

**AGRA EARTH & ENVIRONMENTAL, INC.  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
GOLD HILL LIQUOR AND GROCERY  
FAIRBANKS, ALASKA**

**ISSUE NO. 1**

Submitted To:

Phil Carboy  
Gold Hill Liquor and Grocery

Fairbanks, Alaska

Submitted By:

AGRA Earth & Environmental, Inc.

Fairbanks, Alaska

September 1994

32-01110-00

**AGRA EARTH & ENVIRONMENTAL, INC.  
PHASE I ENVIRONMENTAL SITE ASSESSMENT  
Gold Hill Liquor and Grocery  
Fairbanks, Alaska**

Submitted To:

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3040 Parks Highway  
P.O. Box 80701  
Fairbanks, Alaska 99708-0701**

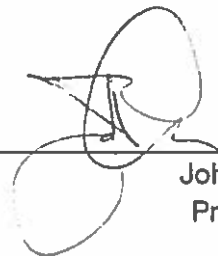
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SEPTEMBER 1994

32-01110-00

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## 1.0 INTRODUCTION

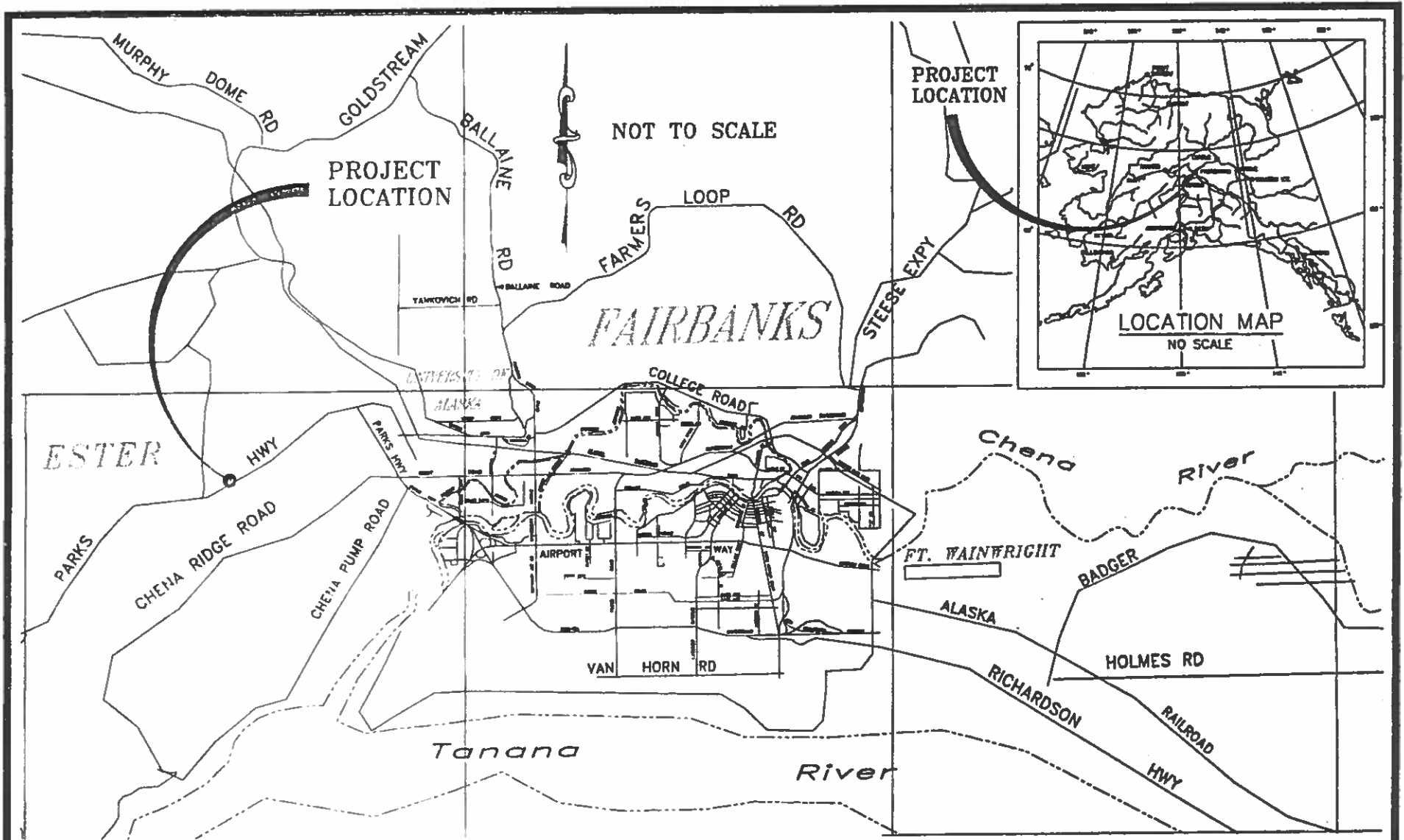
This report presents the activities performed and findings obtained by AGRA Earth & Environmental, Inc. (AGRA E&E) during a Phase I Environmental Site Assessment (ESA) of the Gold Hill Liquor and Grocery Store property at 3040 Parks Highway in Fairbanks, Alaska (Figure 1, page 2). The property is currently owned by Phil and Genevieve Carboy and is described as Tax Lot 926 in Section 9, Township 1 South, Range 2 West, Fairbanks Meridian, within the Fairbanks North Star Borough, Alaska. Topographic map coverage of the site is provided by the USGS Fairbanks (D-2 SW), 7.5-minute quadrangle.

This Phase I ESA was performed as part of a larger investigation associated with the replacement of the regulated underground storage tank (UST) system on the property. The investigation was funded through the Alaska Department of Environmental Conservation (ADEC) UST Financial Assistance Program. That project was originally contracted with RZA AGRA Alaska, Inc. (RZA AGRA). On August 1, 1994, the corporate name for RZA AGRA was officially changed to AGRA Earth & Environmental. The scope of work for the Phase I ESA was performed and this report prepared in accordance with RZA AGRA's workplan presented to and approved by Mr. Carboy and the ADEC.

## 2.0 PURPOSE AND SCOPE

The purpose of the Phase I ESA was to assess the potential presence of hazardous substances and petroleum products on the subject property due to past and/or current land use practices. This assessment was accomplished by a site reconnaissance, a visual survey of the surrounding properties, personal interviews, and a review of public records and readily accessible documentation. In addition, because subsurface contamination has been documented on the property by previous environmental investigations, this ESA also evaluated historical land use in the site vicinity for potential sources of that contamination.

The scope of work for this ESA was designed to allow AGRA E&E to form an opinion regarding environmental risks at the property related to chemical contamination. It did not include structural, mechanical, electrical, or asbestos inspections. The work was performed in accordance with ASTM Standard E 1527-93, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process which is intended to satisfy the due diligence standards associated with the "innocent purchaser" defense to cleanup liability, as set out in the 1986 Superfund Amendments and Reauthorization Act, 42 USC 9601 (35)(B). AGRA E&E's scope of work included the following activities:



• FROM FAIRBANKS NORTH STAR BOROUGH GENERAL VICINITY MAP.

<p><b>PHASE I SITE ASSESSMENT</b></p> <p>AGRA EARTH &amp; ENVIRONMENTAL, INC. 600 University Avenue Suite 5E Fairbanks, Alaska 99709</p>	<p>PROJ # <u>32-01110-00</u></p> <p>DESIGN <u>DJB</u></p> <p>DRAWN <u>PTS/F1110V_2</u></p> <p>DATE <u>08/31/94</u></p> <p>SCALE <u>NOT TO SCALE</u></p> <p>REVISED <u>09/13/94</u></p>	<p><b>SITE LOCATION MAP</b></p> <p>GOLD HILL STORE TL 928, SEC 9, T1S, R2W FNSB, AK</p> <p style="text-align: right;"><b>FIGURE 1</b></p>
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- A site reconnaissance of the subject property and a visual survey of the surrounding area within a ¼-mile radius of the property;
- Review of public records information at the State of Alaska Recorder's Office and the Fairbanks North Star Borough (FNSB) Assessor's Office;
- Review of state and federal agency lists of known or potential contaminated sites;
- Interviews with the property owners; and
- Preparation of this report.

Information regarding historical land use is often available from the Fairbanks city directories at the Noel Wien Library. Although the directories were reviewed, the site and site vicinity were not included in the directories through 1993.

### 3.0 SITE DESCRIPTION

The subject property is located adjacent to the George Parks Highway in the Cripple Creek drainage approximately 7½ miles west of downtown Fairbanks. Cripple Creek, a tributary to the Chena River, flows to the northwest between Chena Ridge and Ester Dome. The highway is located within ½-mile north of and approximately parallel to Cripple Creek. Tax Lot 926 is a roughly square, approximately 2.3-acre property. The site is generally flat and level although in the northwest portion of the lot, the surface becomes progressively more uneven as the ground approaches the base of the steep bluff at the northern edge of the property. The bluff is a steep wall of loess deposits that rises approximately 150 feet above the valley floor. The uneven areas of the property appear to be tailings piles that are now overgrown with vegetation. The property slopes generally to the south and runoff from the site is channeled into a drainage ditch that parallels the north side of the highway. The nearest surface waters are Cripple Creek, approximately ½-mile south of the site, and several small ponds located within approximately ¼-mile to the south and west of the site.

The site currently contains a single-story building on the western half of the property that is used as a grocery and liquor store. The southeastern portion of the site is leased by the FNSB for use as a solid waste dumpster station. The main building is of wood frame construction with wooden siding and metal roofing and is serviced by a private well and septic system. The well is located beneath the westernmost corner of the building and the septic tank and leach field are located near the northern property boundary at the base of the bluff. The oil-fired furnace in the building is fueled from an unregulated buried heating oil tank located along the northwest side of the building.

In addition to being a retail store, the business has also operated as a gasoline station. At the time of the site visit, the system was being decommissioned and the original underground storage tanks (USTs) and fuel dispensers had been taken out of service. Potentially contaminated soil excavated during the closure of the USTs was stockpiled in a lined and bermed storage cell on the northeast portion of the property. The fuel pumps and dispensers were removed and stored under a reinforced visqueen cover behind the main building. A site plan of the property is provided as Figure 2 (page 5).

### 3.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

The major physiographic features of the Fairbanks area include the Tanana River floodplain to the south and low rolling hills of the Yukon-Tanana Uplands to the north. The floodplain consists of up to 600 feet of interbedded and channelized sand, silt, and gravel deposits. The floodplain is generally flat and slopes gently to the west and northwest at about 5 feet per mile (Glass, 1988). The elevation of the floodplain within the Fairbanks area is approximately 440 feet above mean sea level. The surrounding hills reach elevations of 1,500 feet. The Gold Hill Store property is situated within and near the southern extent of the uplands region at an elevation of approximately 560 feet.

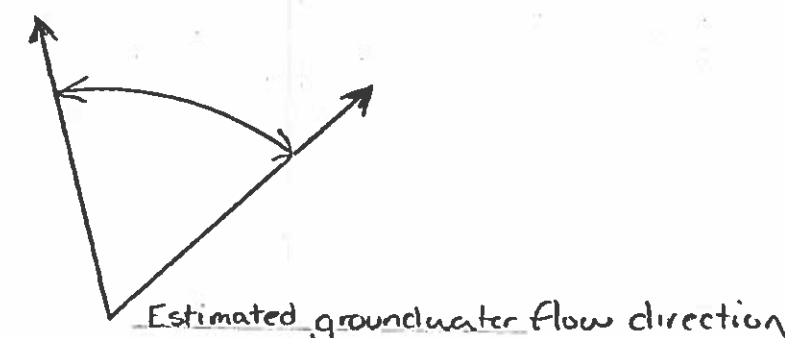
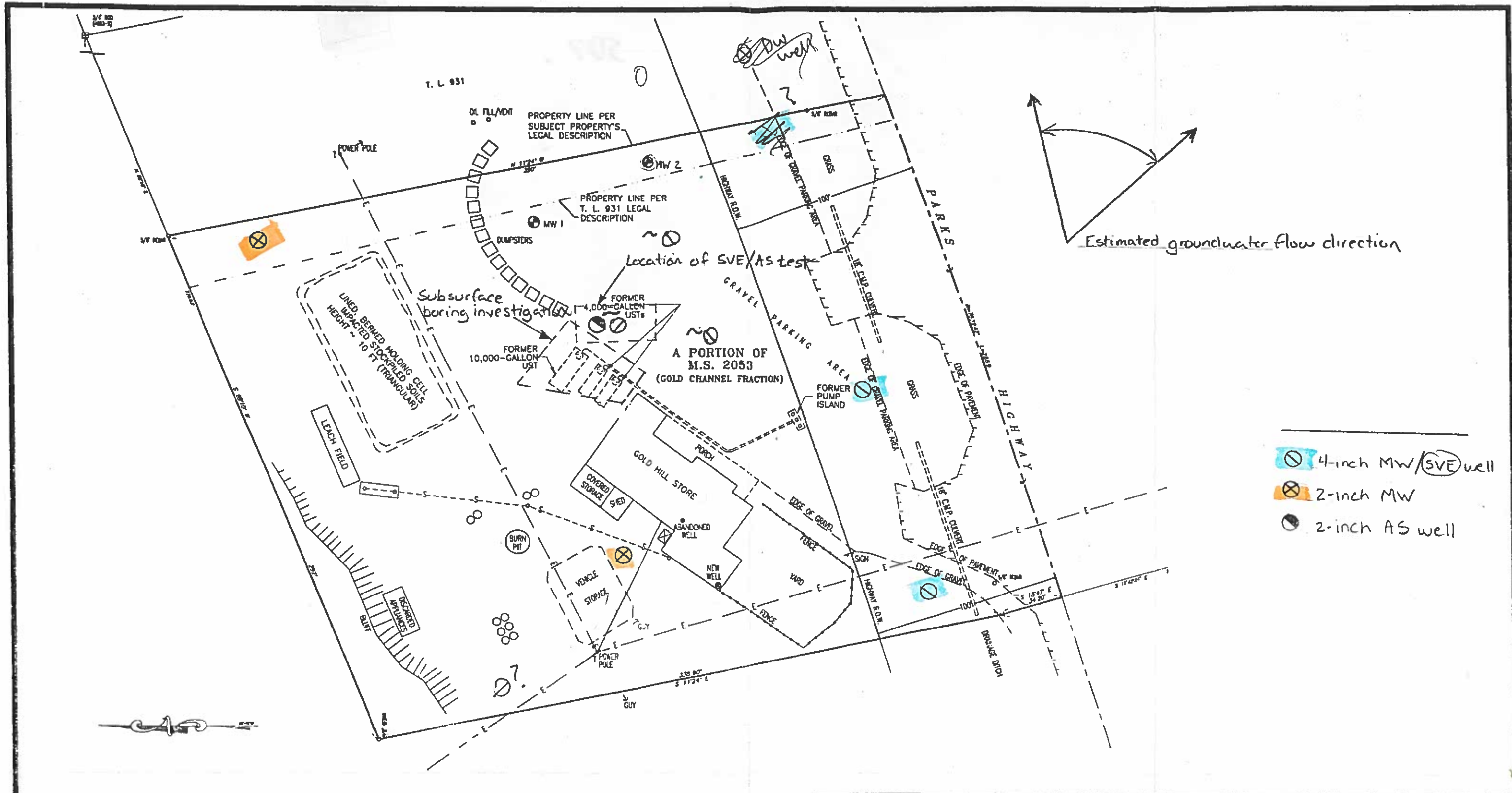
The hills comprising the Yukon-Tanana Uplands consist of bedrock overlain by silt deposits of variable thickness. The bedrock consists of a folded and fractured metamorphic complex of schist and quartzite. Granitic intrusions within the metamorphic rock form the core of many of the higher hills and domes within the uplands region. The upper slopes of the hills are generally covered by windblown silt deposits. The lower slopes are covered by reworked silt deposits carried downhill by fluvial and mass wasting processes. In general, the thickness of the silt deposits decreases with elevation and may be nearly or entirely absent at the ridgetops. Permafrost underlies most of the north-facing slopes and valley floors within the uplands region and may also be found on the lower portions of south-facing slopes.

Groundwater in the uplands region exists within fractures in the bedrock and within the alluvial deposits of the lower slopes and valley bottoms. Although both aquifers are generally unconfined, permafrost on the lower slopes may locally confine the alluvial aquifer resulting in artesian conditions (Nelson, 1978). Such conditions may be evidenced by springs and perennial streams and, in the winter, the development of overflow ice along the valley floor. The bedrock and alluvial aquifers are primarily recharged by infiltration.

Within the site vicinity, ground water is known to exist within both the alluvial deposits and the underlying bedrock. The presence of the alluvial aquifer is evidenced by the numerous ponds and small lakes located along the valley floor in addition to previously installed monitoring wells located on and adjacent to the site. A southeasterly flow direction is inferred for groundwater







- 4-inch MW/SVE well
- 2-inch MW
- 2-inch AS well



- LEGEND**
- E— OVERHEAD ELECTRICAL LINE
  - - -S- - BURIED SEWERLINE
  - T TRANSFORMER
  - ⊗ BURIED HEATING OIL TANK
  - 55 - GALLON DRUM (EMPTY)
  - SEPTIC SYSTEM STAND PIPE

FROM SURVEY BY STUTZMANN ENGINEERING ASSOC, INC.

<b>PHASE I SITE ASSESSMENT</b>  AGRA EARTH & ENVIRONMENTAL, INC. 600 University Avenue Suite 5E Fairbanks, Alaska 99709	PROJ # <u>32-01110-00</u>	<b>SITE MAP</b>  GOLD HILL STORE TL 926, SEC 9, T1N, R2W, F.M. FNSB, AK  <b>FIGURE 2</b>
	DESIGN <u>DJB</u>	
	DRAWN <u>PTS/F1110S_2</u>	
	DATE <u>09/02/94</u>	
	SCALE <u>AS SHOWN</u>	
REVISED <u>09/13/94</u>		

within the alluvial aquifer based on the local topography and the assumption that groundwater flows toward Cripple Creek. The water table within the alluvial aquifer has been measured in monitoring wells on the subject property fluctuating from 10 to 20 feet below grade.

Information about the bedrock aquifer was obtained from well logs for water supply wells installed on the subject site and nearby properties. Based on these well logs, the bedrock aquifer in the site vicinity occurs at between 60 and 80 feet below grade and is separated from the alluvial aquifer by 30 to 40 feet of unsaturated bedrock. Once penetrated, this bedrock aquifer reportedly reaches a static equilibrium at approximately 20 feet below ground surface, implying confined conditions for this deepseated aquifer.

### 3.2 CURRENT SITE CONDITIONS

Current site conditions were assessed during a visual site inspection and a review of documents generated during a previous investigation at the site. The results of each activity are summarized in the following sections. A photographic log is provided in Appendix A.

#### 3.2.1 Site Inspection

The site inspection was performed on August 19, 1994. The weather conditions at the time of the visit included clear skies, calm winds, and a temperature of approximately 65°F. There were no significant obstructions to the observation of the ground surface. Prior to beginning the visual inspection, Mr. Carboy was interviewed regarding his knowledge of the property. Mr. Carboy reported that he has owned the property since 1981 and that, to his knowledge, the property has been used as the Gold Hill Store since it was first developed in approximately 1968.

In regard to the UST system, Mr. Carboy indicated that there were three gasoline USTs on the property including two 4,000-gallon tanks and one 10,000-gallon tank located on the northeast end of the building (Figure 2). The original system included only one of the 4,000-gallon tanks which was installed circa 1968. The 10,000-gallon tank was installed in 1978 and was the last tank to be installed. Mr. Carboy did not know the year of installation for the second 4,000-gallon tank, but did report that this tank was installed in series with the original tank. One tank apparently replenished the fuel in the other tank as the fuel was removed. Mr. Carboy also reported hearing from a customer at his store about an incident involving these tanks that occurred in approximately 1979. Apparently, due to a malfunction in the system, the pump inside the second tank failed to shut off when the first tank was full. The resultant overflow along the southeast end of the tanks was estimated at 2,000 gallons. To Mr. Carboy's knowledge, the spill was never reported.

The site inspection was conducted following the interview with Mr. Carboy. For the purpose of describing the site, the property can be divided into four quadrants. The southwest quadrant includes the store and the graveled driveway and parking area (Photo 1). The southeast quadrant contains a dumpster area that is leased to the FNSB (Photo 2). A stockpile of hydrocarbon-contaminated soil from the UST closure is currently located in the northeast quadrant (Photo 3), and the northwest quadrant is a storage area for old vehicles and miscellaneous items (Photo 4). The site is generally free of vegetation except for the northern and western edges of the property. The vegetation that does exist appears to be second growth and consists of willow and alder bushes, birch trees, and low brush (Photo 5). Scattered throughout the brushy areas are small piles of discarded lumber and wooden pallets.

Most of the material storage on the property is located directly behind the store or in the northwest quadrant. The items stored around the store appeared to consist almost entirely of shelving, display cases, and old signs associated with the store (Photo 6) or old furniture and outdoor equipment typical of residential use. The only exception to this was three old car batteries stored along the back wall of the building.

The material stored in the northwest quadrant included three old vehicles and ten 55-gallon drums. The area around the vehicles was inspected for soil staining but none was observed. Six of the drums were stacked on their sides in a small pyramid (Photo 7). The drums were sealed, appeared to be empty, and were labeled as "Mondur MR (Light)" and "component A" in the production of urethane foam. Mr. Carboy reported that he had received the drums as empties from the company that used the contents. The remaining four drums, all empty, were in groups of two. The two closest to the pyramid of six drums included one crushed drum labeled as "jet fuel" and one intact, open drum without a label. The other two drums were heavily rusted and appeared to be in use as trash barrels and/or burn barrels. Also in the vicinity of the drums was a small fenced burn pit. The unburned material within the pit consisted of wood and cardboard.

Partway up the bluff near the northwest corner of the property was a small depression containing what appeared to be two discarded and heavily damaged appliances. One appeared to be either a refrigerator or upright freezer and the other was most likely an old chest freezer. No indication of stressed or damaged vegetation was observed around these items.

The stockpile of contaminated soil in the northeast quadrant had been in place approximately one month at the time of the site visit. The liner and cover were still in place and no indication of runoff from the stockpile was observed. There were no indications of the condition of the ground surface prior to the placement of the stockpile as the soil in the area had been freshly graded and turned in preparation for the stockpile.

The southeast quadrant containing the solid waste dumpster station was the last area to be inspected. The ground surface in this quadrant has been graveled to provide access to the dumpsters and appeared to be generally free of staining. The single monitoring well installed during a previous site investigation is located directly in front of the dumpsters.

Two power poles with transformers attached were noted on or adjacent to the property. One pole is located in the northwest portion of the site and the other is just beyond the eastern property line. The transformers on both poles were marked with a blue label with white writing. Golden Valley Electric Association (GVEA), the utility providing electricity to this area, was contacted regarding the labels. GVEA personnel reported that the blue labels indicate the oil within the transformers contains less than 50 ppm PCBs as determined by tests conducted by either the manufacturer or GVEA.

### 3.2.2 Subsurface Investigation

Although not a part of this investigation, AGRA E&E completed a limited subsurface investigation on the subject site in May 1994. The results of that investigation, presented in detail in AGRA E&E's June 1994 report Release Investigation, Gold Hill Store, Fairbanks, Alaska, are summarized here. The release investigation included the installation of three soil borings and one monitoring well. The subsurface conditions at the site are inferred from the observations made and data collected during the drilling process.

Bedrock beneath the site is overlain by approximately 20 feet of sand and gravel. This material exhibits a finer particle size with depth, grading from a coarse gravel with sand in the uppermost 5 feet to a silty sand with gravel in the lowermost 5 feet. Groundwater was encountered during the release investigation at a depth of 17 to 18 feet below grade. The water table was subsequently measured in the monitoring well at a depth of approximately 15 feet below grade. The four soil borings were drilled to a final depth of 21 feet below grade and extended into the weathered and fragmented upper surface of the bedrock. Although the soil immediately above the bedrock appeared saturated, the samples of bedrock retrieved from the base of the boring appeared dry to moist. This was interpreted as an indication that the alluvial aquifer and the bedrock aquifer are not hydrologically connected.

Installation of the borings also included the collection of subsurface soil and ground water samples. Field screening and laboratory analysis of these samples indicated that the soil and groundwater beneath the site have been impacted by the presence of petroleum hydrocarbons. The hydrocarbons detected by the laboratory analysis were primarily in the gasoline and volatile aromatic ranges.

### 3.3 SITE VICINITY

Land use within the site vicinity, defined as an approximate ¼-mile radius around the subject property, was assessed during a drive-by, visual survey of the properties within the defined area. In general, land within the site vicinity is either vacant or currently used for a variety of commercial and light industrial purposes. Most of the development in the vicinity is on the north side of the highway and east of the site. This development includes, moving eastward, the adjacent Northstar Center, a heavy equipment storage yard, the Alaska Window facility, a vacant lot, and the Water Wagon facility. To the west, the nearest development is the S&S Automotive facility and the Wild Blue Yonder gift shop located approximately ½-mile from the site. Further to the west, development is generally limited to residential properties.

Along the south side of the highway, development within the site vicinity is limited to a vacant trucking facility, the Crazy Loon Saloon, and the Parks Highway Truck Stop. Mr. Carboy reported the possible presence of unregistered USTs at the vacant trucking facility. The latter facility, located directly opposite the Gold Hill Store, operates as a diesel fuel station for trucks and heavy equipment and is serviced by several above ground storage tanks. The property directly north of the site and on top of the bluff is vacant land. Development along the top of the bluff is generally limited to residential use.

### 4.0 RECORDS REVIEW

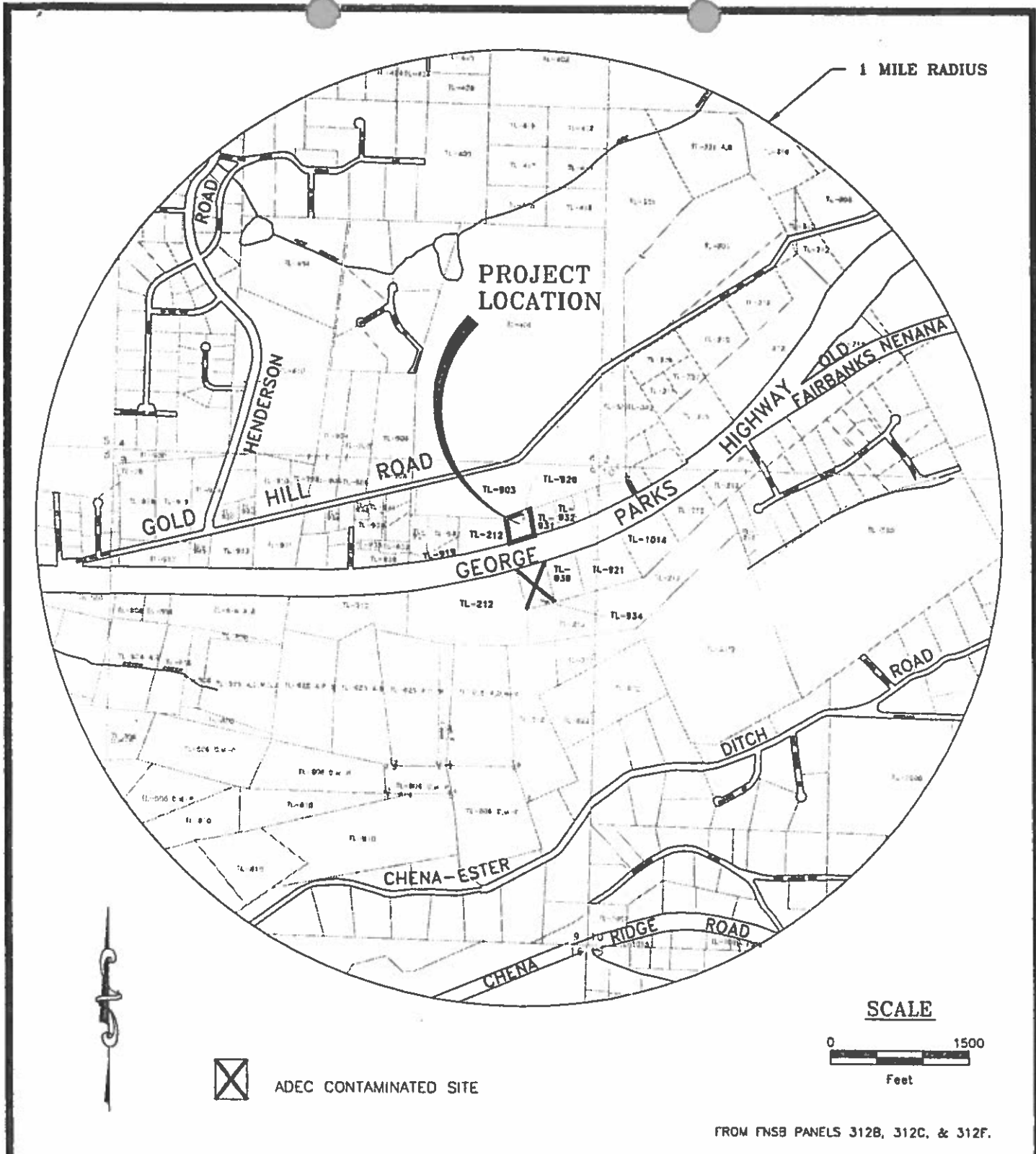
Environmental conditions and land use in the site vicinity were assessed through review of regulatory agency records, aerial photographs, tax records, and title records.

#### 4.1 STATE AND FEDERAL AGENCY RECORDS

AGRA E&E reviewed state and federal databases to identify properties within the site vicinity that are known to contain environmental contamination or that house facilities that generate, store, treat, transport, or dispose of potentially hazardous materials. The databases reviewed and the sites identified are summarized below. Each of the identified sites is approximately located on Figure 3 (page 10).

##### EPA National Priorities List (Run date: May 1994)

The National Priorities List includes properties or facilities which the EPA has designated as requiring priority remedial action and to which Superfund financing has been allotted. Neither the site nor any other properties within the ASTM-recommended search distance of 1 mile appear on this listing.



FROM FNSB PANELS 312B, 312C, & 312F.

**PHASE I SITE ASSESSMENT**

AGRA EARTH & ENVIRONMENTAL, INC.  
 600 University Avenue  
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 Fairbanks, Alaska 99709

PROJ # 32-01110-00  
 DESIGN DJB  
 DRAWN PTS/F1110L 2  
 DATE 08/31/94  
 SCALE AS SHOWN  
 REVISED 09/19/94

**SITE VICINITY MAP**

GOLD HILL STORE  
 TL 926, SEC 9, R2W, T1S  
 FNSB, AK

**FIGURE 3**

EPA CERCLIS database (Run date: August 1994)

The CERCLIS database contains a list of properties which have been or are being investigated by the EPA for existing or potential releases of hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund). The ASTM-recommended search distance for this listing is ½ mile from the subject property. Neither the site nor any other properties within the search distance appear on this listing.

EPA RCRA Generators List (Run date: August 1994)

The EPA Resource Conservation and Recovery Act (RCRA) generators list is a compilation of registered facilities that generate hazardous waste. The ASTM-recommended search distance includes only the subject property and the adjacent properties. None of these sites appear on this listing.

EPA RCRA TSD List (Run date: August 1994)

The EPA RCRA TSD list is a compilation of registered facilities that transport, store, or dispose of hazardous waste. Neither the site nor any properties within the ASTM-recommended search distance of 1 mile appear on this listing.

ADEC Contaminated Sites List (Run date: August 1994)

The ADEC Contaminated Sites listing is a record of known or suspected contaminated sites. The Gold Hill property appears on the list (ADEC file #100.26.120) along with one other site within the ASTM-recommended search distance of 1 mile. The second site is identified as a "construction company at 4 Mile Parks Highway" (ADEC file #100.26.050).

Inclusion of the subject property on the list is due to the presence of contaminated soil and groundwater discovered during the limited release investigation in June 1994 and the UST closure in July 1994.

Information in ADEC file #100.26.050 indicates that the second site is the Parks Highway Truck Stop located at 3025 Parks Highway directly across the road from the Gold Hill Property. A UST closure performed at the site in 1991 documented the presence of hydrocarbon-contaminated soil at the site. Groundwater was not encountered within the UST excavation and there is no mention in the closure report of impacted groundwater beneath the site. The soil was reportedly excavated and incinerated, and ADEC issued a "No Further Action" ruling for the property in May 1992.

ADEC Leaking Underground Storage Tank (LUST) database (Run date: August 1994)

The ADEC LUST database is a listing of sites with confirmed leaking USTs that have been reported to ADEC. The Gold Hill property is the only site on the list within the ASTM-recommended search distance for this listing of ½ mile.

## 4.2 HISTORICAL LAND USE

Historical land use in the site vicinity was investigated primarily using title records, tax records, and aerial photographs from 1964, 1972, 1979, and 1987. The aerial photographs were obtained from Aeromap U.S., Inc. of Anchorage. The title records were reviewed at the State of Alaska Recorder's Office in Fairbanks and the tax records were reviewed at the FNSB Assessor's Office.

### 4.2.1 Site History

The history and previous ownership of the site was researched using title records, tax records, and through a personal interview with Mr. Phil Carboy, the current property owner.

Private ownership of Tax Lot 926 began in 1912 when land including the subject property was staked as a placer gold mining claim by Alois Sagan and James Sherard. The claim was staked on July 28, 1912 as the "Gold Channel Fraction" claim and was recorded on October 25, 1912. Over the years, several individuals bought and sold partial interests in the claim, but by 1923, ownership of the Gold Channel Fraction claim was apparently shared by Mike Wagner and J.P. Norris. In November 1933, Mr. Norris and Mr. Wagner sold the claim to the Fairbanks Exploration Company. In December 1933, the Fairbanks Exploration Company sold all of its holdings, including the Gold Channel Fraction claim, to the U.S. Smelting, Refining, and Mining Company (USSRMC). The USSRMC held the claim until August 1959 when it was sold to Floyd W. Scott who, in turn, sold the claim to Thomas and Sondra G. Kouremetis in November 1966. In that transaction, Mr. and Mrs. Kouremetis actually purchased all of U.S. Mineral Survey 2053 which included several other claims adjacent to the Gold Channel Fraction claim and most of the land in the site vicinity.

In May 1975, the Fairbanks North Star Borough approved a request by Mr. Kouremetis to waive the subdivision regulations and allow subdivision of the property identified as U.S. Mineral Survey 2053. Based on the available records, it appears that the western portion of the Gold Channel Fraction claim was subdivided into several Tax Lots while the eastern portion became the Gold Channel Subdivision. Based on FNSB assessment records, Tax Lot 926 (the Gold Hill Store property) was first developed by Mr. and Mrs. Kouremetis in approximately 1968. The assessment file for the property includes a photograph from 1972 showing the building on the site clearly marked as the Gold Hill Store. Tax Lot 926 was sold in 1973 to Gold Hill, Inc. which





in turn sold the property to Walter D. and Suzanne L. Crawford in 1978. The property was then purchased by Phillip J. and Genevieve Carboy, the current owners, in 1981. Based on our research, it appears that Tax Lot 926 has only been used for placer mining and as a retail store and gas station.

#### 4.2.2 Site Vicinity

The ownership history of the site vicinity is much the same as that of Tax Lot 926 as U.S. Mineral Survey 2053 encompassed many of the surrounding properties. As far as can be determined from the available records, placer mining was the initial industry in the site vicinity and continued to be the main land use until the late 1960s to early 1970s when the area was subdivided by Mr. Kouremetis. The tax lot numbering scheme for properties in the site vicinity is shown on Figure 3. From FNSB assessment records, Tax lot 931, immediately east of the subject site, was first developed in 1968 as the residence of Mr. and Mrs. Kouremetis. This lot and the adjacent Tax Lot 932 were sold in 1975 to Gary Shirley and Vivian Greenway. Mr. Shirley became the sole owner of TL 931 in 1983 and TL 932 in 1989. The properties were developed by Mr. Shirley as a motel and restaurant and operated as such from 1975 through 1983. The original building constructed for that purpose still stands on TL 931 and currently houses the Northstar Center, a minimum security halfway house. A garage associated with the Northstar Center is situated on TL 932. The 1987 assessment record for Tax Lot 932 includes a note that, in 1985, a second building on this lot was moved several hundred feet east to Lot 3 of the Gold Channel Subdivision.

Immediately west of the site is a portion of Tax Lot 212. This Tax Lot consists of numerous non-contiguous tracts scattered throughout the site vicinity. The portion adjacent to Tax Lot 926 extends across the highway and has never been developed. Tax Lot 919, immediately west of Tax Lot 212, currently contains the S&S Automotive facility and the Wild Blue Yonder Gift Shop. Tax Lots 934 and 939, directly south of the site across the Parks Highway, were sold in 1976 and 1977, respectively. The former lot was a private residence for several years before being converted to a truck stop and garage in 1980. The latter lot has changed ownership four times since 1977 but has never been developed. Tax Lot 921, southeast of the site and across the Parks Highway, was sold in 1992 and developed as the Crazy Loon Saloon, a restaurant, bar, and brewery. A former trucking facility is located on Tax Lot 1014, to the east of the Crazy Loon Saloon. Tax Lot 903, immediately north of the subject site on top of the bluff, is vacant land currently owned by the State of Alaska.

#### 4.3 AERIAL PHOTOGRAPHY

AGRA E&E reviewed aerial photographs of the site vicinity from 1963, 1974, 1982, and 1993 for indications of past activities. Copies of the aerial photographs are presented in Appendix B. It

should be noted that the reproduced photographs have been cropped to fit the 8.5- by 11-inch page format and that some of the features noted below may not appear on the photographs. The 20- by 20-inch original photographs are available for review at the AGRA E&E Fairbanks office.

**1964 Aerial Photograph:** This photograph records that the site and site vicinity were largely undeveloped in 1964. From the photograph, it appears that development in the area was limited to the Fairbanks-Nenana Highway (the future George Parks Highway) in the Cripple Creek valley, Gold Hill Road along the top of the bluff, and a large scale placer mining operation on either side of the highway. The site itself was part of the placer mining operation and appears on the photograph as vacant land. A dirt road along the base of the bluff can be seen crossing the northern portion of the property and a tailings pile is visible in the southeast portion of the lot. Several small piles of logs are stored adjacent to the western property boundary.

The appearance of the adjacent properties is similar to that described above for the subject site. However, several dark patches of soil are visible along the base of the bluff to the east of the site. There are several possible explanations for these darker areas including an early stage of vegetative growth, increased moisture content associated with runoff from the bluff, or staining from activities associated with the placer mining operation. Comparison with the later photographs indicates that the first two possibilities may be more valid than the last. Mr. Carboy reported that he has talked with several men who worked on the placer operation and who remember a POL (petroleum, oil, lubricant) storage and/or disposal area associated with the operation. No indication of such a feature is visible on the photograph.

**1972 Aerial Photograph:** The subdivision of the mining claim is evidenced in this photograph by the development of the site and adjacent lots along the north side of the highway. The site contains a single building in the same location and of similar configuration as the existing building. The number of cars parked in front of the building seems to indicate a commercial rather than residential use for the property. In addition to the main building on the lot, there appears to be a smaller building located east of the main building. The object casting the long shadow in front of the main building is probably a single fuel dispenser. A recent mass wasting event is apparent on the bluff at the north limit of the property.

Tax Lot 931, immediately to the east, contains an apparent residence on the northern portion of the lot. A large rectangular building can be seen on Tax Lot 932 and appears to be the building currently used as a garage by the Northstar Center. Another rectangular building can be seen a few hundred feet west of the site. Across the highway, the placer mining operation is still evident, but does not appear to be active. Further development in the area of the photograph is limited to a few private residences located west of the site and along the south side of Gold Hill Road.

1979 Aerial Photograph: This photograph records only a few minor changes to the site and some additional development in the site vicinity. On the site, the main building appears to have undergone some exterior remodeling and the small, square building has been removed from the property. Two storage tanks are located on the northern portion of the lot near the base of the bluff but neither tank appears to be in use.

Development in the site vicinity includes the addition of the motel/restaurant building (the current Northstar Center) to Tax Lot 931, and a second building to Tax Lot 932. The latter building is probably the waste treatment plant associated with the septic system for the building on Tax Lot 931. Several vehicles and a collection of unidentified material can be seen outside the garage on Tax Lot 932. Beyond the immediate site vicinity, the Gold Channel Subdivision property to the east of Tax Lot 932 has been graded smooth, apparently in preparation for future development, and two properties across the highway have been developed. The first of these, Tax Lot 934 directly opposite the site, contains two small buildings. FNSB tax records indicate these were probably a private residence and garage. The second property, Tax Lot 1014, is about ¼-mile east of the site and appears to have been developed as a trucking company. No positive assessment of land use could be determined from the tax records. Further development within the area of the photograph is limited to several additional private residences along Gold Hill Road.

1987 Aerial Photograph: Several minor changes to the Gold Hill property can be seen on this photograph. These changes include the addition of several small buildings/trailers to the northern portion of the lot and the removal of the two storage tanks seen in the previous photograph. In addition, there is an obvious increase in vegetative growth and a dumpster has been placed on the eastern portion of the lot.

Tax Lots 931 and 932 are unchanged except for the addition of two trailer vans adjacent to the former private residence on Tax Lot 931. Tax Lot 212, west of the subject site, continues to be a vacant lot. Most of the development recorded by this photograph is on the north side of the highway in the Gold Channel Subdivision. The westernmost property within the subdivision appears to be used for materials storage. Moving east, the next lot includes a large warehouse building which, according to tax records, was owned by the Alaska Window Company. The remaining portion of the subdivision appears to have been used for the storage for raw timber.

Changes on the south side of the highway include the removal of the private residence from Tax Lot 934 and the addition of a commercial garage to that same property. Immediately east of this property, two small buildings have been added to Tax Lot 939. The tax records indicate that in 1987 the property was owned by the Northern Leasing Company. The use of the buildings could not be determined from this information. Based on the absence of equipment, the trucking company on Tax Lot 1014 appears to have gone out of business.

## 5.0 CONCLUSIONS

The purpose of this Phase I ESA was to assess the potential presence of hazardous substances and petroleum products on the subject property due to past and/or current land use practices. In addition, because subsurface contamination has previously been documented on the property, historical land use in the site vicinity was evaluated for potential sources of that contamination other than the former USTs on the property. Historical land use of the Gold Hill Store property has apparently included only placer mining and the current use as a grocery store and gas station. Of the two, it would seem that the latter usage has the greater potential as a source of petroleum hydrocarbon contamination.

The immediate site vicinity shares a similar history, with much of the development appearing only relatively recently. In addition, much of that development is hydrologically downgradient of the Gold Hill Store. Within the site vicinity, only one site, the Parks Highway Truck Stop, appears on the reviewed lists of contaminated or potentially contaminated sites. This site appears on the ADEC Contaminated Sites list because of contaminated soil encountered during a UST closure on the site in 1991. The ADEC file for the site includes information indicating that the contaminated soil was removed from the site and that a "No Further Action" ruling has been issued for the site. This information, coupled with the fact that the Truck Stop is most likely located hydrologically downgradient or crossgradient to the Gold Hill Store, would seem to preclude this site as a source for the contamination at the Gold Hill Store.

The Parks Highway Truck Stop was also evaluated as a potential source for documented downgradient groundwater impacts. This was deemed valid as there is no indication in the ADEC file that a groundwater investigation was conducted following the UST closure. However, the closure report does indicate that groundwater was not encountered in the UST excavation and that soil samples collected at the base of the excavation contained concentrations of petroleum hydrocarbons below ADEC cleanup criteria. In addition, the removal of the UST eliminated the hydrocarbon source which, in turn, minimizes the potential for migration of any residual contaminants.

Based on our research and the data and documents reviewed, the USTs at the Gold Hill Store are the most likely source of hydrocarbon contamination in the area investigated. The data also suggests that the Parks Highway Truck Stop is not a likely source of hydrocarbon contamination. Although there is some indication that the placer mining operation may have been disposing of petroleum products in the site vicinity, no probable locations for such a disposal site on or near the Gold Hill property were observed during our review of historical aerial photographs. In addition, the equipment typically present at a placer mining operation generally uses diesel fuel while the hydrocarbon contamination documented on the Gold Hill Store property is in the gasoline range.

## 6.0 LIMITATIONS

This Phase I and Limited Phase II Environmental Site Assessment Report has been prepared for the sole use of Phil and Genevieve Carboy and their designated representatives and is intended to indicate the potential for environmental impacts from hazardous substances and petroleum products at the subject property. This study was not intended to delineate such contamination at the site. The observations and findings presented in this report are professional opinions based on a review of readily available information and on site conditions existing at the time the assessment was conducted. It should be recognized that even the most extensive and comprehensive scope of work may not detect all sources of environmental liability at a particular site. Therefore, AGRA Earth & Environmental, Inc. includes no expressed or implied warranty with this report.

## 7.0 REFERENCES

- Glass, Roy L., 1988. Ground Water Levels in the Tanana-Chena Rivers Alluvial Plain Near Fairbanks, Alaska, 1986-88, and Predicted Levels During Period of High Streamflows. United States Geological Survey.
- Nelson, Gordon L., 1978. Hydrologic Information for Land-Use Planning, Fairbanks Vicinity, Alaska. United States Geological Survey Open-File Report 78-959.

**APPENDIX A**  
**PHOTOGRAPHIC LOG**



Photo 1: Front view of the Gold Hill Store.

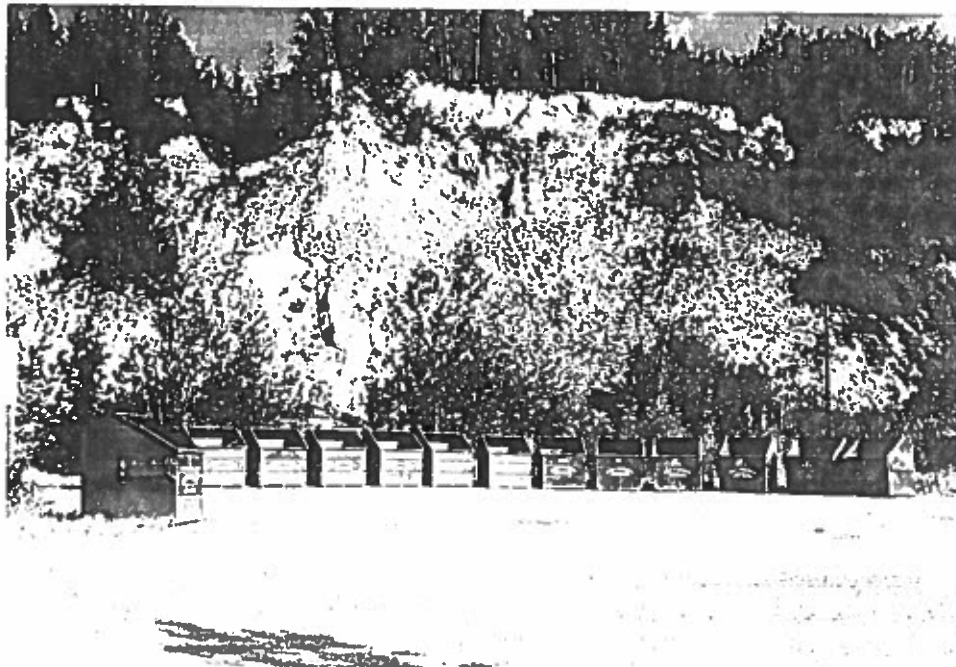


Photo 2: View of the solid waste dumpster station on the southeast portion of the site.



Photo 3: Soil stockpile on the northeast portion of the site.

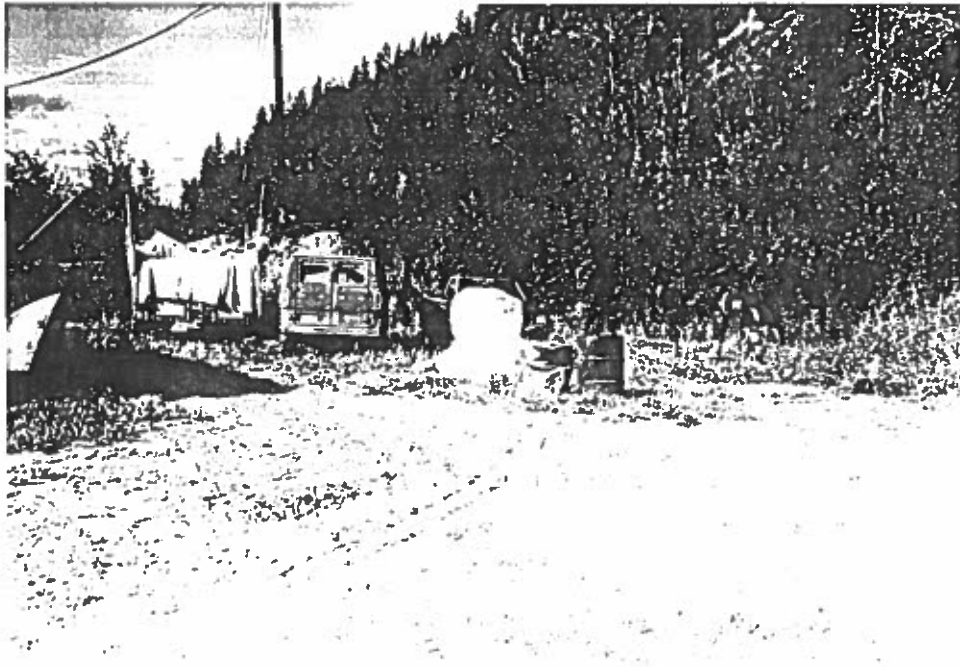


Photo 4: Storage area in the northwest portion of the site.





Photo 5: View of the northwest corner of the Gold Hill property showing typical vegetation.

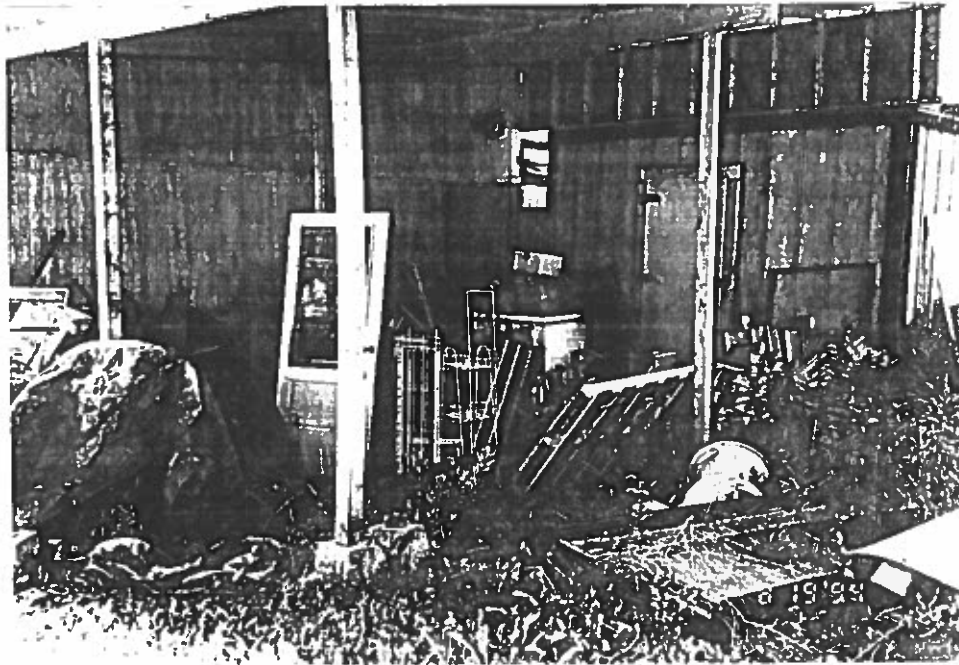


Photo 6: Storage area at the north corner of the Gold Hill Store.

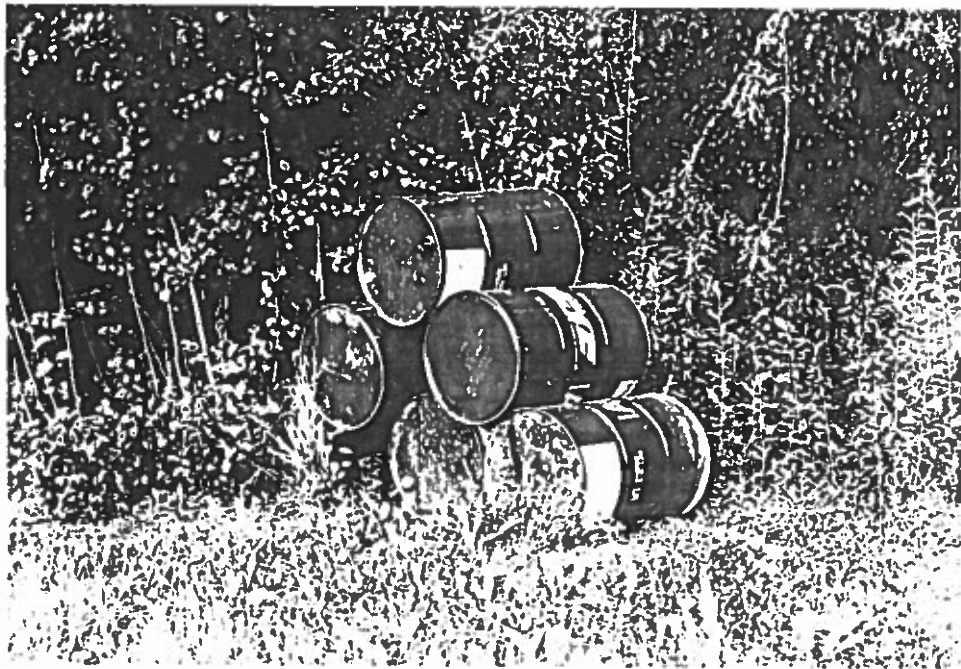


Photo 7: Empty drums stored on the site.

**APPENDIX B**  
**AERIAL PHOTOGRAPHS**



1964 AERIAL PHOTOGRAPH



Approximate Scale (feet)

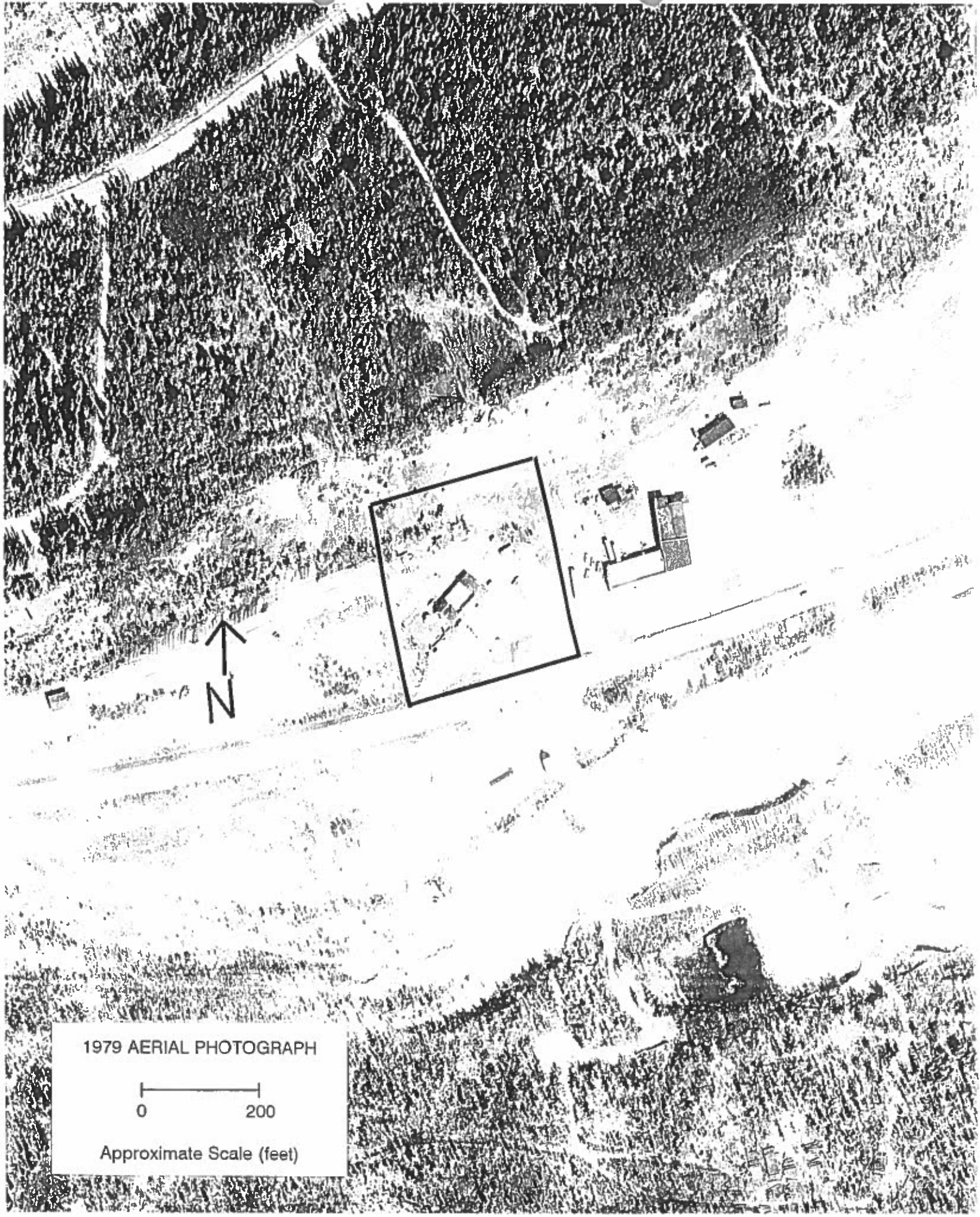


1972 AERIAL PHOTOGRAPH



Approximate Scale (feet)

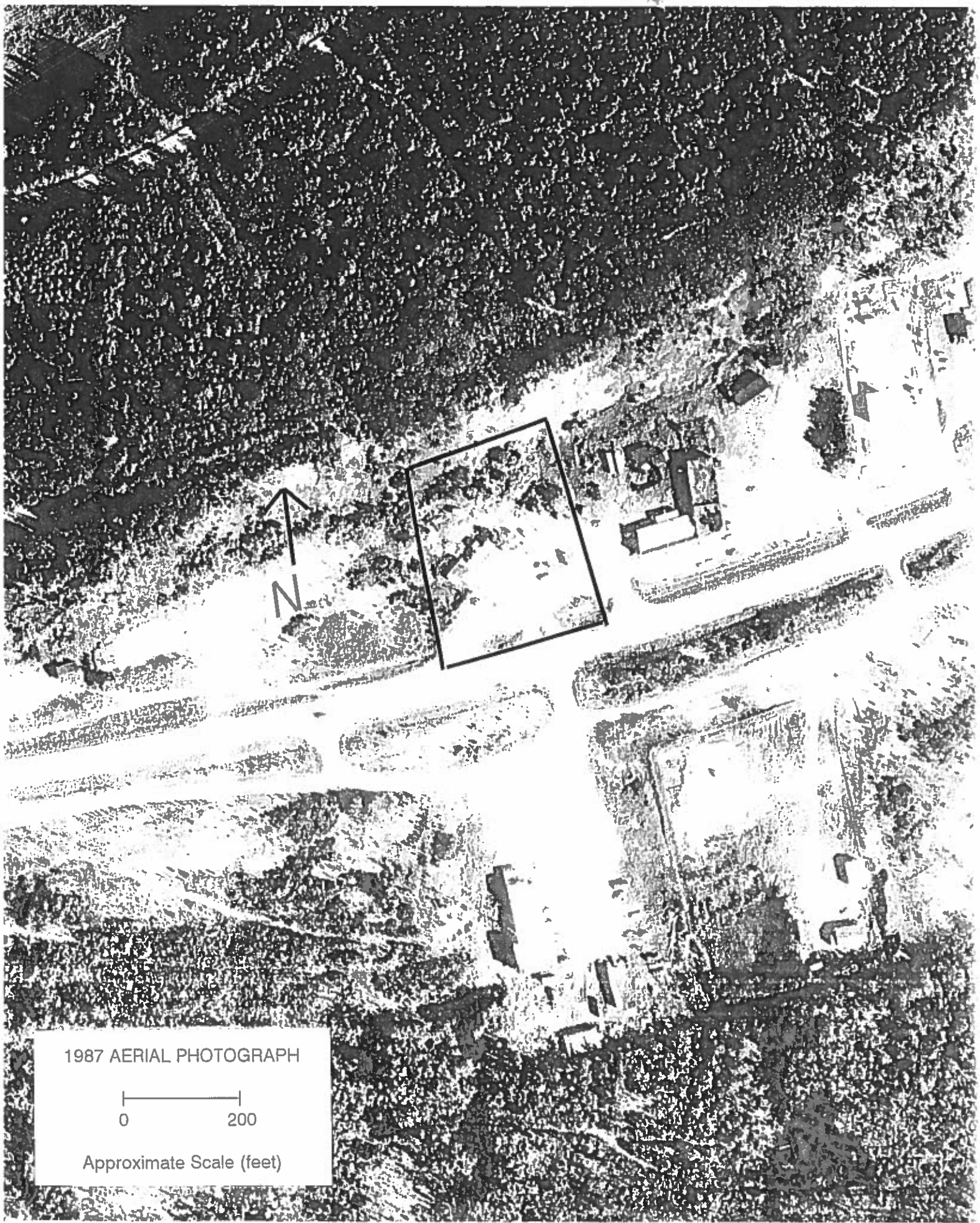




1979 AERIAL PHOTOGRAPH

0 200

Approximate Scale (feet)



1987 AERIAL PHOTOGRAPH

0 200

Approximate Scale (feet)