

**Preliminary Hazardous Waste
Site Evaluation
Proposed Minnie Street Connector
Fairbanks, Alaska**



State of Alaska
Northern Region Design and Construction
Department of Transportation and
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PRELIMINARY HAZARDOUS WASTE SITE EVALUATION
PROPOSED MINNIE STREET CONNECTOR, FAIRBANKS, ALASKA

1.0 INTRODUCTION

1.1 Purpose and Scope

This report represents the results of our preliminary hazardous waste site evaluation for the proposed Minnie Street Connector of the Geist Road Extension located in Fairbanks, Alaska. The purpose of this preliminary hazardous waste site evaluation was to identify areas of known or suspected contamination existing within the right-of-way that will be acquired for the construction of the proposed road project. This information was then used to develop a sampling plan to determine the presence or absence and magnitude of any contamination. This report describes the results of our investigation, a recent history of land use and land ownership, and presents our recommendations for a comprehensive sampling plan.

Our research began with investigating current and past Fairbanks North Star Borough tax records. Low altitude, vertical aerial photographs were obtained dating back to 1963. In addition, Alaska Department of Environmental Conservation (ADEC) files were researched to gain information about the site. Telephone interviews were conducted with management personnel associated with each business located within the site. This information was supplemented with a site survey which was performed during the later stages of our investigation. All this information was used in the development of the sampling plan.

The scope of work is in general accordance with our proposal dated March 1, 1989 submitted to the Department of Transportation and Public Facilities (DOT&PF). Although hydrocarbon contamination is not classified as a hazardous waste, we have included it in our report because of the potential liability that may be associated with property acquisition. Our work was authorized by Notice to Proceed number 92-037-12 dated March 31, 1989.

1.2 Proposed Construction

We understand that the proposed Minnie Street Connector will provide access to the Johansen Expressway (formerly called the Geist Road Extension) from Illinois

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Street. Construction of the Minnie Street Connector will require right-of-way acquisition for both temporary construction purposes and permanent uses. The proposed road project passes through a heavily industrialized area located between Illinois Street and the Eielson Branch of the Alaska Railroad in Fairbanks, Alaska. Our report concentrates on the parcels which are to be acquired for permanent right-of-way uses. However, parcels to be acquired for temporary uses, as well as adjacent properties, were viewed as a potential source of contamination which may have migrated onto the primary properties required for the road project.

Right-of-way will be acquired from both private owners and from the State-owned Alaska Railroad Corporation (ARR). The ARR land constitutes the majority of the required right-of-way and most is currently held under lease agreement. The DOT&PF's long range plan currently provides funding for right-of-way acquisition in late 1990 and funding for construction in early 1993.

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2.0 SITE CONDITIONS

2.1 Industrial Setting

The proposed Minnie Street Connector road project will provide access from the Illinois Street traffic corridor to the Aurora-Lemeta segment of the Johansen Expressway located in Fairbanks, Alaska. Figure 1 shows the location of the proposed road project. This proposed alignment crosses property which has had a history of heavy industrial use. The current facilities and property affected by the proposed road project include:

Petroleum Sales (UNOCAL) (bulk fuel storage and distributing)
Saupe Enterprises (Chevron) (bulk fuel storage and distributing)
Willner's Texaco (bulk fuel storage and distributing)
VanGas (Suburban Propane) (bulk fuel storage and distributing)
Sourdough Express (a trucking company)
Service spurs of The Alaska Railroad
Nerland's (a furniture showroom/warehouse)
Alaska Gold Co. (a small portion of land leased from the ARR)
Fairbanks City Streets (owned by ARR)

Figure 2 gives the location of the businesses and parcels listed above and impacted by the proposed project. Also, this figure shows the footprint of the road project on the existing land.

2.2 Geology and Physiography

Fairbanks is in the physiographic province termed the Tanana lowland, which is an arcuate band between the Alaska Range to the south and the Tanana upland to the north. The present day lowland consists of vegetated floodplains, and low benches of the Chena and Tanana Rivers. Silt-filled swales and oxbow lakes generally represent former positions of rivers and streams. Runoff from spring meltwater and summer storms causes periodic flooding over parts of the floodplain. The main river of this floodplain is the Tanana River which is a tributary of the Yukon. The thickness of alluvial sediments overlying bedrock at the site is unknown, but in the Fairbanks area the thickness is estimated to

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be as great as 400 to 500 feet. The portion of the Tanana lowland in which the site is located has not been glaciated.

The Fairbanks area is in a subarctic zone underlain by discontinuous permafrost. Permafrost is defined as that part of the earth's surface in which a naturally occurring temperature below 32°F has existed for two or more years. The maximum depth of permafrost measured in the area is in excess of 200 feet. The thickness of the "active layer", or that portion of the ground at or near the surface which undergoes an annual freeze-thaw cycle, is largely dependent upon the type of ground cover and the snow depth. Frost penetration beneath roads or parking areas which are kept free of snow during the winter commonly exceeds 10 feet. On the other hand, in areas covered by thick mats of moss or tundra, the thickness of the active zone is often 2 feet or less.

Groundwater is present at the site at depths which range from about 13 to 18 feet. This range in observed depths is dependent on ground surface elevation but primarily on seasonal variation in the water surface elevation. With the exception of local disruptions which may be caused by masses of permafrost, the groundwater at the site is hydraulically connected to the groundwater in the entire floodplain of the Chena and Tanana Rivers. Groundwater flow is generally to the north to northwest at a gradient of about 5 feet per mile. Groundwater elevation at the site should be predominantly controlled by the Chena River and by Noyes Slough to the north of the site.

$$\begin{aligned}
 V &= k \frac{dh}{dx} = 5.2 \times 10^{-3} \frac{\text{cm}}{\text{s}} \left(\frac{5 \text{ ft}}{\text{mi}} \right) \frac{86400 \text{ s}}{\text{d}} \frac{365 \text{ d}}{\text{yr}} \frac{\text{m}}{100 \text{ cm}} \\
 &= 15.5 \frac{\text{m}}{\text{yr}} \text{ in theoretical sand} \\
 &= 120 \frac{\text{m}}{\text{yr}} \text{ in "gravel"}
 \end{aligned}$$

3.0 SITE EVALUATION

3.1 Individual Parcel Descriptions

The individual land evaluations below are based upon the information available at the time of this investigation. Fairbanks North Star Borough (FNSB) tax and assessing records were used to create a history of ownership and lease agreement for each land parcel involved. Prior to 1967, tax and assessing records are incomplete due to the damage caused by the 1967 flood. Copies of lease agreements and records involving Alaska Railroad-owned land are kept at the FNSB assessing office, but are only partially complete. Figure 2 lists the owners and lessees of the land required for right-of-way purposes.

Low altitude, stereographic aerial photography was utilized to determine past land use practices and to develop a land development chronology. In accordance with the Request for Proposal, photography was reviewed for essentially a 25 year period before present. The years of aerial photography analyzed include 1963, 1970, 1974, 1978, 1982, 1984, and 1985. In addition, information was obtained from the Sanborn fire insurance map dated 1927, showing revisions through 1958.

Interviews were conducted over the telephone with management and personnel of the present businesses and with some past businesses in the area. Additional interviews were performed following a site visit or when new questions were raised.

Files at the ADEC office in Fairbanks were researched to find information about any past documented hazardous substance or material releases. Also requested were the underground storage tank (UST) registration list, any recorded road oiling permits issued for the local streets, and any permits issued for herbicide spraying. Road oiling permits have been required by ADEC since 1973. No record of road oiling permits for the streets in question were discovered. However, older file boxes were in "cold storage" and could not be accessed. Information on herbicide spraying that may have been performed along railroad right-of-way in the area was not readily available from either the Fairbanks ADEC, the Palmer ADEC, or the Environmental Section of the Alaska Railroad.

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All the above information was supplemented by conducting a site visit of each land parcel involved with the proposed right-of-way. This site survey was performed by John Cronin and Erling Juel, geologist and engineer, respectively, with our firm on May 19, 1989. Photographs were taken depicting current land uses and evidence of past or ongoing petroleum or hazardous substance releases. Some of the photographs show areas that are not being considered for permanent right-of-way acquisition. However, these areas may be sources of contamination which may have migrated onto property which is required for construction of the road project. The locations of the photographs are shown in Figure 3.

3.1.1 Alaska Railroad Corporation

Location Id #: 1

Owner: Alaska Railroad Corporation

Lessee: None

Site Description and History:

Land included in this description includes portions of Oil Avenue, Charles Street, and Driveway Street. Also included are railroad tracks and spurs serving Saupe Enterprises, Nerland's Corporation, VanGas, Inc., and Alaska Gold Company. Driveway Street and Oil Avenue existed prior to 1963 and have been paved prior to 1980 and in 1986, respectively. Charles Street was built after 1974 and paved prior to 1980. The service spur to VanGas was constructed between 1970 and 1973 and is used to deliver heating oil and liquified petroleum gas in bulk form. Rail service to Nerland's warehouse began between 1968 and 1970 and consisted of dry goods and furniture. The railroad tracks serving the old United States Smelting, Refining and Mining Company (USSR&M) properties (Alaska Gold Company) existed prior to 1927 and have been used to deliver coal, supplies, materials, and equipment. The rail spur at Saupe Enterprises existed prior to the 1950's.

A substance release from railroad tanker cars can occur when tanker cars are filled at a location having cooler ambient temperatures and then transported to

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another location having warmer ambient temperatures (i.e. Anchorage to Fairbanks during the summer). The thermal expansion of the substance associated with the temperature increase can result in a release through the vents at the top of the tanker car. Bernie Saupe of Saupe Enterprises indicated that he has observed this phenomenon between 8 and 10 times since 1974, and he estimates that the rail cars can leak a maximum of 10 gallons per hour. This problem has resulted in the practice of short-loading the tanker cars by 2% of the car's volume to account for thermal expansion. An additional short-loading of 3% (5% total) is often requested by Saupe Enterprises to provide increased assurance against thermal expansion-related releases. Spills can also result from releases associated with unloading tanker cars such as leaking valves on the rail tankers, suction hose fittings susceptible to leaks, and disconnected suction hoses draining onto the ground. In addition, there are unconfirmed rumors of large spills resulting from rail cars becoming disconnected during unloading.

ADEC documented an estimated 100 gallon unleaded gasoline spill which resulted from thermal expansion in June 1986. Although this release occurred just south of the limits of this investigation, it demonstrates the magnitude of release that can occur.

Site Survey:

A site survey of these properties revealed two areas of accumulated petroleum releases; the rail spurs at VanGas and at Saupe Enterprises. Photographs #1 through #4 show petroleum-stained ground. Another observation during the site survey was ongoing discharges from a stack of 55 gallon drums located outside the western lease boundary of VanGas and within the 50 foot right-of-way of Driveway Street (Photographs #5 and #6). Philip Wood, district manager for Suburban Propane (VanGas), indicates that the drums belong to Fred Schikora, past owner of Northern Gas and Oil (pre-VanGas). Mr. Wood is not sure, but thinks the drums may contain tar.

Data Gaps:

The use of herbicides is known to have occurred along Alaska Railroad tracks and

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spurs, but exact locations, type of herbicide, applied dosage, and exact dates of application are not known (Dale Nelson, ARR Environmental Engineer). Other than expansion-related spills, no other spill or release can be confirmed to have occurred or has been documented. Although no recorded evidence was discovered which showed that road oiling has occurred, several interviewees have indicated that they can recall instances when road oiling has occurred on Driveway Street, Charles Street, and Oil Avenue.

3.1.2 Petroleum Sales, Inc.

Location Id #: 2

Owner: Alaska Railroad Corporation

Lessee: CEM Leasing Inc. (Petroleum Sales)

Site Description and History:

This land was leased from the Railroad from 1953 to 1982 by Union Oil Company of California (UNOCAL). In 1982 the lease was transferred to Interior Leasing Company, Inc. In 1985 the lease was taken over by CEM Leasing, Inc. which is still the current land user. The western half of this parcel was used for bulk fuel storage and distribution of UNOCAL petroleum products prior to the 1960s. Petroleum Sales, Inc., a bulk fuel storage and delivery company, is the business currently operating on this parcel. The eastern portion of the lot is also currently used by Petroleum Sales, Inc. Prior to 1971 the eastern portion of the lot was occupied by some State DOT offices (now destroyed), which also housed their soil laboratory, and was also used for parking DOT heavy equipment. The equipment maintenance shops were located to the south on another parcel of land leased from the Alaska Railroad. These buildings were destroyed between 1974 and 1978. Prior to Statehood, the same buildings were used by the Bureau of Public Roads for the same purpose.

Site Survey:

Photograph #7 shows the current use of the eastern portion of the Petroleum Sales lot. As shown in the photograph, the lot is used for parking semi-trailers and tankers and other equipment. Petroleum Sales washes the inside and outside of

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their tanker trucks in this part of the yard. Photograph #8 shows some parked tanker trailers and petroleum-stained soil.

Data Gaps:

Knowledge of DOT's (Bureau of Public Roads) vehicle and equipment maintenance program. The mode of disposal of the waste oil that was generated is not known. The use and disposal of other hazardous substances or chemicals or solvents associated with vehicle maintenance or their soil laboratory.

3.1.3 Saupe Enterprises, Inc.

Location Id #: 3

Owner: Alaska Railroad Corporation

Lessee: Saupe Enterprises, Inc.

Site Description and History:

As early as 1926, on the southern half of the current parcel, Standard Oil Company of California sold and distributed petroleum products. Initially the products were sold in 55 gallon drums. Later (pre 1960s), the petroleum products were stored in above ground storage tanks (ASTs) and sold in bulk. Today, the list of petroleum derivatives stored in bulk (ASTs) or drums include two different heating fuels, diesel fuel, three gasoline products, aviation gas, jet fuel (barrels only), and a degreasing solvent.

Review of ADEC files revealed that the following events have been documented:

January 1976 - 400 gallons of regular gasoline spilled inside containment dike due to human error; operator attempted to unload rail car into incorrect bulk tank which was already full. Estimated 250 gallons recovered.

March 1981 - 358 gallons of aviation gas spilled. Other details unknown.

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1982 - 350 gallons of hazardous waste generated. Leaded gasoline sludge from tank cleaning operation. Method and mode of disposal not specified.

October 1985 - 460 gallons of gasoline spilled inside containment dike due to malfunctioning gauge device. Estimated 364 gallons recovered.

A floating layer of petroleum product was discovered in 1982 below the Saupe Enterprises lease, and to some extent to the south and west. The thickness and lateral extent of the floating product layer is monitored by 24 monitoring wells located both within the parcel and on surrounding parcels to the south and west. Fourteen of these wells are within or closely adjacent to the proposed right-of-way. The lateral extent of the floating product layer has been fairly well defined to the extent that it can be, given the fact that wells cannot easily be installed in areas occupied by tanks and buildings. No analytical soil or groundwater sampling or testing has been performed on this site to date. The apparent product thickness ranges to over 1 foot thick. A product recovery system consisting of a groundwater drawdown pump and hydrocarbon skimming pump has been operating since fall 1986. This system is located in the southwest corner of the property, outside the right-of-way. The water pumped to create the necessary drawdown is piped to a separator and then into an infiltration gallery, which is located within the right-of-way. Over 8,000 gallons of floating product have been recovered with a significant quantity still remaining to be recovered. The origin of the floating hydrocarbon layer is not known. All the known and documented spills in the immediate vicinity cannot account for the quantity already recovered and still remaining in the ground.

There is one registered UST within the right-of-way at Saupe Enterprises, a heating oil tank adjacent to the northwest corner of the boiler building.

Analysis of low altitude, aerial photography reveals the following:

1963- North half of present day facility is occupied by Quonset buildings used as living quarters.

- Several hundred (estimated) barrels are stacked along north property

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boundary.

- All ASTs and buildings appear to be the same as present day.

1970- Property is expanded to present day size. Quonset buildings have been destroyed by a controlled burn in May 1967.

- Several hundred (estimated) new barrels are stockpiled in northeast corner of lot.
- Several thousand (estimated) apparently used barrels are piled in northwest corner of lot. Bernie Saupe (owner) estimates nearly 6,000 barrels at one point in time, but is unsure about exact date.

1974- Lot, size, number of ASTs, and building configuration are similar to present day.

- Small pile (estimated less than 100 barrels) of apparently new barrels are stacked in northeast corner.

Site Survey:

Photograph #9 shows Saupe Enterprises from atop a large AST looking in an easterly direction. This photograph shows the large warehouse to the right which is used to store the packaged products. To the left shows the tank truck loading rack (post late 1960s) for bulk deliveries. Photograph #10 shows the location of the old tanker truck loading platform (pre late 1960s). Photograph #11 shows the underground piping system going to the existing tank truck loading rack. Photograph #12 is a view of the load rack and ASTs from the Charles Street and Illinois Street intersection.

Data Gaps:

Magnitude of past spills and releases that have not been documented. The exact extent and quantity of floating product layer is unknown. Also the degree of soil and water contamination is not known.

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3.1.4 Willner's Texaco Bulk Plant

Location Id #: 4

Owner: Alaska Railroad Corporation

Lessee: Willner's Fuel Distributors, Inc.

Site Description and History:

The Texaco bulk plant and fuel distributor has existed since before the 1960s. Today the petroleum products distributed and sold include heating oil, diesel fuel, three forms of gasoline, alcohols, grease and a solvent. The product is stored in bulk tanks, 55 gallon drums, 5 gallon cans, etc. The northern half of the lot contains two vehicle maintenance shops and provides for parking and storage.

Review of ADEC files revealed that only one release has been documented:

April 1983 - Estimated that 100 to 500 gallons of a petroleum product had spilled during the course of the winter. Source unknown.

Another spill is said to have occurred, in about 1976, when a disgruntled worker shot a hole into the diesel bulk tank with a rifle during a labor-management dispute. The quantity of the release is unknown.

Analysis of the low altitude aerial photography reveals the following:

1963- Northern half of lot only partially cleared. Two vehicle maintenance buildings are present. Charles Street is non-existent. Southern half of lot contains bulk storage tanks (ASTs) and tank truck load rack. Southern half of lot has several piles of apparently new and old barrels.

1970- Northern half of lot is cleared completely. Several hundred used barrels (estimated) are stacked along north property line. Southern half is similar to 1963 except additional ASTs had been constructed.

1974- Northern half is similar to 1970 except fewer apparently used barrels (estimated a couple of hundred). Southern half is similar to 1970

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except additional ASTs have been constructed as well as a warehouse.

Site Survey:

The small portion of land required for right-of-way acquisition crosses the northeast corner of Willner's Texaco (Figure 2). Photograph #13 shows the northeast corner as viewed from the east atop a large bulk tank located at Saupe Enterprises. Photograph #14 shows the area looking east. The northern half of Willner's Texaco had recently been resurfaced with Brown's Hill D-1 prior to our site survey, obscuring any evidence of petroleum-contaminated ground. There is a groundwater monitoring well in the northeast corner of Willner's Texaco parcel, in which a floating hydrocarbon layer has been observed.

Data Gaps:

Magnitude of past spills and releases that have not been documented. Knowledge of activities in the corner of the site proposed for acquisition. Source of floating product observed in the monitoring well located in the northeast corner of the parcel.

3.1.5 Nerland's Warehouse

Location Id #: 5

Owner: Alaska Railroad Corporation

Lessee: Nerland's Corporation

Site Description and History:

The lot presently leased by Nerland's Corporation and the land currently used as Charles Street has had a varied land use history since World War II. Medium sized Quonset buildings, used as living quarters, were constructed in the late 1940s. These buildings were located on the northern portion of the present day Saupe Enterprises lease and where Charles Street now is located. The northern half of present day Nerland's consisted of office buildings. The Sanborn fire insurance map describes these as "U.S. Navy Buildings," but no other information regarding this reference could be found. Several vehicle and heavy equipment

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maintenance buildings were built on the west side of the lot adjacent to the railroad tracks.

Occupation of pre-Nerland buildings is not known exactly, but can be summarized as follows:

Late 1940s to mid 1950s - Birch, Lytel, and Green Construction Company occupied the buildings while building gas pipeline to Norman Wells.

Mid 1950s to early 1960s - Arctic Contractors occupied the buildings, possibly while working on the Distant Early Warning (DEW) system.

Early 1960s to Mid 1960s - Possible joint occupation by United States Geological Survey and Alaska State Troopers.

The buildings were destroyed by a controlled burn in May 1967. Nerland's Furniture warehouse and railroad spur were built shortly afterwards.

No information on documented releases was available from ADEC regarding this lot or past land users. A review of low altitude, aerial photography reveals the following:

1963- Quonset buildings, office buildings, and vehicle maintenance shops occupy the land as described above.

1970- Nerland's warehouse and rail spur have been constructed. Charles Street not built yet. A couple of concrete slabs are evident from previous land use (vehicle maintenance shops).

1974- Similar to 1970.

Site Survey:

The Minnie Street connector road project will require only a very small portion (166 square feet) of present day Nerland-leased land (Figure 2). Photograph #15 shows the western edge and southwest corner of the lot looking north from atop

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bulk tanks at Saupe Enterprises. Concrete slabs and a small, white masonry building from previous land use are evident in the photograph.

Data Gaps:

Detailed account of past land occupation and a history of land use is unknown.

3.1.6 VanGas, Inc.

Location Id #: 6

Owner: Alaska Railroad Corporation

Lessee: VanGas, Inc.

Site Description and History:

This parcel is presently being used for bulk storage of heating oil and liquified petroleum gas. This parcel has a relatively short history dating back to only the late 1960s. The aerial photography reveals the following:

1963- Lot is not cleared.

1970- Lot is cleared on south portion only. Two large ASTs have been built and are surrounded by a containment dike. A small building used for filling tanker trucks is located in southeast corner of the parcel.

1974- Three pressure vessels used for the storage of liquified petroleum gas have been added since 1970. Lot is totally cleared. Rail spur was built between 1970 and 1973.

Northern Gas and Oil Company, Inc. owned and operated the facility until 1976 when VanGas, Inc. (now Suburban Propane) assumed operations. A vehicle maintenance building was built between 1974 and 1982 on the northwest corner of the parcel. No information on documented releases was available from ADEC regarding this parcel or past land users.

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Site Survey:

Photograph #16 shows the VanGas facility looking northwest from atop bulk tank located at Saupe Enterprises. Photographs #17 and #18 show that petroleum releases have occurred from both ASTs. Photograph #19 shows contaminated ground at the tanker truck loading facility and area used for unloading rail cars. The fill pipe used for filling tanker trucks was actively leaking during our site visit. Photographs #20 and #21 show contaminated ground near a diesel pump located on the southern boundary of VanGas adjacent to Charles Street. Photograph #22 is a view of the front of the vehicle maintenance building. Photo #23 is a view of the east side of the vehicle maintenance building.

Data Gaps:

Magnitude of possible past spills and releases that have not been documented.

3.1.7 Alaska Gold Company

Location Id #: 7

Owner: Alaska Railroad Corporation

Lessee: Alaska Gold Company (Formerly USSR&M)

Site Description and History:

The proposed Minnie Street Connector Road project would acquire a small section of Alaska Gold leased land north of VanGas and Driveway Street (Figure 2). Prior to Alaska Gold, this land was leased by United States Smelting, Refining, and Mining Company (USSR&M). The USSR&M Company has been operating a mining, exploration, and gold recovery operation immediately to the north since prior to the 1920s. However, to our knowledge the small portion of land involved in this investigation has not been extensively used. A wooden building used to store electric motors was located just north of the proposed right-of-way acquisition. The building was built in the 1940s and has been torn down in the last few years. A wooden tool shed is located just to the east. The majority of the land in question is presently being used for heavy equipment storage.

The old USSR&M properties (Alaska Gold) have been the subject of a hazardous

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waste site assessment study during the last three years. The purpose of the study was to obtain quantitative information on the extent and magnitude of contamination which will be used to score the site for possible inclusion onto the National Priority List (NPL) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The latest report (Ecology and Environment, February, 1989) indicates that the old USSR&M properties have soils with "significant concentration" of arsenic, cadmium, lead, mercury, PCBs (Arochlor 1260) and 4,4'DDE. On site well water contained tetrachloroethene.

Reviewing the available aerial photography reveals:

1963- Land is slightly cleared. Small, east-west road runs between the electric motor storage building and the tool shed.

1970- Land is completely cleared and is used for parking and storage.

1974- Similar to 1970.

Site Survey:

Currently, the land is being used to store and park equipment. Photograph #24 shows the current use of the land that would be acquired for right-of-way purposes.

Data Gaps:

Detailed history of land use prior to 1963. Possible migration of contaminants from the remainder of parcel.

3.1.8 Sourdough Express

Location Id #: 8

Owner: Sourdough Properties, Inc.

Site Description and History:

The proposed Minnie Street Connector traverses the northeast corner of this lot and then parallels the north property boundary (Figure 2). Sourdough Express

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is a trucking company which transports loads varying from petroleum products to household goods. Four buildings exist on the property, one of which is a vehicle maintenance shop and is located within the proposed right-of-way. The other building within the proposed right-of-way is a warehouse which was built between 1974 and 1982. Behind the buildings a large parking area is used for parking vehicles and trailers. This area is also used for storing materials. This section of land has a short and recent land use history.

Reviewing the available aerial photography reveals:

1963- Land is slightly cleared and is being used to stockpile empty wooden shipping crates used at the old Fidelity Warehouse (now MUS warehouse) on Driveway Street.

1970- Land is cleared. A single building (currently used as a warehouse) is situated on the southern property line. Four semi-trailers are parked near building.

1974- Two additional buildings have been built to the north (the current office building and vehicle maintenance shop). The use of the back storage lot has increased.

No information was available from ADEC regarding documented spills or releases in reference to this land.

Site Survey:

Two large buildings (vehicle maintenance shop and warehouse) are situated within the proposed right-of-way (Photograph #25). Photographs #26 through #28 show the various materials and objects stored in the backyard of Sourdough Express. Photograph #29 shows the north property line and other various equipment parked in back yard. Small accumulations of 55 gallons drums were noted at several locations.

Sourdough Express cleans out their own tanker trailers. The tanker residue is

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washed into a buried separator tank where the floating product is removed and placed in a waste oil tank. The untreated wash water in the separator flows out through Sourdough Express' septic system. This separator tank is located at the southeast corner of the vehicle maintenance building, just outside the proposed corridor. Nearby, and also just outside the corridor, are underground tanks containing heating fuel and diesel for truck fueling.

Data Gaps: Magnitude of possible past spills and releases that have not been documented. Possible releases of hydrocarbons from separator or of water containing dissolved hydrocarbons.

3.1.9 Sourdough Properties (North vacant lot)

Location Id #: 9

Owner: Sourdough Properties, Inc.

Site Description and History:

This parcel of land is privately owned by Sourdough Properties and was purchased from Alaska Gold Company in 1983. No information was available from ADEC regarding documented spills or releases in reference to this parcel. However, the parcel of land directly to the north (Tract L) is known to have been contaminated with heavy metals (Polytechnic, 1987). The higher levels of measured contamination consisted of 11 ppm of mercury, 333 ppm of lead, and 11 ppm of arsenic. The contaminated soil has been removed from the site. The land is owned by Golden Valley Electric Association (GVEA) and is used to store utility poles. The source of this contamination is not known.

From the aerial photography:

1963- Eastern half of parcel is cleared and is being used by USSR&M Company to store utility poles and/or pipe.

1970- Parcel is vacant.

1974- Parcel is vacant.

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Site Survey:

Photograph #30 shows lot looking west from Driveway Street. A dragline and scraper are parked on the parcel. The road shown in the photograph leads to the 801 Housing Project site in the Lemeta Subdivision and is used by workers of that project.

Data Gap:

Land use by Alaska Gold or USSR&M Company prior to 1963. Source of the lead contamination and possible presence on subject parcel.

3.2 General Site Evaluation

Based upon our work to date, we expect that site-specific sampling will reveal petroleum-contaminated soil and groundwater at several locations. A number of sampled borings are recommended at facilities which store petroleum products in bulk, use or have used a rail tanker car delivery system, or have on-site vehicle maintenance facilities. These parcels include land occupied by the Alaska Railroad, Petroleum Sales, Saupe Enterprises, Willner's Texaco, Nerland's, VanGas, and Sourdough Express. Some of these borings will receive monitoring wells to sample for a floating product layer or to sample the groundwater. In appropriate locations, some of these borings and wells should also be sampled for solvents which may have been used on the properties.

Although no recorded evidence was discovered which showed that road oiling has occurred, several interviewees have indicated that they can recall instances when road oiling has occurred on Driveway Street, Charles Street, and Oil Avenue. Since the frequency of oiling, the quantity of oil used, and the source of the oil are not known, this may warrant near-surface soil sampling where these roads cross the proposed Minnie Street Connector.

The same argument may be used for recommended testing for the presence of herbicides and defoliants along the railroad corridor which crosses the proposed road project near Charles Street and along the right-of-way of the Eielson

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Branch. In addition, testing for herbicides should be conducted near the Alaska Gold property where the presence of dichlorodiphenylethane (DDE) has been detected.

Soil sampling and testing for heavy metals, such as arsenic, mercury, and lead should be performed on the portion of the Alaska Gold property, the northern end of Driveway Street, and on the northern vacant lot owned by Sourdough Properties. This is due to the documented contamination that exists or has existed on land directly to the north of the proposed project. This same area of land should also be tested for the presence of polychlorinated biphenyls (PCBs) which may have leaked from early transformers stored on land just north of the proposed project.

4.0 SAMPLING PLAN

4.1 General

The previous section discussed site history and briefly outlined the rationale behind, and areas of, recommended testing. Attached Figures 4 and 5 show tentative sampling locations and types of samples. We have restricted the area of our recommended sampling to the limits of permanent right-of-way acquisition. If a potential contaminant source, such as an underground tank, lies just outside the right-of-way, we have generally located a sampling point just inside the boundary. Of course, it is possible that if the tank is currently leaking, contaminants may not have migrated to the right-of-way at present, but may in the future. Our sampling plan is not designed to predict such future occurrences.

The locations depicted on the figures have not been cleared for utilities. This will have to be done, and sampling locations adjusted accordingly, prior to commencing field work.

The sampling plan recommended herein is designed to detect the presence or absence of the suspected contaminants or indicators at the locations sampled. The distribution of these locations, in conjunction with the existing network of hydrocarbon product monitoring wells, is designed to detect and delineate, within a reasonable project cost, the occurrence of various contaminants, as input to the planning and right-of-way acquisition process. It will not define precise vertical or lateral extent of contamination. It should be expected that some sort of field screening will be necessary to determine actual boundaries of contaminated and uncontaminated soils during construction. If the sampling recommended herein encounters currently unknown areas of significant contaminant concentration, a follow-up second phase of sampling may be necessary.

4.2 Types of Sampling and Analysis

The following menu of types of samples has been used in the sampling plan:

X-0176

Soil Borings

The soil borings should be drilled using hollow stem auger. Split spoon drive samples should be taken at 5, 10, 12.5, 15, 17.5, and 20 feet. A grab sample should be taken at the ground surface. The drilling and sampling should be observed and logged by a geologist or engineer with experience in the investigation of hazardous substance contamination in soil and groundwater.

Portions of each sample should be sealed in glass jars for laboratory analysis and headspace screening. A portable photoionization detector, flame ionization detector, or equivalent can then be used to screen the samples for total volatile compounds to provide a semi-quantitative measure of the amount of hydrocarbon or other volatile contamination present in the soil. The results of this screening can be used to select samples for laboratory analysis. In our opinion the presence or absence and degree of contamination can be adequately assessed by analyzing selected samples rather than all samples, resulting in a cost savings.

In general we recommend analyzing three samples per boring. We recommend that each of these three samples be analyzed for both Total Petroleum Hydrocarbons (EPA Method 418.1, modified, California LUFT method) and Aromatic Volatile Organics (EPA Method 8020).

Product Monitoring Wells

A product monitoring well is defined as a monitoring well slotted throughout the range of water table fluctuation so that the water table surface is always within the slotted pipe.

The monitoring wells can be constructed of 2-inch I.D. PVC pipe screened with machine-slotted PVC with 0.020-inch slots. A minimum length of 10 feet of screen should be used. All pipe joints should be threaded, rather than glued, connections. The native soils can be allowed to cave against the well screen for backfill. Above this, a one-foot thick seal of bentonite pellets should be placed, overlain by a two-foot thick seal of cement-bentonite grout to prevent

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surface water infiltration along the well casing. The well should be completed above or below ground surface with a secure steel monument case to avoid obstructing traffic as appropriate and to limit access to the well to authorized personnel. Following installation, the well should be developed until relatively turbidity-free water is obtained.

At appropriate intervals after installation, the well should be sampled for the presence of a floating hydrocarbon layer by a method capable of measuring thickness and qualitatively observing a sheen on the water surface. We recommend two or three sampling episodes, timed appropriately considering the length of time since well installation and the recent history of water table level.

The product monitoring wells should be installed in soil borings with sampling and laboratory analysis as previously described.

Water Monitoring Wells

A water monitoring well is defined as a well slotted only below the lowest water table surface, for the purpose of sampling dissolved constituents in the groundwater. Water monitoring well construction should be similar to product monitoring wells except that the screened interval should be from 20 to 25 feet. The wells should be installed in soil borings with sampling and laboratory analysis as previously described.

Immediately following development of a well, it should be sampled with a clean teflon or stainless steel bailer. The sample should, at a minimum, be analyzed for Aromatic Volatile Organics (EPA Method 602).

Surface Sampling

Surface sampling is recommended at a number of locations for various constituents. Surface samples can be collected from the upper six inches to one foot of soil. In cases of sampling beneath presently paved roads, it will be necessary to cut through the asphalt, and samples should be deep enough to not incorporate oil which might have been applied to the base course immediately

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before paving.

Surface samples collected from unpaved areas will be somewhat more representative if each sample consists of say four subsamples collected from say a 200 square foot area and composited into a single bottle for submittal to the laboratory. Some of the sites have obvious surface staining, indicating contamination, which will be worth sampling to quantify. However, the commonly quoted cleanup guideline of 100ppm Total Petroleum Hydrocarbons represents about 1 cup of oil per cubic yard of soil, which is seldom visible. Therefore it will be beneficial to collect at least half or more of the surface samples from soil which is not obviously stained, in an attempt to determine if other than the visible contamination exists. Analysis of the surface samples from selected borings for some of the appropriate surface sample parameters, in addition to the specified surface sampling locations, will supplement the knowledge of surface contamination.

Laboratory analyses recommended for the various types of surface samples are tabulated below:

Metals and PCBs:	Analyze for mercury, arsenic, and lead PCBs by EPA Method 8080
Herbicides:	EPA Method 8080
Waste Oil:	Total Petroleum Hydrocarbons (EPA Method 418.1) Metals (arsenic, cadmium, chromium, lead) Total Organic Halogens
Petroleum:	Total Petroleum Hydrocarbons (EPA Method 418.1)
Lead:	By a method which will not discriminate against TetraEthyl Lead

4.3 Recommended Sampling Locations

Recommended sampling locations are depicted in Figures 4 and 5. Details regarding these recommended locations are discussed on a parcel-by-parcel basis below.

Alaska Railroad Tracks

- One product well at the Charles Street crossing to determine the possible

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presence and lateral extent of floating product, and its possible relation to product found on the Willner parcel.

- One soil boring on the Saupe Enterprises spur. Samples from this boring should also be screened for solvents by analyzing for Total Organic Halogens (TOX).
- Two surface samples for herbicides at the Charles Street crossing.
- Three surface samples for herbicides along the Eielson Branch.
- Three surface samples for petroleum immediately adjacent to the tracks along the Eielson Branch (for possible spills or leaks from tank cars).
- Two surface samples for petroleum along tracks at Charles Street crossing.

City Streets

- One soil boring next to the drums on Driveway Street. These samples should also be screened for solvents by analyzing for TOX.
- Two surface samples for waste oil on Oil Avenue.
- One surface sample for waste oil on Charles Street.
- Two surface samples for waste oil on Driveway Street.
- One surface sample for metals and PCBs on Driveway Street just west of the Alaska Gold property.

Petroleum Sales

- One soil boring with samples also analyzed for TOX
- Two water wells with soil samples also analyzed for TOX and water samples also tested for solvents by EPA Method 601 (Purgeable Halocarbons).
- Two surface samples for petroleum.

Saupe Enterprises

- Two product wells in vicinity of old truck loading rack.
- Three soil borings with samples also analyzed for TOX.
- One water well west of the infiltration field, also analyzed by EPA Method 601.
- Two surface samples for petroleum.
- Four surface samples for lead within the containment area and in the yard to the north.

Willner's Texaco

- One product well in the vicinity of the existing well which has sometimes contained floating product. Soil samples should also be analyzed for TOX.

Nerland's

- One soil boring in proposed acquisition. Samples should also be analyzed for TOX.

VanGas

- Four product monitoring wells, at the tank truck fill, the diesel pump, and the two ASTs.
- One water monitoring well in the area of potential petroleum spills (site after the four product wells have been drilled and the samples screened). Water sample should also be analyzed by EPA Method 601.
- One soil boring adjacent to the drums on Driveway Street. Samples should also be analyzed for TOX.
- One surface sample for waste oil near waste oil tank.
- Three surface samples for petroleum in yard.

Alaska Gold

- Two surface samples for metals and PCBs.
- One surface sample for herbicides.

Sourdough Express

- One water monitoring well near buried oil/water separator. Soil samples should also be analyzed for TOX, and water sample also by EPA Method 601.
- One soil boring west of northern warehouse. Soil samples should also be analyzed for TOX.
- Three surface samples at appropriate locations for petroleum and also for TOX.

Sourdough Properties (northern parcel)

- . Five surface samples for metals and PCBs.
- . One surface sample on eastern end of property for herbicides.

4.4 Quality Control

The consultant conducting the sampling should be required to prepare a quality control plan outlining at a minimum: proposed sampling methods, decontamination procedures, and QC samples.

We recommend that at a minimum prior to each sampling attempt the split-spoon sampler should be scrubbed with a low sudsing laboratory-approved detergent and rinsed with fresh water followed by distilled water. The augers, drill rods, and any other downhole equipment used during the drilling should be cleaned with high pressure hot water and laboratory-approved detergent prior to each boring. No oil, grease or lubricants should be used on any of the downhole drill tools. Prior to the start of the job, the rear operating area of the drill should be cleaned with high pressure hot water and laboratory-approved detergent.

Equipment used to collect surface samples or water samples should be decontaminated before each use similarly to the split-spoon sampler.

At least one trip blank and rinsate blank should be collected per day during sampling. Blind duplicate soil samples should also be submitted to the analytical laboratory for the various analytical tests. The number of QA/QC samples (including blanks and duplicates) should be equal to or greater than 10 percent of the total number of soil samples collected for this project.

4.5 Cleanup Standards

The purpose of this section is not to prejudge this site and speculate on needed cleanup, but to determine the order of magnitude of concentrations of concern, so that proper care can be taken in sample collection, and appropriate detection limits can be provided by the laboratory analyses. Actual cleanup standards will

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need to be developed on a site-specific basis, and reference to standards below should not be inferred as applicability to this project.

The State of Alaska does not at present have written cleanup standards for petroleum contamination of soils or groundwater. Guidelines are developed on a site-specific basis. Standards which have been quoted on similar sites include:

- 100 ppm - Total Petroleum Hydrocarbons in soil
- 0.3 ppm benzene/ 0.3 ppm toluene/ 1.0 ppm ethylbenzene/ 1.0 ppm
xylene in soil
- 5 ppb - benzene in groundwater

The soil cleanup guidelines are based predominantly on preventing dissolved hydrocarbons from leaching into the groundwater. We are unaware of any local cases of similar standards for solvents in soil. However, given similar solubility and toxicity for some of the compounds, the same order of magnitude would probably be of concern.

With respect to PCBs, cleanup standards may range from 10 to 50 ppm, depending on whether access to the site is restricted and on the age of the spill.

The cleanup standard applied for mercury for Steadman Field in Nome was 10 ppm.

The cleanup standard applied for lead at Alaska Battery Enterprises was reportedly 1000 ppm.

In the description of recommended laboratory analyses, Total Organic Halogens (TOX) has been recommended to evaluate the possible presence of chlorinated solvents, and/or PCBs originating from waste oil, in soil borings and waste oil surface samples. The more expensive EPA Method 8080 (\$150) and 8010 (\$100) would be more specific regarding PCBs and solvents, respectively, than would TOX (\$50). Encountering TOX concentrations of concern might require resampling and additional laboratory analyses to determine whether they originate from PCBs or

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solvents. You may wish to reconsider our recommendation of the indicator test (TOX) and perform the more specific tests if your budget allows.

Present data indicates that the proposed right-of-way passes through an area containing a floating layer of hydrocarbons on the groundwater. It must be realized going into this project that cleanup of just a corridor surrounded by floating product and contaminated soil and groundwater may not be practical. If significant contamination is encountered and you wish to proceed with this alternative for a connector, it may be necessary to perform a risk assessment to evaluate the possibility of leaving some wastes in place. The sampling outlined in this plan should provide contaminant data as input to a risk assessment. Transport, fate, and toxicological studies would be required in addition to complete a risk assessment.

4.6 Limitations

This report presents a summary of land use and recommends a sampling plan to detect the possible presence of hazardous waste along the proposed right-of-way for the Minnie Street Connector. The plan is based only on the material which was available for review and could be reviewed within the scope of our contract. Sampling locations and types of laboratory analyses have been recommended partially based on known or expected occurrences at specific locations, but also partially at random locations. It must be realized that contamination location may also be random, and therefore the levels of contamination encountered by performing the recommended sampling may not necessarily be the highest levels present at the site, or even define all of the possible separate areas of contamination.

This report was prepared for the exclusive use of the State of Alaska in the study of the current problem. It should be made available to others for information on factual data only and not as a warranty of site history or

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conditions, such as those interpreted from our interviews, site surveys, and air photo interpretation and presented in discussions included in this report.

SHANNON & WILSON, INC.

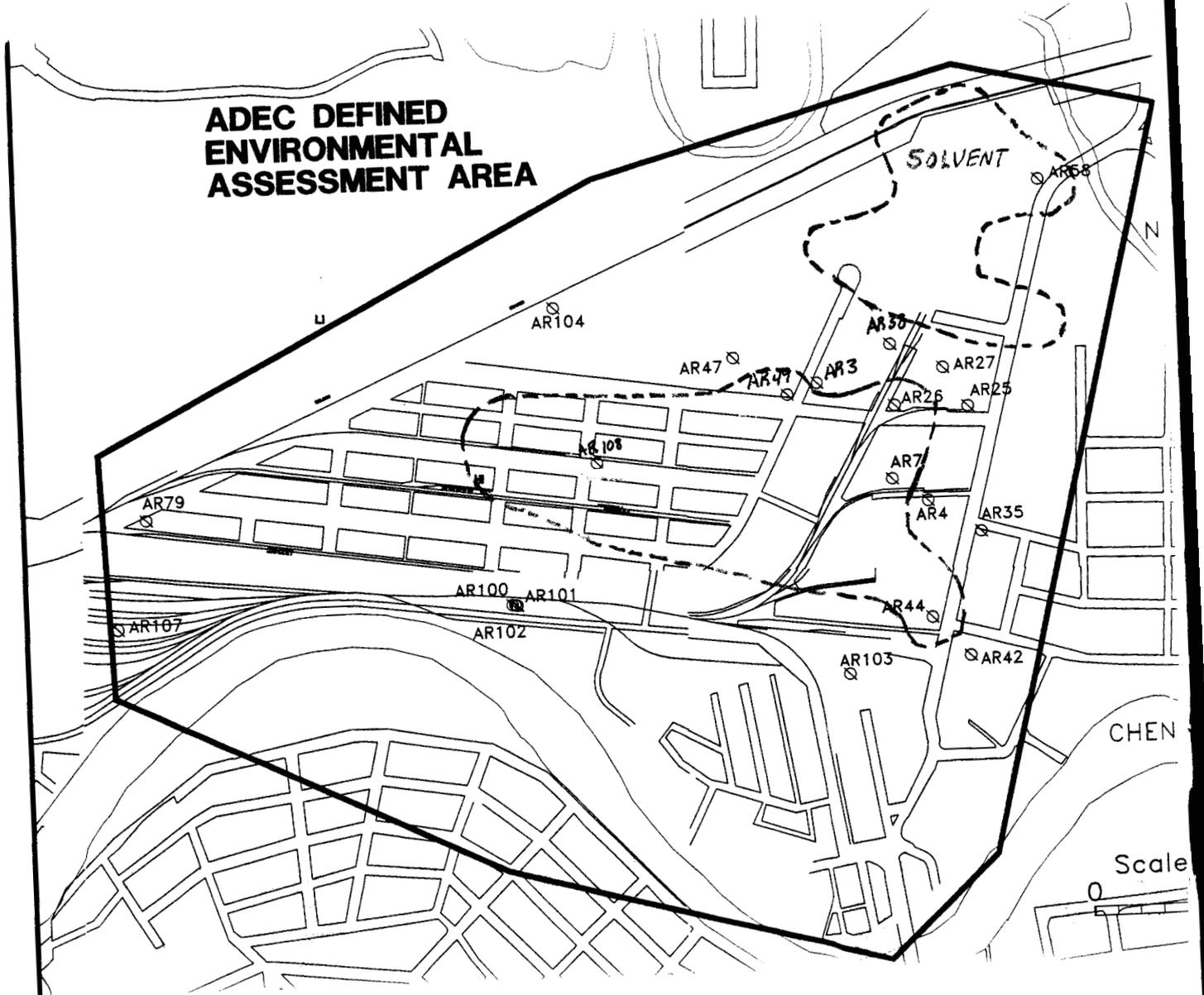
By Erling A. Juel
Erling A. Juel

Engineer II

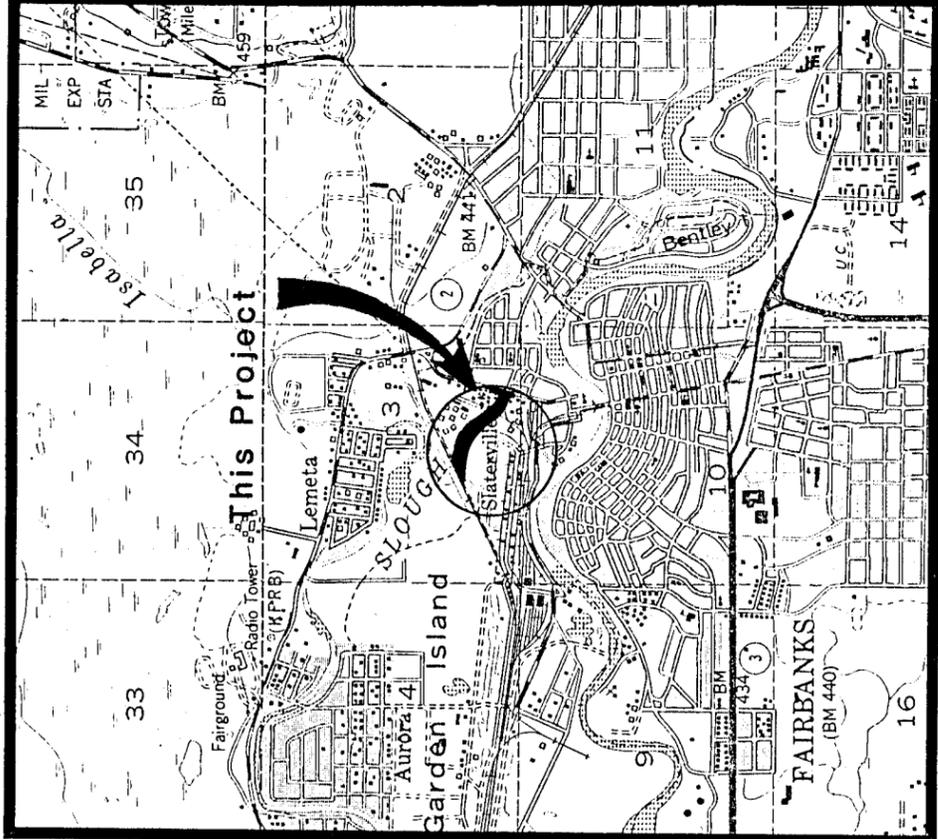
By John E. Cronin
John E. Cronin

Senior Associate - Engineering Geology

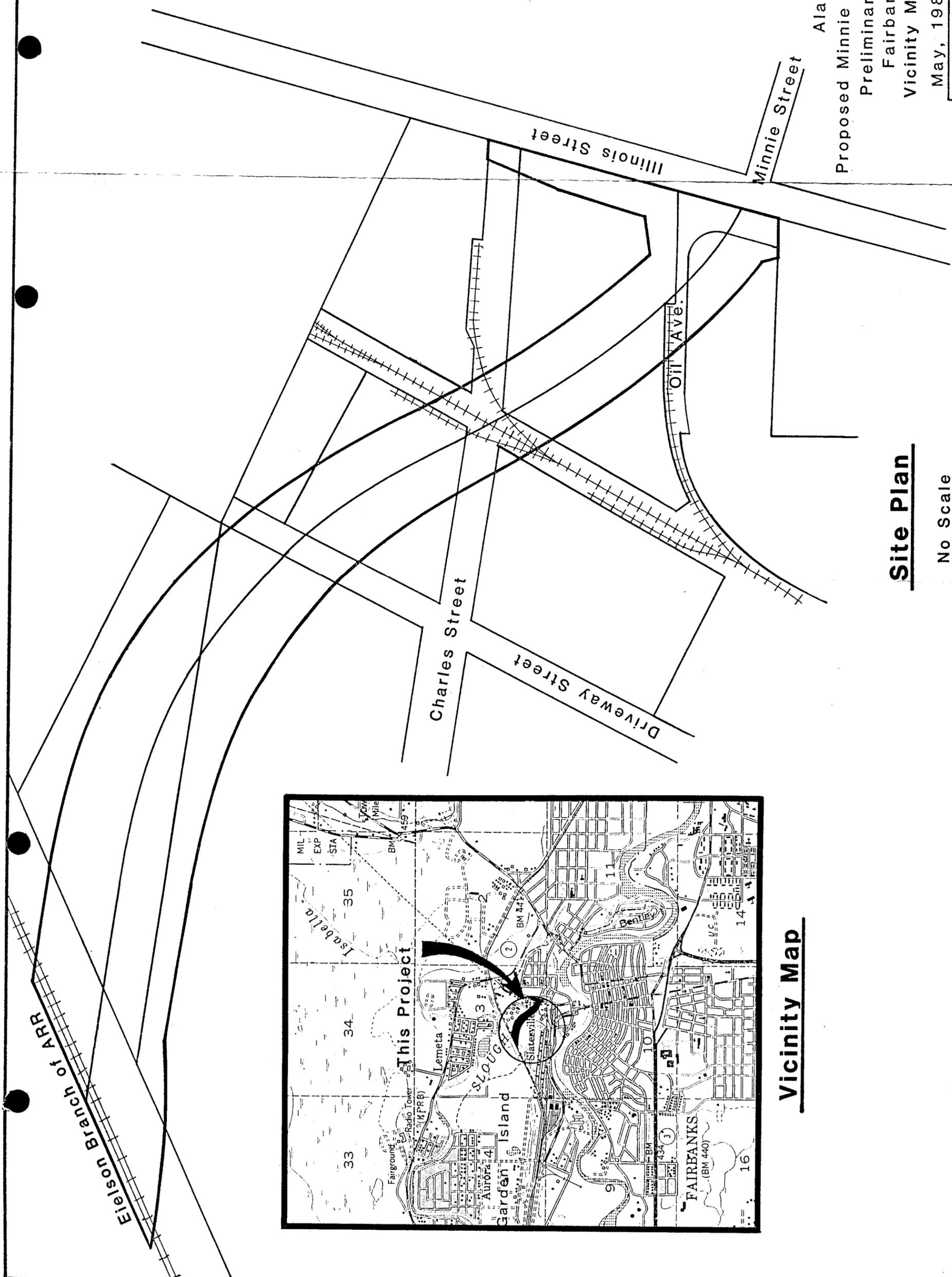
ADEC DEFINED ENVIRONMENTAL ASSESSMENT AREA



000036



Vicinity Map



Site Plan

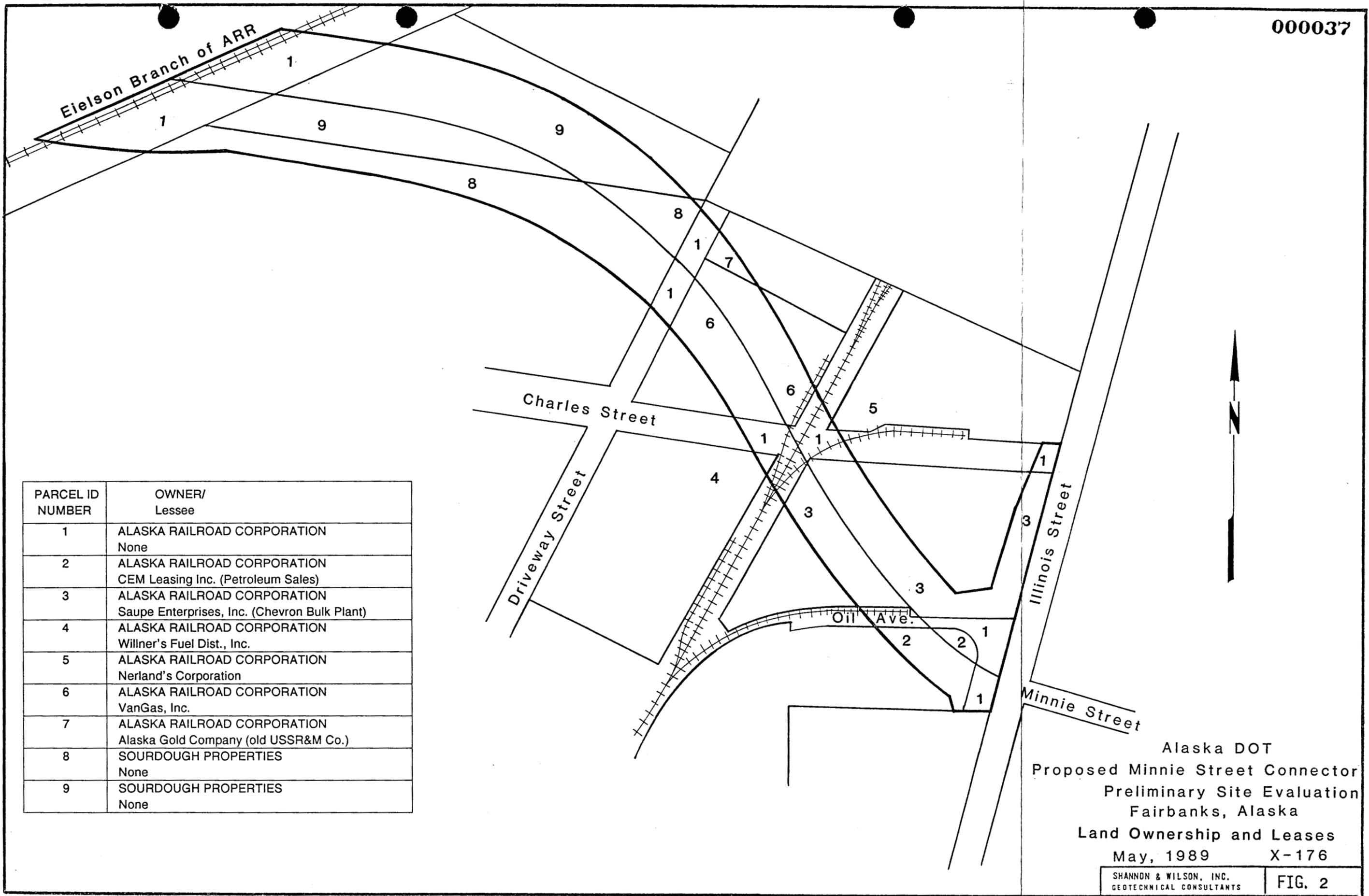
No Scale

Alaska DOT
 Proposed Minnie Street Connector
 Preliminary Site Evaluation
 Fairbanks, Alaska
 Vicinity Map and Site Plan

May, 1989 X-176

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 GEOTECHNICAL CONSULTANTS

FIG. 1

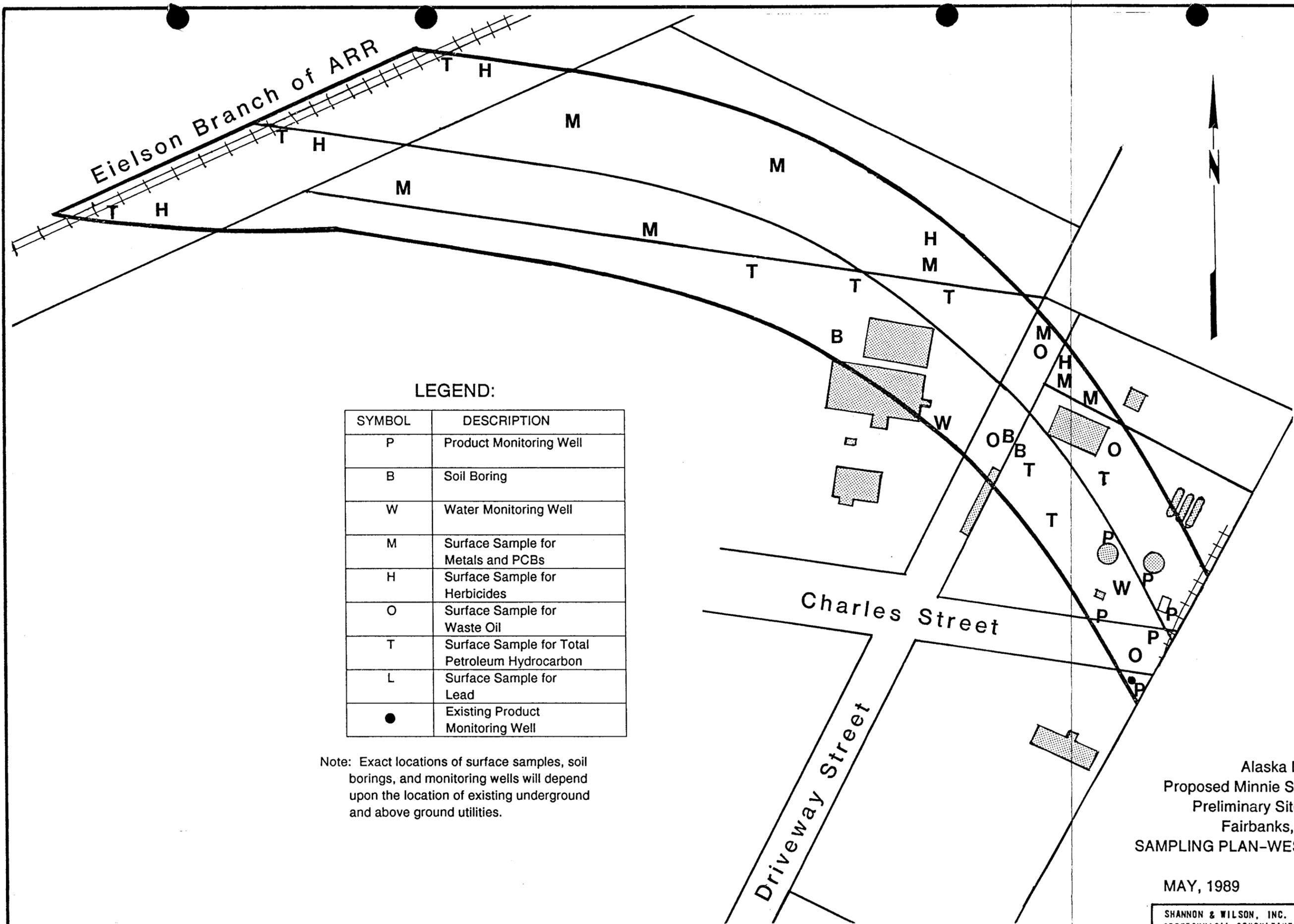


PARCEL ID NUMBER	OWNER/ Lessee
1	ALASKA RAILROAD CORPORATION None
2	ALASKA RAILROAD CORPORATION CEM Leasing Inc. (Petroleum Sales)
3	ALASKA RAILROAD CORPORATION Saupé Enterprises, Inc. (Chevron Bulk Plant)
4	ALASKA RAILROAD CORPORATION Willner's Fuel Dist., Inc.
5	ALASKA RAILROAD CORPORATION Nerland's Corporation
6	ALASKA RAILROAD CORPORATION VanGas, Inc.
7	ALASKA RAILROAD CORPORATION Alaska Gold Company (old USSR&M Co.)
8	SOURDOUGH PROPERTIES None
9	SOURDOUGH PROPERTIES None

Alaska DOT
 Proposed Minnie Street Connector
 Preliminary Site Evaluation
 Fairbanks, Alaska
 Land Ownership and Leases
 May, 1989 X-176

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FIG. 2



LEGEND:

SYMBOL	DESCRIPTION
P	Product Monitoring Well
B	Soil Boring
W	Water Monitoring Well
M	Surface Sample for Metals and PCBs
H	Surface Sample for Herbicides
O	Surface Sample for Waste Oil
T	Surface Sample for Total Petroleum Hydrocarbon
L	Surface Sample for Lead
●	Existing Product Monitoring Well

Note: Exact locations of surface samples, soil borings, and monitoring wells will depend upon the location of existing underground and above ground utilities.

Alaska DOT
 Proposed Minnie Street Connector
 Preliminary Site Evaluation
 Fairbanks, Alaska
 SAMPLING PLAN-WESTERN PORTION

MAY, 1989

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FIG. 5

LEGEND:

SYMBOL	DESCRIPTION
P	Product Monitoring Well
B	Soil Boring
W	Water Monitoring Well
M	Surface Sample for Metals and PCBs
H	Surface Sample for Herbicides
O	Surface Sample for Waste Oil
T	Surface Sample for Total Petroleum Hydrocarbon
L	Surface Sample for Lead
●	Existing Product Monitoring Well

Note: Exact locations of surface samples, soil borings, and monitoring wells will depend upon the location of existing underground and above ground utilities.

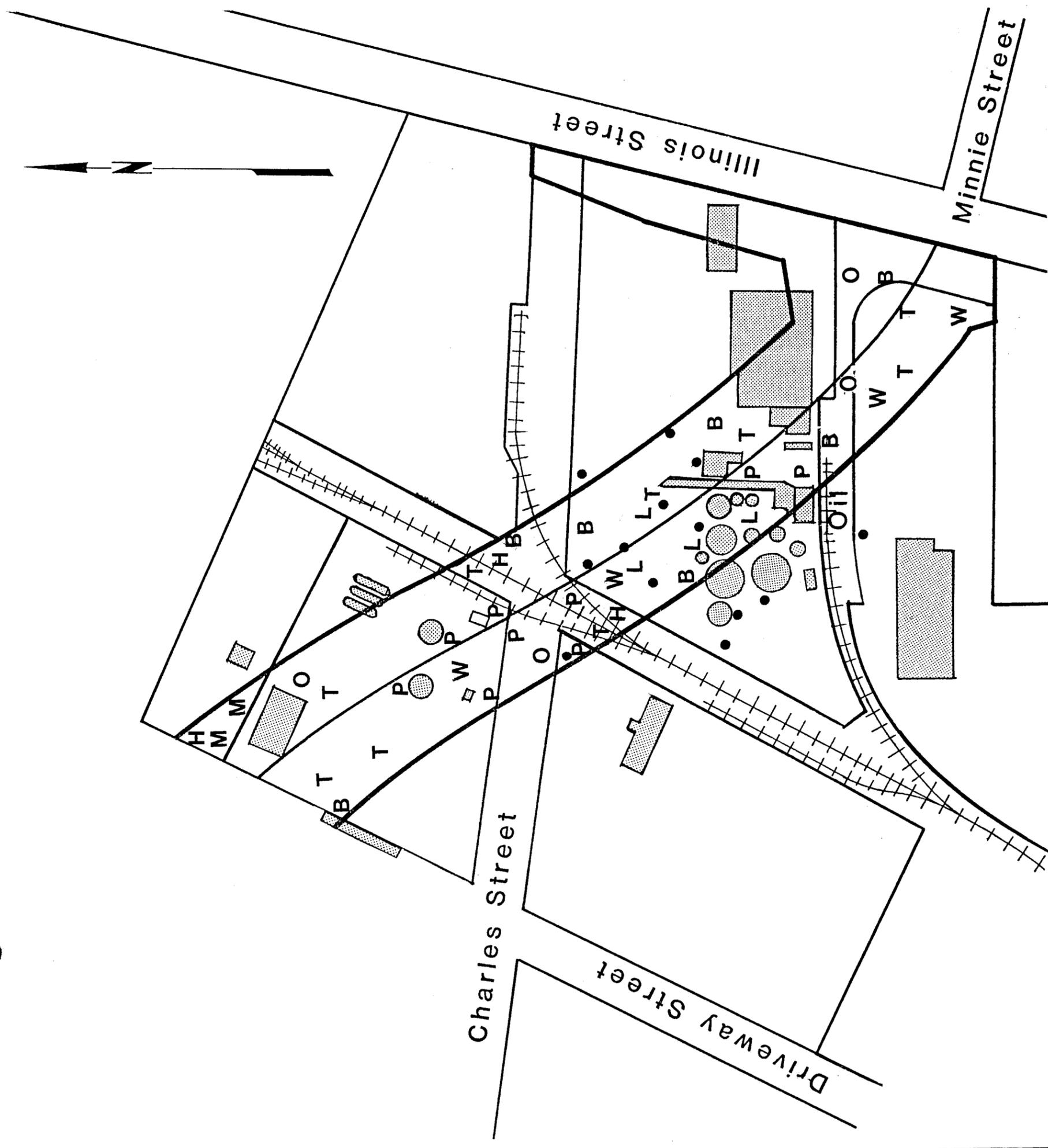
Alaska DOT
 Proposed Minnie Street Connector
 Preliminary Site Evaluation
 Fairbanks, Alaska
 SAMPLING PLAN-EASTERN PORTION

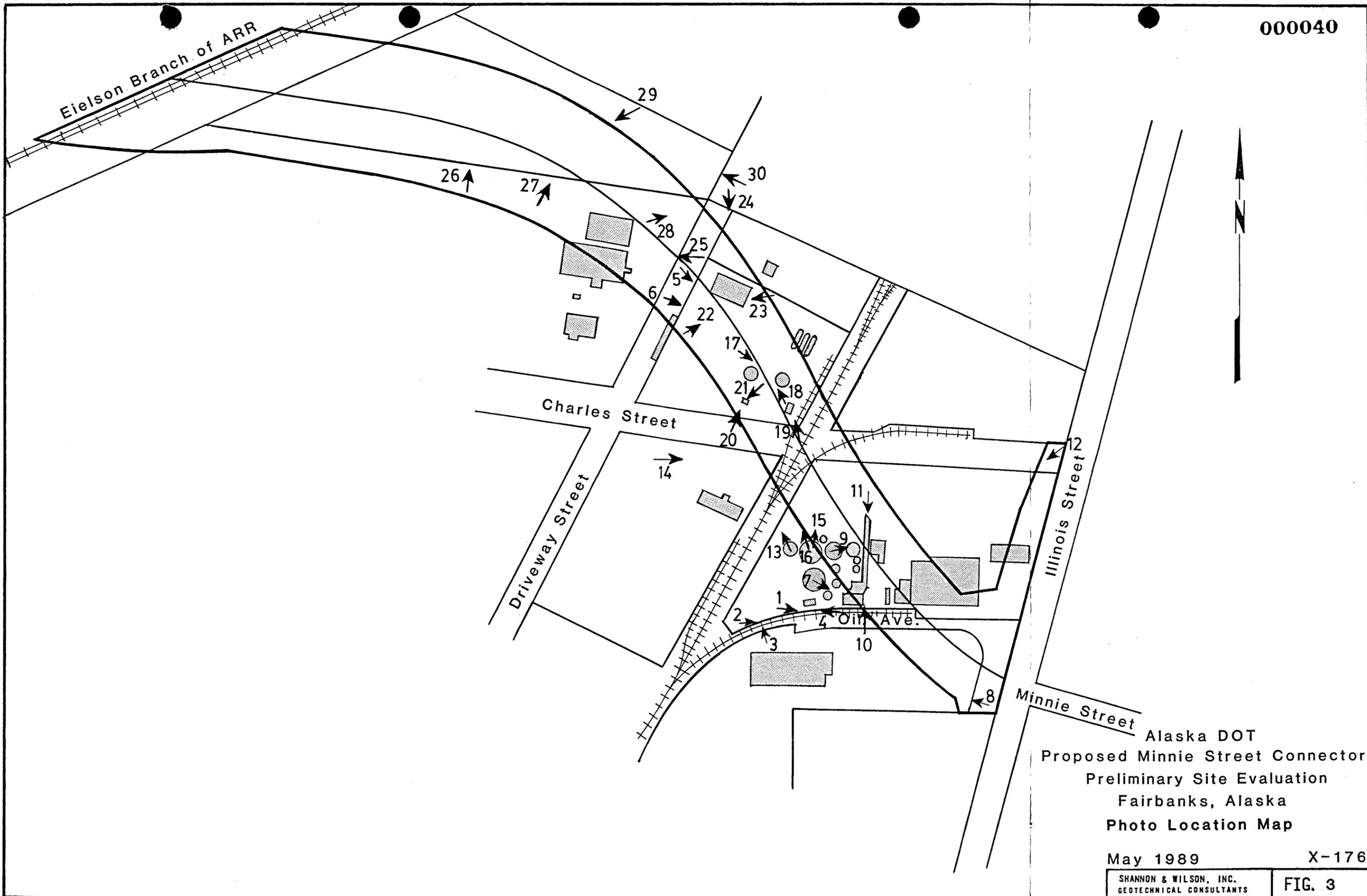
MAY, 1989

X-176

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 GEOTECHNICAL CONSULTANTS

FIG. 4





Alaska DOT
 Proposed Minnie Street Connector
 Preliminary Site Evaluation
 Fairbanks, Alaska
 Photo Location Map

May 1989 X-176

APPENDIX A
SITE PHOTOGRAPHS



Photo #: 1

Location: Rail spur serving Saube Enterprises. Looking east along Oil Avenue.

Description: Surface contamination resulting from unloading rail tanker cars.

Date: 5-19-89

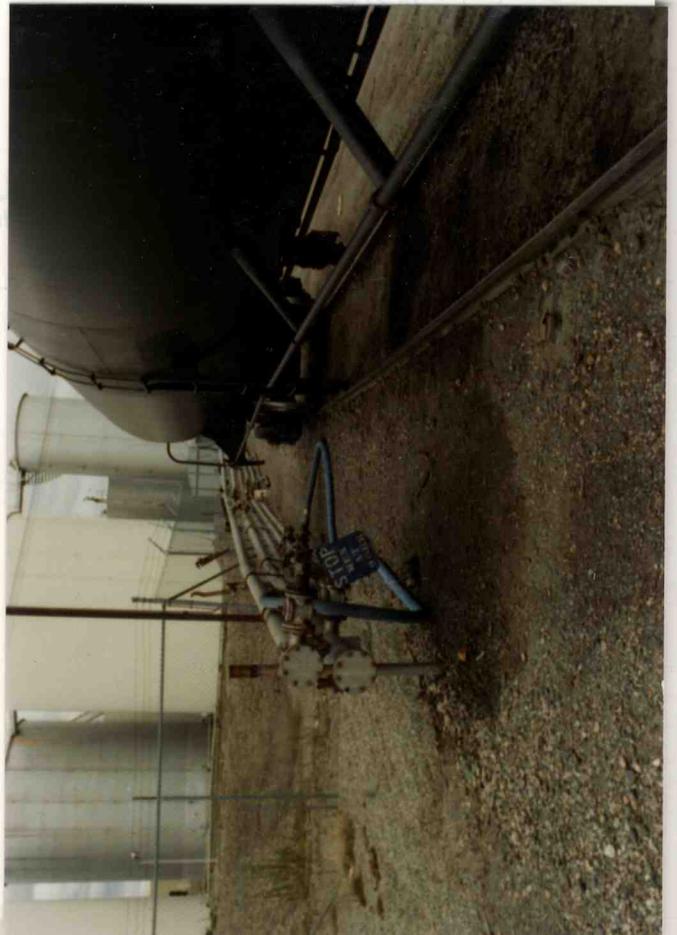


Photo #: 2

Location: Rail spur serving Saube Enterprises. Looking east along Oil Avenue.

Description: Surface contamination from railroad tanker cars.

Date: 5-19-89

41A



Photo #: 3

Location: Rail spur serving Saupe Enterprises along Oil Avenue.

Description: Surface contamination from railroad tanker cars.

Date: 5-19-89



Photo #: 4

Location: Rail spur at Saupe Enterprises. Looking west along Oil Avenue.

Description: Petroleum-contaminated ground from unloading operations.

Date: 5-19-89

41B



Photo #: 5

Location: On Driveway Street looking east towards VanGas properties.

Description: 55 gallon drums stockpiled outside VanGas property fence; some are actively leaking. Exact origin and contents are unknown.

Date: 5-19-89

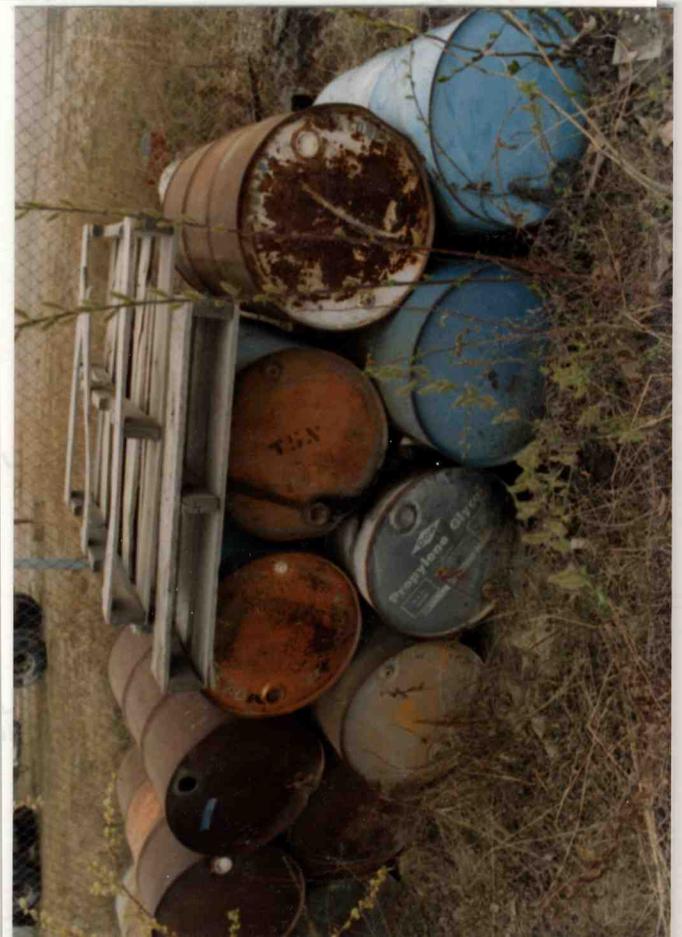


Photo #: 6

Location: On Driveway Street looking east towards VanGas properties.

Description: 55 gallon drums stockpiled outside VanGas property fence; some are actively leaking. Exact origin and contents are unknown.

Date: 5-19-89

41C

Photo #: 7

Location: Looking east-southeast from atop bulk tank located at Saupé Enterprises.

Description: Photo shows current use of eastern portion of Petroleum Sales (CEM Leasing, Inc.) back yard.

Date: 5-19-89

Photo #: 8

Location: Looking west from Illinois Street onto Petroleum Sales' back yard.

Description: Back yard used to park tanker trailers and other equipment. Note petroleum-contaminated ground. Other portions of this yard are used to wash the inside and outside of tanker trucks.

Date: 5-19-89

41D





Photo #: 9

Location: Looking northeast from atop bulk tank located at Saupe Enterprises.

Description: Photo shows current use of land.

Date: 5-19-89



Photo #: 10

Location: Looking north from Oil Avenue through gate onto Saupe Enterprises' property.

Description: Photo shows location of old truck loading facility used until late 1960's. Petroleum stained surface evident.

Date: 5-19-89

41E



Photo #: 11

Location: Looking south on Saupe Enterprises' property.

Description: Photo shows petroleum product piping partially above ground, going underground to tank truck load rack.

Date: 5-19-89

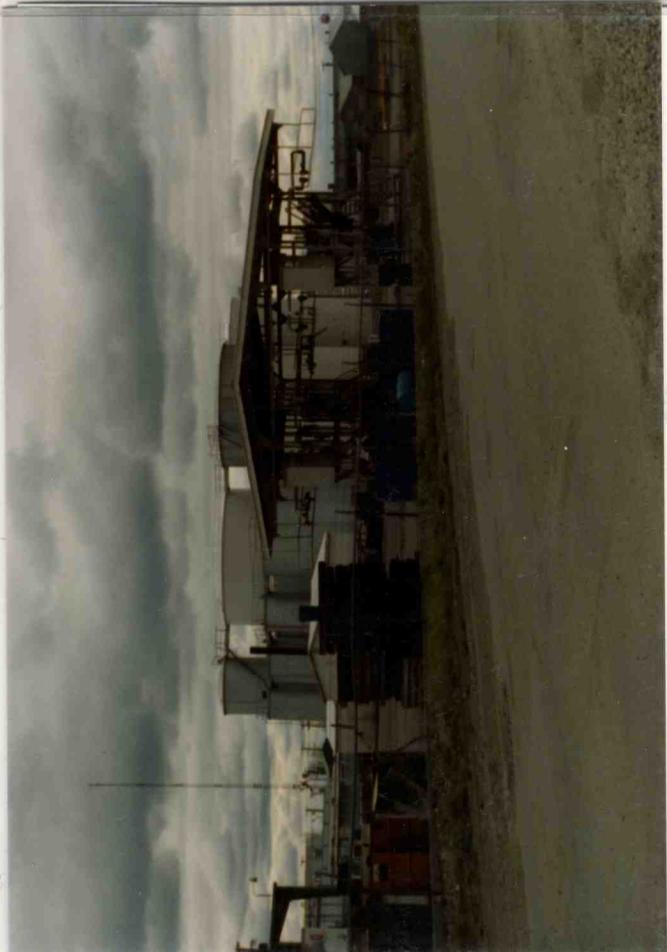


Photo #: 12

Location: Looking southwest towards Saupe Enterprises from Charles-Illinois Street intersection.

Description: Photo shows tank truck load rack, some barrels being stored along north fence, and ASTs in background.

Date: 5-19-89

41F

30 FEB 1989 JUN 10 1989



Photo #: 13

Location: Looking northwest from atop bulk tank located at Saube Enterprises.

Description: Photo shows the northeast corner of Willner's Texaco property next to Charles Street and the railroad corridor.

Date: 5-19-89



Photo #: 14

Location: Looking east on Willner's Texaco property.

Description: Photo shows current land use for this portion of property required for the Minnie Street Connector. Ground surface at Willner's had recently been resurfaced with Brown's Hill D-1 prior to site visit obscuring any observation of possible older surface contamination.

Date: 5-19-89

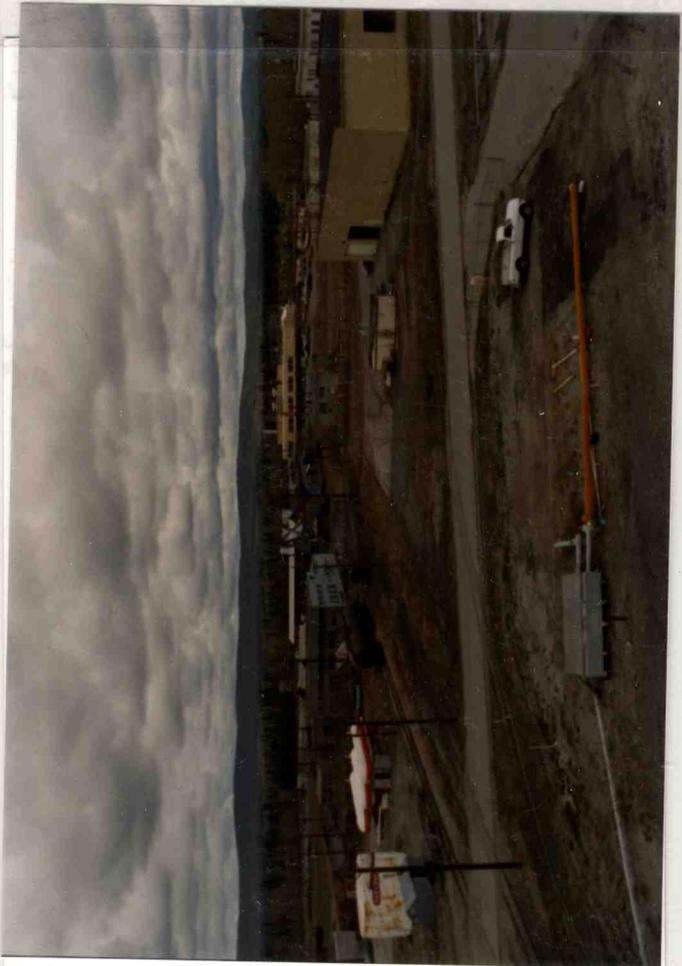
41G

Photo #: 15

Location: Looking north from atop bulk tank located at Saupe Enterprises.

Description: Photo shows an aerial view of Nerland's property showing the southwest corner required for the Minnie Street project. Note small building and concrete slab from previous land use (pre 1967).

Date: 5-19-89



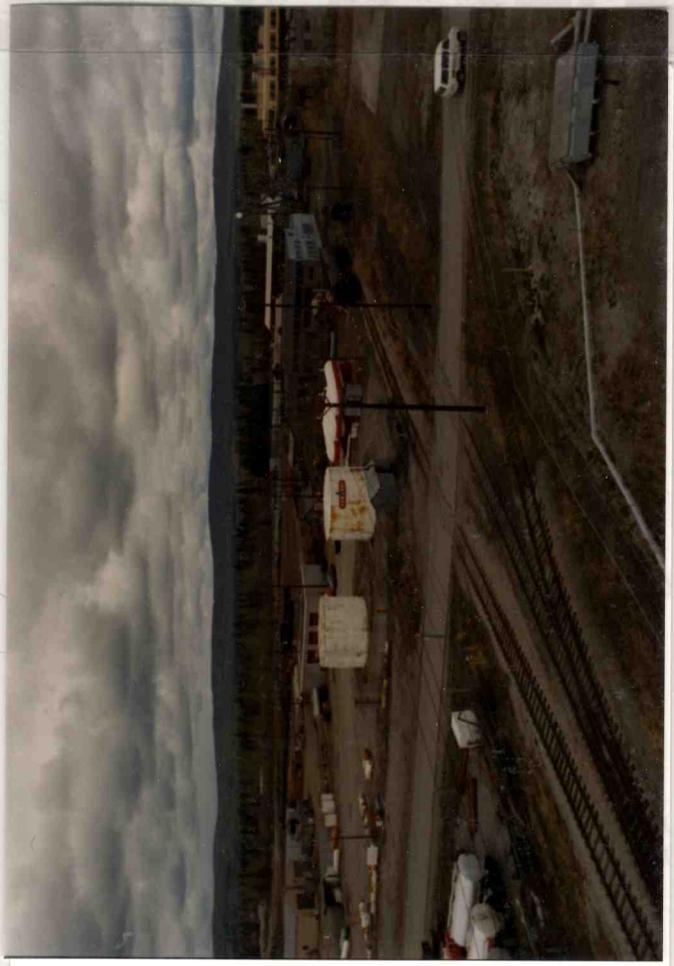
41H

Photo #: 16

Location: Looking north-northwest from atop bulk tank located at Saupe Enterprises.

Description: Photo shows an aerial view of VanGas property north of Charles Street and west of the railroad corridor.

Date: 5-19-89



SAUPE ENTERPRISES
361 6111 VAN GAS



Photo #: 17

Location: Looking southeast at northwest AST on VanGas property.

Description: Photo shows petroleum stained ground from AST piping and connection.

Date: 5-19-89



Photo #: 18

Location: Looking northwest at southeast AST on VanGas property.

Description: Photo shows petroleum stained ground from AST piping and connection.

Date: 5-19-89

411

Photo #: 19

Location: Looking north-northwest from Charles Street-railroad track intersection towards VanGas property.

Description: Photo shows petroleum-contaminated ground at railroad tanker car unloading facility and at tanker fuel truck filling station. Fill pipe used to fill trucks was actively leaking during our site visit.

Date: 5-19-89

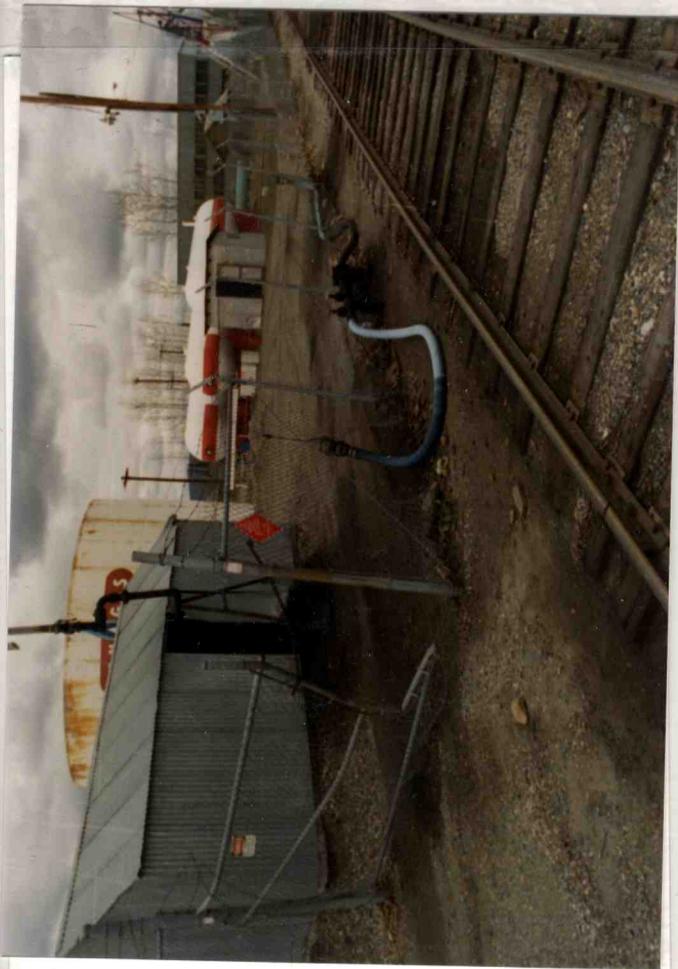
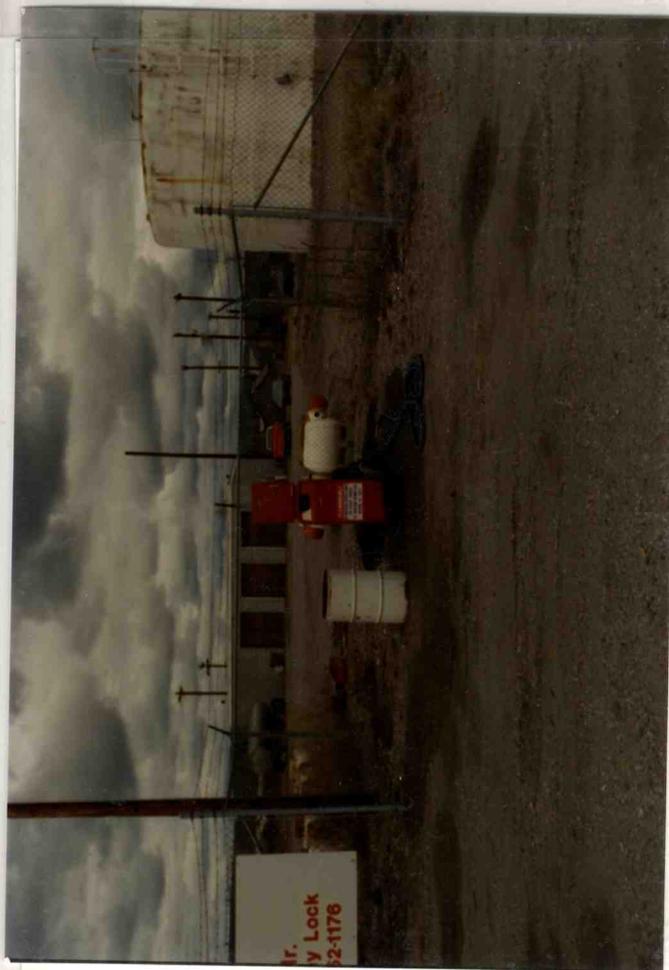


Photo #: 20

Location: Looking north from Charles Street towards VanGas property.

Description: Photo shows a diesel pump on the southern edge of VanGas property which is contaminated with petroleum (diesel).

Date: 5-19-89



41J

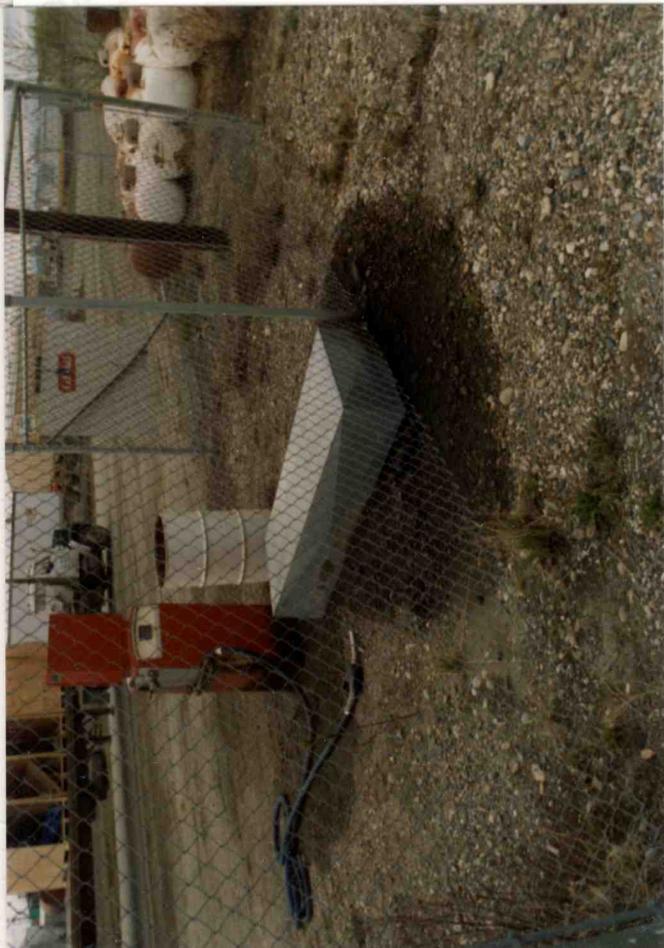


Photo #: 21

Location: Looking southeast at VanGas diesel pump.

Description: Photo shows petroleum stained ground around diesel pump.

Date: 5-19-89

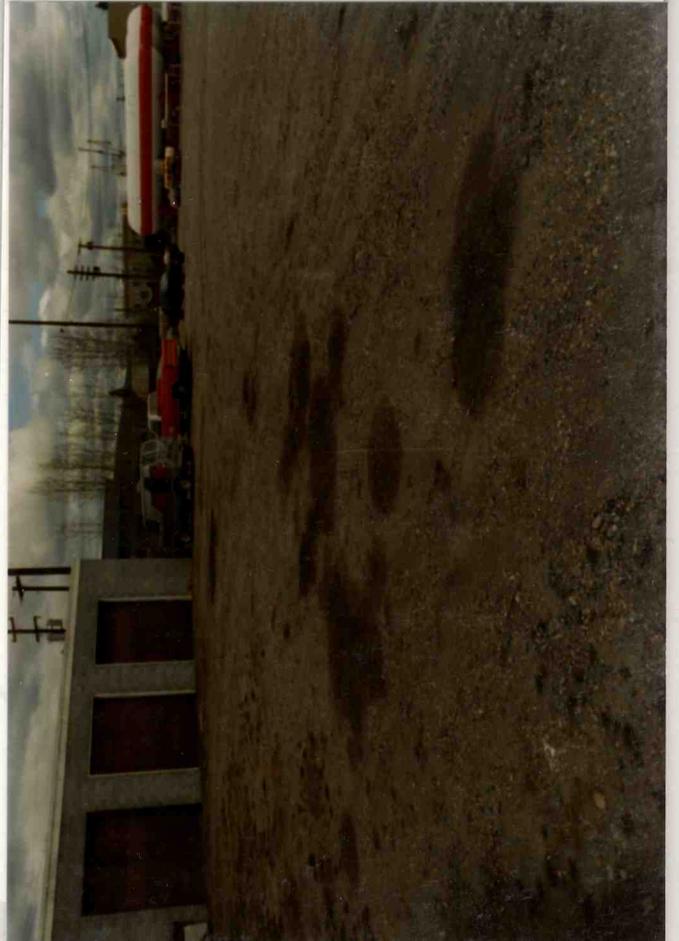


Photo #: 22

Location: Looking north-northeast at garage located on VanGas property.

Description: Photo shows petroleum stained ground.

Date: 5-19-89

41K

Photo #: 23

Location: Looking southwest at side of garage located on VanGas property.

Description: Photo shows waste oil barrel and fuel oil tank.

Date: 5-19-89

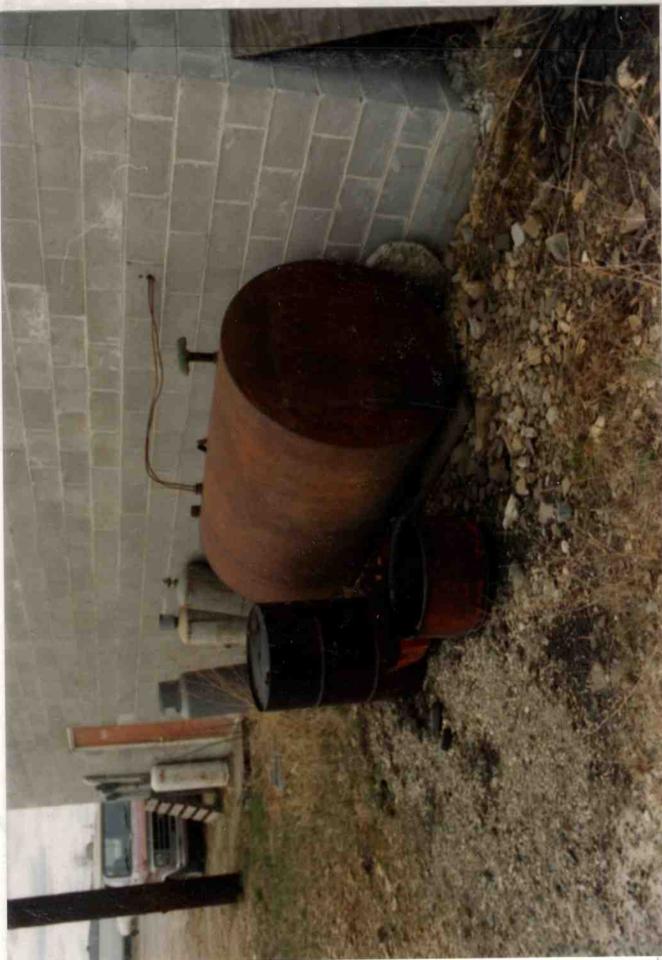


Photo #: 24

Location: Looking south-southeast at southwest corner of Alaska Gold Company (USSR&M) property.

Description: Photo shows that the land is currently being used to park and store equipment and materials.

Date: 5-22-89



41L



Photo #: 25

Location: Looking west from Driveway Street.

Description: Sourdough Express truck maintenance shop and warehouse located within the proposed right-of-way.

Date: 5-22-89

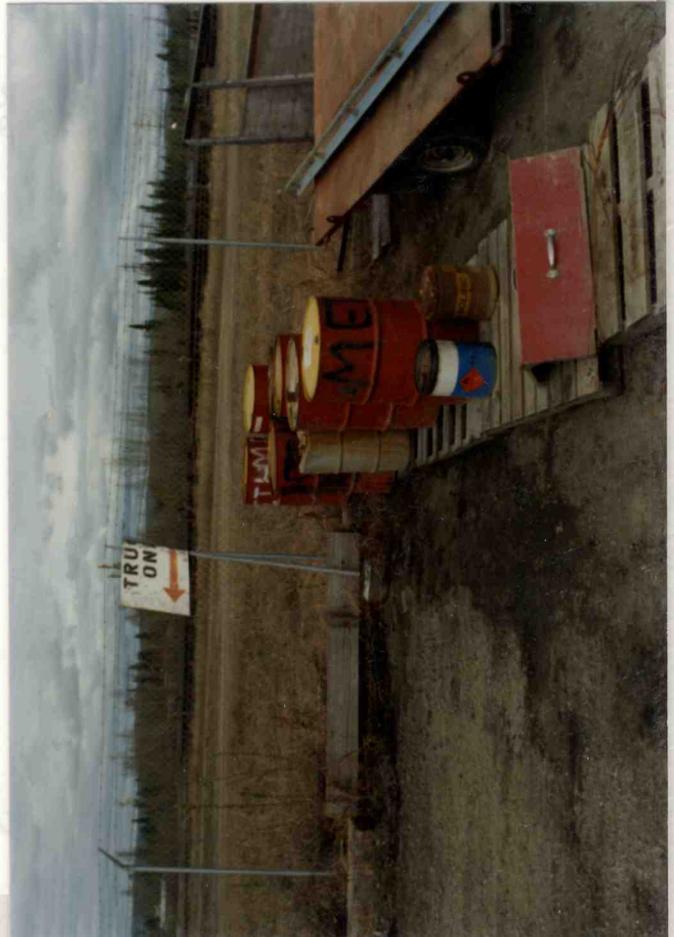


Photo #: 26

Location: Looking north towards north property fence of Sourdough Express storage yard.

Description: Photo shows petroleum stained ground and barrels of methanol being stored along north property fence.

Date: 5-19-89

41M



Photo #: 27

Location: Looking northeast towards north property fence of Sourdough Express storage yard.

Description: Photo shows 55 gallon barrels stockpiled along north property fence. Some barrels full. Contents unknown.

Date: 5-19-89

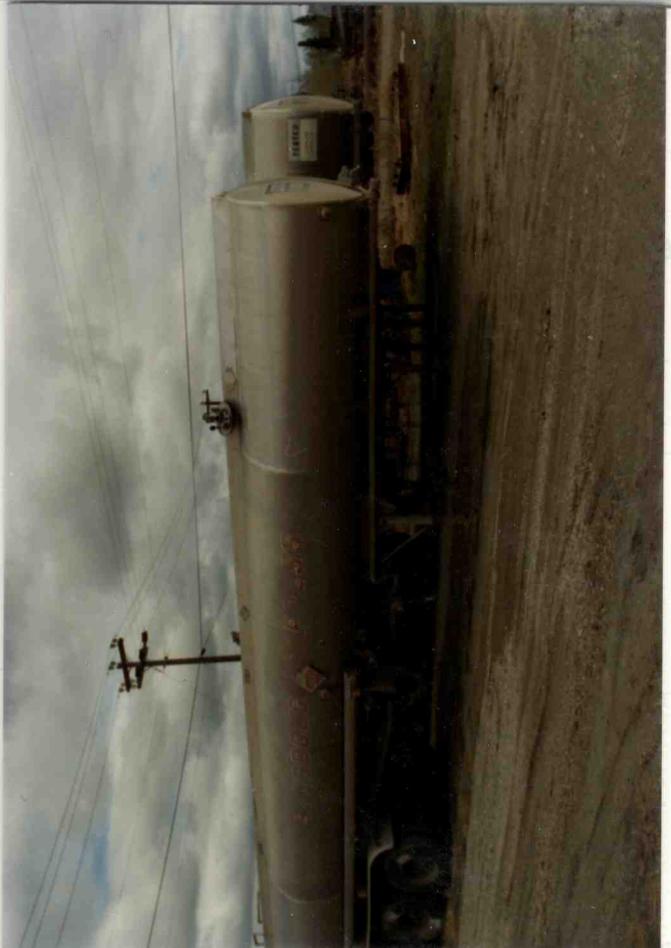


Photo #: 28

Location: Looking east-northeast from Sourdough Express storage yard.

Description: Photo shows tanker trailers parked in Sourdough Express yard along north property fence.

Date: 5-19-89

41N

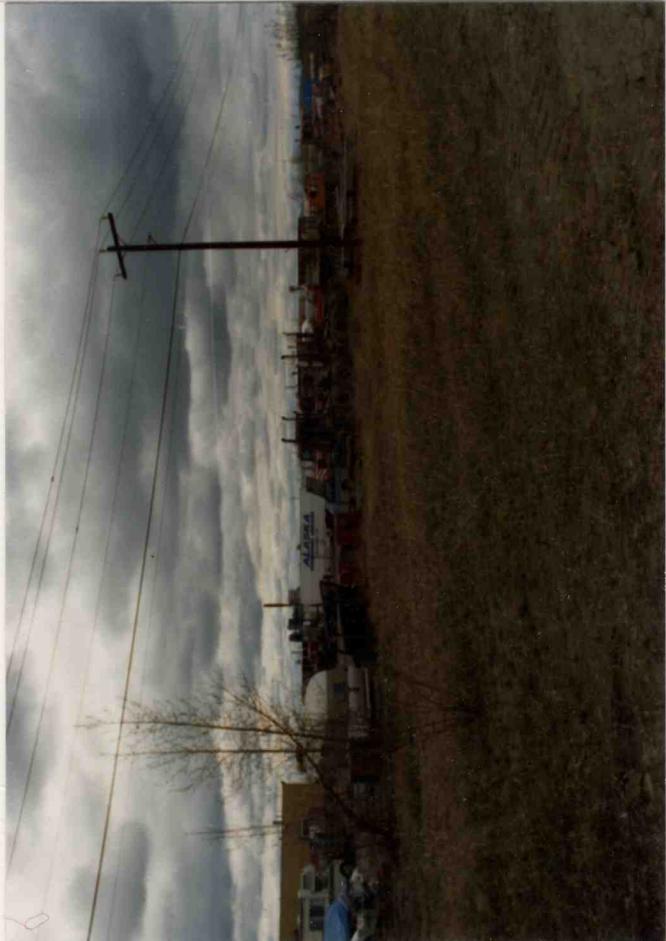


Photo #: 29

Location: Looking southwest from northeast corner of Sourdough Properties' north vacant lot.

Description: Photo shows the north property fence of Sourdough Express storage yard. Vacant lot north of fence is Sourdough Properties' north lot.

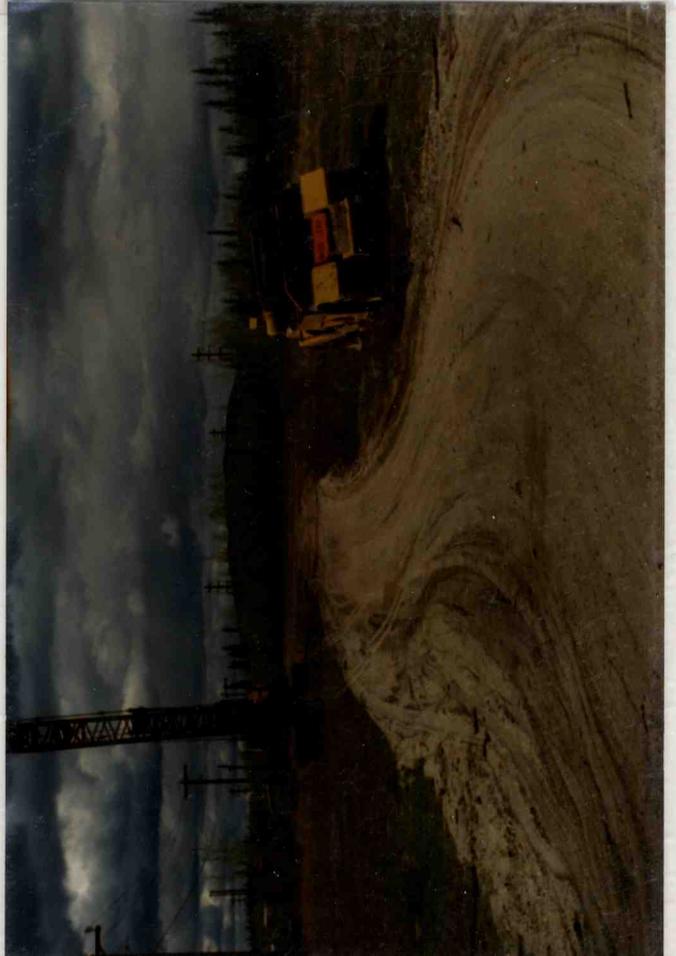


Photo #: 30

Location: Looking west across Sourdough Properties' north vacant lot from Driveway Street.

Description: Photo shows that the lot is vacant except for a dragline and a scraper.

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APPENDIX B

SUMMARY OF TELEPHONE INTERVIEWS

SUMMARY OF TELEPHONE INTERVIEWS

<u>Date</u>	<u>Person</u>	<u>Company</u>
4/12/89	Robin Little	DEC in Fairbanks
4/13/89	Karl McManus	Fairbanks North Star Borough
4/17/89	Larry Houle	Alaska Railroad Corporation
5/10/89	Bernie Saupe	Saupe Enterprises, Inc.
5/15/89	Jim Weymiller	Petroleum Sales, Inc.
5/15/89	Phillip Wood	VanGas, Inc. (Suburban Propane)
5/26/89	Phillip Wood	VanGas, Inc. (Suburban Propane)
5/15/89	Robert Marquiss	Willner's Texaco
5/15/89	Whitey Gregory	Sourdough Express
5/25/89	Whitey Gregory	Sourdough Express
5/16/89	Dan Eagan	Alaska Gold Company
5/16/89	Dale Nelson	Alaska Railroad Company
5/22/89	Ron Nerland	Nerland's Corporation
5/23/89	Eddie Buck	DOT in Fairbanks
5/23/89	Jason Regar	DOT in Fairbanks
5/23/89	Dick Barret	DEC in Palmer

APPENDIX C
SUMMARY OF STORAGE TANK VOLUMES

FROM: Daniel Basketfield

TO: Pete McGee

DATE: 12-03-90

TIME: 15:55

CC: Carmen McCumby
Daniel Basketfield
Dennis Timmons
Doug Dasher
Greg Zimmerman
Kalu Kalu
Laura Noland
Paul Bateman

102388-007

SUBJECT: Illinois and Minnie Salient Issue

PRIORITY:

ATTACHMENTS:

On December 3, 1990, the Northern Regional Office received copies of a Shannon and Wilson, Inc., "Final Report" concerning the results of soil and groundwater investigations during 1989 and 1990 undertaken on behalf of the Alaska Department of Transportation and Public Facilities. The report discusses the results of the second phase of an environmental sampling effort in the vicinity of the proposed right-of-way for DOT's Illinois Street Widening and Minnie Street Connector projects in Fairbanks.

The area under consideration consisted of portions of Illinois Street near Kelly's Firestone and the Alaska Chevron Service Station, and several properties between the Eielson Branch of the Alaska Railroad and Illinois Street at the Minnie Street intersection. The parcels under study were:

1. Petroleum Sales
2. Saupe Enterprises
3. Willner's Texaco
4. Nerland's/Alaska Feed Company
5. VanGas (Suburban Propane)
6. Alaska Gold
7. Sourdough Express
8. Alaska RR right-of-way
9. Fairbanks city streets (Driveway St., Charles St., Oil Avenue)
10. Alaska Chevron
11. Kelly's Firestone

Significant contamination of both soils and groundwater were observed throughout the study area. The following is a brief semi-quantitative summary of the problems noted:

1. Free-floating petroleum product was observed on the water table in thicknesses varying from 0.06 to 0.23 feet on October 22, 1990. The depth to groundwater in the study area was approximately 15 feet during the period of observation.
2. Only five test holes out of a total of 30 had soil and groundwater contamination below guideline levels and the MCL's. However, in these five test holes VOC's, HVOC's, and TPH-levels were detected in varying concentrations.
3. Fourteen of 21 surface samples had either TPH or VPH results above guideline levels.

4. Four groundwater wells exhibited concentrations of 1,2,-dichloroethane above MCL's, with the highest values over five times the final MCL. Tetrachloroethane (PCE), trichloroethane (TCE), and 1,1,1-trichloroethane were also detected.

5. Nine of ten water samples showed benzene concentrations greater than the MCL, with maximum concentrations at approximately 8200 ppb. Two water samples showed ethylbenzene and toluene above MCL's. One sample showed xylenes at 59,000 ppb, nearly six times the MCL.

6. PCB's (Aroclor 1260) were detected at a maximum of 0.6 ppm, which is below EPA's 10 ppm cleanup guideline for residential areas. Arsenic (183 ppm), chromium (44 ppm), mercury (20 ppm), and lead (520 ppm) were also detected.

We will review this study in detail in the near future, and make a more complete report to you at that time. DanB.

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SUMMARY OF STORAGE TANK VOLUMES

Saupe Enterprises, Inc.

<u>Tank No.</u>	<u>Contents</u>	<u>Volume (gallons)</u>
AST 1	Solvent	18,500
AST 2	Empty (last contained #1 Heating Fuel)	18,500
AST 3	Empty (last contained #1 Heating Fuel)	18,500
AST 4	Aviation Gas 100	98,000
AST 5	Regular Gas	156,000
AST 6	Empty (last contained Aviation Gas 80)	69,000
AST 7	Regular Gas	55,000
AST 8	Supreme Unleaded Gas	90,000
AST 9	#1 Heating Fuel	530,000
AST 10	#2 Heating Fuel	403,000
AST 11	Unleaded Gas	160,000
AST 12	Empty (last contained Unleaded Gas)	19,000
UST 1	#1 Heating Fuel	1,500

VanGas, Inc.

AST 1	#1 Heating Fuel	90,000
AST 2	#2 Heating Fuel	90,000
AST 3	Propane	18,000
AST 4	Propane	18,000
AST 5	Propane	20,000

Sourdough Express

UST 1	#1 Heating Fuel	1,000
UST 2	#1 Heating Fuel	1,000
UST 3	Regular Gas	1,000
UST 4	Diesel	2,000
UST 5	Diesel	5,000
UST 6	Waste Oil	1,000

SUMMARY OF STORAGE TANK VOLUMES CONTINUED

Willner's Texaco

<u>Tank No.</u>	<u>Contents</u>	<u>Volume (gallons)</u>
AST 1	#1 Heating Fuel	1,000
AST 2	#1 Heating Fuel	1,000
AST 3	#1 Heating Fuel	65,000
AST 4	Unleaded Gas	65,000
AST 5	Regular Gas	65,000
AST 6	#2 Diesel Fuel	65,000
AST 7	Pipeline Friction Reducing Agent	65,000
AST 8	Empty (last contained Aviation Gas)	20,000
AST 9	Empty (last contained Aviation Gas)	20,000
AST 10	Empty	20,000
AST 11	Empty	20,000
AST 12	30 weight Motor Oil	20,000
AST 13	10 weight Motor Oil	20,000
AST 14	Super Unleaded Gas	20,000
AST 15	Empty (last contained Ethanol)	17,000
UST 1	#1 Heating Fuel	500
UST 2	#1 Heating Fuel	500