	Soil	19-2	Sampled: 06/08/05 11:54							
Dry Weight	BSOPSPL003R0	92.8	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	
A5F0031-03	Soil	19-3	Sampled: 06/08/05 12:15							
Dry Weight	BSOPSPL003R0	90.8	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	
A5F0031-04	Soil	19-4	Sampled: 06/08/05 12:17							
Dry Weight	BSOPSPL003R0	95.2	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	
A5F0031-05	Soil	7-1	Sampled: 06/08/05 13:50							
Dry Weight	BSOPSPL003R0	96.6	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	
5F0031-06	Soil	7-2	Sampled: 06/08/05 14:00							
Dry Weight	BSOPSPL003R0	96.3	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	
A5F0031-07	Soil	22-1	Sampled: 06/08/05 15:40							
Dry Weight	BSOPSPL003R0	90.1	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	

North Creek Analytical - Alaska

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SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Physical Parameters by APHA/ASTM/EPA Methods**North Creek Analytical - Alaska**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-09	Soil	17-1	Sampled: 06/08/05 14:20							
Dry Weight	BSOPSPL003R0	83.7	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	
A5F0031-10	Soil	21-1	Sampled: 06/08/05 15:50							
Dry Weight	BSOPSPL003R0	90.5	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	
A5F0031-11	Soil	D3	Sampled: 06/08/05 17:05							
Dry Weight	BSOPSPL003R0	89.9	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	
A5F0031-12	Soil	Trip Blank	Sampled: 06/08/05 00:00							
Dry Weight	BSOPSPL003R0	100	-----	1.00	%	1x	5060030	06/10/05	06/13/05 09:26	

North Creek Analytical - Alaska

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Stephen Wilson, Laboratory Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**
Project Number: [none]
Project Manager: Dennis Filler

Report Created:
06/17/05 14:47

Total Metals by EPA 6000/7000 Series Methods**North Creek Analytical - Bothell**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-01	Soil	19-1	Sampled: 06/08/05 11:41							
Arsenic	EPA 6020	28.2	-----	0.588	mg/kg dry	1x	SF14058	06/14/05	06/15/05 17:47	
Barium	"	146	-----	5.88	"	"	"	"	"	
Cadmium	"	3.33	-----	0.588	"	"	"	"	"	
Chromium	"	67.9	-----	0.588	"	"	"	"	"	
Mercury	EPA 7471A	0.732	-----	0.100	"	"	SF13061	06/13/05	06/14/05 11:02	
Selenium	EPA 6020	0.604	-----	0.588	"	"	SF14058	06/14/05	06/15/05 17:47	
Silver	"	ND	-----	0.588	"	"	"	"	"	
A5F0031-01RE1	Soil	19-1	Sampled: 06/08/05 11:41							
Lead	EPA 6020	622	-----	2.94	mg/kg dry	5x	SF14058	06/14/05	06/17/05 08:27	
A5F0031-02	Soil	19-2	Sampled: 06/08/05 11:54							
Arsenic	EPA 6020	25.8	-----	0.431	mg/kg dry	1x	SF14058	06/14/05	06/15/05 17:52	
Cadmium	"	29.5	-----	0.431	"	"	"	"	"	
Chromium	"	50.9	-----	0.431	"	"	"	"	"	
Mercury	EPA 7471A	4.33	-----	1.00	"	10x	SF13061	06/13/05	06/14/05 12:12	
Selenium	EPA 6020	0.652	-----	0.431	"	1x	SF14058	06/14/05	06/15/05 17:52	
Silver	"	62.8	-----	0.431	"	"	"	"	"	
A5F0031-02RE1	Soil	19-2	Sampled: 06/08/05 11:54							
Barium	EPA 6020	164	-----	21.6	mg/kg dry	5x	SF14058	06/14/05	06/16/05 16:45	
Lead	"	381	-----	2.16	"	"	"	"	06/17/05 08:33	

North Creek Analytical - Alaska

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Stephen Wilson, Laboratory Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**
Project Number: [none]
Project Manager: Dennis Filler

Report Created:
06/17/05 14:47

Total Metals by EPA 6000/7000 Series Methods

North Creek Analytical - Bothell

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-03	Soil	19-3	Sampled: 06/08/05 12:15							
Arsenic	EPA 6020	25.0	----	0.450	mg/kg dry	1x	5F14058	06/14/05	06/15/05 17:58	
Cadmium	"	9.28	----	0.450	"	"	"	"	"	
Chromium	"	61.0	----	0.450	"	"	"	"	"	
Mercury	EPA 7471A	10.6	----	1.00	"	10x	5F13061	06/13/05	06/14/05 12:20	
Selenium	EPA 6020	0.481	----	0.450	"	1x	5F14058	06/14/05	06/15/05 17:58	
Silver	"	1.60	----	0.450	"	"	"	"	"	
A5F0031-03RE1	Soil	19-3	Sampled: 06/08/05 12:15							
Barium	EPA 6020	422	----	22.5	mg/kg dry	5x	5F14058	06/14/05	06/16/05 16:50	
Lead	"	451	----	2.25	"	"	"	"	06/17/05 08:39	
A5F0031-04	Soil	19-4	Sampled: 06/08/05 12:17							
Arsenic	EPA 6020	26.2	----	0.500	mg/kg dry	1x	5F14058	06/14/05	06/15/05 18:04	
Barium	"	134	----	5.00	"	"	"	"	"	
Cadmium	"	4.08	----	0.500	"	"	"	"	"	
Mercury	EPA 7471A	2.45	----	0.500	"	5x	5F13061	06/13/05	06/14/05 12:22	
Selenium	EPA 6020	ND	----	0.500	"	1x	5F14058	06/14/05	06/15/05 18:04	
Silver	"	ND	----	0.500	"	"	"	"	"	
A5F0031-04RE1	Soil	19-4	Sampled: 06/08/05 12:17							
Chromium	EPA 6020	314	----	1.00	mg/kg dry	2x	5F14058	06/14/05	06/16/05 17:08	
Lead	"	242	----	1.00	"	"	"	"	06/17/05 08:44	

North Creek Analytical - Alaska

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Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Total Metals by EPA 6000/7000 Series Methods

North Creek Analytical - Bothell

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-05	Soil	7-1	Sampled: 06/08/05 13:50							
Arsenic	EPA 6020	14.2	----	0.500	mg/kg dry	1x	5F14058	06/14/05	06/15/05 18:21	
Barium	"	26.6	----	5.00	"	"	"	"	"	
Cadmium	"	0.569	----	0.500	"	"	"	"	"	
Chromium	"	14.0	----	0.500	"	"	"	"	"	
Lead	"	32.2	----	0.500	"	"	"	"	"	
Mercury	EPA 7471A	ND	----	0.100	"	"	5F13061	06/13/05	06/14/05 11:16	
Selenium	EPA 6020	0.559	----	0.500	"	"	5F14058	06/14/05	06/15/05 18:21	
Silver	"	ND	----	0.500	"	"	"	"	"	
A5F0031-07	Soil	22-1	Sampled: 06/08/05 15:40							
Arsenic	EPA 6020	9.65	----	0.500	mg/kg dry	1x	5F14058	06/14/05	06/15/05 18:27	
Cadmium	"	1.37	----	0.500	"	"	"	"	"	
Chromium	"	38.6	----	0.500	"	"	"	"	"	
Mercury	EPA 7471A	0.568	----	0.0806	"	"	5F13061	06/13/05	06/14/05 11:18	
Selenium	EPA 6020	ND	----	0.500	"	"	5F14058	06/14/05	06/15/05 18:27	
Silver	"	ND	----	0.500	"	"	"	"	"	
A5F0031-07RE1	Soil	22-1	Sampled: 06/08/05 15:40							
Barium	EPA 6020	1050	----	50.0	mg/kg dry	10x	5F14058	06/14/05	06/16/05 17:13	
Lead	"	414	----	5.00	"	"	"	"	06/17/05 09:02	

North Creek Analytical - Alaska

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SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Total Metals by EPA 6000/7000 Series Methods**North Creek Analytical - Bothell**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-08	Soil	16-1	Sampled: 06/08/05 15:00							
Arsenic	EPA 6020	17.2	-----	0.500	mg/kg dry	1x	5F14058	06/14/05	06/15/05 18:33	
Barium	"	85.8	-----	5.00	"	"	"	"	"	
Cadmium	"	2.40	-----	0.500	"	"	"	"	"	
Chromium	"	11.4	-----	0.500	"	"	"	"	"	
Lead	"	64.6	-----	0.500	"	"	"	"	"	
Mercury	EPA 7471A	1.65	-----	0.500	"	5x	5F13061	06/13/05	06/14/05 12:10	
Selenium	EPA 6020	0.895	-----	0.500	"	1x	5F14058	06/14/05	06/15/05 18:33	
Silver	"	ND	-----	0.500	"	"	"	"	"	
A5F0031-09	Soil	17-1	Sampled: 06/08/05 14:20							
Barium	EPA 6020	83.2	-----	5.00	mg/kg dry	1x	5F14058	06/14/05	06/15/05 18:38	
Cadmium	"	1.24	-----	0.500	"	"	"	"	"	
Chromium	"	25.2	-----	0.500	"	"	"	"	"	
Mercury	EPA 7471A	125	-----	17.6	"	225x	5F13061	06/13/05	06/14/05 12:32	
Selenium	EPA 6020	3.01	-----	0.500	"	1x	5F14058	06/14/05	06/15/05 18:38	
Silver	"	2.75	-----	0.500	"	"	"	"	"	
A5F0031-09RE1	Soil	17-1	Sampled: 06/08/05 14:20							
Arsenic	EPA 6020	508	-----	5.00	mg/kg dry	10x	5F14058	06/14/05	06/16/05 17:19	
Lead	"	1470	-----	5.00	"	"	"	"	06/17/05 09:07	

North Creek Analytical - Alaska

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phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9200
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
phone: (503) 906.9200 fax: (503) 906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
phone: (541) 383.9310 fax: 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Total Metals by EPA 6000/7000 Series Methods**North Creek Analytical - Bothell**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-10	Soil	21-1	Sampled: 06/08/05 15:50							
Arsenic	EPA 6020	82.7	----	0.500	mg/kg dry	1x	SF14058	06/14/05	06/15/05 18:44	
Barium	"	95.6	----	5.00	"	"	"	"	"	
Cadmium	"	1.75	----	0.500	"	"	"	"	"	
Chromium	"	81.9	----	0.500	"	"	"	"	"	
Lead	"	116	----	0.500	"	"	"	"	"	
Mercury	EPA 7471A	0.264	----	0.100	"	"	SF13061	06/13/05	06/14/05 12:02	
Selenium	EPA 6020	ND	----	0.500	"	"	SF14058	06/14/05	06/15/05 18:44	
Silver	"	ND	----	0.500	"	"	"	"	"	
A5F0031-11	Soil	D3	Sampled: 06/08/05 17:05							
Arsenic	EPA 6020	43.8	----	0.500	mg/kg dry	1x	SF14058	06/14/05	06/15/05 18:50	
Barium	"	77.9	----	5.00	"	"	"	"	"	
Cadmium	"	1.26	----	0.500	"	"	"	"	"	
Chromium	"	14.2	----	0.500	"	"	"	"	"	
Lead	"	187	----	0.500	"	"	"	"	"	
Mercury	EPA 7471A	ND	----	0.100	"	"	SF13061	06/13/05	06/14/05 11:31	
Selenium	EPA 6020	ND	----	0.500	"	"	SF14058	06/14/05	06/15/05 18:50	
Silver	"	ND	----	0.500	"	"	"	"	"	

North Creek Analytical - Alaska

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phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
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phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Physical Parameters by APHA/ASTM/EPA Methods**North Creek Analytical - Bothell**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-01	Soil	19-1	Sampled: 06/08/05 11:41							
Dry Weight	BSOPSPL003R0	91.6	-----	1.00	%	1x	5F14051	06/14/05	06/15/05 00:00	
A5F0031-02	Soil	19-2	Sampled: 06/08/05 11:54							
Dry Weight	BSOPSPL003R0	93.9	-----	1.00	%	1x	5F14022	06/14/05	06/15/05 00:00	
A5F0031-03	Soil	19-3	Sampled: 06/08/05 12:15							
Dry Weight	BSOPSPL003R0	92.7	-----	1.00	%	1x	5F14022	06/14/05	06/15/05 00:00	
A5F0031-04	Soil	19-4	Sampled: 06/08/05 12:17							
Dry Weight	BSOPSPL003R0	91.5	-----	1.00	%	1x	5F14022	06/14/05	06/15/05 00:00	
A5F0031-05	Soil	7-1	Sampled: 06/08/05 13:50							
Dry Weight	BSOPSPL003R0	93.0	-----	1.00	%	1x	5F14022	06/14/05	06/15/05 00:00	
5F0031-07	Soil	22-1	Sampled: 06/08/05 15:40							
Dry Weight	BSOPSPL003R0	74.3	-----	1.00	%	1x	5F14022	06/14/05	06/15/05 00:00	
A5F0031-08	Soil	16-1	Sampled: 06/08/05 15:00							
Dry Weight	BSOPSPL003R0	85.7	-----	1.00	%	1x	5F14022	06/14/05	06/15/05 00:00	

North Creek Analytical - Alaska

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phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
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phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Physical Parameters by APHA/ASTM/EPA Methods**North Creek Analytical - Bothell**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
A5F0031-09	Soil	17-1	Sampled: 06/08/05 14:20							
Dry Weight	BSOPSPLO03R0	86.6	-----	1.00	%	1x	5F14022	06/14/05	06/15/05 00:00	
A5F0031-10	Soil	21-1	Sampled: 06/08/05 15:50							
Dry Weight	BSOPSPLO03R0	93.0	-----	1.00	%	1x	5F14022	06/14/05	06/15/05 00:00	
A5F0031-11	Soil	D3	Sampled: 06/08/05 17:05							
Dry Weight	BSOPSPLO03R0	92.9	-----	1.00	%	1x	5F14022	06/14/05	06/15/05 00:00	

North Creek Analytical - Alaska

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phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
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phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**

Project Number: [none]

Project Manager: Dennis Filler

Report Created:

06/17/05 14:47

Gasoline Range Organics (C6-C10) and BTEX per AK101 - Laboratory Quality Control Results
North Creek Analytical - Alaska

QC Batch: 5060035

Soil Preparation Method: AK101 Field Prep

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5060035-BLK1)							Extracted: 06/13/05 10:00							
Gasoline Range Organics	AK101 GRO/BTEX	ND	---	3.33	mg/kg	1x	--	--	--	--	--	--	06/13/05 18:52	
Benzene	"	ND	---	0.0133	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0333	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0333	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Surrogate(s): a,a,a-TFT (FID)		Recovery:	92.1%	Limits: 50-150%		"	06/13/05 18:52							
a,a,a-TFT (PID)			79.6%	47.4-142%		"	"							
LCS (5060035-BS1)							Extracted: 06/13/05 10:00							
Gasoline Range Organics	AK101 GRO/BTEX	18.4	---	3.33	mg/kg	1x	--	22.0	83.6%	(60-120)	--	--	06/13/05 17:35	
Benzene	"	0.234	---	0.0133	"	"	--	0.272	86.0%	(80.6-145)	--	--	"	
Toluene	"	1.40	---	0.0333	"	"	--	1.65	84.8%	(71.7-125)	--	--	"	
Ethylbenzene	"	0.353	---	0.0333	"	"	--	0.388	91.0%	(71.2-127)	--	--	"	
Xylenes (total)	"	1.76	---	0.0500	"	"	--	1.96	89.8%	(79.2-126)	--	--	"	
Surrogate(s): a,a,a-TFT (FID)		Recovery:	98.3%	Limits: 50-150%		"	06/13/05 17:35							
a,a,a-TFT (PID)			89.2%	47.4-142%		"	"							
LCS Dup (5060035-BSD1)							Extracted: 06/13/05 10:00							
Gasoline Range Organics	AK101 GRO/BTEX	19.4	---	3.33	mg/kg	1x	--	22.0	88.2%	(60-120)	5.29% (20)		06/13/05 18:18	
Benzene	"	0.237	---	0.0133	"	"	--	0.272	87.1%	(80.6-145)	1.27% (15.6)		"	
Toluene	"	1.43	---	0.0333	"	"	--	1.65	86.7%	(71.7-125)	2.12% (14.8)		"	
Ethylbenzene	"	0.351	---	0.0333	"	"	--	0.388	90.5%	(71.2-127)	0.568% (17.3)		"	
Xylenes (total)	"	1.79	---	0.0500	"	"	--	1.96	91.3%	(79.2-126)	1.69% (15)		"	
Surrogate(s): a,a,a-TFT (FID)		Recovery:	99.2%	Limits: 50-150%		"	06/13/05 18:18							
a,a,a-TFT (PID)			89.2%	47.4-142%		"	"							
Duplicate (5060035-DUP1)							QC Source: A5F0036-01	Extracted: 06/13/05 10:00						
Gasoline Range Organics	AK101 GRO/BTEX	ND	---	3.06	mg/kg dry	4.5x	ND	--	--	--	NR (50)		06/13/05 19:26	
Surrogate(s): a,a,a-TFT (FID)		Recovery:	92.2%	Limits: 50-150%		"	06/13/05 19:26							
Matrix Spike (5060035-MS1)							QC Source: A5F0036-01	Extracted: 06/13/05 10:00						
Benzene	AK101 GRO/BTEX	0.574	---	0.0123	mg/kg dry	4.5x	ND	0.669	85.8%	(71.8-132)	--	--	06/13/05 20:01	
Toluene	"	0.585	---	0.0306	"	"	ND	0.666	87.8%	(73.6-127)	--	--	"	
Ethylbenzene	"	0.614	---	0.0306	"	"	0.00283	0.676	90.4%	(68.9-123)	--	--	"	
Xylenes (total)	"	1.83	---	0.0460	"	"	0.0121	1.99	91.4%	(81.9-124)	--	--	"	
Surrogate(s): a,a,a-TFT (PID)		Recovery:	71.6%	Limits: 47.4-142%		"	06/13/05 20:01							

North Creek Analytical - Alaska

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phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
phone: (503) 906.9200 fax: (503) 906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
phone: (541) 383.9310 fax: 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Gasoline Range Organics (C6-C10) and BTEX per AK101 - Laboratory Quality Control Results
North Creek Analytical - Alaska

QC Batch: 5060035**Soil Preparation Method: AK101 Field Prep**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (5060035-MSD1)			QC Source: A5F0036-01				Extracted: 06/13/05 10:00							
Benzene	AK101 GRO/BTEX	0.604	---	0.0123	mg/kg dry	4.5x	ND	0.669	90.3%	(71.8-132)	5.09% (14.9)		06/13/05 20:36	
Toluene	"	0.613	---	0.0306	"	"	ND	0.666	92.0%	(73.6-127)	4.67% (16.2)		"	
Ethylbenzene	"	0.642	---	0.0306	"	"	0.00283	0.676	94.6%	(68.9-123)	4.46% (14)		"	
Xylenes (total)	"	1.91	---	0.0460	"	"	0.0121	1.99	95.4%	(81.9-124)	4.28% (13.5)		"	
Surrogate(s): a,a,a-TFT (PID)		Recovery: 70.1%	Limits: 47.4-142%		06/13/05 20:36									

QC Batch: 5060042**Soil Preparation Method: AK101 Field Prep**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5060042-BLK1)			Extracted: 06/15/05 14:32											
Gasoline Range Organics	AK101 GRO/BTEX	ND	---	3.33	mg/kg	1x	--	--	--	--	--	--	06/16/05 03:27	
Benzene	"	ND	---	0.0133	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0333	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0333	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Surrogate(s): a,a,a-TFT (FID)		Recovery: 88.8%	Limits: 50-150%		06/16/05 03:27									
a,a,a-TFT (PID)		87.5%	47.4-142%		"									

LCS (5060042-BS1)**Extracted: 06/15/05 14:32**

Gasoline Range Organics	AK101 GRO/BTEX	16.3	---	3.33	mg/kg	1x	--	22.0	74.1%	(60-120)	--	--	06/16/05 02:22	
Benzene	"	0.242	---	0.0133	"	"	--	0.272	89.0%	(80.6-145)	--	--	"	
Toluene	"	1.45	---	0.0333	"	"	--	1.65	87.9%	(71.7-125)	--	--	"	
Ethylbenzene	"	0.366	---	0.0333	"	"	--	0.388	94.3%	(71.2-127)	--	--	"	
Xylenes (total)	"	1.82	---	0.0500	"	"	--	1.96	92.9%	(79.2-126)	--	--	"	
Surrogate(s): a,a,a-TFT (FID)		Recovery: 88.8%	Limits: 50-150%		06/16/05 02:22									
a,a,a-TFT (PID)		91.7%	47.4-142%		"									

LCS Dup (5060042-BSD1)**Extracted: 06/15/05 14:32**

Gasoline Range Organics	AK101 GRO/BTEX	17.3	---	3.33	mg/kg	1x	--	22.0	78.6%	(60-120)	5.95% (20)		06/16/05 02:55	
Benzene	"	0.260	---	0.0133	"	"	--	0.272	95.6%	(80.6-145)	7.17% (15.6)		"	
Toluene	"	1.55	---	0.0333	"	"	--	1.65	93.9%	(71.7-125)	6.67% (14.8)		"	
Ethylbenzene	"	0.388	---	0.0333	"	"	--	0.388	100%	(71.2-127)	5.84% (17.3)		"	
Xylenes (total)	"	1.94	---	0.0500	"	"	--	1.96	99.0%	(79.2-126)	6.38% (15)		"	
Surrogate(s): a,a,a-TFT (FID)		Recovery: 93.8%	Limits: 50-150%		06/16/05 02:55									
a,a,a-TFT (PID)		97.5%	47.4-142%		"									

North Creek Analytical - Alaska

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North Creek Analytical, Inc.
Environmental Laboratory Network

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phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
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SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**

Project Number: [none]

Project Manager: Dennis Filler

Report Created:

06/17/05 14:47

Gasoline Range Organics (C6-C10) and BTEX per AK101 - Laboratory Quality Control Results
North Creek Analytical - Alaska

QC Batch: 5060042**Soil Preparation Method: AK101 Field Prep**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Duplicate (5060042-DUP1)

QC Source: A5F0039-01

Extracted: 06/15/05 14:32

Gasoline Range Organics	AK101 GRO/BTEX	ND	---	3.49	mg/kg dry	1.5x	ND	--	--	--	NR	(50)	06/16/05 09:01	
Surrogate(s): a,a,a-TFT (FID)		Recovery:	91.5%	Limits:	50-150%	"		06/16/05 09:01						

Matrix Spike (5060042-MS1)

QC Source: A5F0039-01

Extracted: 06/15/05 14:32

Benzene	AK101 GRO/BTEX	0.789	---	0.0140	mg/kg dry	1.5x	ND	0.735	107%	(71.8-132)	--	--	06/16/05 09:34	
Toluene	"	0.802	---	0.0349	"	"	ND	0.732	110%	(73.6-127)	--	--	"	
Ethylbenzene	"	0.825	---	0.0349	"	"	0.00532	0.743	110%	(68.9-123)	--	--	"	
Xylenes (total)	"	2.45	---	0.0524	"	"	0.0248	2.18	111%	(81.9-124)	--	--	"	
Surrogate(s): a,a,a-TFT (PID)		Recovery:	95.5%	Limits:	47.4-142%	"		06/16/05 09:34						

Matrix Spike Dup (5060042-MSD1)

QC Source: A5F0039-01

Extracted: 06/15/05 14:32

Benzene	AK101 GRO/BTEX	0.715	---	0.0140	mg/kg dry	1.5x	ND	0.735	97.3%	(71.8-132)	9.84%	(14.9)	06/16/05 10:06	
Toluene	"	0.734	---	0.0349	"	"	ND	0.732	100%	(73.6-127)	8.85%	(16.2)	"	
Ethylbenzene	"	0.753	---	0.0349	"	"	0.00532	0.743	101%	(68.9-123)	9.13%	(14)	"	
Xylenes (total)	"	2.26	---	0.0524	"	"	0.0248	2.18	103%	(81.9-124)	8.07%	(13.5)	"	
Surrogate(s): a,a,a-TFT (PID)		Recovery:	93.8%	Limits:	47.4-142%	"		06/16/05 10:06						

North Creek Analytical - Alaska

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Stephen Wilson, Laboratory Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
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phone: (541) 383.9310 fax: 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**
Project Number: [none]
Project Manager: Dennis Filler

Report Created:
06/17/05 14:47

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO - Laboratory Quality Control Results
North Creek Analytical - Alaska

QC Batch: 5060029**Soil Preparation Method: EPA 3545**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Blank (5060029-BLK1)							Extracted: 06/10/05 08:12								
Diesel Range Organics	AK102/103	ND	---	25.0	mg/kg	1x	--	--	--	--	--	--	06/14/05 10:06		
Residual Range Organics	"	ND	---	50.0	"	"	--	--	--	--	--	--	"		
Surrogate(s): 1-Chlorooctadecane		Recovery:	99.2%	Limits: 50-150%		"								06/14/05 10:06	
Triacontane			92.8%	50-150%		"								"	
LCS (5060029-BS1)							Extracted: 06/10/05 08:12								
Diesel Range Organics	AK102/103	122	---	25.0	mg/kg	1x	--	128	95.3%	(75-125)	--	--	06/14/05 10:38		
Residual Range Organics	"	119	---	50.0	"	"	--	"	93.0%	(60-120)	--	--	"		
Surrogate(s): 1-Chlorooctadecane		Recovery:	95.2%	Limits: 50-150%		"								06/14/05 10:38	
Triacontane			89.6%	50-150%		"								"	
LCS Dup (5060029-BSD1)							Extracted: 06/10/05 08:12								
Diesel Range Organics	AK102/103	123	---	25.0	mg/kg	1x	--	128	96.1%	(75-125)	0.816% (20)	--	06/14/05 11:10		
Residual Range Organics	"	122	---	50.0	"	"	--	"	95.3%	(60-120)	2.49%	"	"		
Surrogate(s): 1-Chlorooctadecane		Recovery:	89.6%	Limits: 50-150%		"								06/14/05 11:10	
Triacontane			88.8%	50-150%		"								"	
Duplicate (5060029-DUP1)				QC Source: A5F0031-01				Extracted: 06/10/05 08:12							
Diesel Range Organics	AK102/103	4640	---	599	mg/kg dry	20x	5030	--	--	--	8.07% (50)	--	06/14/05 11:42	R-01	
Residual Range Organics	"	9060	---	1200	"	"	10200	--	--	--	11.8%	"	"	R-01	
Surrogate(s): 1-Chlorooctadecane		Recovery:	102%	Limits: 50-150%		"								06/14/05 11:42	R-01
Triacontane			151%	50-150%		"								"	R-01, S-02
Matrix Spike (5060029-MS1)				QC Source: A5F0031-04				Extracted: 06/10/05 08:12							
Diesel Range Organics	AK102/103	18400	---	2990	mg/kg dry	100x	18000	160	250%	(75-125)	--	--	06/16/05 10:21	Q-03, R-01	
Residual Range Organics	"	31500	---	5980	"	"	31600	"	NR	(60-150)	--	--	"	Q-03, R-01	
Surrogate(s): 1-Chlorooctadecane		Recovery:	NR	Limits: 50-150%		"								06/16/05 10:21	R-01, S-01
Triacontane			NR	50-150%		"								"	R-01, S-01
Matrix Spike Dup (5060029-MSD1)				QC Source: A5F0031-04				Extracted: 06/10/05 08:12							
Diesel Range Organics	AK102/103	14300	---	3060	mg/kg dry	100x	18000	164	NR	(75-125)	25.1% (25)	--	06/16/05 10:53	Q-03, R-01	
Residual Range Organics	"	24600	---	6130	"	"	31600	"	NR	(60-150)	24.6%	"	"	R-01, Q-03	
Surrogate(s): 1-Chlorooctadecane		Recovery:	NR	Limits: 50-150%		"								06/16/05 10:53	R-01, S-01
Triacontane			NR	50-150%		"								"	R-01, S-01

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Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
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phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO - Laboratory Quality Control Results
North Creek Analytical - Alaska

QC Batch: 5060034**Soil Preparation Method: EPA 3545**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5060034-BLK1)							Extracted: 06/13/05 08:25							
Diesel Range Organics	AK102/103	ND	---	25.0	mg/kg	1x	--	--	--	--	--	--	06/14/05 13:51	
Residual Range Organics	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		Recovery:	95.2%	Limits: 50-150%		"							06/14/05 13:51	
Triacontane			92.0%	50-150%		"							"	
LCS (5060034-BS1)							Extracted: 06/13/05 08:25							
Diesel Range Organics	AK102/103	119	---	25.0	mg/kg	1x	--	128	93.0%	(75-125)	--	--	06/14/05 14:23	
Residual Range Organics	"	117	---	50.0	"	"	--	"	91.4%	(60-120)	--	--	"	
Surrogate(s): 1-Chlorooctadecane		Recovery:	92.5%	Limits: 50-150%		"							06/14/05 14:23	
Triacontane			90.4%	50-150%		"							"	
LCS Dup (5060034-BSD1)							Extracted: 06/13/05 08:25							
Diesel Range Organics	AK102/103	126	---	25.0	mg/kg	1x	--	128	98.4%	(75-125)	5.71%	(20)	06/14/05 14:55	
Residual Range Organics	"	125	---	50.0	"	"	--	"	97.7%	(60-120)	6.61%	"	"	
Surrogate(s): 1-Chlorooctadecane		Recovery:	95.2%	Limits: 50-150%		"							06/14/05 14:55	
Triacontane			92.5%	50-150%		"							"	
Duplicate (5060034-DUP1)				QC Source: A5F0031-05RE1			Extracted: 06/13/05 08:25							
Diesel Range Organics	AK102/103	ND	---	6010	mg/kg dry	100x	7180	--	--	--	47.6%	(50)	06/14/05 13:51	R-01
Residual Range Organics	"	38700	---	12000	"	"	63700	--	--	--	48.8%	"	"	R-01
Surrogate(s): 1-Chlorooctadecane		Recovery:	NR	Limits: 50-150%		"							06/14/05 13:51	R-01, S-01, S-01, R-01
Triacontane			NR	50-150%		"							"	

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Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
phone: (503) 906.9200 fax: (503) 906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
phone: (541) 383.9310 fax: 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

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3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**
Project Number: [none]
Project Manager: Dennis Filler

Report Created:
06/17/05 14:47

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results
North Creek Analytical - Alaska

QC Batch: 5060030 Soil Preparation Method: General Preparation

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (5060030-DUP1)			QC Source: A5F0031-01			Extracted: 06/10/05 08:14								
Dry Weight	BSOPSPL003R0 7	94.8	---	1.00	%	1x	94.9	--	--	--	0.105% (25)		06/13/05 09:26	

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Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9200
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Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

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3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**
Project Number: [none]
Project Manager: Dennis Filler

Report Created:
06/17/05 14:47

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results
North Creek Analytical - Bothell

QC Batch: 5F13061 Soil Preparation Method: EPA 7471A

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5F13061-BLK1)										Extracted: 06/13/05 13:53				
Mercury	EPA 7471A	ND	---	0.100	mg/kg	1x	--	--	--	--	--	--	06/14/05 10:48	
LCS (5F13061-BS1)										Extracted: 06/13/05 13:53				
Mercury	EPA 7471A	0.502	---	0.100	mg/kg	1x	--	0.500	100%	(80-120)	--	--	06/14/05 10:50	
LCS Dup (5F13061-BSD1)										Extracted: 06/13/05 13:53				
Mercury	EPA 7471A	0.498	---	0.100	mg/kg	1x	--	0.500	99.6%	(80-120)	0.800%	(20)	06/14/05 10:52	
Matrix Spike (5F13061-MS1)										QC Source: A5F0031-08		Extracted: 06/13/05 13:53		
Mercury	EPA 7471A	2.72	---	0.500	mg/kg dry	5x	1.65	0.583	184%	(70-130)	--	--	06/14/05 12:05	Q-15
Matrix Spike Dup (5F13061-MSD1)										QC Source: A5F0031-08		Extracted: 06/13/05 13:53		
Mercury	EPA 7471A	1.99	---	0.500	mg/kg dry	5x	1.65	0.583	58.3%	(70-130)	31.0%	(30)	06/14/05 12:07	Q-15

QC Batch: 5F14058 Soil Preparation Method: EPA 3050B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (5F14058-BLK1)										Extracted: 06/14/05 16:06				
Selenium	EPA 6020	ND	---	0.500	mg/kg	1x	--	--	--	--	--	--	06/15/05 17:12	
Silver	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Arsenic	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Barium	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Cadmium	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Chromium	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Lead	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
LCS (5F14058-BS1)										Extracted: 06/14/05 16:06				
Arsenic	EPA 6020	39.0	---	0.500	mg/kg	1x	--	40.0	97.5%	(80-120)	--	--	06/15/05 17:18	
Selenium	"	39.7	---	0.500	"	"	--	"	99.2%	"	--	--	"	
Barium	"	41.0	---	5.00	"	"	--	"	102%	"	--	--	"	
Cadmium	"	38.7	---	0.500	"	"	--	"	96.8%	"	--	--	"	
Chromium	"	39.6	---	0.500	"	"	--	"	99.0%	"	--	--	"	
Lead	"	38.2	---	0.500	"	"	--	"	95.5%	"	--	--	"	
Silver	"	38.2	---	0.500	"	"	--	"	95.5%	"	--	--	"	

North Creek Analytical - Alaska

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Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
phone: (503) 906.9200 fax: (503) 906.9210
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phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name: **Utica Mine**
Project Number: [none]
Project Manager: Dennis Filler

Report Created:
06/17/05 14:47

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results North Creek Analytical - Bothell

QC Batch: 5F14058 Soil Preparation Method: EPA 3050B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (5F14058-BSD1)										Extracted: 06/14/05 16:06				
Silver	EPA 6020	38.8	---	0.500	mg/kg	1x	--	40.0	97.0%	(80-120)	1.56%	(20)	06/15/05 17:23	
Lead	"	38.6	---	0.500	"	"	--	"	96.5%	"	1.04%	"	"	
Selenium	"	40.4	---	0.500	"	"	--	"	101%	"	1.75%	"	"	
Chromium	"	40.2	---	0.500	"	"	--	"	100%	"	1.50%	"	"	
Barium	"	41.8	---	5.00	"	"	--	"	104%	"	1.93%	"	"	
Arsenic	"	39.4	---	0.500	"	"	--	"	98.5%	"	1.02%	"	"	
Cadmium	"	38.7	---	0.500	"	"	--	"	96.8%	"	0.00%	"	"	
Matrix Spike (5F14058-MS1)										QC Source: B5F0286-01 Extracted: 06/14/05 16:06				
Cadmium	EPA 6020	52.4	---	0.500	mg/kg dry	1x	0.499	55.4	93.7%	(78-125)	--	--	06/15/05 17:35	
Arsenic	"	51.3	---	0.500	"	"	1.16	"	90.5%	(52-139)	--	--	"	
Silver	"	48.9	---	0.500	"	"	ND	"	88.3%	(52-128)	--	--	"	
Selenium	"	50.6	---	0.500	"	"	0.325	"	90.7%	(61-125)	--	--	"	
Lead	"	57.6	---	0.500	"	"	5.93	"	93.3%	(62-137)	--	--	"	
Chromium	"	126	---	0.500	"	"	43.0	"	150%	(52-141)	--	--	"	Q-01
Matrix Spike (5F14058-MS2)										QC Source: B5F0286-01RE1 Extracted: 06/14/05 16:06				
Barium	EPA 6020	538	---	25.0	mg/kg dry	5x	406	55.4	238%	(20-160)	--	--	06/16/05 16:27	Q-03
Matrix Spike Dup (5F14058-MSD1)										QC Source: B5F0286-01 Extracted: 06/14/05 16:06				
Selenium	EPA 6020	49.8	---	0.500	mg/kg dry	1x	0.325	55.4	89.3%	(61-125)	1.59%	(30)	06/15/05 17:41	
Lead	"	59.1	---	0.500	"	"	5.93	"	96.0%	(62-137)	2.57%	"	"	
Cadmium	"	52.2	---	0.500	"	"	0.499	"	93.3%	(78-125)	0.382%	"	"	
Silver	"	48.6	---	0.500	"	"	ND	"	87.7%	(52-128)	0.615%	(50)	"	
Arsenic	"	50.7	---	0.500	"	"	1.16	"	89.4%	(52-139)	1.18%	(30)	"	
Chromium	"	109	---	0.500	"	"	43.0	"	119%	(52-141)	14.5%	"	"	
Matrix Spike Dup (5F14058-MSD2)										QC Source: B5F0286-01RE1 Extracted: 06/14/05 16:06				
Barium	EPA 6020	663	---	25.0	mg/kg dry	5x	406	55.4	>300%	(20-160)	20.8%	(30)	06/16/05 16:33	Q-03
Post Spike (5F14058-PS1)										QC Source: B5F0286-01 Extracted: 06/14/05 16:06				
Selenium	EPA 6020	0.0974	---		ug/ml	1x	0.000469	0.100	96.9%	(75-125)	--	--	06/15/05 17:29	
Silver	"	0.0925	---		"	"	ND	"	92.5%	"	--	--	"	
Arsenic	"	0.102	---		"	"	0.00168	"	100%	"	--	--	"	
Cadmium	"	0.0948	---		"	"	0.000721	"	94.1%	"	--	--	"	
Lead	"	0.102	---		"	"	0.00856	"	93.4%	"	--	--	"	
Chromium	"	0.158	---		"	"	0.0621	"	95.9%	"	--	--	"	

North Creek Analytical - Alaska

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SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Project Manager:

Dennis Filler

Report Created:

06/17/05 14:47

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results
North Creek Analytical - Bothell

QC Batch: 5F14058

Soil Preparation Method: EPA 3050B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Post Spike (5F14058-PS2)			QC Source: B5F0286-01RE1					Extracted: 06/14/05 16:06						
Barium	EPA 6020	0.644	---		ug/ml	5x	0.586	0.100	58.0%	(75-125)	--	--	06/16/05 15:42	Q-03

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Environmental Laboratory Network



Seattle 11720 North Creek Pkwy N., Suite 400, Bothell, WA 98011-8244
phone: (425) 420.9200 fax: (425) 420.9210
Spokane East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
phone: (509) 924.9200 fax: (509) 924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
phone: (503) 906.9200 fax: (503) 906.9210
Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
phone: (541) 383.9310 fax: 541.382.7588
Anchorage 2000 W International Airport Road, Suite A-10, Anchorage, AK 99502-1119
phone: (907) 563.9200 fax: (907) 563.9210

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

Report Created:

Project Manager:

Dennis Filler

06/17/05 14:47

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results
North Creek Analytical - Bothell

QC Batch: 5F14022

Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (5F14022-BLK1)

Extracted: 06/14/05 08:51

Dry Weight	BSOPSPL003R0 8	100	---	1.00	%	1x	--	--	--	--	--	--	06/15/05 00:00	
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QC Batch: 5F14051

Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (5F14051-BLK1)

Extracted: 06/14/05 14:21

Dry Weight	BSOPSPL003R0 8	100	---	1.00	%	1x	--	--	--	--	--	--	06/15/05 00:00	
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North Creek Analytical - Alaska

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Stephen Wilson, Laboratory Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

SLR Alaska

3522 International St.
Fairbanks, AK 99701

Project Name:

Utica Mine

Project Number:

[none]

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06/17/05 14:47

Notes and Definitions

Report Specific Notes:

- E-02 - Estimated Value. The reported value is below the calibration range of analysis.
- J - Estimated value.
- P-02 - Greater than 40% difference between two dissimilar columns. After evaluation, the higher result has been reported.
- Q-01 - The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
- Q-03 - The percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
- Q-15 - Analyses are not controlled on matrix spike RPD and/or percent recoveries when the sample concentration is significantly higher than the spike level.
- R-01 - Reporting limit raised due to dilution necessary for analysis.
- S-01 - The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
- S-02 - The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR / NA - Not Reported / Not Available
- dry - Sample results reported on a dry weight basis. Reporting Limits are corrected for %Solids when %Solids are <50%.
- wet - Sample results and reporting limits reported on a wet weight basis (as received).
- RPD - Relative Percent Difference. (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.



SLR QUALITY ASSURANCE REVIEW

LABORATORY DATA VALIDATION REVIEW
ADEC – Utica Mine
PROJECT NUMBER: 004.0065.05002

This report summarizes a review of analytical results for work order number A5F0031 for soil samples collected on June 8, 2005. Samples were collected by SLR Alaska (SLR), and submitted to North Creek Analytical (NCA) in Anchorage, Alaska. Samples were analyzed for the following parameters: gasoline range hydrocarbons (GRO) and benzene, ethylbenzene, toluene, and xylenes (BTEX) by Alaska Method (AK) 101; diesel range hydrocarbons (DRO) and residual range hydrocarbons (RRO) by AK 102/103; RCRA metals by United States Environmental Protection Agency (USEPA) Method 6020/7471A.

QUALITY ASSURANCE PROGRAM

A quality assurance (QA) program was followed that addressed project administration, sampling protocols, data review, and data QA. Sample QA was provided by SLR through strict adherence to sampling protocols. Chain of custody (COC) procedures were followed as an integral part of the QA program

Data validation consisted of the following:

- Reviewing the COC records and overall data package for completeness, signatures, dates, and anomalies.
- Verifying laboratory analysis of samples within proper holding times.
- Verifying that surrogate analyses (when applicable) are within recovery acceptance limits.
- Verifying that Laboratory Control Samples (LCS) and Laboratory Control Sample Duplicates (LCSD) are within recovery acceptance limits, and that the relative percent differences (RPD) between the LCS and LCSD are acceptable.
- Reviewing the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries and RPD data as part of the overall evaluation of laboratory data quality.
- Evaluating the RPD between original and duplicate samples
- Providing an overall assessment of laboratory data quality and qualifying sample results if necessary

DATA QUALIFICATIONS

The comments presented in this report refer to the field procedures and the laboratory's performance in meeting the QC specifications. The sample results were reviewed using the following documents:

- USEPA Document 540/R-99/008, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, October 1999)
- USEPA Document 04/004, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA, October 2004)
- USEPA Document 530/SW-846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, fourth edition (USEPA, November 1991).
- ADEC, Underground Storage Tanks Procedures Manual Guidance for Treatment of Petroleum-Contaminated Soil and Water and Standard Sampling Procedures (ADEC, November 2002)

DATA VALIDATION

Data Package

No transcription errors, omissions, or other anomalies were found in the data package.

Holding Times and Preservation

Samples were appropriately preserved, stored in iced coolers at 4 ± 2 °C until arrival at NCA, and analyzed within the holding times criteria.

Laboratory Method Blanks

Laboratory method blanks were analyzed at the appropriate frequencies. No analytes were detected in method blanks at or above the method reporting limits (MRL).

Trip Blanks

A trip blank was provided with this sample set. The trip blank was analyzed for BTEX and GRO. No analytes were detected in the trip blank at or above the MRL.

Surrogate Recovery Results

Surrogate analyses were performed at the required frequencies, and the results were within NCA percent recovery acceptance limits, with the following exceptions:

- Samples A5F0031-02REI, A5F0031-04, A5F0031-05REI, A5F0031-06, A5F0031-07, A5F0031-10REI, and A5F0031-11 DRO and RRO analysis (1-Chlorooctadecane and Triacontane) surrogate recoveries were not available due to sample dilution required from the high analyte concentration and/or matrix interference. The associated batch sample results have been flagged with a "J"; sample results are estimates.

Matrix Spike/Matrix Spike Duplicate

Matrix Spike and Matrix Spike Duplicate (MS/MSD) analyses were performed for some analyses. All MS/MSD results relevant to the sampling program met percent recovery acceptance limits and were within RPD limits, with the following exceptions:

- Batch 5060029 DRO and RRO matrix spike and matrix spike duplicate percent recoveries are estimations due to the high concentration of analyte present in the sample. Sample A5F0031-04 served as the spiking solution; this sample had DRO and RRO concentrations approximately 6 and 5 times (respectively) greater than the MRLs. The reporting limit for both sample analysis and laboratory quality control (QC) matrix analysis was raised due to dilution necessary for the analysis. The surrogate recoveries for the MS and MSD were not available due to dilution required from the high analyte concentration and/or matrix interference. The associated batch sample results have been flagged with a "J"; sample results are estimates.
- Batch 5F13061 mercury MS and MSD RPD and/or percent recoveries analysis were not within laboratory control limits. Mercury levels in the MS and MSD were significantly higher than the spike level. The associated batch sample results have been flagged with a "J"; sample results are estimates.
- Batch 5F14058 barium MS and MSD percent recovery QC spike sample could not be accurately calculated due to the high concentration of analyte present in the sample. The associated batch sample results have been flagged with a "J"; sample results are estimates.

Field Duplicates

One field duplicate was collected for work order A5F0031: Sample A5F0031-03 is a duplicate of sample A5F0031-02.

For analytes detected above the MRL, duplicate/parent RPD are summarized below.

Sample Parent (Duplicate)	RPD									
	DRO	RRO	Arsenic	Cadmium	Chromium	Mercury	Selenium	Silver	Barium	Lead
A5F0031-02 (A5F0031-03)	48.8	92.5	3.2	1	18.1	84	30.2	>100	88.1	44.6

Note:

BOLD values exceed our RPD quality objective for precision.

Explanation:

Our RPD quality objective for precision was exceeded by RRO, Mercury, Silver and Barium in the sample duplicate pair indicated. These samples are co-located surface sampling rather than true duplicates. The results are valid.

Laboratory Control/Duplicate Laboratory Control Samples

Laboratory control samples (LCS) and (LCSD) were analyzed for all analytes. All LCS/LCSD results met percent recovery acceptance limits and were within RPD limits.

ANALYTES REPORTED WITH NON-DETECT VALUES ABOVE REGULATORY STANDARDS

The reported non-detect values for benzene in samples A5F0031-01, A5F0031-03 and A5F0031-11 exceed both the ADEC cleanup standard and EPA soil screening guidance criteria as stipulated in Table 3. These samples were diluted 6 times normal dilution because of high RRO in the samples. To preserve the GC from contaminant damage, highly contaminated samples must often be diluted. Furthermore, dilution reduces masking affects caused by the higher concentrations of other analytes, and allows the analyte (benzene in these instances) to be detected at as low a level as possible. Detection precision is sacrificed at the expense of expensive testing equipment.

OVERALL ASSESSMENT

The data are judged acceptable for use.

PRECISION, ACCURACY, AND COMPLETENESS

- **Precision:** Indicators of precision appear to be adequate.
- **Accuracy:** Indicators of accuracy appear to be adequate.
- **Completeness:** Indicators of completeness appear to be adequate.

Sample Qualifier Summary

Sample results requiring qualification are summarized below.

Sample ID	Laboratory ID	Matrix	Date Collected	Analyte	Qualifier
19-1	A5F0031-01	Soil	8-Jun-05	DRO, RRO, Mercury, Barium	J
19-2	A5F0031-02	Soil	8-Jun-05	DRO, RRO, Mercury, Barium	J
19-3	A5F0031-03	Soil	8-Jun-05	DRO, RRO, Mercury, Barium	J
19-4	A5F0031-04	Soil	8-Jun-05	DRO, RRO, Mercury, Barium	J
7-1	A5F0031-05	Soil	8-Jun-05	DRO, RRO, Mercury, Barium	J
7-2	A5F0031-06	Soil	8-Jun-05	DRO and RRO	J
22-1	A5F0031-07	Soil	8-Jun-05	DRO, RRO, Mercury, Barium	J
16-1	A5F0031-08	Soil	8-Jun-05	Mercury, Barium	J
17-1	A5F0031-09	Soil	8-Jun-05	DRO, RRO, Mercury, Barium	J
21-1	A5F0031-10	Soil	8-Jun-05	DRO, RRO, Mercury, Barium	J
D3	A5F0031-11	Soil	8-Jun-05	DRO, RRO, Mercury, Barium	J

J Analyte was positively identified but quantitation is an estimation
DRO Diesel Range Hydrocarbons
RRO Residual Range Hydrocarbons

APPENDIX D
PHOTOGRAPHIC LOG

APPENDIX D: Artifacts Photo Log



1. Vicinity of north entrance to Utica Camp.



3. North Dump #1 @ Utica Camp.



2. South Dumps @ Utica Camp.



4. Roller mill with sluice line intact.



5. Abandoned vehicles at south end of Utica airstrip.

APPENDIX D: Artifacts Photo Log



6. Black's Camp, vicinity of former Fries Camp.



9. Artifact iron pipe as culvert. Note rust-stained soil below outfall.



7. Dredge #2.



10. Mining artifacts.



8. Dredge #1.



11. Mining artifacts.

APPENDIX D: Artifacts Photo Log



12. Crusher or ball mill with sieve.



13. Artifacts at road and approximately 400 yards east of road, east bank of Inmachuk River.



14. Hydraulic sluice.

APPENDIX D: Utica Camp Buildings Photo Log



1. Building 1.



4. Building 3.



2. Building 1 interior.



5. Building 3 interior.



3. Building 2 (owned by Mr. Gil Barr).



6. Building 4.

APPENDIX D: Utica Camp Buildings Photo Log



7. Building 4 interior.



10. Building 6.



8. Building 5.

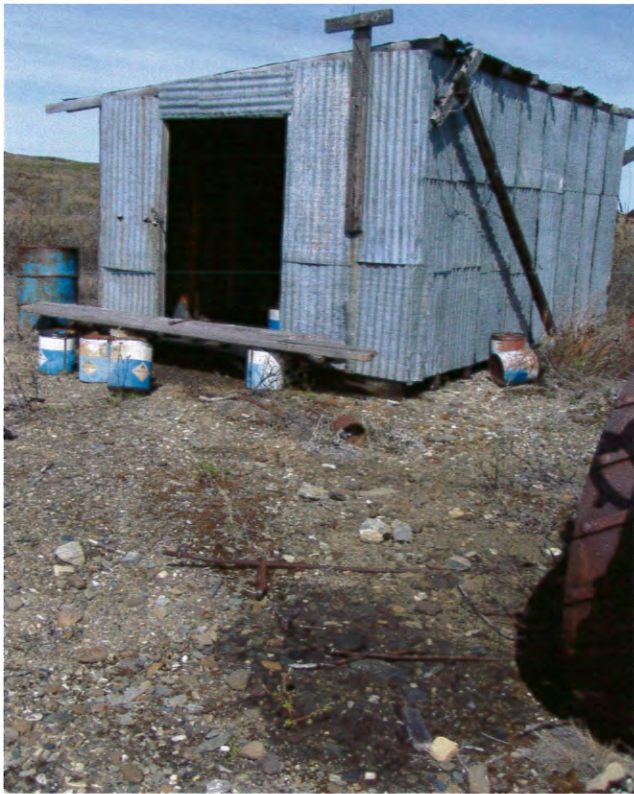


11. Building 6 interior.



9. Building 5 interior

APPENDIX D: Utica Camp Buildings Photo Log



12. Building 7.



13. Building 7 interior.



14. Building 8.



15. Building 8 interior.

APPENDIX D: Utica Camp Buildings Photo Log



16. Building 9 interior.



18. Building 10 interior.



17. Building 10.



19. Building 12.

APPENDIX D: Utica Camp Buildings Photo Log



20. Building 12 interior.



21. Building 13.



22. Building 13, shop.



23. Building 13, kitchen pantry.

APPENDIX D: Utica Camp Buildings Photo Log



24. Building 13, mess hall with cook's bed.



25. Building 14.



26. Building 15.



27. Building 15 interior.



28. Building 16.

APPENDIX D: Utica Camp Buildings Photo Log



29. Building 16, coal storage and parts.



30. Building 16, possible assay room.



31. Building 17.



32. Building 17 interior.



33. Building 18.

APPENDIX D: Utica Camp Buildings Photo Log



34. Building 18 interior.



35. Building 19.



36. Building 19, middle service garage.



37. Building 19, south end service area.

APPENDIX D: Utica Camp Buildings Photo Log



38. Building 20 (behind engine).



40. Building 21.



39. Building 20 interior.



41. Building 21 interior.



42. Building 22.

APPENDIX D: Utica Camp Buildings Photo Log



43. Building 22 interior.



44. Building 23.

APPENDIX D: Photo log of soil sample locations at Utica Camp.



1. Bldg. 19 (middle section), soil sample 19-1 location.



3. Bldg. 19 (middle section), chemical wastes at soil sample 19-2 location.



2. Bldg. 19 (middle section), soil sample 19-2 location.

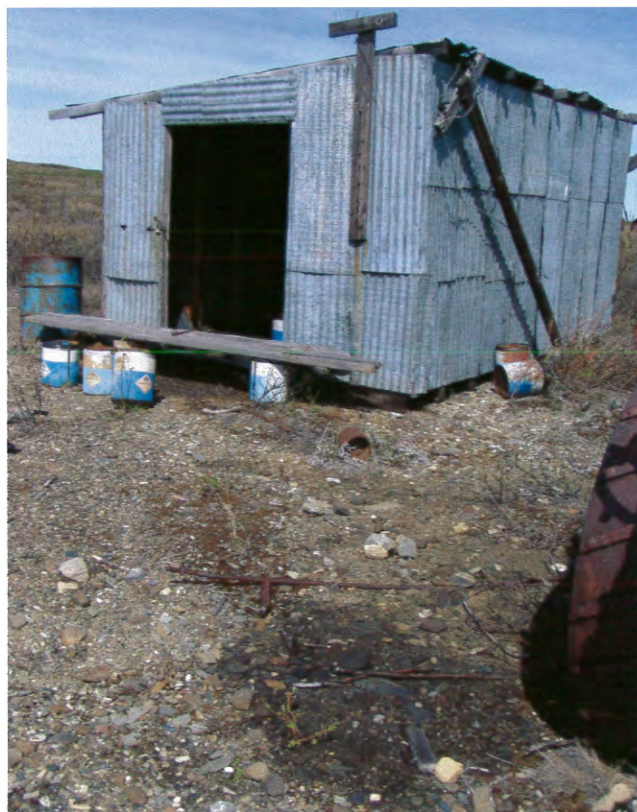


4. Bldg. 19 (west end), soil sample 19-4 location.

APPENDIX D: Photo log of soil sample locations at Utica Camp.



5. Bldg. 7, soil sample 7-1 location.



6. stained ground outside Bldg. 7.



7. South Dump #1, soil sample 7-2 location.



8. Behind Bldg. 17, soil sample 17-1 location.

APPENDIX D: Photo log of soil sample locations at Utica Camp.



9. Behind Bldg. 17, soil sample 17-1 location.



11. Bldg. 16, soil sample 16-1 location.



10. Drum adjacent Bldg. 22, soil sample location 22-1.



12. Bldg. 21, soil sample 21-1 location.



13. North Dump #1 debris pit, soil sample location D3.

APPENDIX D: Photo log of soil sample locations at Utica Camp.



14. North Dump #1 debris pit.