Buildings

APPENDIX A

B400

Building 400 Former CAA – Air Force Weather Observation Station (Site ID B400)

Site Location

Site B400 is situated south of the cantonment "triangle" area in the vegetated area between the flightline and the northern apron. Building 400 was constructed approximately 300 feet south of the former Birchwood Hangar. The building was demolished in the 1990s.

Site Characteristics

Site features are shown on Figure A1-B400. Site B400 consists of the area surrounding the former location of Building 400, a former CAA (later the FAA) Flight Service Station (FSS) and Weather Observation Station (WOS). The surface of Site B400 currently consists of pavement and gravel with patches of grass. The features of concern at Site B400 are a former transformer, former AST, and a septic system.

Site Description and History

An FSS is an air-traffic facility that provides information and services to aircraft pilots before, during, and after flights. Building 400 was constructed in the 1940s. The 1947 aerial photograph shows no facility, but the FSS is visible in the 1949 aerial photo (Figure A2-B400). Records indicate that an FSS facility, identified by radio call KHDX, could have existed in that area before 1945 (DARFSS, 2010).

The site area is identified as Item No. 10 on the Division of Aviation drawing titled "Galena Airport Property Plan" dated December 22, 1965. The 2.5-acre site on which Site B400 is situated was obtained from the CAA in 1941 (CH2M HILL, March 1998, p. 5-1).

Building 400 was a wooden structure that included a 750-gallon AST (two historical locations of the AST are shown on Figure A1-B400), baseboard heat, a 4-inch water well (WW) (WW #5), a septic system, and underground lines that provided electricity to the facility (USAF, 1981, Exhibit A; USAF, 1982). The facility had an 189,000 British Thermal Units (BTU) oil-fired boiler heating system and the facility photographs provided in the supporting documentation verify that an AST was used to store heating oil for the facility. Although Table 3-3 of the 2010 EBS report lists an "unknown" UST (USAF, February 2010) at Building 400, historical photographs show that heating fuel was supplied via an AST rather than a UST at this facility. In addition, Mr. Burgett, a Galena resident for more than 50 years and the contractor who removed USTs at the FOL, stated that only an AST and a leach field were historically associated with Building 400 (Burgett, April 2010). No releases associated with the AST have been documented.

The wastewater system at Building 400 has been described as an underground septic tank with a leach field (Burgett, April 2010) and a wood crib cesspool (USAF, June 1996). Both types of systems could have been used during the operational life of the facility. Photographs provided in the supporting documentation show a structure on the west side

of the facility that may have been the wood crib cesspool. Previous FAA investigations at other sites in Alaska that FAA used for similar purposes as the FSS identified improper disposal of liquids from aviation or electronic equipment and weather monitoring equipment (Vreeman, July 2010).

In 1963, a 10-foot-by-15-foot WOS (referred to as B74-400) was constructed on the roof at the northeastern corner of the FSS. This addition is listed as being FAA permitted for use as a WOS (USAF, 1967). Copies of historical photographs of the FSS obtained from FAA and AF Form 1430 Real Property Accountable Records are provided in the supporting documentation. In those photographs, the construction of a WOS on the roof of Building 400 is visible.

Building 400 was demolished sometime between 1992 and 1998. This coincides with the construction of the new Air Traffic Control Tower, Building 1404, and the addition of a WOS on the control tower (CH2M HILL, March 1998). Historical aerial photographs of the site, dated 1963, 1978, 1985, and 2002, are shown on Figure A3-B400.

Summary of Previous Investigations

Site Cleanup and Investigation (1998)

The 1998 *Galena FAA Station Site Cleanup and Investigation Report* (CH2M HILL, March 1998) reported that the FSS building had been demolished, that grass was beginning to grow on the gravel foundation pad, and that a transformer and some wiring debris remained onsite. During an interview, the USAF Water Plant Operator, Gordy Cruger, recalled that the lot had its own septic tank and shallow well, both of which were abandoned (CH2M HILL, March 1998). Another interviewee, FAA maintenance subcontractor Ray Clark, who worked at Galena from 1977 to 1995, said he did not recall any previous spills or leaks at this location (CH2M HILL, March 1998). It was also noted that no drums were observed at Site B400.

No previous environmental sampling has been conducted at Site B400.

October 2009 Site Visit Observations

An inspection of Site B400 was conducted in October 2009. The surface of the site was observed to be pavement and gravel with patches of grass. No surface soil staining was observed. No viable ecological habitat exists at the site. Figure A4-B400 shows the current condition of the site and Figure A5-B400 shows Galena FSS while it was active.

Target Analytes

On the basis of site history, a POL and multi-chemical target analytes list is recommended at Site B400. This list includes the following analytes: GRO; DRO; BTEX; VOC; SVOC; PAH; RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver); and PCBs. Pesticides are not recommended for sampling at this site because pesticide storage, mixing, or disposal is not a function associated with an FSS. Non-RCRA metals (ADEC, May, 2010; footnote 8 of Appendix F) and RRO are not included because they are not required for diesel fuel investigation sites.

Potential Exposure Pathways and Receptors

Based on current and reasonably anticipated potential future land uses at Site B400, potential human receptors and potentially complete exposure pathways include the following:

- **Excavation/Construction Workers**: Potential exposure to chemicals in soil to 15 feet bgs and shallow groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind or during onsite excavation activities. Potentially complete routes of exposure to shallow groundwater include dermal contact with groundwater and inhalation of ambient vapors from groundwater.
- **Future Occupational Workers**: Potential exposure to chemicals in surface soil to 2 feet bgs. Potentially complete routes of exposure to surface soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Vapor intrusion from VOCs in environmental media migrating into current or future occupational buildings is also a potentially complete exposure route.
- **Hypothetical Future Residents**: Potential exposure to chemicals in soil to 15 feet bgs and groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Potentially complete routes of exposure to groundwater include ingestion, dermal contact, and inhalation of VOCs during showering or other household activities. Vapor intrusion from VOCs in environmental media migrating into current or future residences is also a potentially complete exposure route.

On the basis of available information and site photos, Site B400 consists of pavement and gravel, with no viable habitat onsite. Terrestrial ecological exposure pathways are considered incomplete at Site B400. Therefore, no ecological receptors were identified, and the site will not be evaluated for terrestrial ecological risk.

An aquatic ecological exposure pathway is unlikely to be complete because Site B400 is located more than 1,000 feet from the Yukon River. Data are being collected as part of the FSP for the 2010 Hydrogeologic Study (CH2M HILL, August 2010) to refine the understanding of the groundwater system at the FOL. This pathway may be evaluated further if subsurface contamination is found at the site and the data collected as part of the hydrogeological characterization suggest there is a potential for site contamination to impact the Yukon River.

Conclusions

Building 400, the FSS, was constructed in 1942 and demolished in the 1990s. The features of concern at Site B400 are a former transformer, a former AST, and a septic system. No previous sampling has been conducted at Site B400 to determine if potential target analytes are present.

Recommendation: Site Inspection Sampling

Limited site inspection sampling is recommended to confirm the presence or absence of PCBs, fuel-related constituents (DRO, GRO, BTEX, and PAHs), and multi-chemical constituents (SVOCs, VOCs, and RCRA metals) in soil at Site B400. An additional limited site reconnaissance is recommended to identify the location of the former WW (WW #5). If the location can be identified, a geophysical survey should be performed to determine whether the well was properly abandoned (for example, if the well casing was removed and/or if the well has been grouted).

References

Alaska Department of Environmental Conservation (ADEC). May 2010. *Draft Field Sampling Guidance*.

Burgett. April 2010. Mr. Burgett, Galena resident and UST removal contractor. Personal communication with Win Westervelt/CH2M HILL.

CH2M HILL. August 2010. *Work Plan for Site Inspection, Remedial Investigation, and Site Characterization; Former Galena Forward Operating Location, Alaska*. Final. Prepared for Air Force Center for Engineering and the Environment.

CH2M HILL. March 1998. *Galena FAA Station Site Cleanup and Investigation Report, Delivery Order 18, Galena, Alaska.*

Directory of All Radio/FSS Stations (DARFSS). 2010. *Between 1920 and 1978* http://www.atchistory.org/History/FacilityPhotos/FSS_Dir/FSS_List1920-78.htm. Accessed February 22, 2010.

U.S. Air Force (USAF). February 2010. Final Galena Environmental Baseline Survey, Air Force Property at Galena Airport, Alaska.

U.S. Air Force (USAF). June 1996. Final Installation-Wide Environmental Baseline Survey, Galena Alaska.

U.S. Air Force (USAF). 1982. Air Force Form 1431 Real Property Accountable Records-Plants, Facility 400.

U.S. Air Force (USAF). 1981. Air Force Form 1430 Real Property Accountable Records-Plants, Facility 400.

U.S. Air Force (USAF). 1967. Air Force Form 1430 Real Property Accountable Records-Plants, Facility 74-400.

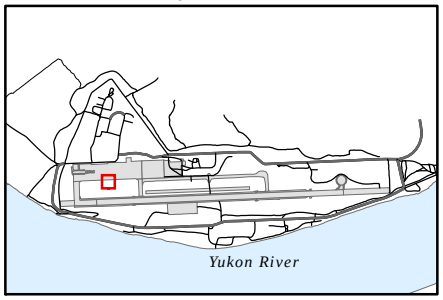
Vreeman, Fred. July 2010. Fred Vreeman, Alaska Department of Environmental Conservation (ADEC). Personal communication with Federal Aviation Administration.

LEGEND

- B400
- Approximate Location of Former Feature

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meter

VICINITY MAP



N

0 25 50
Feet

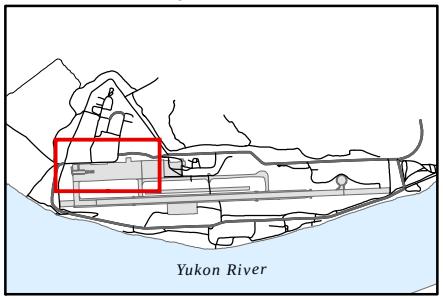
FIGURE A1-B400
Site Layout
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

LEGEND

B400

Notes:
1. Photography dated 1947, "GAL_pic058_Aerial_06-1947_Museum.jpg"
2. Photography dated 1952, "GAL_pic091_Aerial_07-16-1952_Museum.jpg"

VICINITY MAP

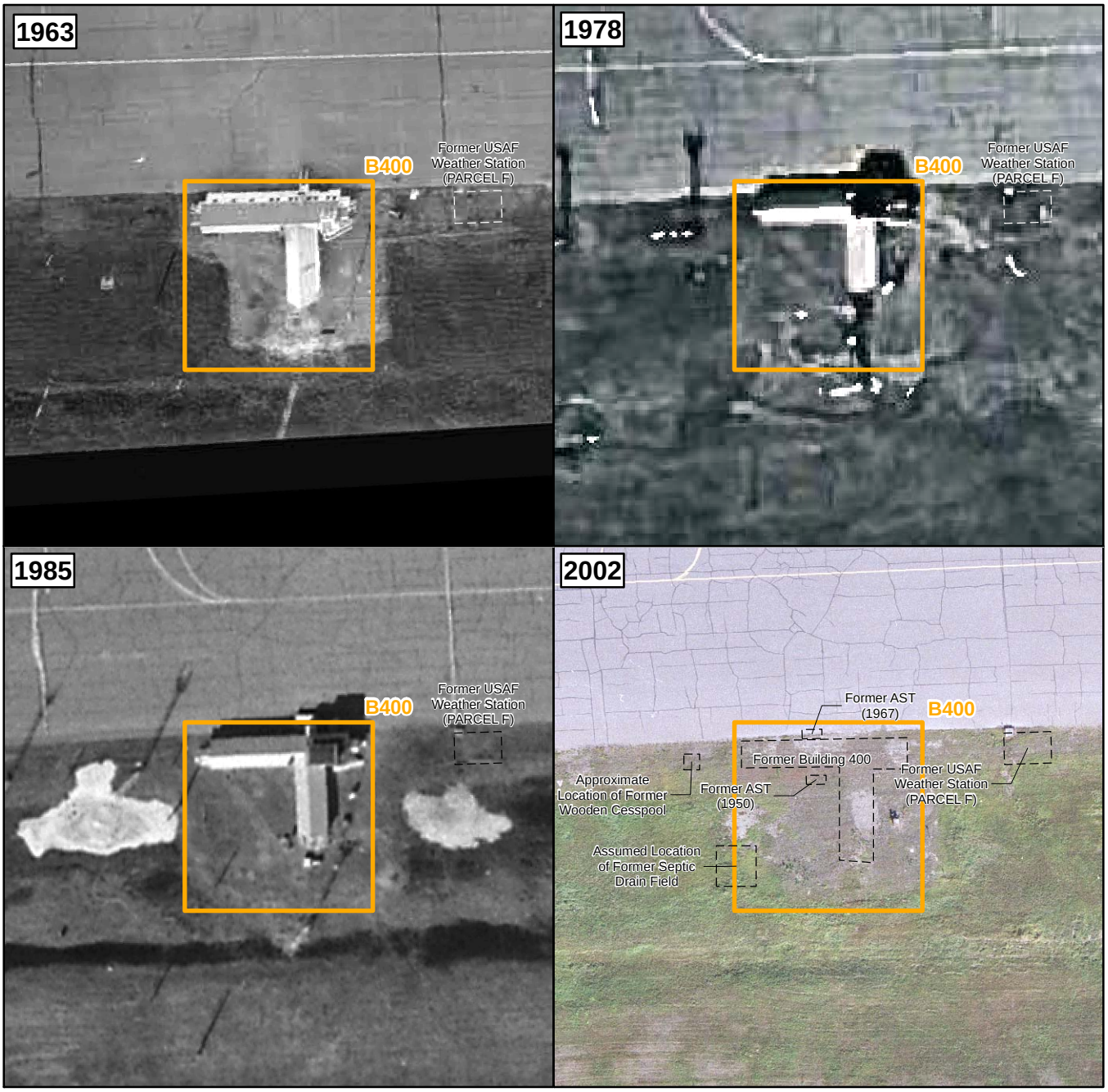


N

0 200 400
Feet

FIGURE A2-B400
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

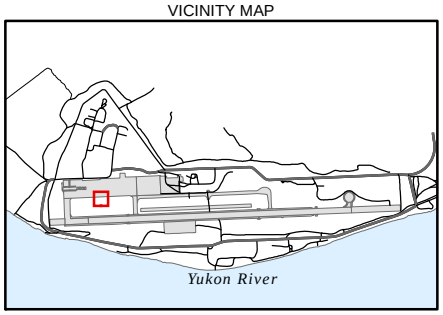


LEGEND

B400

Notes:
1. Photography dated 9-4-1963, georeferenced
2. Photography dated 5-30-1978, georeferenced
3. Photography dated 1985, georeferenced
4. Imagery August 2002. Pixel size 0.075 meter

VICINITY MAP



N

0 50 100
Feet

FIGURE A3-B400
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

\\BALDUR\PROJ\GALENATO184_394439\MAPFILES\PA_2010\B400\B400_PA_PHOTO.MXD SEARLY 12/1/2010 12:30:41

FIGUREA4-B400
Looking Southwest, October 2009

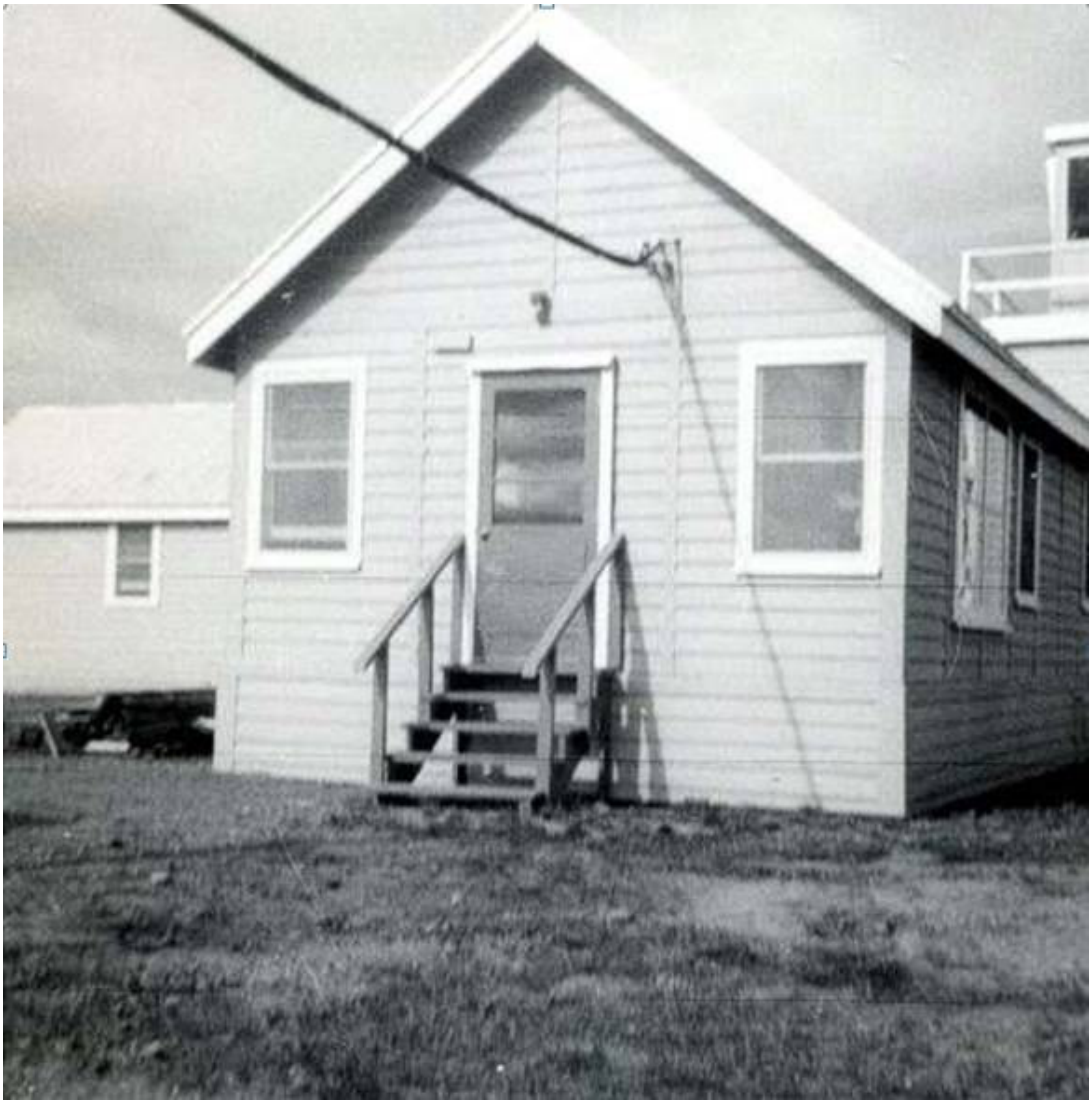
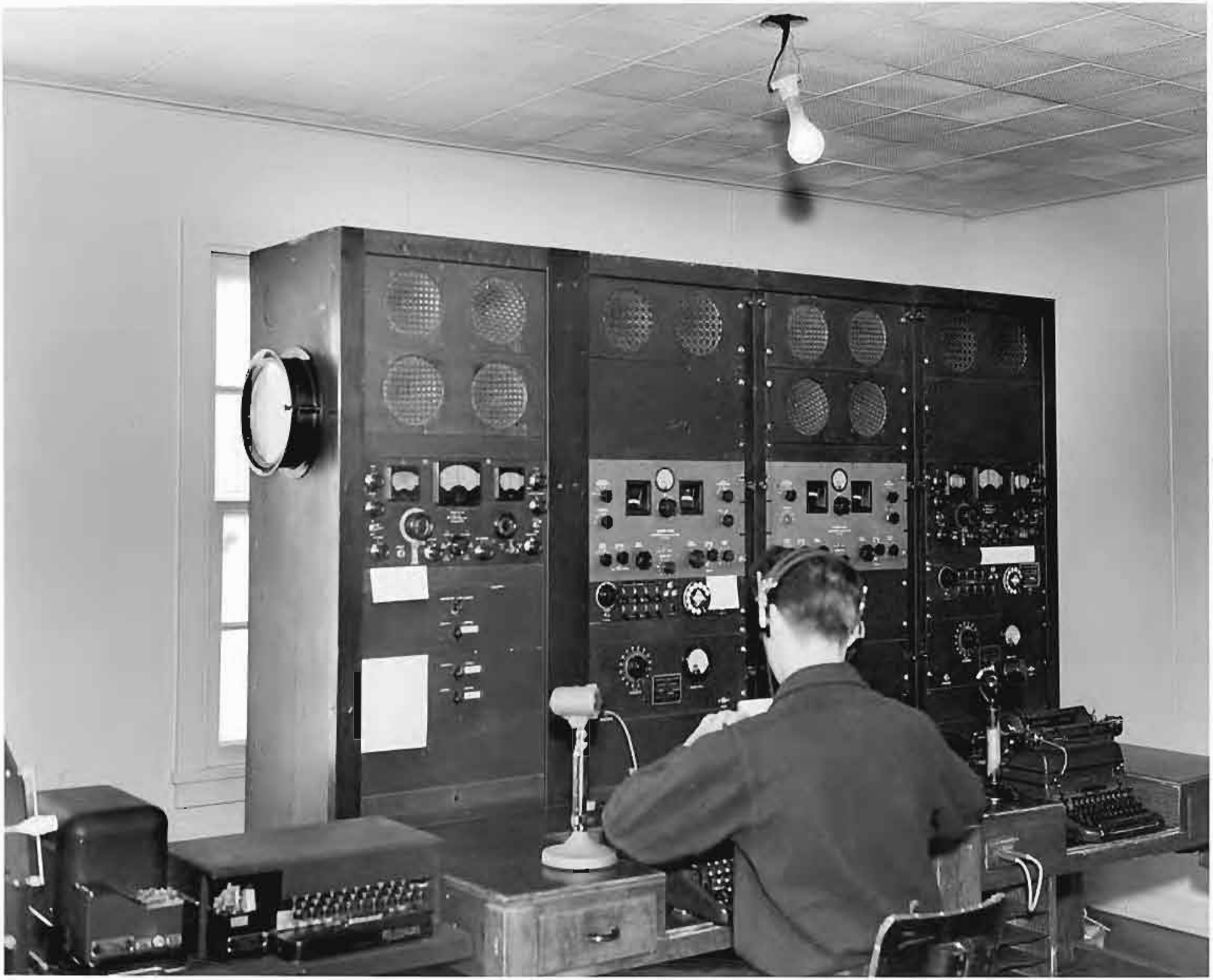


FIGURE A5-B400
Galena FSS While it Was Active (Undated)

Supporting Documentation

Site B400 1949 Source: FAA Records

Galena



159 - 33 Interior View of Control Building. Galena

159 - 32 Interior View of Control Building. Galena

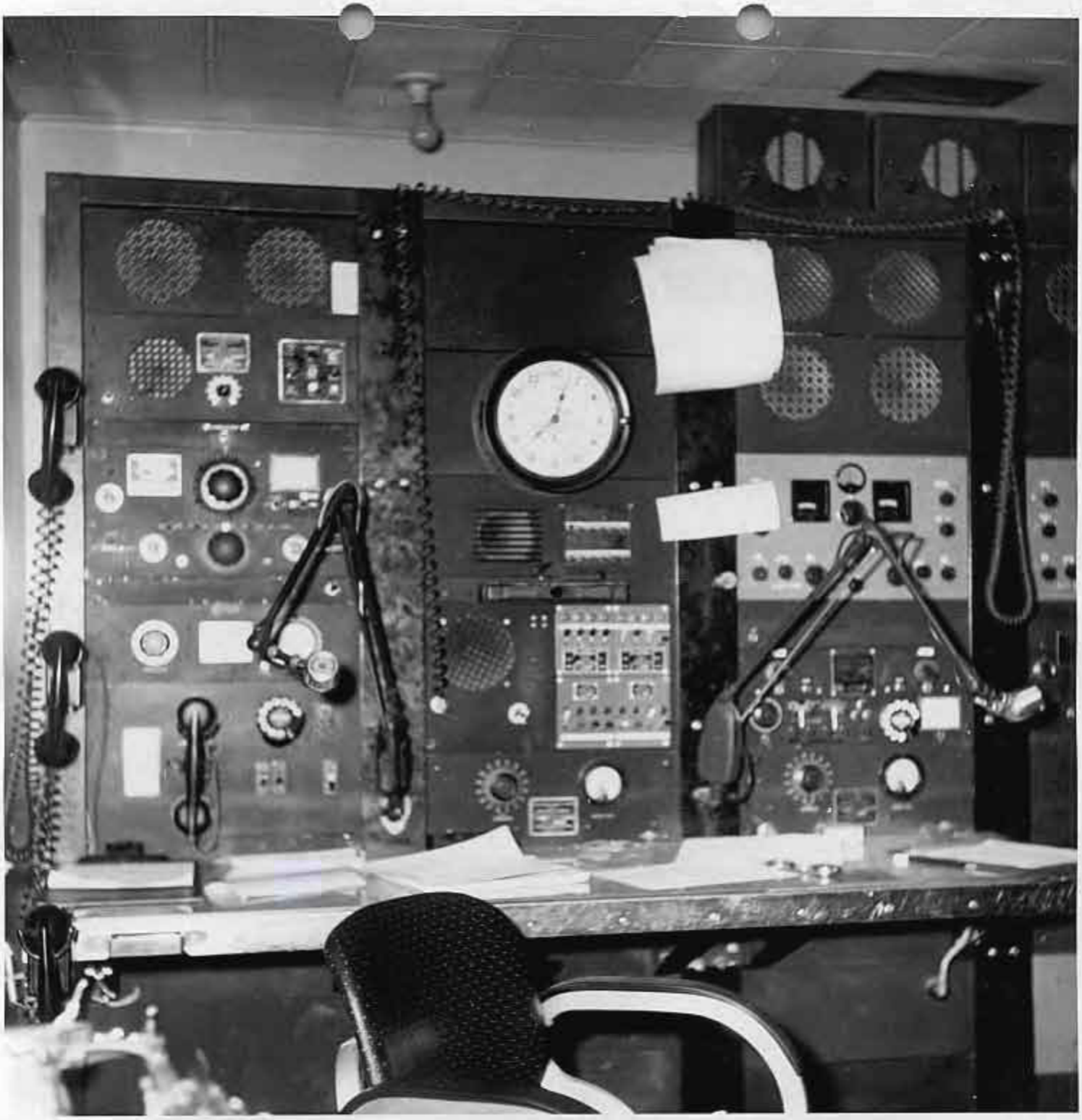
Site B400 1950 Source: FAA Records

Site B400 1959 Source: FAA Records

Station Library And Briefing Counter

Master, Printer, Perforator 1687

SERVICE 3, A, B and Master



A/G Position

A/G Position and associated equipment

ATCS Building - looking west

ATCS BUILDING - LOOKING EAST

ATCS Building - Main Entrance

GALENA ATCS
12/8-11/59

Site B400 1960's Source: FAA Records

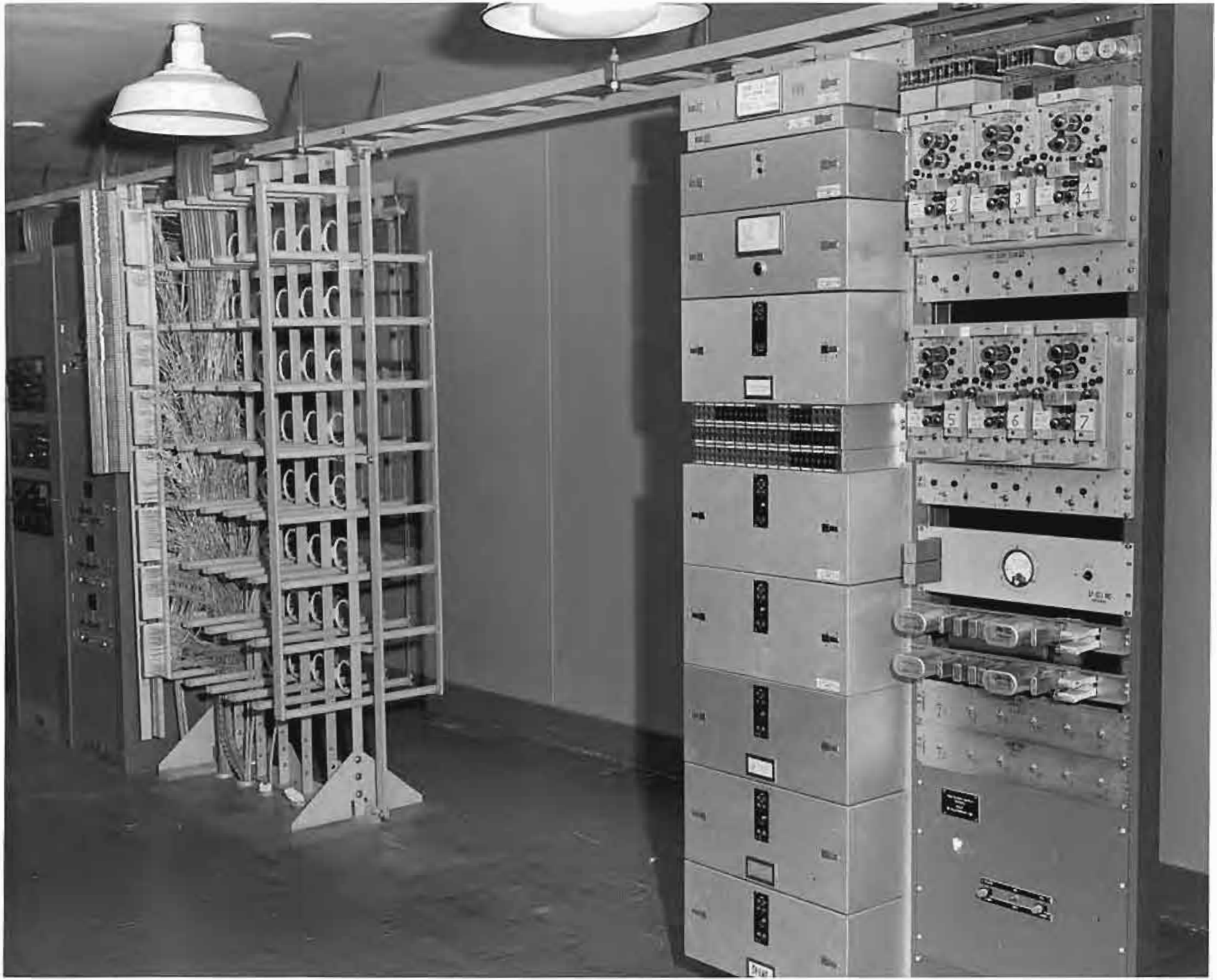
MARCH 1919
1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31

Galena

159-22 FSS Building and apron Galena

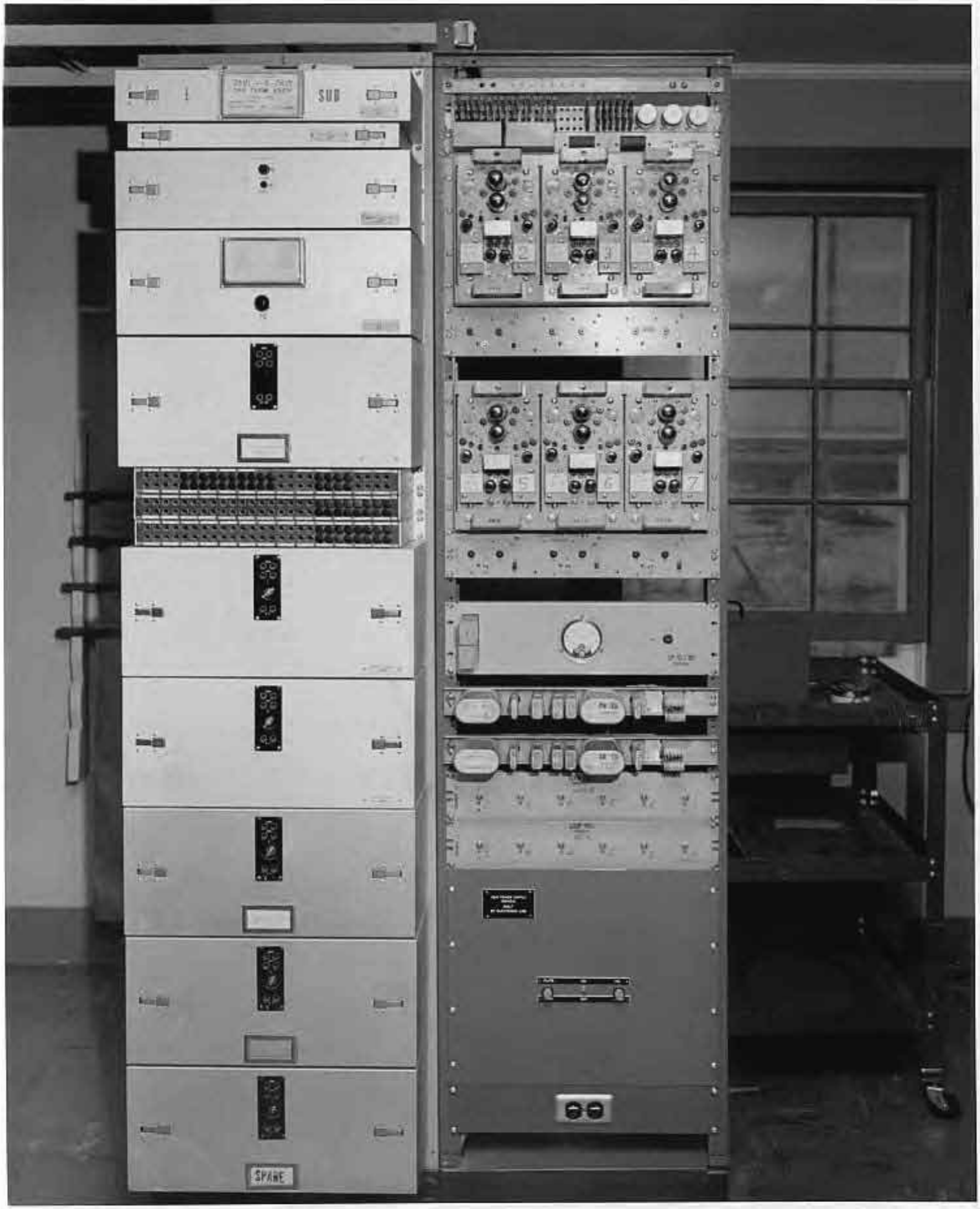
159-21 FSS Building Galena

159-20 FSS and Parking Apron Galena



159-39 Electronic Dept in FSS Galena

159-40



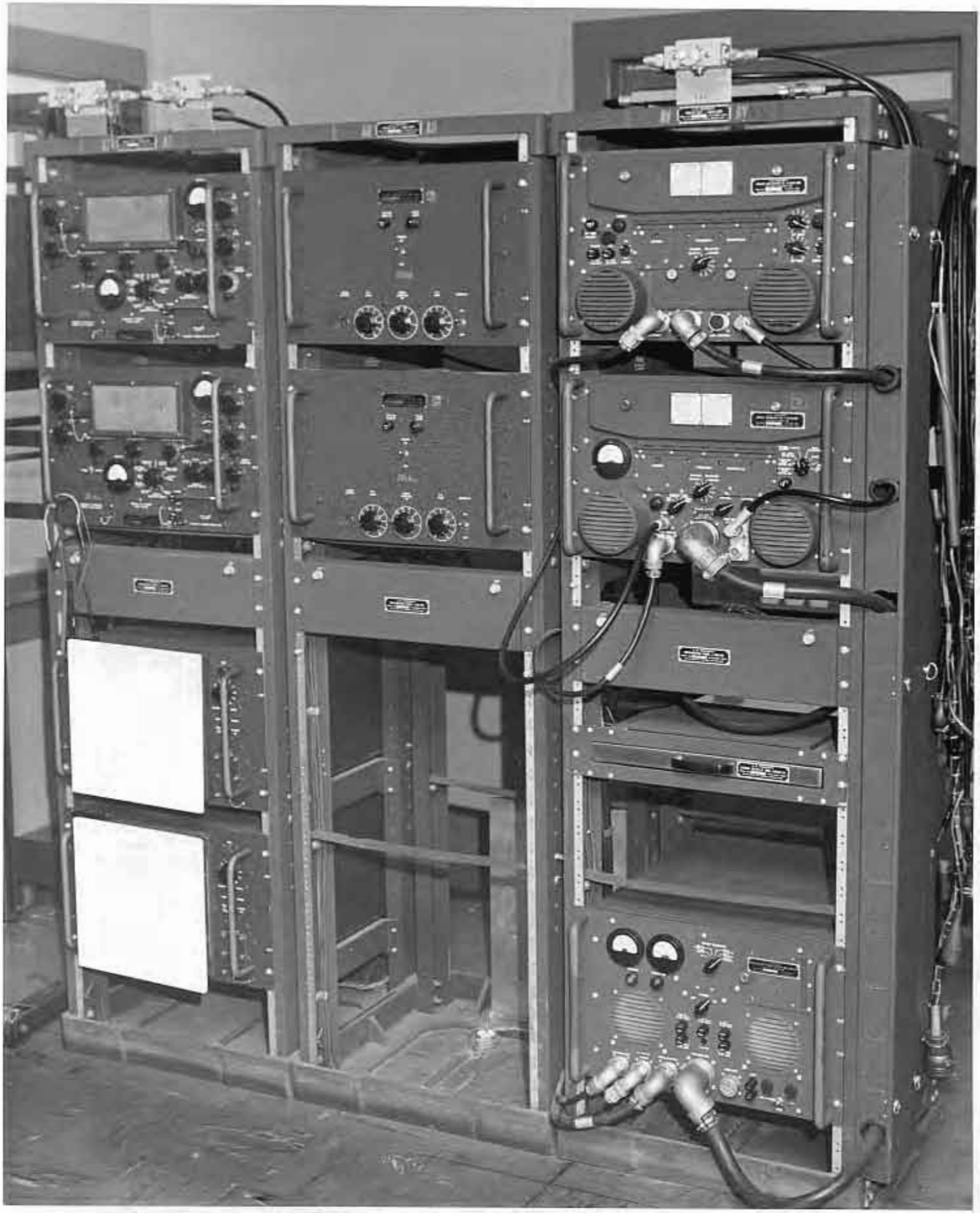
Electronics Dept in FSS

Galena

AC
AD
AE

159-37

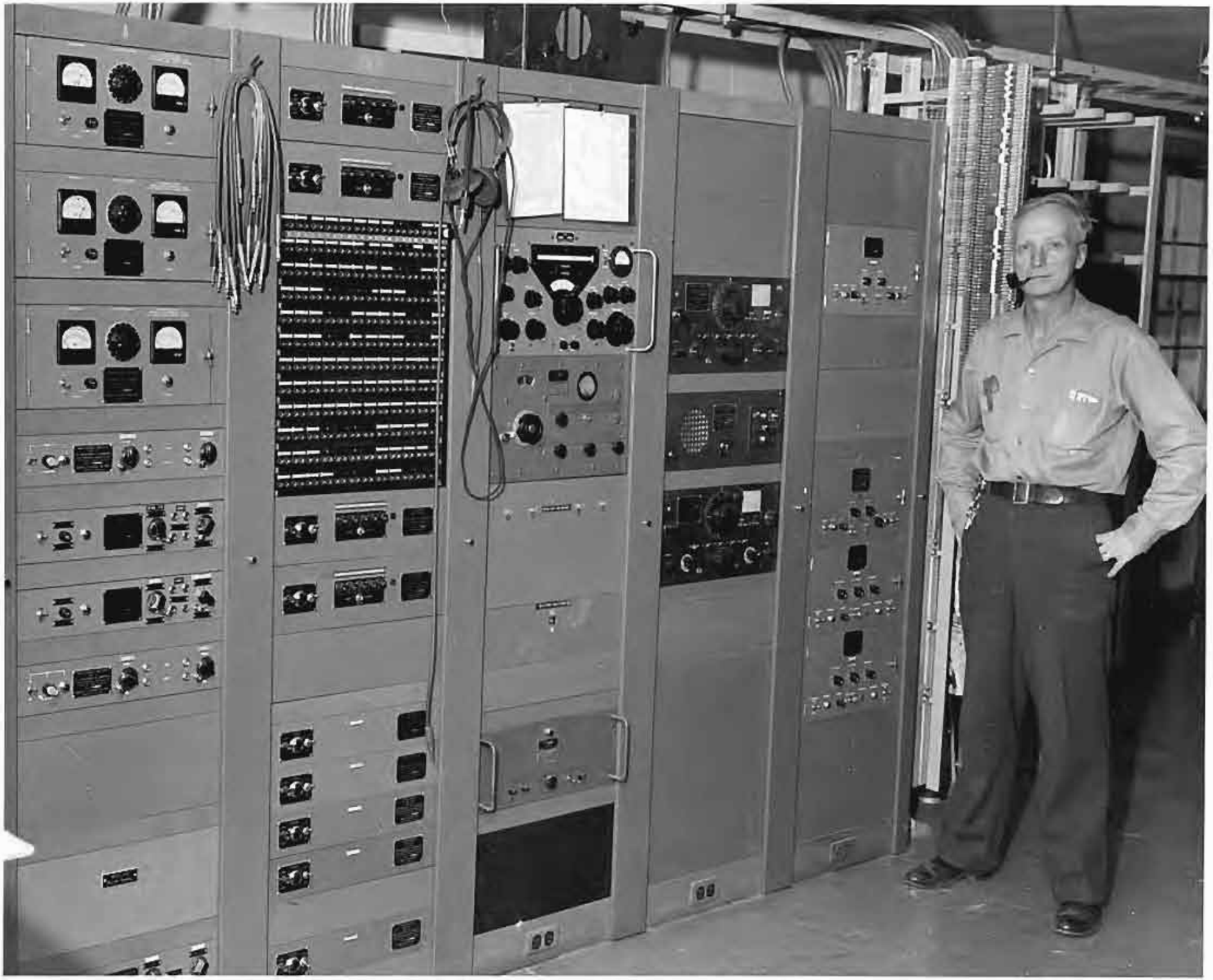
Electronic Dept in FSS



Galena

159-38 Electronic Dept in FSS Galena

159-35 Inside FSS Operations Section Galena



159-36 FSS Electronic Department Galena

159-28 Transmission Lines at FSS Galena

159-34 Inside FSS Operations Section Galena

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	RP ACCOUNT NO.	CONTROL NO.	BUILDING NO.
GALENA AIRPORT	1931				400

DIMENSIONS (*Width x length*)

MAIN BUILDING	OFFSETS	WINGS	BASEMENTS

MATERIALS

FOUNDATION	FLOOR	WALL	ROOF
Mudsill	wood	wood	metal gable

HEATING

SOURCE	TYPE	FUEL
	HW Baseboard Heat	Oil

NO. OF USABLE FLOORS	FIRE PROTECTION NO.	FIRE PROTECTION TYPE
1		

UTILITY CONNECTIONS	BLDG EQPT		TOTAL CAPACITY
WATER	AIR CONDITIONING		
SEWER	EVAPORATIVE COOLING		
ELECTRIC	MECHANICAL COOLING		
GAS	HOT WATER FACILITIES		
STEAM			
CONDENSATE			

		CODE
STATE	ALASKA	
ASSIGNMENT	AAC	
TYPE OF CONSTRUCTION	P	
CONDITION	1	
OCCUPANCY	OY	
AIR FORCE INTEREST	1	
UNIT OF MEASURE (*Other than area*)		
QUANTITY		
NOMENCLATURE	COMM, TMTR RCVR	
CATEGORY	131-116	
REMARKS		

RETIRE

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST	TOTAL COST
810186		Transfer from FAA, DD Form 1354	67		2360		44,639 00
880021		Needs to be disposed Change Inv Date to 8711	Nov 87				
910300	June 91	Site Inventory					
930189		AF FORM 3070					
BALANCES FORWARDED							

AF FORM 15 JUN 56 1430 REPLACES DA FORM 5-47, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

EXHIBIT "A"

1. Building No. 400, Flight Service Station, wood frame construction, mudsill foundation, metal covered gable roof. HW baseboard heat, elevated 750 gallon fuel tank.

2. System Communication Cable, underground, 100', 100 pair cable.

3. System Communication, Coax, 2 each, runs of 100'.

4. System, electric, underground, for obstruction lights.

5. Towers, Antenna, steel; 6 each, 50' wood poles; 3 each 20' wood support poles; 3 each 60' metal towers; 3 each 25' wood poles.

APPENDIX A

B408

Building 408 – Strobe Shack (Site ID B408)

Site Location

Site B408 is located on the eastern end of the runway and was considered part of the Airfield Lighting Facility (ALS) which included Building 408 and the airfield lighting towers.

Site Characteristics

Site features are shown on Figure A1-B408. Building 408, also called the Strobe Shack or Strobe Shelter, was an 8-foot-by-8-foot building that housed a 15-kilovolt-amperes (kVA) transformer and controls for sequencing airfield strobe lights. Building 408 was a 6-foot-high, slab-on-grade, wood-sided facility with a sump pit (Space Mark Inc-Galena Airport, January 9, 1996).

Site Description and History

Building 408 was part of the ALS facility. Approximately 10.3 acres were reserved by the FAA for the ALS by the Omnibus Deed, but FAA documents include a handwritten note that the ALS is owned by USAF (FAA, May 1992). This is consistent with statements in the available records indicating that the USAF Base operating support contractor in the early 1990s, Space Mark, Inc- Galena Airport, was responsible for airfield lighting. The construction and initial operation dates of Building 408 are unknown.

Correspondence between Space Mark, Inc –Galena Airport and USAF include a handwritten note that "680 PPM PCB in building transformer" which indicates the oil in the transformer was PCB-containing oil. However, the note does not mention any evidence of leaks from the transformer (Space Mark Inc- Galena Airport, January 9, 1996). The note also indicates that the facility included a sump pit which was presumably used for collecting PCB-containing oil because the facility was a small shack only used to shelter the transformer; no maintenance activities were conducted at the facility. The handwritten note is included in the supporting documentation. The PCB-filled transformer was removed on October 31, 1997, by the USAF and shipped to Defense Reutilization and Marketing Service (DRMO) at Elmendorf Air Force Base (AFB) for disposal (Rose, January 19, 2010; conversation notes are included in the supporting documentation). The facility was demolished in 1997 after the transformer was removed.

Historical aerial photographs from 1952, 1987, 2002, and 2009, are shown on Figure A2-B408. An undated photo, assumed to be from 1995 (USAF, 2010) is included as Figure A3-B408.

Summary of Previous Investigations

No previous investigations have been conducted at Site B408.

October 2009 Site Visit Observations

Site B408 was not visited during the October 2009 site visit because it was not identified as a PA site before the visit.

Target Analytes

Based on the note in the records indicating a transformer containing PCB oil was in the facility, target analytes are PCBs.

Potential Exposure Pathways and Receptors

There is evidence of a potentially complete human exposure pathway based on current and potential future land uses at the site. Potential human receptors and potentially complete exposure pathways include the following:

- **Excavation/Construction Workers**: Potential exposure to chemicals in soil to 15 feet bgs and shallow groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of dust generated from wind or during onsite excavation activities. Potentially complete routes of exposure to shallow groundwater include dermal contact with groundwater.
- **Future Occupational Workers**: Potential exposure to chemicals in surface soil to 2 feet bgs. Potentially complete routes of exposure to surface soil include incidental soil ingestion, dermal contact with soil, and inhalation of dust generated from wind.
- **Hypothetical Future Residents:** Potential exposure to chemicals in soil to 15 feet bgs and groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of dust generated from wind. Potentially complete routes of exposure to groundwater include ingestion and dermal contact.

Site B408 has a pavement and gravel surface that provides no viable habitat for plants or animals. Ecological exposure pathways are considered unlikely to be complete at Site B408. Therefore, no ecological receptors were identified, and the site will not be evaluated for ecological risk.

Conclusions

Building 408 housed a transformer that contained PCB oil, but there are no available records to indicate if spills or leaks from the transformer occurred.

Recommendation: Limited Site Inspection Sampling

Limited site inspection sampling is recommended at Site B408 to confirm the presence or absence of PCBs in soil.

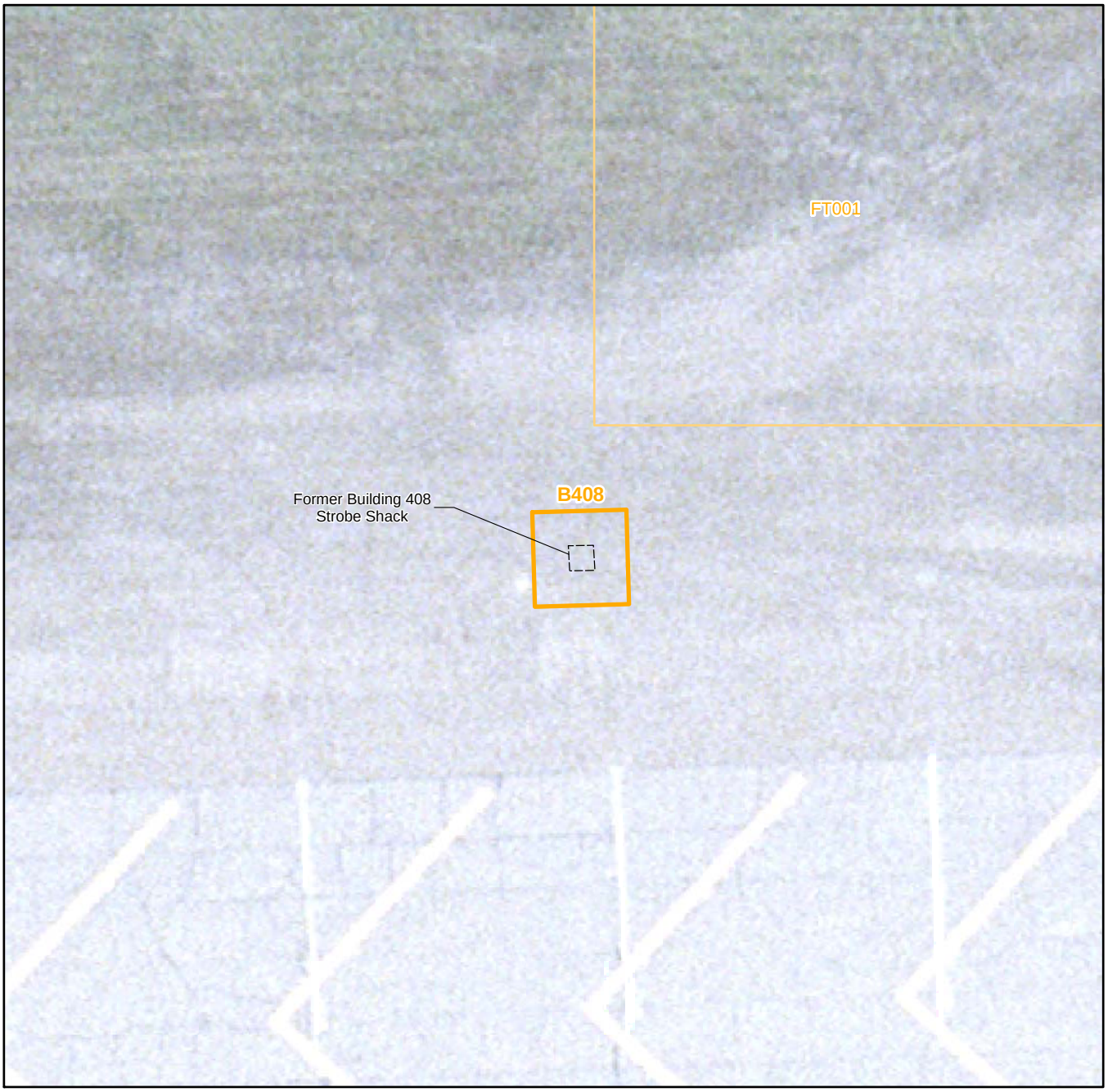
References

Federal Aviation Administration (FAA). May 1992. *Real Estate Summary Federal Aviation Administration Galena FAA Station Galena, Alaska*

Rose, John. January 19, 2010. Mr. John Rose, 611th Civil Engineering (CE). Personal communication with Vivian Tokar/CH2M HILL.

Space Mark Inc- Galena Airport. January 9, 1996. Information on Building 408, fax to Moira Dennis, 611 CES/CECPR.

U.S. Air Force (USAF). 2010. Photograph, Retired Facility Card Real Estate Record for Building 408.

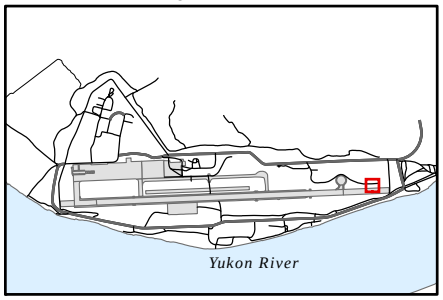


LEGEND

- B408
- Adjacent Site
- Approximate Location of Former Feature

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meters.

VICINITY MAP



N

0 25 50
Feet

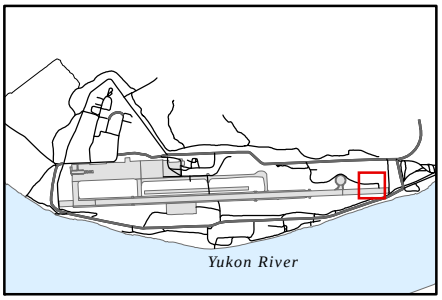
FIGURE A1-B408
Site Layout
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

LEGEND

B408

Notes:
1. Photography Dated 1952, Georeferenced.
2. Photography Dated 1987, Georeferenced.
3. Imagery August, 2002. Pixel size 0.075 meters.
4. Imagery September 4, 2009. Pixel size 0.25 meters.

VICINITY MAP



N

0 100 200
Feet

FIGURE A2-B408
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

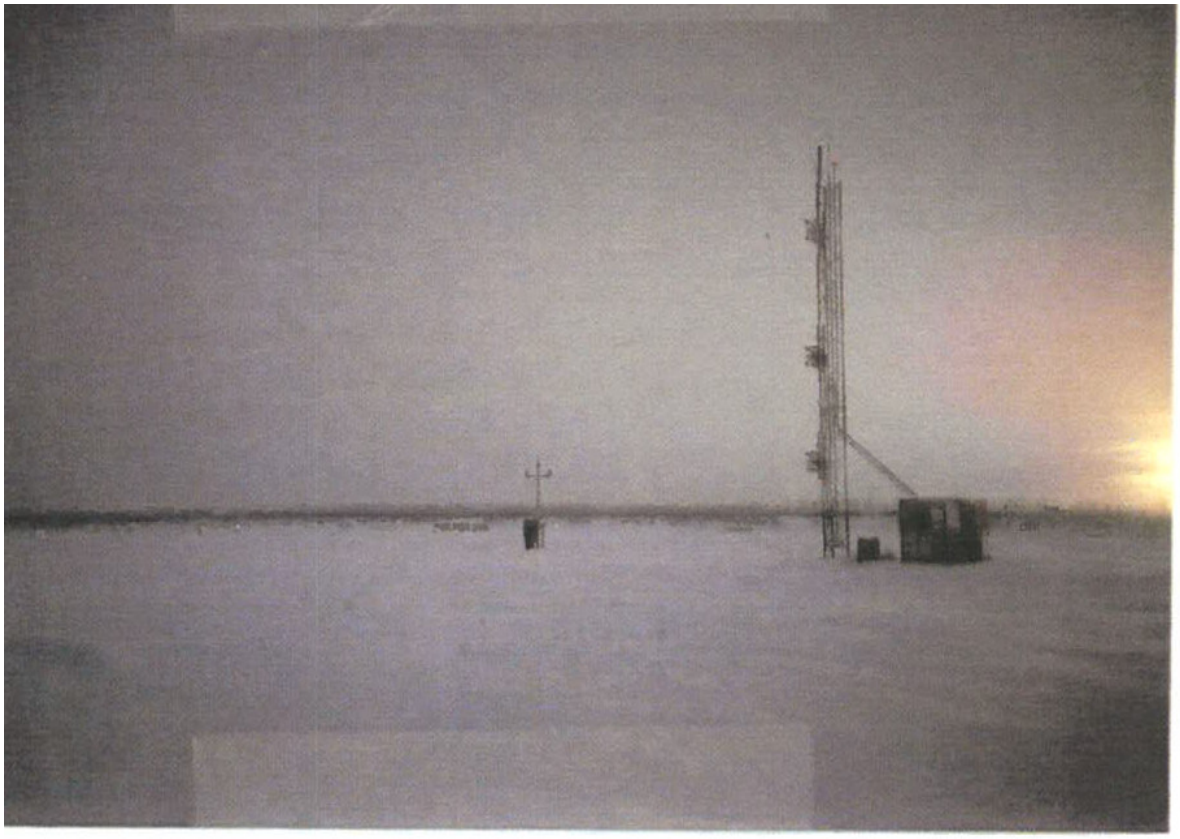


FIGURE A3-B408
Building 408, Undated Photo (assumed to be from 1995)
Source: USAF, 2010

Supporting Documentation

Info from Kel, Hal

Chuck 8x8 metal bldg for transform + ~~stock~~ & controls for eq Electric Light.

~~Can~~ contract or calling if Warm ofd Stove Chkr.

- airfield lighting
- PCB transformer on site

Gal Fac 408

SPACE MARK INC.

Facsimile Cover Sheet

To: Moira Dennis
Company: 611 CES/CECPR
Phone: 552-8757
FAX: 552-3248

From: Rob Lowe
Company: Space Mark, Inc. - Galena Airport
Phone: Commercial (907) 446-3310/3311
DSN 552-9408
Fax: Commercial (907) 552-9409
DSN 552-9409

Date: 1-9-96
Pages including this cover page: 2

Attch is this info you requested on Bldg 408. It is used to house transformer and controls for sequencing strobe lights. FAA no longer works, SMI now has responsibility for airfield lighting.

(- FAA has VOR & BEACON)

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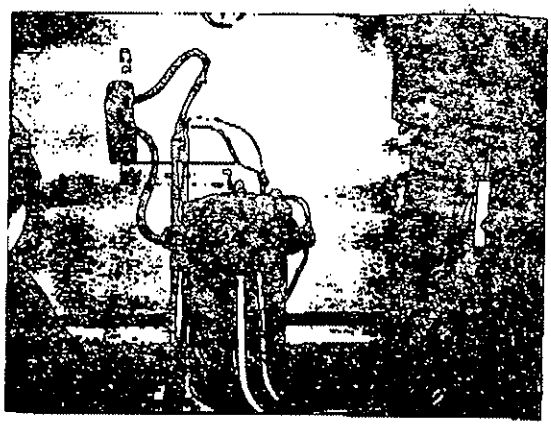
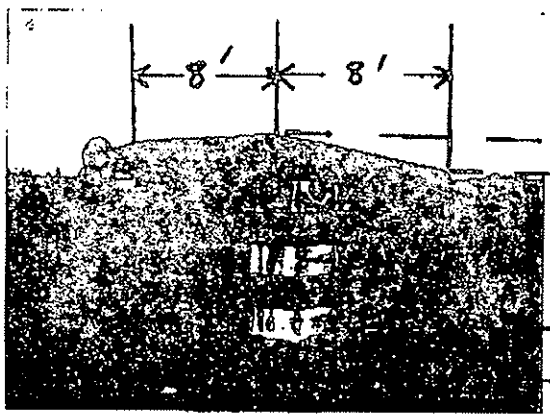




Strobe Shelter
Facility # 408 on Front
Wooden Structure
Slab on grade
with sump pit

FACSIMILE ELECTRO MAIL TRANSMITTAL

(This information collection is not subject to OMB review under PL-96, The Paperwork Reduction Act.)

SECTION I - TO BE COMPLETED BY ORIGINATOR

CLASSIFICATION	TRANSMISSION	PAGE ONE OF PAGES
☐ FOR OFFICIAL USE ONLY	☐ IMMEDIATE ☐ ROUTINE	

TO *(Organization and Functional Address Symbol)*	FAX NO. DSN: 552-9409	COMMERCIAL
ATTENTION: MR ROB LOWE	VOICE NO. DSN: 552-9408	COMMERCIAL
SUBJECT		
FROM *(Organization and Functional Address Symbol)*: 611 CES/CECPR	FAX NO. DSN: 552-3248	COMMERCIAL
	VOICE NO. DSN: 552-8757	COMMERCIAL

REMARKS

ROB,

PER TELECON, I'VE ATTACHED A DWG SHOWING LOCATION OF BLDG 408.

LETS DISCUSS

THANKS MOIRA

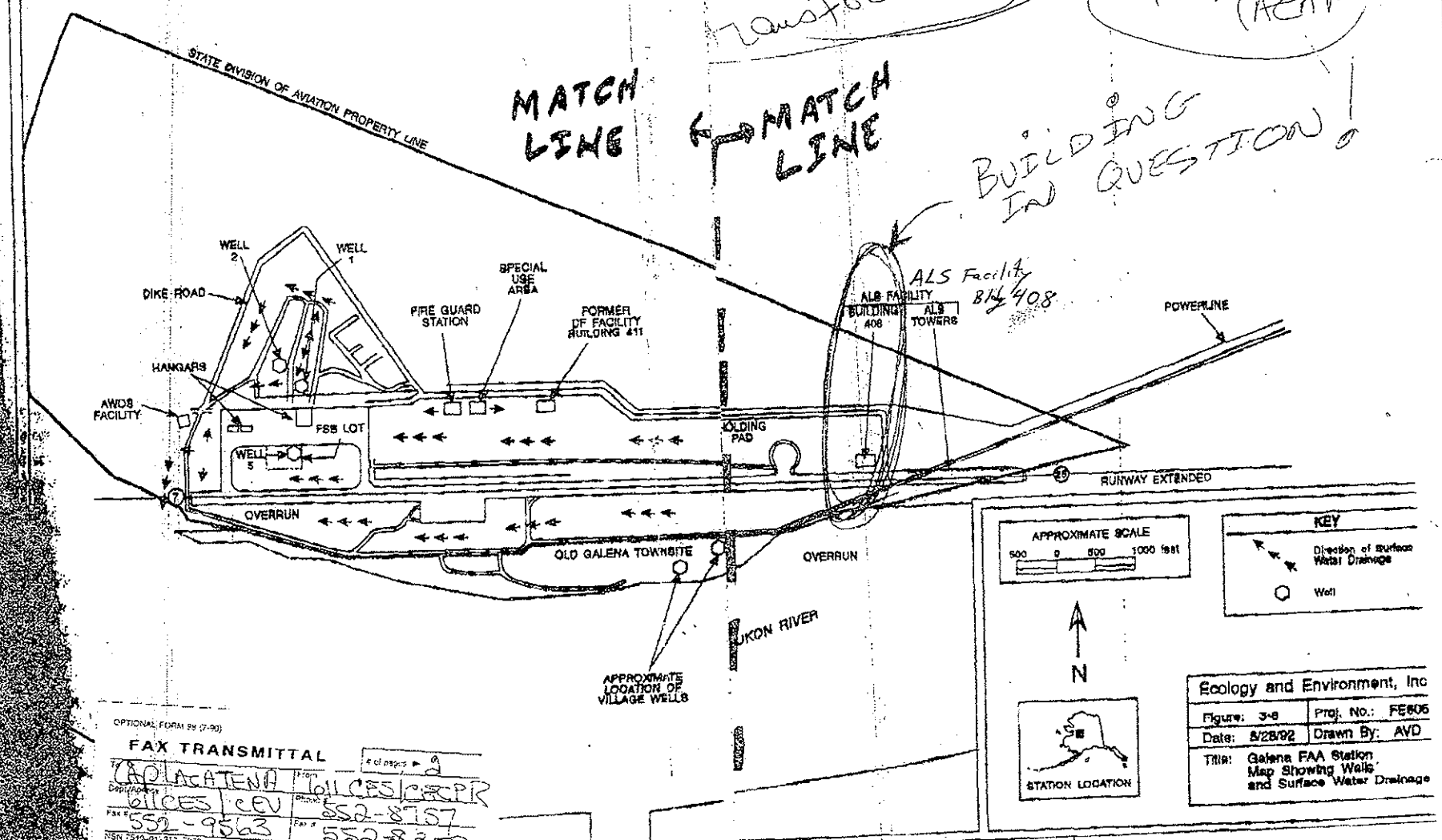
RELEASER'S SIGNATURE	DATE	TIME
Mara F. Dennis	1-8-96	

SECTION II - TO BE COMPLETED BY ELECTRO MAIL OPERATOR

DATE TRANSMITTED	TIME TRANSMITTED	TRANSMITTER'S SIGNATURE
DATE ADDRESSEE CONTACTED	TIME ADDRESSEE CONTACTED	CONTACTOR'S SIGNATURE

AF Form 3535, SEP 91

SOURCE: FAA 1991. Real Estate Data. Drawing No. ALD-GAL-040.000.



OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

# of pages ▶ 9

To: CAP ACATENA | From: Toll CES | CECPR

Dept./Agency: 611CES | CEV | Phone: 552-8757

Fax #: 552-9563 | Fax #: 552-8200

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

FEDERAL AVIATION ADMINISTRATION

NORTH ALASKA SYSTEM MANAGEMENT OFFICE

2175 University Ave. Suite 100, Fairbanks, Alaska 99709

FAX

Date: 20 DEC 95

Number of pages including cover sheet: 3

To: MORA DENNIS

Phone:

Fax phone: 552-8300

CC:

From: RICK HARVEY

Phone:

Fax phone: 907-451-5756

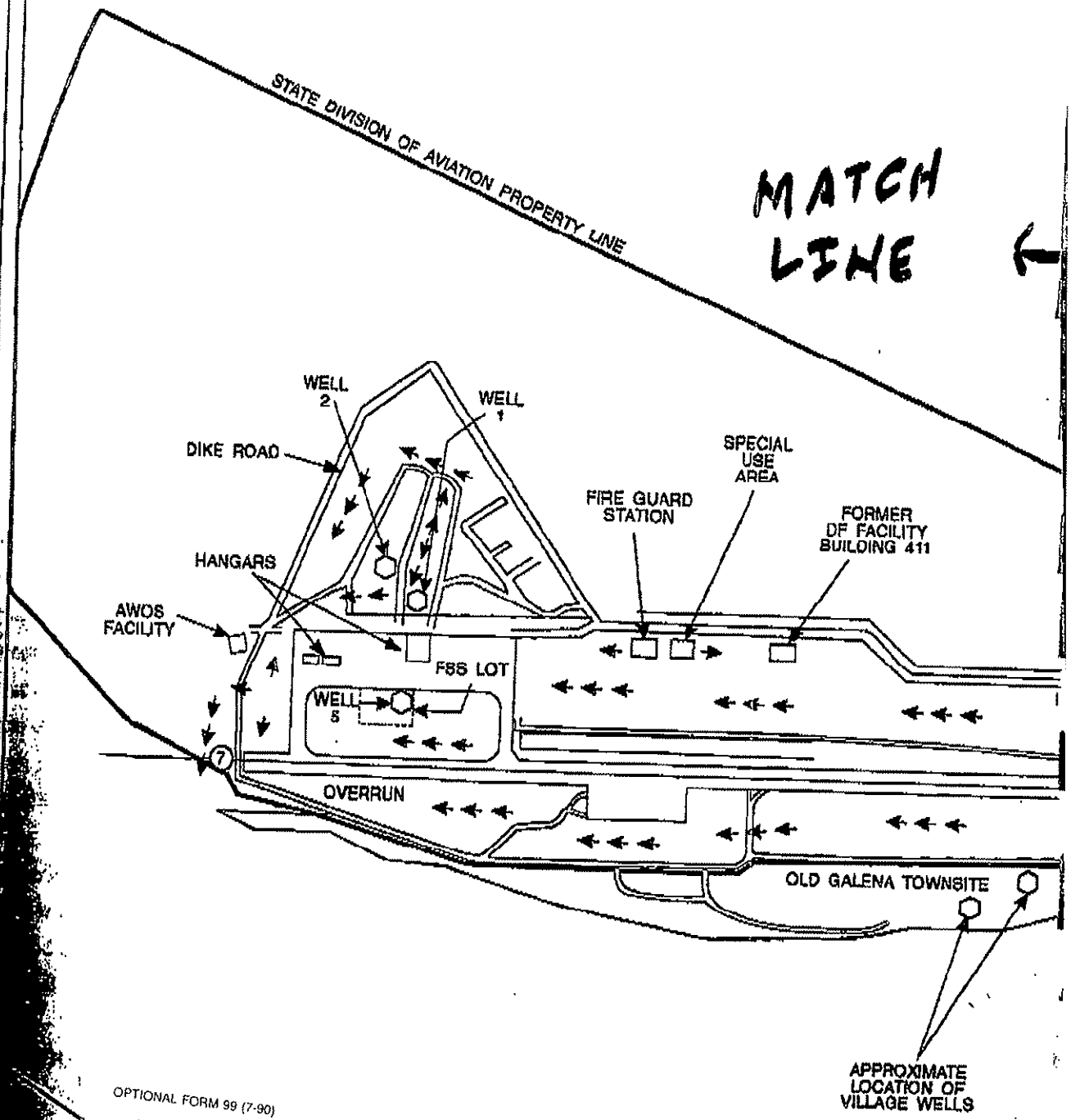
REMARKS: ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

X FOR YOUR INFORMATION ____ AS REQUESTED

HOPE THIS HELPS!

552-9409

SOURCE: FAA 1991. Real Estate Data, Drawing No. ALD-GAL-040.000.



OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

To CAP LACATENA		# of pages ▷ 9	
Dept./Agency 611 CES	CEV	From 611 CES/CEPR	
Fax # 552-9563		Phone # 552-8757	
		Fax # 552-8300	

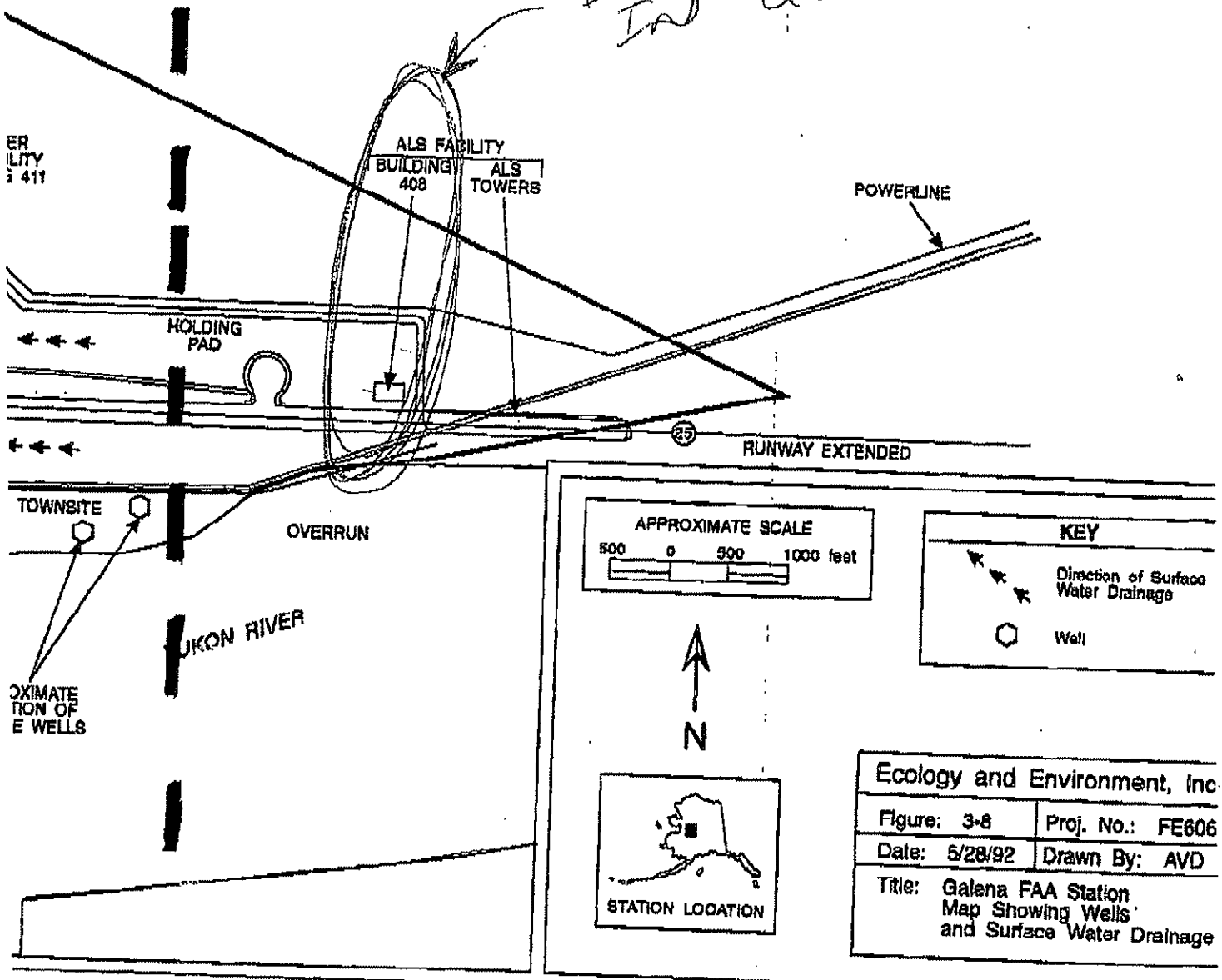
NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

680 ppm PCB in Bldg transformer

406 VOC (ACAN

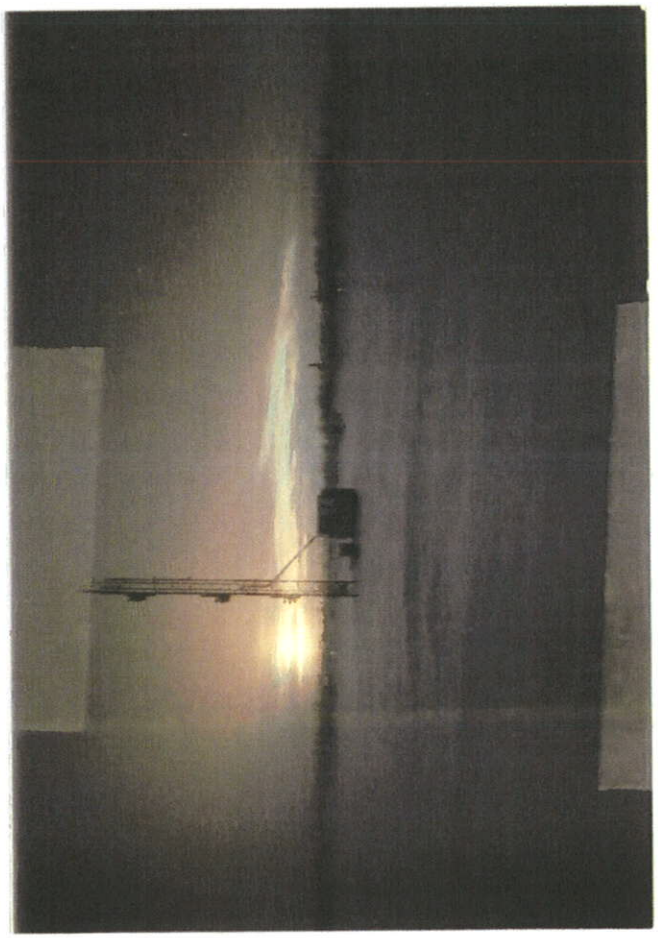
MATCH LINE

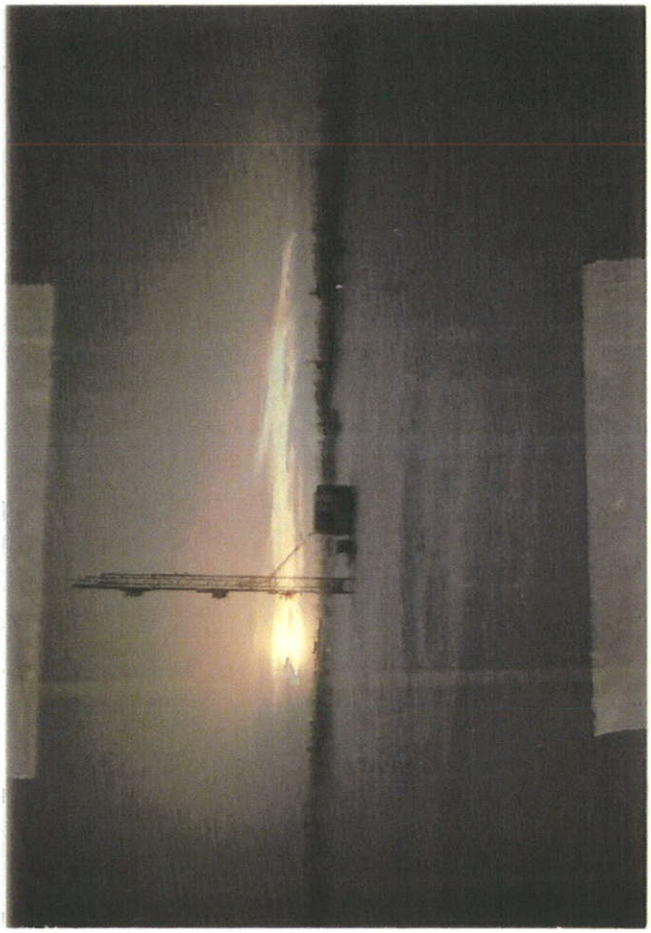
BUILDING IN QUESTION!

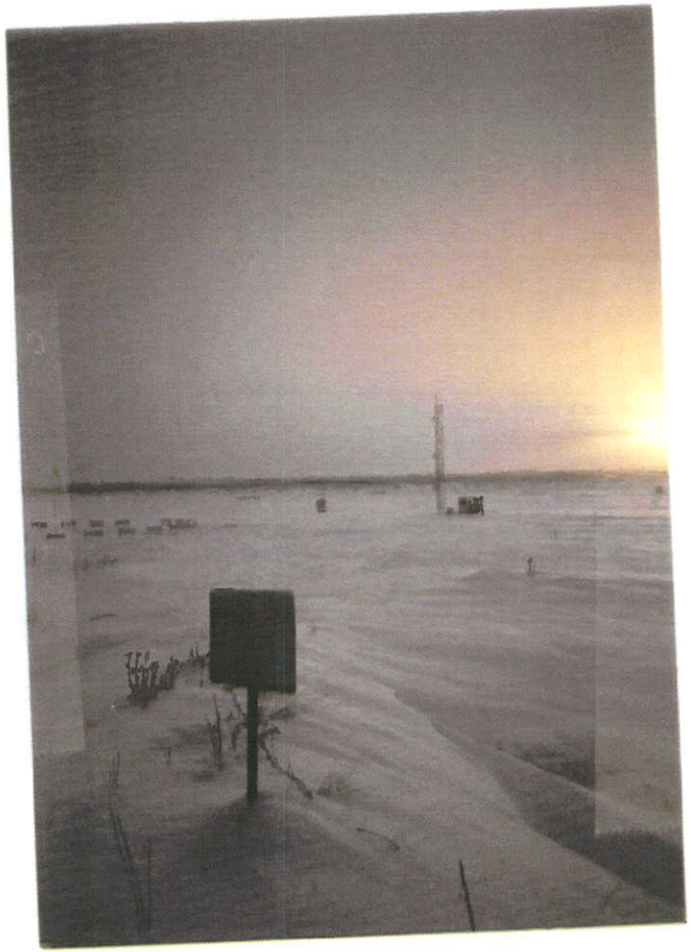


@ 1.75M < Hiroshima?
1.2 Hazmat / No. Chapel
4.5 M / 12M (BUG DEMO) INCLUDES [illegible]

15KVA transformer







CH2MHILL TELEPHONE CONVERSATION RECORD

Call To: Mr. John Rose, 611th CE

High Voltage Electrical Supervisor

Phone No.: 907-552-6694 **Date:** January 19, 2009

Call From: Vivian Tokar **Time:** 3:22PM

Subject: Former Galena FOL PCBs

Mr. John Rose is currently the supervisor of the 611th Civil Engineering Squadron (CES) high voltage electrical shop at Elmendorf AFB. Prior to BRAC closure the 611th CES was responsible for the Former Galena FOL. Mr. Rose was also on-site in Galena in starting in 1985 and was in charge of the electrical distribution system.

Mr. Rose explained that power was supplied to navigation aids on the airfield through underground power cables fed from the Airfield Lighting Vault/Airfield Utility Vault (building 1552). The airfield lighting vault itself did contain PCB-fill regulators (7.4%PCB) which were removed and replaced with drypacks by Mr. Rose in the 1980s. The regulators were disposed of by shipping off-site to DRMO at Elmendorf.

TACAN-1 and one other navigation aid near the east-end approach had power supplied by the overhead power system that ran along dike road. Mr. Rose removed and replaced all pole mounted transformers in the early 1980s and noted that Galena had no leaking pole mounted transformers at that time. The removed transformers were disposed of through DRMO at Elmendorf.

Mr. Rose stated the “strobe shack” (building 408) did have a transformer with PCBs and he removed that transformer on October 31, 1997. The transformer was shipped to DRMO at Elmendorf for disposal.

Mr. Rose stated that in general, there was minimal maintenance of the electrical system. Unlike other sites, there was no radar at Galena (there was a training facility, but it was not fully powered like a real site), and therefore there was not the level of maintenance and waste PCB oil generated from the electrical transformers that occurred at a radar sites.

APPENDIX A

B1403

Building 1403 – Former Liquid Oxygen Plant (Site ID B1403)

Site Location

Site B1403 is located in Parcel Block 12 Lot 5, southeast of the cantonment area "triangle" and north of the runway.

Site Characteristics

Site features are shown on Figure A1-B1403. Site B1403 consists of the area surrounding former Building 1403, the former Liquid Oxygen (LOX) Plant. The feature of concern at Site B1403 is the former LOX plant.

The site is currently paved. A 60-foot-by-60-foot aircraft hangar constructed by U.S. Fish and Wildlife Service (USFWS) is located in the northeastern corner of the site.

Site Description and History

Building 1403, built in 1973, was a 24-foot-by-36-foot, metal-sided building with a 6-inch concrete foundation (USAF, 1973). Building 1403 was identified as the LOX Plant in the facility records, but was only used for a short time as such (Phukan, August 2002). Records state that "the plant was in use as an LOX plant for less than a year" before the facility was removed from the location near the airfield (Phukan, August 2002). According to facility records (provided in the supporting documentation), the building was dismantled (common practice for this type of "Butler Building") and reconstructed next to Building 1857 in March 1985 (USAF, 1974).

Also typical of Butler Building construction and use is a lack of floor drains; these facilities were developed to be constructed quickly and easily and did not have full facility design with utilities under the foundation. The remaining concrete slab was removed in 2001 (Phukan, August 2002).

Facility records indicate that a 300-gallon diesel storage tank was associated with Site B1403 but was removed in 1979 (USAF, 1974). The facility records do not indicate whether the storage tank was a UST or an AST. On the basis of the size of the tank and the fact that heating was provided by electric heaters (USAF, 1974), the tank was most likely an AST associated with a piece of equipment or a backup generator. The removal of the storage tank in 1979 (USAF, 1974) supports the statement that the LOX Plant was in use for a limited time because any backup generator and associated diesel AST would have been moved to support other critical uses at the FOL once the LOX Plant was no longer in operation.

Historical aerial photographs of Site B1403, dated 1978 and 1985, are shown on Figure A2-B1403. Building 1403 can be seen on the 1978 photograph, but is not present on the 1985 photograph. Building 1403 can be seen on the 1978 photograph but is not present on the 1985 photograph, although the concrete pad remains. Figure A3-B1403 is an undated photo of the facility assumed to be from the late 1970s because Building 1403 is present. Equipment

is staged on the concrete pad, but it is not clear which, if any, of these is the 300-gallon AST. One door to the facility is visible in the photo on the east side of the facility.

The former LOX plant and 300-gallon diesel tank referred to in the facility records are the only known associated tanks or other possible sources of contamination at Site B1403 (Phukan, August 2002).

Summary of Previous Investigations

The 2002 investigation described below was conducted at Site B1403 to characterize the extent of environmental impacts from the former LOX Plant. Figure A4-B1403 presents the previous investigation sample locations. Groundwater Hydro Punch sample results associated with the September 2008 sampling event, shown on Figure A4-1403, were excluded from the evaluation of previous investigations because of their distance from the site (more than 50 feet from the site boundary and more than 175 feet from the former LOX Plant footprint).

Phase III Site Assessment (2002)

In 2002, a Phase III Site Assessment was conducted by Phukan, Inc., as authorized by the USFWS, in an attempt to identify any existing contamination before construction of the hangar began at the site (Phukan, August 2002). Seven test pits were excavated in the general area around former Building 1403 (see Figure A3-B1403). Test pits were excavated to between 8 and 11 feet bgs (Phukan, August 2002), with representative soil samples collected at approximately 2-foot intervals from the surface. Soil samples were field screened with a PID, and the sample with the highest reading from each pit was sent to a laboratory for the following analysis: metals using the Toxicity Characteristic Leaching Procedure; DRO and RRO using Method AK102/AK103; GRO using Method AK101; and BTEX using Method SW8021B.

Summary tables from the *Phase III Environmental Site Assessment* (Phukan, August 2002) report presenting the peak PID readings (Table 1) and laboratory analytical results (Table 2) are provided in the supporting documentation. The highest PID reading from the test pits was 15.8 ppm (Phukan, August 2002). Laboratory results indicate that concentrations of analytes were below ADEC Method 2 cleanup levels. DRO was detected in one sample (63.0 mg/kg from Test Pit 7) and RRO was detected in two samples (57.2 mg/kg from Test Pit 3 and 37.0 mg/kg from Test Pit 4). No other fuel-related constituents were detected at concentrations above the laboratory reporting limits (see Table 2 included in the supporting documentation). Only one metal, barium, was detected in some samples at concentrations below the ADEC cleanup levels, with the highest concentration from Test Pit 3 at 1.47 milligrams per liter (mg/L) (Phukan, August 2002).

On the basis of laboratory results from this investigation, Phukan, Inc. concluded that there is no indication that historical USAF activity associated with the former Building 1403 LOX Plant resulted in contamination by fuel compounds that exceeded ADEC standards and that former Building 1403 did not require environmental cleanup or further investigation (Phukan, August 2002). However, this investigation and these conclusions did not address VOCs in soil or groundwater at the site.

October 2009 Site Visit Observations

An inspection of Site B1403 was conducted in October 2009. A photograph of the site taken during the site visit is provided in Figure A5-B1403. The surface of the site was observed to be pavement. No surface staining, petroleum odors, or solvent odors were observed. No viable ecological habitat exists at Site B1403.

Target Analytes

All parts used in the generation of LOX from air must be kept free of any oils; therefore, all equipment parts that were touched or previously taken apart must be thoroughly cleaned before use for LOX generation. Historically, USAF used TCE to perform the cleaning (EPA, November 12, 1993), and the disposal practice for used solvents varied from Base to Base. Site B1403 has been identified as a surface multi-chemical release category because disposal practice at Site B1403 included possible discharge to the ground surface outside the building and concrete pad.

In accordance with historical site use, target analytes for Site B1403 include VOCs (including BTEX) and SVOCs. As stated earlier, fuel-related compounds were removed on the basis of Phase III investigation results; pesticides, PCBs, and metals were removed as target analytes because they cannot reasonably be attributed to site uses.

Potential Exposure Pathways and Receptors

Based on current and reasonably anticipated potential future land uses at Site B1403, potential human receptors and potentially complete exposure pathways include the following:

- **Excavation/Construction Workers**: Potential exposure to chemicals in soil to 15 feet bgs and shallow groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind or during onsite excavation activities. Potentially complete routes of exposure to shallow groundwater include dermal contact with groundwater and inhalation of ambient vapors from groundwater.
- **Future Occupational Workers**: Potential exposure to chemicals in surface soil to 2 feet bgs. Potentially complete routes of exposure to surface soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Vapor intrusion from VOCs in environmental media migrating into current or future occupational buildings is also a potentially complete exposure route.
- **Hypothetical Future Residents**: Potential exposure to chemicals in soil to 15 feet bgs and groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Potentially complete routes of exposure to groundwater include ingestion, dermal contact, and inhalation of VOCs during showering or other household activities. Vapor intrusion from VOCs in environmental media migrating into current or future residences is also a potentially complete exposure route.

On the basis of available information and site photos, terrestrial ecological exposure pathways are considered incomplete at Site B1403. The site is currently paved, trees have been removed, and there is no viable onsite habitat. Therefore, no terrestrial ecological receptors were identified, and Site B1403 will not be evaluated for terrestrial ecological risk. An aquatic ecological exposure pathway is unlikely to be complete because the site is located more than 1,000 feet from the Yukon River. Data are being collected as part of the FSP for the 2010 Hydrogeologic Study to refine the understanding of the groundwater system at the FOL (CH2M HILL, August 2010). This pathway may be evaluated further if subsurface contamination is found at the site and the data collected as part of the hydrogeological characterization suggest that there is a potential for site contamination to impact the Yukon River.

Conclusions

Building 1403 was operated as a LOX Plant from approximately 1984 to 1985. A 300-gallon diesel storage tank, removed in 1979, was also associated with Building 1403. During an investigation conducted in 2002 at Site B1403, fuel-related compounds (DRO, GRO, RRO, and BTEX) were not detected at concentrations exceeding ADEC Method 2 cleanup levels. No other target analytes have been investigated at the site.

Recommendation: Site Inspection Sampling

The USAF has encountered TCE contamination at other historic LOX Plant sites. Therefore, limited site inspection sampling is recommended to identify whether soil or groundwater at Site B1403 was impacted by TCE or other solvent-related VOCs or SVOCs.

References

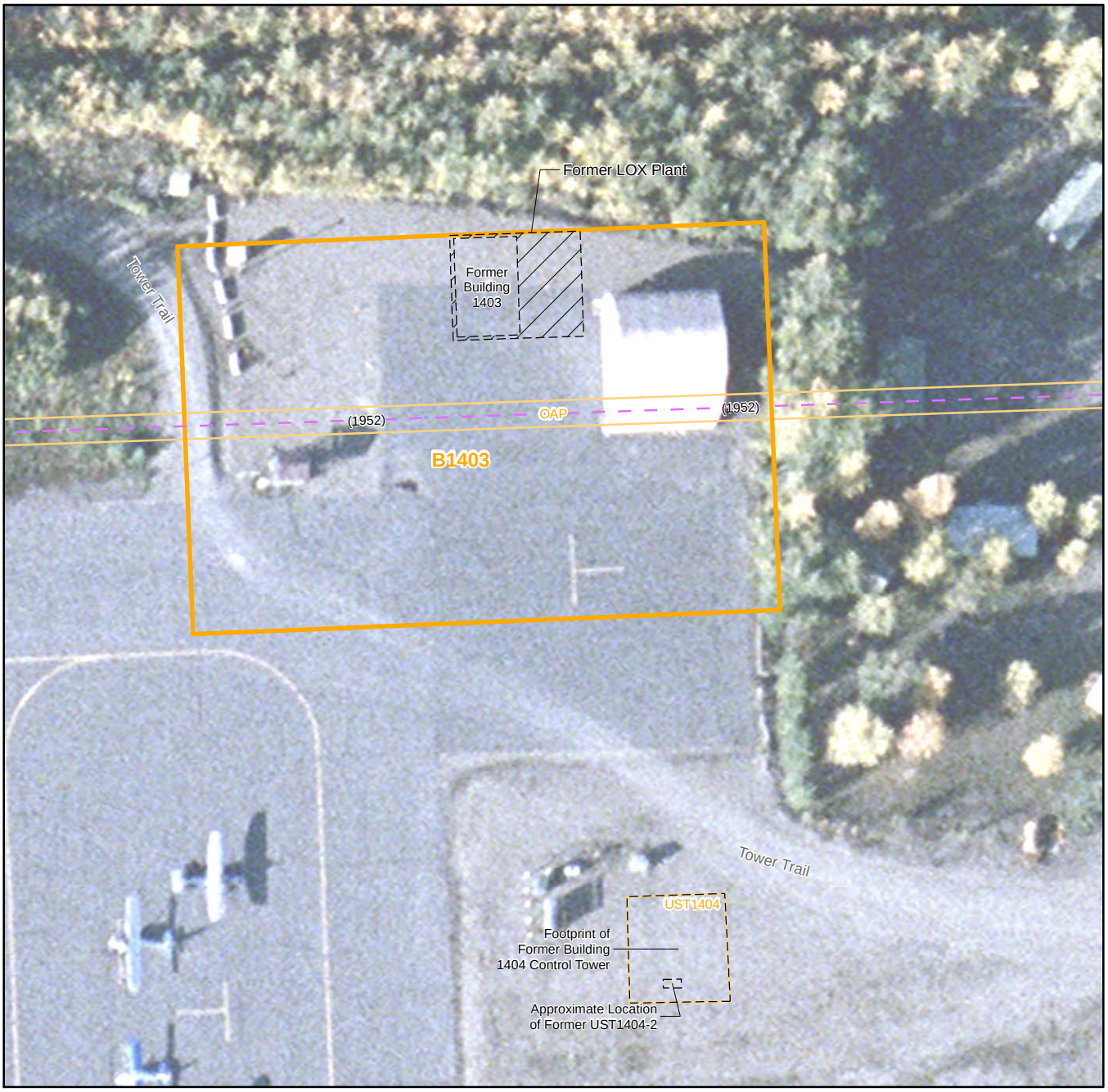
CH2M HILL. August 2010. *Work Plan for Site Inspection, Remedial Investigation, and Site Characterization; Former Galena Forward Operating Location, Alaska*. Final. Prepared for Air Force Center for Engineering and the Environment.

Phukan, Inc. (Phukan). August 2002. *Phase III Environmental Site Assessment Lot 5, Block 12 Galena Airport*.

U.S. Air Force (USAF). 1974. AF Form 1431, Real Property Accountable Record - Systems Facility 1403.

U.S. Air Force (USAF). 1973. AF Form 1430, Real Property Accountable Record—Building Facility 1-403.

U.S. Environmental Protection Agency (EPA). November 12, 1993. Castle Air Force Base Record of Decision. http://cfpub.epa.gov/superrods/index.cfm?fuseaction=data.rodinfo&id=0902751&mrod=09027511994ROD110. Accessed on January 22, 2010.

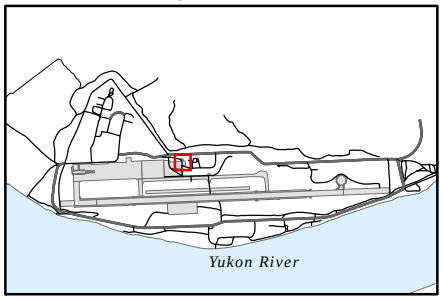


LEGEND

- B1403
- Adjacent Site
- Approximate Location of Former Feature
- Approximate Location of Former Concrete Pad
- Abandoned Fuel Line (1952)

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meter

VICINITY MAP



N

0 30 60
Feet

FIGURE A1-B1403
Site Layout

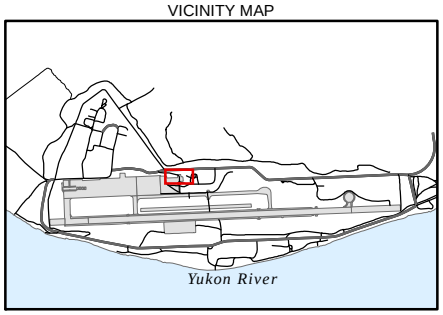
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

LEGEND

B1403

Notes:
1. Photography dated 5-30-1978, georeferenced
2. Photography dated 1985, georeferenced

VICINITY MAP



N

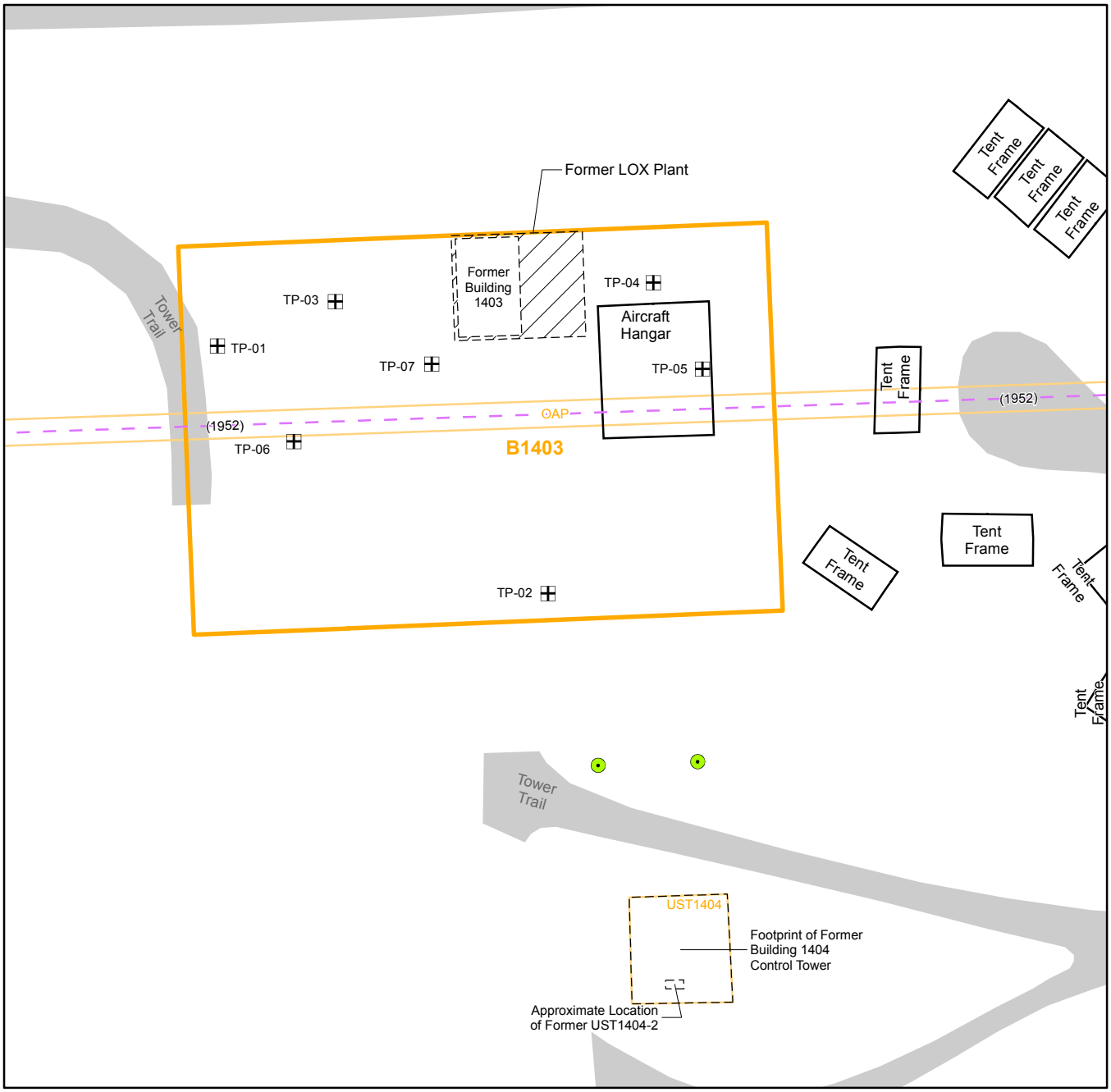
0 50 100
Feet

FIGURE A2-B1403
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

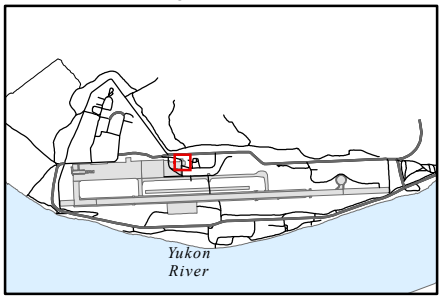
CH2MHILL

\\BALDUR\PROJ\GALENATO184_394439\MAPFILES\PA_2010\B1403\B1403_PA_PHOTO.MXD SEARLY 12/1/2010 12:39:48

FIGURE A3-B1403
Building 1403, Date Unknown
Source: AECOM, January 2010, Page 5-3



VICINITY MAP



LEGEND

- B1403
- Adjacent Site
- Approximate Location of Former Feature
- Approximate Location of Former Concrete Pad
- Structure
- Road
- Abandoned Fuel Line (1952)

Historical Sample Location

- Test Pit Sample
- Hydro Punch

N

0 30 60
Feet

FIGURE A4-B1403
Historical Sample Locations

Preliminary Assessment Report

Former Galena Forward Operating Location, Alaska

CH2MHILL

V:\GALENATO184_394439\MAPFILES\PA_REPORT\B1403\B1403_PA_SAMP.MXD CVONFREE 7/18/2011 11:38:51 AM

FIGURE A5-B1403
Site B1403, October 2009

Supporting Documentation

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	RP ACCOUNT NO.	CONTROL NO.	BUILDING NO.
GALENA APT HPZW	28 JAN 73		2001	52010	1-403

DIMENSIONS (Width x length)

MAIN BUILDING	OFFSETS	WINGS	BASEMENTS
24' x 36'			

MATERIALS

FOUNDATION	FLOOR	WALL	ROOF
6" CONCRETE	6" CONCRETE	METAL SIDING	STEEL FRAME METAL SIDING

HEATING

SOURCE	TYPE	FUEL
HEATERS (2)	12 KW 3 PHASE 208 V	ELEC

NO. OF USABLE FLOORS	FIRE PROTECTION NO.	FIRE PROTECTION TYPE
ONE	1	AUTO PR DTECTN SYS

UTILITY CONNECTIONS

WATER	2" FILL LINE
SEWER	
ELECTRIC	4 1P 4/0 DB
GAS	
STEAM	
CONDENSATE	

BLDG EQPT	NO.	TOTAL CAPACITY
AIR CONDITIONING		
EVAPORATIVE COOLING		
MECHANICAL COOLING		
HOT WATER FACILITIES		

		CODE
STATE	ALASKA	702
ASSIGNMENT	AAC	
TYPE OF CONSTRUCTION	PERM.	P
CONDITION	USABLE CLASS A	1
OCCUPANCY	USAF	
AIR FORCE INTEREST	OWNED	1
UNIT OF MEASURE (Other than area)	~~EACH~~	EA
QUANTITY	1	1
NOMENCLATURE	BE STAR CV FCLTY ~~OXYGEN GEN PLT~~	
CATEGORY	A	219-94 ~~229-94~~

REMARKS
ORG ASGN: 205
ENG MGR: SZ

Retired

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT SF AMOUNT	TOTAL	COST		TOTAL COST	
74-0489	28 JAN 73	~~PRTY. OXYGEN GEN PLT.~~ DACA 85-71-C-0017 SCHD. B		864	864	56,566	73	56,566	73
79-0010	SEPT 78	AF FORM 123							
870044	21 Mar 87	W/O #53102 Relocate Fclty 1403 to Fclty 1857	Mar 85		(864)			(62,016.	73)
								— 0	—
		BALANCES FORWARDED							

AF FORM 1430 15 JUN 56 REPLACES DA FORM 5-47, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT		COST		TOTAL COST	
				AMOUNT	TOTAL				
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 883-075

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	FACILITY NO.	PLANT NO.	RP ACCOUNT NO	CONTROL NO.	NOMENCLATURE
GALENA AFT HPZW	JAN 74		1-403		2001	58070	AUTO FR DTECTN SYS

SYSTEM

TYPE	CAPACITY	SOURCE

MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES

CURRENT	NO. OF LIGHTS

STORAGE

TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO.	CAPACITY	NO.	CAPACITY

	CODE
STATE: ALASKA	70Z
ASSIGNMENT: AAC	
CONDITION: USABLE - CLASS A	1
OCCUPANCY: USAF	
AIR FORCE INTEREST: OWNED	1
UNIT OF MEASURE: EACH	EA
QUANTITY	1
CATEGORY (X)	880-221

REMARKS: ENG MGN: ~~ZMT~~ SZ 17102
ORG ASGN: 205

Returned

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft) AMOUNT	MAINS AND LINES (Ft) TOTAL	COST AMOUNT		COST TOTAL	
74-0489	28 JAN 74	ESTABLISH DACA 85-71-C-0017 SOHO B		864	864	3,092	74	3,092	74
870044	21 Mar 87	W/O #53102 Relocate Fclty 1403 to Fclty 1857	Mar 85	EA (1)	SF (864)			3,141.	36)
								—0—	
		BALANCES FORWARDED							

AF FORM 15 JUN 56 1431 REPLACES DA FORM 5-52, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 836305-

GPO : 1956 O - 405199

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	FACILITY NO.	PLANT NO.	RP ACCOUNT NO	CONTROL NO.	NOMENCLATURE
GALENA APT HPZW	JAN 74		1-403		2001	51040	OPG STOR DIESEL

SYSTEM

TYPE	CAPACITY	SOURCE

MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES

CURRENT	NO. OF LIGHTS

STORAGE

TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO.	CAPACITY	NO.	CAPACITY

	CODE
STATE: ALASKA	70Z
ASSIGNMENT: AAC	
CONDITION: USABLE — CLASS A	1
OCCUPANCY: USAF	
AIR FORCE INTEREST: OWNED	1
UNIT OF MEASURE: GALLONS	GA
QUANTITY	300
CATEGORY: X	12A-13A

REMARKS
ENG MGR: MOSZ
ORG ASGN 205

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (GA) AMOUNT	MAINS AND LINES (GA) TOTAL	COST AMOUNT		COST TOTAL	
74-0489	28 JAN 74	SCHD. B DACA 85-71-C-0018 ESTABLISH		300	300	1,416	10	1,416	10
79-0099	~~SEPT 79~~ NOV	DELETE		(300)		(1416	10)		
870044	21 Mar 87	W/O #53102 Relocate Fclty 1403 to Fclty 1857	Mar 85	(300)				(1,438.	41)
								-0-	
		BALANCES FORWARDED							

AF FORM 15 JUN 56 1431 REPLACES OA FORM 5-52, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 836305

GPO : 1956 O - 405199

3.0 PHASE III ENVIRONMENTAL SITE ASSESSMENT (ESA)

3.1 Subsurface Soil Investigation

The Phase III ESA investigation on the site included digging and sampling seven (7) test pits throughout the extended Lot 5, Block 12 Galena Airport property. These test pits were dug to a depth of 8.0 to 11.0 ft in depth with a backhoe (see Photo Plate Nos. 1 through 9).

The site plan shown in Figure 3 illustrates the location of the seven test pits completed on July 16, 2002. Sampling was performed at approximately 2.0 ft intervals to total depth. Representative soil samples were collected and field screened using a Mini-Rae photo-ionization detector (PID). One (1) sample from each test pit with the highest PID reading was sent to CT&E Environmental Services for analysis. Test pit excavations were logged and sampled by a Phukan Environmental Engineer. Disposable gloves and sampling equipment was used for each sample in order to prevent cross-contamination.

Upon removal, soil samples were placed and sealed in half-gallon size Ziploc bags. In order to properly assist volatilization, the samples were agitated for 15 seconds at the beginning and end of the headspace development period and were placed in a warm environment. After completing the second agitation, the probe of the PID was inserted into the sample bag for a headspace analysis. The Total Organic Vapor (TOV-ppm) reading was then recorded and the results are presented below (Table 1). Sample collection procedures conformed to Alaska Department of Environmental Conservation (ADEC) Standard Sampling Procedures Manual.

TABLE 1

PEAK PID READINGS IN SOIL SAMPLES

Peak P.I.D Reading (ppm)					
Sample ID	2.0' Depth	4.0' Depth	6.0' Depth	8.0' Depth	>> 8.0' Depth
TP #1	1.4	1.2	1.3	2.0*	N/A
TP #2	2.0	2.1	2.5	2.9*	N/A
TP #3	1.7*	0.4	1.4	0.3	N/A
TP #4	1.7*	1.1	0.2	0.3	1.1
TP #5	2.7	3.1	3.4*	N/A	3.1
TP #6	4.0*	3.8	3.1	N/A	3.4
TP #7	12.2	15.8*	2.7	3.5	N/A

* Samples selected for analytical testing.

TABLE 2
DRO, RRO, GRO, and BTEX IN SOIL SAMPLES

DRO/RRO by AK102/AK103 & BTEX/GRO by 8260B/AK101 (mg/kg, or ppm)								
SAMPLE ID	SAMPLE DEPTH (ft)	DRO	RRO	GRO	BENZENE	TOLUENE	ETHYL-BENZENE	Total XYLENES
1-8	7.5-8.0	ND	ND	ND	ND	ND	ND	ND
2-8	7.5-8.0	ND	ND	ND	ND	ND	ND	ND
3-2	1.5-2.0	ND	57.2	ND	ND	ND	ND	ND
4-2	1.5-2.0	ND	37.0	ND	ND	ND	ND	ND
5-6	4.5-6.0	ND	ND	ND	ND	ND	ND	ND
6-2	1.5-2.0	ND	ND	ND	ND	ND	ND	ND
7-4	3.5-4.0	63.0	ND	ND	ND	ND	ND	ND
ADEC Soil Cleanup Levels *		200	2,000	100	0.02	5.5	5.4	78

ND means None Detected.
* Table A1 and B1, 18AAC75, Article 3.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The Phase III ESA investigation performed at the site (Ref. Figure 3) indicates that all of the constituents tested for including TCLP metals, DRO, RRO, GRO, and BTEX were either not detected or are below recommended ADEC soil cleanup levels. Minimal rusted scrap metal debris was found at the site with no contamination noted (see Photographic Plate No. 7). Based on review of the investigation, it is concluded no cleanup of contamination or further environmental investigation is required at the site.

4.0 CLOSURE AND LIMITATIONS

We have prepared this report for the exclusive use of our client (U.S. F & WS) and their representatives, in the study of this site. The findings presented within this report are based on limited research and on the sampling analysis that we conducted at the site. They should not be construed as a definite conclusion regarding the soils and groundwater quality at the site. It is possible that our Phase III investigation and analytical testing may have missed some TCLP metals, DRO, RRO, GRO, or BTEX constituents, although our intention was to sample areas likely to be impacted. As a result, the analysis and sampling performed can only provide you

APPENDIX A

B1558

Building 1558 – Former Power Plant Transformers (Site ID B1558)

Site Location

Site B1558 is located in Parcel Block 9, Lot 9, in the southern portion of the cantonment "triangle."

Site Characteristics

Site features are shown on Figure A1-B1558. Site B1558 consists of the former location of Building 1558, the power plant, and the associated transformers. Three transformers were located on a transformer pad, which measured approximately 20-feet-by-20-feet. The thickness of the former pad is unknown. The area is currently unused and is covered with gravel. The features of concern at Site B1558 are the three transformers associated with the former power plant.

Site Description and History

Building 1558 was an approximately 50-feet-by-100-feet building constructed in 1945 (USAF, 1960). This building was the primary power generation facility at the Former Galena FOL from 1947 through the 1970s. The facility was demolished in the 1970s, but the concrete foundation and the transformer pad remained until various foundations and slabs were removed by the USAF in 2007 and 2008. The site was previously called "B9L9 transformers"(USAF, May 2009). The USAF Real Property Accountable Records are included in the supporting documentation. Records do not indicate when the transformers were removed.

The 2010 EBS report (USAF, February 2010) indicates that five USTs were historically associated with Building 1558 (1558-1, 1558-2, 1558-3, 1558-4, and 1558-5). The tanks were removed. The investigation of these USTs will be included in the investigations for ERP Sites SS021/SS014/SS017.

Historical aerial photographs of the site, dated 1963, 1985, and 2002, are shown on Figure A2-B1558. Building 1558 is shown on the 1963 photograph. Only the building foundation is shown on the 1985 and 2002 photographs.

Summary of Previous Investigations

Previous investigations have not been conducted at Site B1558 to evaluate surface soil for evidence of contamination from PCBs.

October 2009 Site Visit Observations

An inspection of Site B1558 was conducted in October 2009. Figure A3-B1558 shows the current state of the site. The surface of the site was observed to be gravel. No surface staining was observed. No viable ecological habitat was observed at Site B1558.

Target Analytes

On the basis of site history, target analytes for evaluating potential releases from Site B1558 include PCBs, which were used as insulating fluids in electrical transformers.

Potential Exposure Pathways and Receptors

Based on current and reasonably anticipated potential future land uses at Site B1558, potential human receptors and potentially complete exposure pathways include the following:

- **Excavation/Construction Workers**: Potential exposure to chemicals in soil to 15 feet bgs and shallow groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind or during onsite excavation activities. Potentially complete routes of exposure to shallow groundwater include dermal contact with groundwater and inhalation of ambient vapors from groundwater.
- **Future Occupational Workers**: Potential exposure to chemicals in surface soil to 2 feet bgs. Potentially complete routes of exposure to surface soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Vapor intrusion from VOCs in environmental media migrating into current or future occupational buildings is also a potentially complete exposure route.
- **Hypothetical Future Residents**: Potential exposure to chemicals in soil to 15 feet bgs and groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Potentially complete routes of exposure to groundwater include ingestion, dermal contact, and inhalation of VOCs during showering or other household activities. Vapor intrusion from VOCs in environmental media migrating into current or future residences is also a potentially complete exposure route.

Based on available information and site photos, the site area is covered with gravel that provides no viable habitat under current conditions. Terrestrial ecological exposure pathways are considered incomplete at Site B1558. Gravel surfaces provide no viable habitat onsite under current conditions. Therefore, no terrestrial ecological receptors were identified, and the site will not be evaluated for terrestrial ecological risk. An aquatic ecological exposure pathway is likely to be incomplete because this site is more than 1,000 feet from the Yukon River. Data are being collected as part of the FSP for the 2010 Hydrogeologic Study to refine the understanding of the groundwater system at the FOL (CH2M HILL, August 2010). This pathway may be further evaluated if subsurface contamination is found at the site, and the data collected as part of the hydrogeological characterization suggest that there is a potential for site contamination to impact the Yukon River.

Conclusions

Building 1558, a former power plant, was constructed in 1945 and demolished in the 1970s. The features of concern at Site B1558 are transformers associated with the former power

plant. No previous investigations have been conducted at Site B1558 to evaluate surface soil for PCB contamination.

Recommendation: Site Inspection Sampling

Limited site inspection sampling is recommended at Site B1558 to identify if soil at the site was contaminated by PCBs from the transformers.

References

CH2M HILL. August 2010. *Work Plan for Site Inspection, Remedial Investigation, and Site Characterization; Former Galena Forward Operating Location, Alaska*. Final. Prepared for Air Force Center for Engineering and the Environment.

U.S. Air Force (USAF). February 2010. *Final Environmental Baseline Survey Air Force Property at Galena Airport, Alaska*.

U.S. Air Force (USAF). May 2009. Galena Site Matrix.

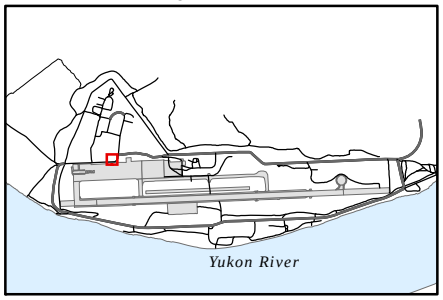
U.S. Air Force (USAF). 1960. AF Form 1430, Real Property Accountable Record.

LEGEND

- B1558
- Adjacent Site
- Approximate Location of Former Feature
- Main Wastewater Line
- Main Storm Sewer Line

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meter

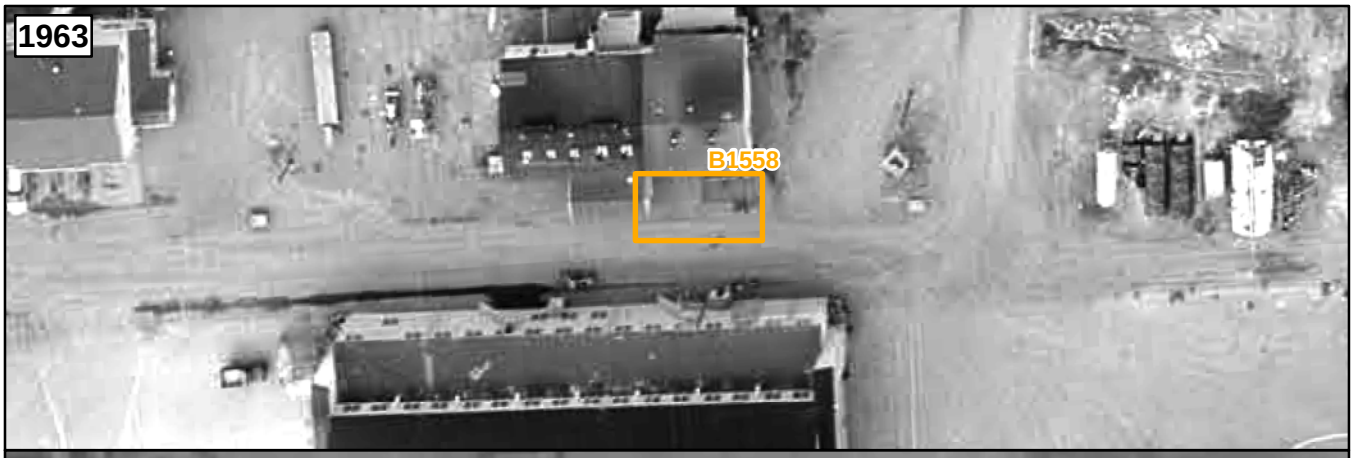
VICINITY MAP



N

0 20 40
Feet

FIGURE A1-B1558
Site Layout
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

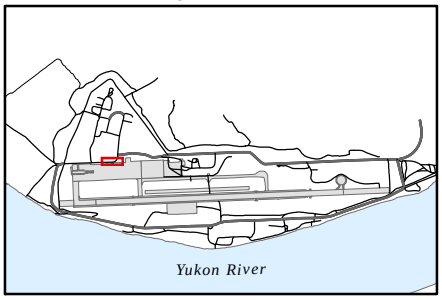


LEGEND

B1558

Notes:
1. Photography dated 9-4-1963, georeferenced
2. Photography dated 1985, georeferenced
3. Imagery August 2002. Pixel size 0.075 meter

VICINITY MAP



N

0 40 80
Feet

FIGURE A2-B1558
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

FIGURE A3-B1558
Former Location of Building 1558, October 2009

Supporting Documentation

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	RP ACCOUNT NO.	CONTROL NO.	BUILDING NO.
GALENA APT 2034 HPLN	AUG 60	A626-03-136	2001	58211-1	1558

DIMENSIONS (*Width x length*)

MAIN BUILDING	OFFSETS	WINGS	BASEMENTS
50' x 100'6"	16' x 32'		
	8'6" x 37'		
	12'6" x 16'		

MATERIALS

FOUNDATION	FLOOR	WALL	ROOF
CONCRETE	CONCRETE	FRAME	ROLLED GABLE

HEATING

SOURCE	TYPE	FUEL
CENTRAL PLANT	STEAM	

NO. OF USABLE FLOORS	FIRE PROTECTION NO.	FIRE PROTECTION TYPE
1		HAND EXTINGUISHERS

UTILITY CONNECTIONS	BLDG EQPT	NO.	TOTAL CAPACITY
WATER 1 - 2"	AIR CONDITIONING		
SEWER 1 - 4"	EVAPORATIVE COOLING		
ELECTRIC 120/208/440 V	MECHANICAL COOLING		
GAS	HOT WATER FACILITIES		
STEAM 1-6"			
CONDENSATE 1 -3"			

	CODE
STATE: ALASKA	702
ASSIGNMENT: AAC	
TYPE OF CONSTRUCTION: TEMPORARY	3T
CONDITION: ~~USABLE SUB/STD~~ INU	5 2B
OCCUPANCY: JOINT	
AIR FORCE INTEREST: OWNED	1
UNIT OF MEASURE (*Other than area*)	
QUANTITY	
NOMENCLATURE: HTG FCLTY BLDG	B
CATEGORY	821-117

REMARKS

Maintenance & Joint Operation Agreement Between FAA & AF

ENGR MG C

OPR: B

Inv 6704

Land - Owned (1)

17102

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
D98-57	15 JAN 57	Original Building	1945	5,346	5,346	132,300	00	132,300	00
61-0044	31 Aug 60	AAC GO#41 Trf frm 11th AD(D) Acct						132,300	00
62-305	27 Nov 61	Trsf costs & SF to Plt card. Chg Cost & Cat Code per AFM 93-2A		(5,346)	-0-	(132,300	00)	-0-	
63-351	17 Sep 62	Trsf bldg costs & SF from Plt card AFM 85-27 Changes		5,346	5,346	132,300	00	132,300	00
63-724	27 Nov 62	W/O 54092-2 (Install Wtr Sampler)				365	00	132,665	00
BALANCES FORWARDED					5,346			132,665	00

AF FORM 15 JUN 56 1430 REPLACES DA FORM 5-47. 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
		BALANCES FORWARDED	1945		5,346			132,665	00
63-843	7 Jan 63	Cap Military Labor Per AFM 170-5C				14	00	132,679	00
63-1188	29 May 63	1962 Site Inventory		549	5,895			132,679	00
64-0116	12 Jul 63	DA-C-2-1759 Add to power portion of htg plt		200	6,095	18,377	00	151,056	00
66-0550	26 Apr 66	W/O 55560 Install Cooling System				6,033	00	157,089	00
67-0528	27 Apr 67	1967 Inv Adj, decrease cost to establ compressed air plant		(43)	6,052	(750	00)	156,339	00
68-0386	26 Feb 68	Change Condition Code			6,052			156,339	00
68-0393	29 Feb 68	Delete cmprs air plt include cost in w/ bldg				750	00	157,089	00
		ACCOUNTABLE DATA SUMMA							
		[illegible]							
		[illegible] 702568							
		CONVERTED TO BEAMS							
[illegible] 4	[illegible]				[illegible]			[illegible]	
	[illegible]	[illegible]				[illegible]		130,939	60
73-1099	22-MAY73	APPROVED DISPOSAL [illegible]		(6,[illegible])	[illegible]	(130,[illegible])		-0-	
		BALANCES FORWARDED							

GALENA APT	2034	AUG 60	58211-1	1558
INSTALLATION NAME AND NO.		DATE	CONTROL NO.	BUILDING NO.

ASSIGNMENT	OCCUPANCY	CATEGORY CODE	NOMENCLATURE	UNIT OF MEAS.	QUANTITY	UNIT OF AREA	CAPACITY
OPR: B	58211 1 3 ~~2~~ 3 B	821-117	NTG FCLTY ~~HEATING FACILITY~~ BLDG	SF	6,052		7 R
OPR: B	58211 1 3 ~~2~~ 3 D	821-117	NTG FCLTY ~~HEATING FACILITY~~ BLDG	SF	3,176		7 R
OPR: B	58110 1 3 ~~2~~ 3 D	811-149	ELEC PWR STN BLDG ~~STATION BLDG~~	SF	2,876		7 R
OPR: B	58110 1 1 E	811-145	ELEC PRIM PWR GEN			KW	1200
OPR: B	58211 1 1 E	821-116	HTG PLT OV ~~OVER~~ 3500 MB			MB	13050
OPR: B	58800 1 1 E	880-221 AUTO ~~880-213~~	FR DTECTN SYS ~~FIRE DETECTION SYS~~	57	6052	EA	1
	~~58930 1 1 E~~	~~890-134~~	~~COMPRS AIR PLT~~ ~~COMPRESSED AIR PLANT~~ Cancelled			EA	1

Deleted

AF FORM 15 JUN 56 1438

INVENTORY DETAIL - BUILDINGS

U. S. GOVERNMENT PRINTING OFFICE: 1957 904-603

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	FACILITY NO.	RP ACCOUNT NO.	CONTROL NO.	NOMENCLATURE
GALENA AIRPORT 2034 HPZW	~~16 Mar 67~~ AUG 60		1558	2001	58211-2	HTG PLT ~~OVER~~ OV 3500 MB

			CODE
TYPE: CLEAVERBROOKS, SCOTCH FIRETUBE PKG TYPE Kewanee	CAPACITY: 2,600 MBH ea (Cleaverbrooks) 2625 MBH ea (Kewanee)	STATE: ALASKA	702
FUEL USED: Diesel	~~XXXXXXXXXX~~ Steam Design Pressure: 15	ASSIGNMENT: AAC	
SUPPLY SOURCE:	~~XXXXXXXXXX~~ Firing: Full Auto, Mech Atom	CONDITION: ~~USABLE~~ INU T-7	5 X B
LIFT (Feet):	REFRIGERANT:	OCCUPANCY: USAF/Joint Use with FAA	
NO. OF BOILERS: 2 ea (#10, 11) Kewanee; 3 ea (#7, 8, 9) Cleaverbrooks	OPERATING PRESSURE: 15 PSI	AIR FORCE INTEREST: OWNED	1
NO. OF RETORTS:	PRIME MOVER:	UNIT OF AREA MEASURE:	
		QUANTITY:	
		CATEGORY:	821-116

CURRENT CHARACTERISTICS

VOLTS	AMPERE
PHASE	CYCLE

REMARKS

Inv 6704
OPR: B
ENGR MG C
Land - Owned (1)

7
K
1970

17102

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE MB AMOUNT	UNIT OF MEASURE MB TOTAL	COST AMOUNT		COST TOTAL	
61-0044	31 Aug 60	AAC GO #41 Trfs Frm 11th AD(D)	1945	13,390	13,390	105,204	00	105,204	00
63-1188	29 May 63	1962 Site Inventory		386	13,776			105,204	00
64-0116	12 Jul 63	DA-C-2-1751 Install 2 each Boilers		5,400	19,176	33,403	00	138,607	00
66-0128	2 Aug 65	Inventory Adjustment		(6,456)	12,720			138,607	00
67-0478	16 Mar 67	AAC Inventory of Heating Plant		330	13,050			138,607	00
		ACCOUNTABLE DATA SUMMA							
		DATED [illegible] 570							
		BALANCE FORWARDED TO BEAMS							

Deleted

14 AF FORM 15 JUN 56 1433

REAL PROPERTY ACCOUNTABLE RECORD - PLANTS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED			13050			138,607	00
[illegible]	[illegible]	[illegible]		(1[illegible])	[illegible]	[illegible]		[illegible]	
		BALANCES FORWARDED							

GPO 918983

U. S. GOVERNMENT PRINTING OFFICE: 1957 O-438318

Galena Airport HPZW	May 72		1558		2001	58215	Htg Fl Oil Stor
INSTALLATION NAME AND NO.	DATE	DRAWING NO.	FACILITY NO.	PLANT NO.	RP ACCOUNT NO.	CONTROL NO.	NOMENCLATURE

SYSTEM

TYPE	CAPACITY	SOURCE

MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES		STORAGE	
CURRENT	NO. OF LIGHTS	TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO.	CAPACITY	NO.	CAPACITY

	CODE
STATE: Alaska	702
ASSIGNMENT: AAC	
CONDITION: Usable	1
OCCUPANCY: USAF	
AIR FORCE INTEREST: Owned	
UNIT OF MEASURE: Ea	
QUANTITY: Ea	
CATEGORY	812-112

REMARKS: Inv. breakout

Deleted

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft) AMOUNT	MAINS AND LINES (Ft) TOTAL	COST AMOUNT		COST TOTAL	
	May 72	Inv. adj.		75,000	75,000	30,150	00	30,150	00
~~[illegible]~~		Deleted		(75,000)	-0-	(30,150	00)	-0-	
BALANCES FORWARDED									

AF FORM 15 JUN 56 1431 REPLACES DA FORM 5-52, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 895-092

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	FACILITY NO.	PLANT NO.	RP ACCOUNT NO	CONTROL NO.	NOMENCLATURE
GALENA APT 2034 HPZW	APR 67		1558		2001	~~58000 73~~ 58070	~~FIRE DETECTION SYS~~ AUTO FR DTECTN SYS

SYSTEM

TYPE	CAPACITY	SOURCE
Protectowire 1 Trans Panel 2 Pull Box 2 Fuse Box 4 Fire Alarm Bell		
MAXIMUM HYDRANT PRESSURE	**TYPE OF PRODUCT**	**TYPE OF DISPENSING**

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES		STORAGE	
CURRENT	NO. OF LIGHTS	TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO.	CAPACITY	NO.	CAPACITY

	CODE
STATE: ALASKA	702
ASSIGNMENT: AAC	
CONDITION: USABLE Class A	5 ~~1~~
OCCUPANCY: USAF	
AIR FORCE INTEREST: OWNED	1
UNIT OF MEASURE	EA
QUANTITY	1
CATEGORY	880-221 ~~880-213~~

REMARKS

OPR: B
ENGR MG C
Land-owned (1)
Inv 6704 57 EA

17102

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES ~~(FT)~~ AMOUNT	TOTAL	COST AMOUNT		TOTAL	
67-0528	27 Apr 67	1967 Inventory Adj, Establish System	1945	1	1	726	00	726	00
68-0249	8 Dec 67	AFM 300-4 change to category code and primary unit of measure			6052			726	00
70 6366	10 Aug 69	ACCOUNTABLE DATA SUMMA	w/o 8 Aug 69			112	77	[illegible]	[illegible]
		[illegible] 732573							
		CONVERTED TO BEAMS							
73-1000	[illegible]	[illegible]		(6052)	-0-	(726	00)	-0-	
		BALANCES FORWARDED							

AF FORM 15 JUN 56 1431 REPLACES DA FORM 5-52, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 938305

GPO : 1956 O - 405199

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	FACILITY NO.	RP ACCOUNT NO.	CONTROL NO.	NOMENCLATURE
GALENA APT 2034	APR 67		1558	2001	Cancelled ~~58930-1~~	CMPRS AIR PLT ~~COMPRESSED AIR PLANT~~

			CODE
TYPE: 1 Ea Quincy Air Compressor	CAPACITY: 3 HP	STATE: ALASKA	702
FUEL USED	POWER SOURCE	ASSIGNMENT: AAC	
SUPPLY SOURCE	NO. OF PUMPS	CONDITION: USABLE	1
LIFT (Feet)	REFRIGERANT	OCCUPANCY: USAF	
NO. OF BOILERS	OPERATING PRESSURE	AIR FORCE INTEREST: OWNED	1
NO. OF RETORTS	PRIME MOVER	UNIT OF AREA MEASURE	
CURRENT CHARACTERISTICS		QUANTITY	
VOLTS	AMPERE	CATEGORY	890-134
PHASE	CYCLE	REMARKS: Unit of Measure: 3 HP	

Retired

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE EA AMOUNT	TOTAL	COST AMOUNT		TOTAL	
67-0528	27 Apr 67	1967 Inventory Adj, Establish Plt	1966	1	1	750	00	750	00
68-0142	9 Nov 67	Establish unit of measure in ledger		N/A	1	N/A		750	00
68-0393	29 Feb 68	Cancelled cost included in bldg		(1)	(0)	(750	00)	(0)	
BALANCES FORWARDED									

AF FORM 15 JUN 56 1433

REAL PROPERTY ACCOUNTABLE RECORD - PLANTS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 918983

U. S. GOVERNMENT PRINTING OFFICE: 1957 O-438318

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	FACILITY NO.	RP ACCOUNT NO.	CONTROL NO.	NOMENCLATURE
Galena Airport 2034 HPLN	Aug 60		1558	2001	~~58110-1~~	Pwr Gen Plt

TYPE: 4 each Generator sets driven ~~Diesel~~ By by 1 each white, 2 each Fairbanks Morse and 1 each General Motors Diesel	CAPACITY: 300 KW each	STATE: Alaska	CODE: 7CL
FUEL: Diesel		ASSIGNMENT: AAC	
SOURCE	NO. OF PUMPS	CONDITION: Usable - Class B	2 1B
		~~USAF~~ HDU AGENCY	
FT (Feet)	REFRIGERANT	Joint Use Agreement w/CAA AIR FORCE INTEREST	
		Owned	
OF BOILERS	OPERATING PRESSURE	UNIT OF AREA MEASURE: SF	SF
		QUANTITY	~~5316~~
RETORTS	PRIME MOVER: N	CATEGORY: E1 - Primary Pwr Gen	81[illegible]
CURRENT CHARACTERISTICS			
VOLTS	AMPERE		
	CYCLE		

Proposed Elec Pwr Gen Plt

Retained

REMARKS: This facility includes [illegible] equipment in the [illegible] addition at Galena AFS. ~~2-60 KW,~~ X-300 KW, ~~1-100 KW.~~ Fire Protection consists of 1-50' x 1½" hose rack. Inv 6794

ENGR MG C

Land-owned (1)

OPR: B

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE KW. AMOUNT	TOTAL	COST 17102 AMOUNT		TOTAL	
61-0044	31 Aug 60	AAC G041 trfd frm 11th AD (D) Acct 1945		1120	1120	349,121	00	349,121	00
61-0565	31 May 61	Cost adj per Form 39B dtd 31 Aug 60			1120	13,162	00	362,283	00
62-305	27 Nov 61	Chg AFM 93-2A(Trsf Bldg costs & SF to Plt card)				132,300	00	494,583 ~~362,283~~	00 00
63-351	17 Sep 62	AFM 85-27 Change(Trsf bldg costs to Bldg card)						362,283	00
63-1188	29 May 63	1962 Site Inventory		5	1125			362,283	00
64-0116	12 Jul 63	(DA-C-2-1751) Instl 1-300 KW Unit, remove 1-100 & 2-60(50)KW, drop 5KW.		75	1200	95,482	00	457,765	00
64-0128	17 Jul 63	WO 3196-3 - to suppt Vo.64-0116. Memo to delete cost for 2-100 Kw removed.						430,095	00
		BALANCES FORWARDED							

57 AF FORM 15 JUN 56 1433

REAL PROPERTY ACCOUNTABLE RECORD - PLANTS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE KW		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED	1945		1200			430,095.	00
[illegible]-0750	27 Apr 64	Installed 4 cooling pumps AF 327 $1228.84 EXT				816.	00	430,911.	00
66-0537	22 Apr 66	Install prelube sys				860	00	431,771	00
68-0386	26 Feb 68	Change Condition Code			1200			431,771	00
		ACCOUNTABLE DATA SUMMA							
		[illegible]							
		DATED 6/13 732569							
		CONVERTED TO BEAMS							
				(300)	900				
						(45,700	00)	386,071	00
72-0975	29 June 72	Turn-Over to R&M		(900)	-0-	(386,071)		-0-	
		BALANCES FORWARDED							

GPO 910386

APPENDIX A

S1769

Building 1769 – Supply Warehouse Storage Yard - (Site ID S1769)

Site Location

Site S1769 is located in the western part of the cantonment "triangle" south of Supply Warehouse Building 1769. Site 1769 is located west of ERP Site SS006 and north of the Power Plant (the power plant that encompasses ERP Site TU001).

Site Characteristics

Site features are shown on Figure A1-S1769. Site S1769 consists of a 160-feet-by-130-feet storage yard located approximately 50 feet south of Building 1769, the Supply Warehouse. The storage yard consists of a gravel surface and is fenced. The feature of concern at Site S1769 is the storage yard, where electrical transformers, and possibly hazardous materials, were historically stored. The entrance to the storage yard is along the northern fence line across the street from Building 1769.

An AST is located within an earthen containment berm in a separate fenced area in the southeastern corner of the storage yard. This AST is currently under separate investigation as Site AST1768. A UST at the southeastern corner of Building 1769 is under investigation as Site UST1769. Building 1768, Hazardous Storage, is located northwest of Site S1769. Building 1768 was built in 1984 to store hazardous materials (USAF, May 1984). The building is currently used to store chemicals used at the water treatment plant, but is not a feature of concern at Site S1769. The area west of Site S1769 is wooded with willows, alder, balsam, and poplar trees.

Site Description and History

Building 1769 was built in 1956 and was historically used as an equipment storage warehouse (USAF, August 1960; CEMML, November 2008, Table 3.1). The real property records for Building 1769 (included in the supporting documentation) do not include electrical transformers (USAF, August 1960, April 1967a, April 1967b, March 1988). The 2003/2004 hazardous material inventory for Building 1769 includes paints, stains, adhesives, refrigerants, and batteries (USAF, May 2008, p. 3-10 and Appendix D). A copy of the inventory is provided in the supporting documentation. Building 1769 is currently used to store school supplies.

An EBS was completed by the USAF in 2008. Photograph 31 from the EBS report (USAF, May 2008, p. B-16) is of the Building 1769 storage yard. The photograph shows various metal and wooden containers, pipe racks, cable spools, fencing, aboveground tank, and other objects stored in the yard. Five electrical transformers are stored along the fence on the southwestern side. A copy of this photograph is included with the supporting documentation.

Historical aerial photographs dated 1963, 1985, and 2002, are shown on Figure A2-S1769. In all three photographs, objects are present in the Site S1769 area, consistent with its historical use as a storage yard. The presence or absence of electrical transformers or potentially hazardous materials in the storage yard cannot be discerned from the historical photographs. In addition, there is no indication (on the basis of communication with the DRMO at the FOL and historical sampling at landfills at Elmendorf AFB) that 2,4,5-Trichlorophenoxyacetic acid was used at the FOL.

Summary of Previous Investigations

Beginning in 1993, multiple site investigations of soil, soil gas, and groundwater were conducted at Site S1769 to characterize the extent of environmental impacts.
Figure A3-S1769 shows the locations of soil and groundwater samples collected at Site S1769 during previous investigations. Samples collected in the storage yard include surface soil and soil gas. Groundwater samples were collected south (downgradient) of the storage yard.

Surface Soil Samples (1994)

In 1994, four surface-soil samples (MB-SS-06, MB-SS-07, MB-SS-08, and MB-SS-19) were collected in the storage yard. The samples were analyzed for organochlorine pesticides and PCBs by Method SW8080. Results were presented in a RI report (Radian, March 1996, p. 3-157 and 3-158). Pesticides were detected, but PCBs were not detected above laboratory reporting limits. Concentrations of 4,4- DDT and dieldrin at the northeastern storage yard boundary exceeded industrial risk-based screening levels. A copy of the laboratory results for these samples is included in the supporting documentation.

Soil Gas Samples (1993, 2002)

In 1993, five soil-gas samples were taken at Site S1769 and the area surrounding it. Two of these soil gas samples, Y4 and Y5, were collected in and just north of the Building 1769 storage yard, respectively. Results were presented in Section 3 of the RI report (Radian, March 1996, Figure 3.4-7). Total organic vapors in soil gas were 0 parts ppmV at Sample Y4 and Sample Y5, which indicates that the cluster of high VOC concentrations observed to the east were not related to activities at Site S1769. A copy of the results is provided in the supporting documentation.

In 2002, soil-gas samples were collected in a sample grid as part of the investigation to identify potential source areas near Building 1845, northeast of the storage yard. Five of these sample locations were in the Building 1769 storage yard (samples 1845-SG-012 through -016). Sample depths were 5 feet and 10 feet bgs. Results were presented in a RI/feasibility study (RI/FS) report (Earth Tech, May 2007, Figure 9-5). TVH concentrations in the samples ranged from 0 to 7,200 ppmV, with the maximum detection occurring in the northeastern section of the storage yard (1845-SG-016). BTEX and TCE were not detected in any of the soil-gas samples. A copy of the results is included in the supporting documentation.

Groundwater Sampling (1998 to 2004)

Groundwater samples were collected historically at three locations south (downgradient) of Site S1769. Groundwater samples were collected at Monitoring Well 11-MW-01R nine times

between 1998 and 2004. The monitoring well is located at the southwestern corner of the storage yard and is screened from 25 to 42 feet bgs. Samples were analyzed for DRO and RRO using Method AK102/AK103; GRO using Method AK101; VOCs using Method SW8060B; general chemistry parameters; and metals.

In 2004, groundwater samples were collected from Microwells 06-MCW-01 and 06-MCW-02 (screened from 17.5 to 18.25 feet bgs). These microwells are located immediately south of the storage yard, but were installed to evaluate the adjacent ERP sites east of the storage yard. Samples were analyzed for VOCs, metals, and natural attenuation parameters. Primary contaminants associated with the adjacent ERP sites include benzene, GRO, TCE and associated daughter products, 1,1- DCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride (Earth Tech, May 2004, Table 11-4).

Groundwater sampling results are summarized in the RI/ FS report (Earth Tech, May 2007, Section 9). Figure 9-11 from the RI/FS showing VOC results and Figure 9-12 showing metals results are included in the supporting documentation. Concentrations of fuel-related constituents, solvents, and metals at the three wells south of the storage yard are below risk-based screening levels. Results indicate that groundwater has not been impacted by historical activities at the storage yard, and also indicate that groundwater beneath the storage yard has not been impacted by the VOC plumes originating north and east of the storage yard.

October 2009 Site Visit Observations

An inspection of Site S1769 was conducted in October 2009. Photographs of the storage yard from October 2009 are provided in Figures A4- S1769 through A6-S1769. The storage yard was enclosed by an 8-foot-tall chain link and barbed wire fence. Items observed at Site S1769 include the following:

- Drums labeled as containing propylene glycol or “Dowfrost” on pallets
- Electrical transformers labeled as containing less than 50 ppm PCBs on pallets
- Bulk bags labeled ” aggregate” on pallets
- Cylindrical tanks, equipment, and other wooden and metal items on pallets and the ground surface

The surface inside the fenced area was observed to be gravel, with moss growing near the bulk bags. There was no information on stains or odors recorded in the field notes. Visual inspection of the photographs indicated no significant staining. The ground surface was observed to slope gently westward toward a wooded area outside the storage yard fence.

Target Analytes

Target analytes were selected for Site S1769 on the basis of its use as a storage yard for multiple chemicals, including transformers and POL-related products. The target analytes include GRO, DRO, RRO, VOCs (including BTEX), SVOCs, metals (arsenic, barium,

cadmium, chromium, lead, mercury, nickel, selenium, silver, and vanadium), PCBs, and pesticides.

Potential Exposure Pathways and Receptors

Based on current and reasonably anticipated potential future land uses at Site S1769, potential human receptors and potentially complete exposure pathways include the following:

- **Excavation/Construction Workers**: Potential exposure to chemicals in soil to 15 feet bgs and shallow groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind or during onsite excavation activities. Potentially complete routes of exposure to shallow groundwater include dermal contact with groundwater and inhalation of ambient vapors from groundwater.
- **Future Occupational Workers**: Potential exposure to chemicals in surface soil to 2 feet bgs. Potentially complete routes of exposure to surface soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Vapor intrusion from VOCs in environmental media migrating into current or future occupational buildings is also a potentially complete exposure route.
- **Hypothetical Future Residents**: Potential exposure to chemicals in soil to 15 feet bgs and groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Potentially complete routes of exposure to groundwater include ingestion, dermal contact, and inhalation of VOCs during showering or other household activities. Vapor intrusion from VOCs in environmental media migrating into current or future residences is also a potentially complete exposure route.

The pavement and gravel surfaces within the storage yard provide no viable ecological habitat onsite. However, drainage patterns are unknown, and the wooded area west of Site S1769 has potential habitat (sparse grass and forbs along with willows, alder, balsam, and poplar) for ecological receptors. During the site visit, the ground surface was observed to slope gently westward toward this area. Ecological exposure pathways are considered possible if site-related contaminants have migrated offsite to the west, and terrestrial ecological receptors will be evaluated for ecological risk on the basis of sampling results from the recommended SI sampling.

An aquatic ecological exposure pathway is unlikely complete because Site S1769 is located over 1,000 feet from the Yukon River; however, an aquatic ecological exposure pathway is possible if target analytes are found to be present in groundwater that may daylight downgradient. Data are being collected as part of the FSP for the 2010 Hydrogeologic Study to refine the understanding of the groundwater system at the FOL (CH2MHILL, August 2010). This pathway may be evaluated further if subsurface contamination is found at the site and the data collected as part of the hydrogeological characterization suggest there is a potential for site contamination to impact the Yukon River.

Conclusions

The storage yard at Site S1769 was historically used for storage, possibly since 1956 when Building 1769 was constructed. A review of historical aerial photographs shows the storage yard has been used since at least 1963. The nature of the items or materials historically placed or stored in the storage yard are unknown. However, transformers may have been stored at the yard. Hazardous materials including paints and solvents were historically stored at Building 1769 associated with the storage yard. Existing soil data from four samples collected in 1994 do not indicate a release of PCBs has occurred. However transformers may have been brought to Site S1769 subsequent to 1994. Other than pesticides and PCBs, no other target analytes have been investigated. No evidence of release was observed during the site visit in October 2009. Groundwater data from 1998 to 2004 indicates that historic activities at Site S1769 did not result in contamination of VOCs, metals, or fuel-related compounds exceeding screening levels.

Recommendation: Site Inspection Sampling

The nature of the items or materials historically placed or stored in the storage yard are unknown. Therefore, limited site inspection sampling is recommended to identify if soil at Site S1769 was impacted by PCBs, pesticides, metals, fuel-related compounds, SVOCs, or VOCs.

References

Center for Environmental Management of Military Lands (CEMML). November 2008. *Integrated Cultural Resources Management Plan, Galena Airport, Alaska*.

CH2M HILL. August 2010. *Work Plan for Site Inspection, Remedial Investigation, and Site Characterization; Former Galena Forward Operating Location, Alaska*. Final. Prepared for Air Force Center for Engineering and the Environment.

Earth Tech. May 2007. *Final Remedial Investigation/Feasibility Study Report for United States Air Force Sites at Galena Airport and Campion Air Station, Alaska*.

Earth Tech. May 2004. *Final Work Plan for Remedial Investigation / Feasibility Study at Galena Airport and Campion Air Station, Alaska*.

Radian, Corporation (Radian). March 1996. *Final Remedial Investigation Report - Galena Airport and Campion Air Station*.

U.S. Air Force (USAF). May 2008. *Final Environmental Baseline Survey, Air Force Property at Galena Alaska*, 611th Civil Engineer Squadron, Elmendorf AFB, Alaska.

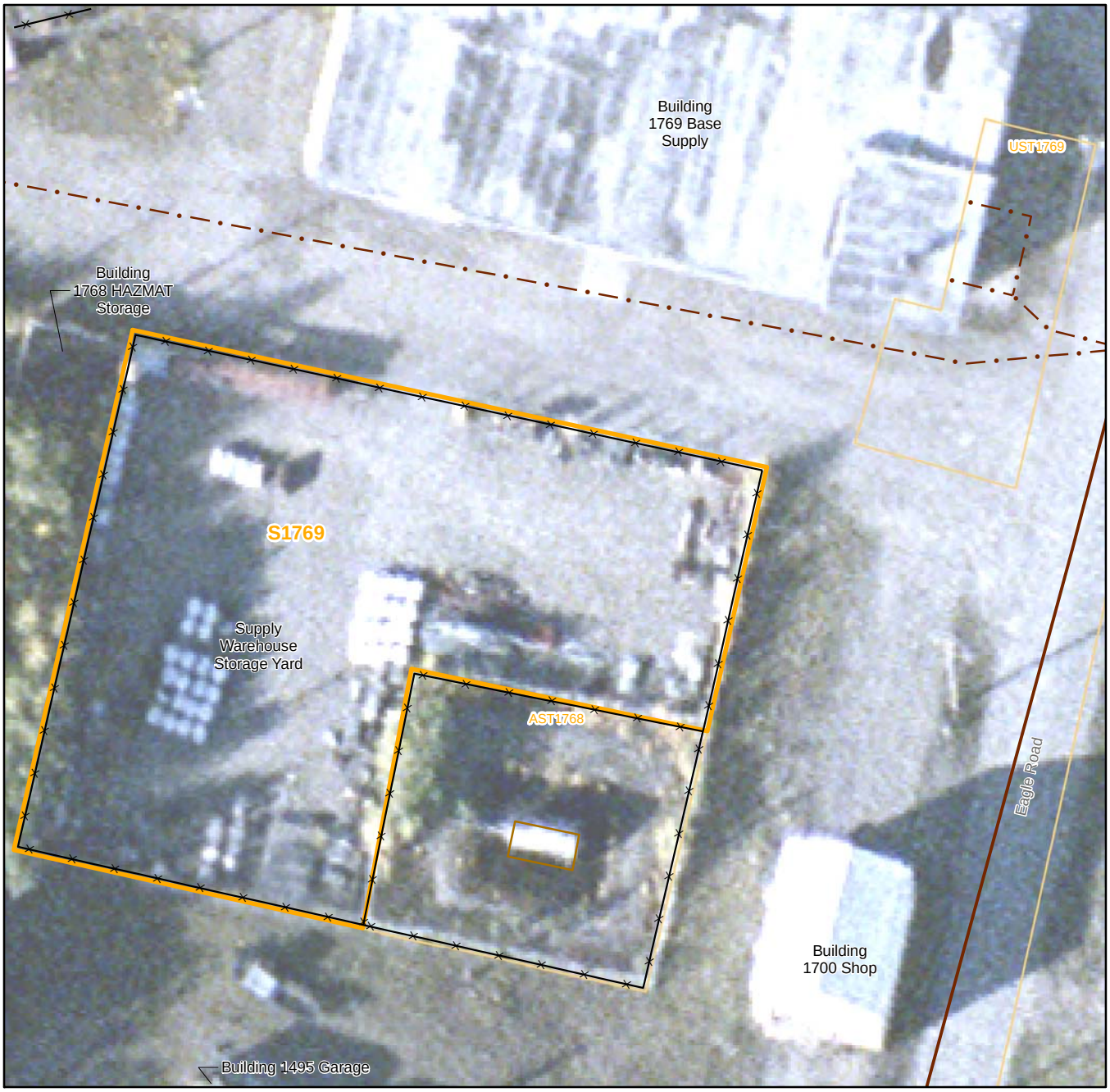
U.S. Air Force (USAF). March 1988. Air Force Form 1431 Real Property Accountable Record - Systems, Building 1769.

U.S. Air Force (USAF). May 1984. Air Force Form 1430 Real Property Accountable Record - Building, Building 1768.

U.S. Air Force (USAF). April 1967b. Air Force Form 1438 Real Property Inventory Detail – Buildings, Building 1769.

U.S. Air Force (USAF). April 1967a. Air Force Form 1431 Real Property Accountable Record - Systems, Building 1769.

U.S. Air Force (USAF). August 1960. Air Force Form 1430 Real Property Accountable Record - Building, Building 1769.

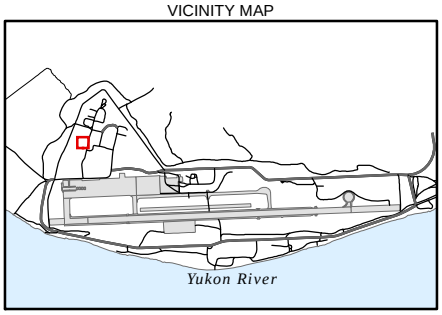


LEGEND

- S1769
- Adjacent Site
- Fuel Tank
- Fence
- Abandoned Wastewater Line
- Main Wastewater Line

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meter

VICINITY MAP



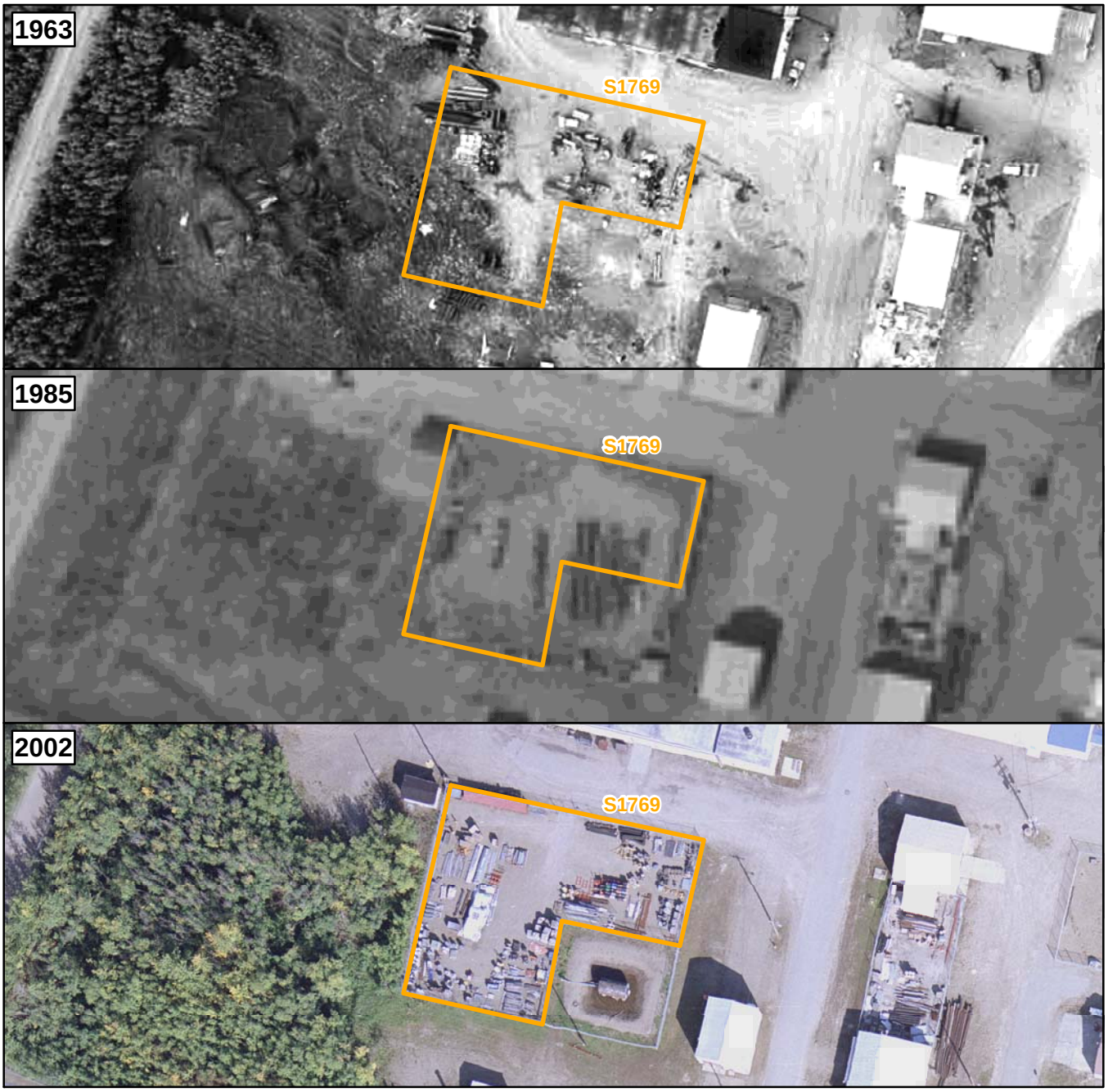
N

0 20 40
Feet

FIGURE A1-S1769
Site Layout
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

RDD \\BALDUR\PROJ\GALENATO184_394439\MAPFILES\QAPP\S1769\S1769_QAPP_SITE.MXD CVONFREE 8/10/2010 16:05:04

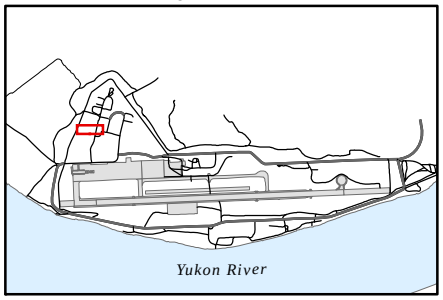


LEGEND

S1769

Notes:
1. Photography dated 9-4-1963, georeferenced
2. Photography dated 1985, georeferenced
3. Imagery August 2002. Pixel size 0.075 meter

VICINITY MAP

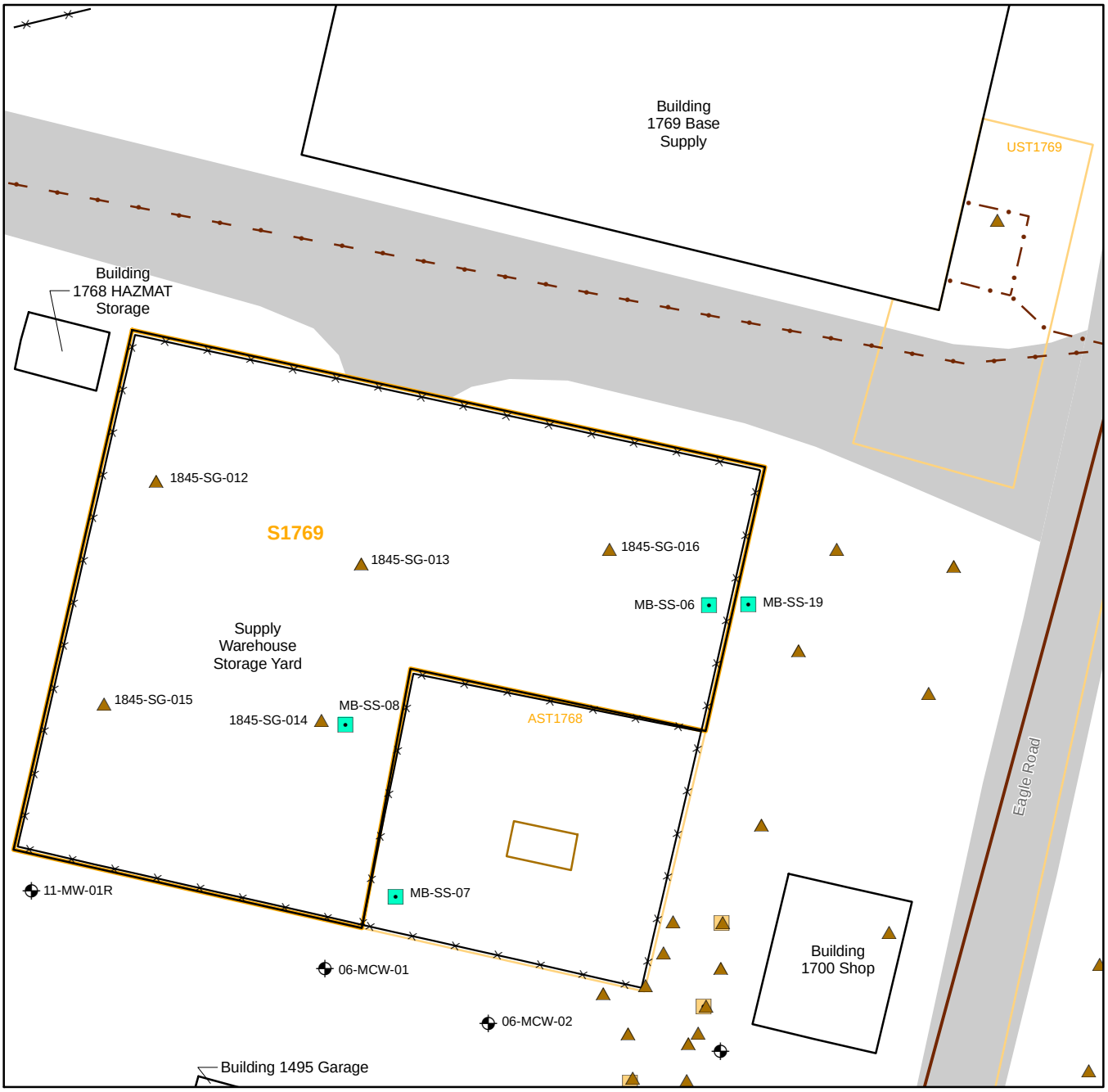


N

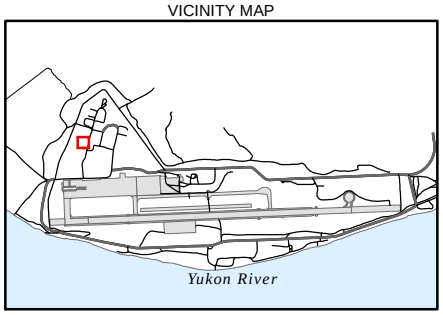
0 50 100
Feet

FIGURE A2-S1769
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL



VICINITY MAP



LEGEND

- S1769
- Adjacent Site
- Structure
- Road
- Fuel Tank
- Fence
- Abandoned Wastewater Line
- Main Wastewater Line

Historical Sample Location

- Soil Boring
- Surface Soil Sample
- Hydro Punch
- Monitoring Well
- Abandoned Monitoring Well
- Soil Vapor Sample

N

0 20 40
Feet

FIGURE A3-S1769
Historical Sample Locations

Preliminary Assessment Report

Former Galena Forward Operating Location, Alaska

CH2MHILL

FIGURE A4-S1769
Storage Yard, Looking South, Showing Bulk Bags, Drums, and Electrical Transformers, October 2009

FIGURE A5-S1769
Storage Yard, Looking Southeast, Showing Tanks and Bulk Bags, October 2009

FIGURE A6-S1769
Storage Yard, Electrical Transformers, October 2009

Supporting Documentation

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	RP ACCOUNT NO.	CONTROL NO.	BUILDING NO.
GALENA APT 2034 HP2W	AUG 60	AF 33-02-84	2001	~~54401-1~~ 54050	1769

DIMENSIONS (Width x length)			
MAIN BUILDING	OFFSETS	WINGS	BASEMENTS
166'6" x 200'	mezzanine 36'x43'		

MATERIALS			
FOUNDATION	FLOOR	WALL	ROOF
CONCRETE	CONC & WOOD	WOOD	BUILT-UP FLAT & SHED

HEATING		
SOURCE	TYPE	FUEL
CENTRAL	STEAM	OIL

NO. OF USABLE FLOORS	FIRE PROTECTION	
	NO.	TYPE
1		HOSE STANDS & EXTINGUISHERS

UTILITY CONNECTIONS	BLDG EQPT	NO.	TOTAL CAPACITY
WATER 3"	AIR CONDITIONING		
SEWER 6"	EVAPORATIVE COOLING		
ELECTRIC 120/208	MECHANICAL COOLING		
GAS	HOT WATER FACILITIES		
STEAM 1-3"			
CONDENSATE 1-2½"			

	CODE
STATE ALASKA	702
ASSIGNMENT AAC	
TYPE OF CONSTRUCTION PERMANENT	XP
CONDITION USABLE - CLASS B ~~USABLE - Class B~~	~~3~~ 2 ~~1~~ B
OCCUPANCY USAF	
AIR FORCE INTEREST OWNED	1
UNIT OF MEASURE (Other than area)	
QUANTITY	
NOMENCLATURE WHSE SUP+EQUIP BSE ~~WHSE, SUP & EQP, BSE~~	B
CATEGORY	442-758

REMARKS

Inv 6704
OPR: C
Concrete Driveway SLAB 26'x40'x6" in Rear of Bldg.

1 Story H Floor

17102

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
D161-58	31 Jan 58	Original Building	1956	32,932	32,932	417,380	00	417,380	00
61-0044	31 Aug 60	AAC G041 Trfd frm 11th AD(D) Acct						417,380	00
63-0619	18 Oct 62	W055018-2 Concrete driveway slab				832	00	418,212	00
63-724	27 Nov 62	W054092-2 Instl Water Sampler				365	00	418,577	00
63-843	7 Jan 63	Cap Military Labor Per AFM 170-5C				58	00	418,635	00
BALANCES FORWARDED					32,932			418,635	00

AF FORM 15 JUN 56 1430 REPLACES DA FORM 5-47. 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
		BALANCES FORWARDED	1956		32,932			418,635	00
63-1188	29 May 63	1962 Site Inventory		402	33,334			418,635	00
65-0102	6 Jul 64	Repair & Replacement Eng 1824						418,635	00
66-0128	2 Aug 65	Inventory Adjustment		1,514	34,848			418,635	00
66-0395	27 Dec 65	Add of CF to breakout, cold stor						418,635	00
67-0550	19 May 67	AF 123, add dorm,amn space						418,635	00
68-0274	13 Dec 67	Delete "D" Item - Dorm Amn Change to Rated Man Capacity						418,635	00
69-0111	29 Nov 68	DACA85-69-C-0001 Replace steam condensate lines & etc (EXP$5,595.00)						418,635	00
69-6439	29 Apr 69	DA-0001 Final Cost Adj Exp ~~XXXXXX~~ 1358.25							
		ACCOUNTABLE DATA SUMMA							
		RIZED ON VOUCHER							
		DATED 69183 702586							
		CONVERTED TO BEAMS							
[illegible]	22 Sep 70					1300	00	421,985	[illegible]
[illegible]	22 Sep 70					16,88[illegible]	98	421,618	60
71-[illegible]	30 [illegible] 70			(144)	34,704			421,618	60
	AUG 72	INVENTORY ADJ		(720)	33,984	(12,186	50)	409,432	60
74-0490	29 JAN 74	DACA 85-71-C-0017 CHG. FROM B TO A - ITEM			34,344			411,847	90
74-0627	8 MAR 74	CHG FROM A TO B- ITEM			34,344			411,847	90
		BALANCES FORWARDED							

GPO 910393

GALENA APT INSTALLATION NAME AND NUMBER	DATE	HPZW RP ACCOUNT NO.	CONTROL NO.	1769 (B) WHSE SUP & EQUIP BSE FACILITY NOMENCLATURE AND NO.

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST	TOTAL COST
880021	JAN 88	CHANGE INV DATE TO 8711 AF123	NOV 87				
910057	11 Feb 91	Changes to Cat Codes/Cond Codes					
920058/71 ~~410300~~	~~Jun 91~~	Site Inventory					
980557	AUG 98	INVENTORY ADJUSTMENT					
2003 005535	4 Apr 03	Change interest code to 7					
	12 Dec 05	Inventory	2 Dec 02				
		BALANCES FORWARDED					

AF FORM SEP 63 1450

REAL PROPERTY ACCOUNTABLE RECORD - SUPPLEMENTAL CARD

BUILDING 1769, WARM STORAGE							
LOCATION	**HAZMAT DESCRIPTION**	**PART#/ID#/NSN#**	**MSDS SN**	**1st QTR**	**2nd QTR**	**UI**	**+/-**
Main Floor	Chevron Oil, Delo 6170 SAE 40w	9150-01-279-6506	CBTGV	5	6	dr	-1
	Deicing Fluid, Aircraft	6850-01-435-6465	CJLWB	8	10	dr	-2
	Dextek Corp./Diversey Water Tech. Oxygen Scavenger E5301	6850PE5301	BBLCC	10	7	dr	3
	Diala Oil AX, Equilon Enterprises 69702	9150P69702	6.00E-09	1	1	dr	0
	Diversey Water Technologies E5427 Boiler Water Treatment	6850PE5427	BBKQY	3	3	dr	0
	Dowex Ion Exchange Resin	6850-00F002587	BBLGY	14	14	28.3 lt bgs	0
	DOWFROST Heat Transfer Fluid	6850PDOWFROST	CFPQJ	5	4	dr	1
	Enviroplug, Course, Wyo-Ben	6810-00N065827	CBDBW	16	16	50 lb bgs	0
	Ethylene Glycol Antifreeze	6850-00-181-7940	BDGNQ	2	0	dr	2
	Foam, Fire Extinguishing	4210-01-139-4972	CGMJH	180	180	cn (5 gal)	0
	Industrial Chem. Scale Remover	6850-00-637-6142	BFJRX	14	13	dr	1
	Nalco W-139P Water Supply Treatment	6850PNALCO-W139P	No MSDS#	17	5	bg	12
Lock Up	American BiOrganics Electrolite Battery Water	6810-00-286-3783	BDTTX	68	68	1 gal ct	0
	Battery, Lead/Acid	6140-01-446-9498	CFYVG	3	0	ea	3
	Freon 12 Fluorocarbon	6830-00-935-9895	BNPTL	1	1	co	0
	Freon 22 with Dytel Leak Detective	6830-00-106-1659	BCYWD	2	2	co	0
	Freon 502 Fluorocarbon	6830-00-137-7970	BKYVT	2	2	co	0
	SUVA HP62, Refrigerant (R-404A), Dupont	6830-01-391-3102	CHJHR	1	0	24# cyl	1
	Powerpoint 200, Latex Caulk, DAP	UPC 18750	No MSDS#	17	0	16.1 oz	17
Hazardous Materials Room	Bruner Jet Mineral Cleaner	6850-00-961-9820	BJSRG	5	5	gal	0
	Devoe Coatings, Bar Ox, Low VOC, 452-S-9500	452S9500	No MSDS#	2	2	5 gal	0
	Devoe Coatings, Oxide Red, Low VOC, 429-H-0700	429H0700	No MSDS#	1	1	5 gal	0
	Devoe Coatings, Wonder Tones, DR50801 White	8010-00-N03-4903	CBBWN	1	1	5 gal	0
	Fuller, Semi-Gloss, Latex, Winter Cloud	FOB 236-05	No MSDS#	1	2	5 gal	-1
	GSA 1776 Traffic Marking Paint, TT-P-1952D Type1	8010-01-019-1776	BLBBX	2	0	5 gal	2
	Parabond M4099 Floor Covering Adhesive	M4099	On Cont.	11	10	5 gal	1
	Parker Latex 4800 Medium Base Paint	CAGE#9H490	CKYCN	2	2	gal	0
	Parker Latex 4830 Neutral Base Paint	8010-01-369-3184	CKYCN	1	1	gal	0
	RoundupPro Herbicide, Monsanto	6840-01-108-9578	CLMNZ	4	0	2.5 gal	4
	Rust Oleum Acrylic 5271 Paint, Dunes Tan	8010-00-F03-9669	BWYLH	2	2	gal	0
Flammable Locker	Hexane, PCB Sample Kit	6810-00-830-7864	BFRQD	9	0	oz	9
	Glass Cleaner	79300-13268110	BVYJN	1	3		-2
	LHB, Adhesive, Aerosol, MMM-A-1058	8040-00-938-6860	CLRWQ	1	1	17oz	0
	Penetrating Oil, 4S446, AA50493, Type l	9150-00-261-7899	CGLCJ	1	0	pt	1
	Pledge, Drackett Professional Lemon	7930-01-381-3491	BVNLW	1	1	cn	0
	Rust Oleum marking blue	8010P5H911	No MSDS	1	1		0
	Rust Oleum, Marking Paint, Aerosol, Blue V2324	8010-00-N07-1179	CBNGY	1	1	15oz	0
	So-Sure Aerosol, Olive Drab 24084	8010-00-598-5936	0032-800	2	2	pt	0
	So-Sure, Aerosol, Yellow	8010-00-721-9744	BSSJX	1	2	10oz	-1
	WD40	9150-00-458-0075	BZNHV	1	0	cn	1

BUILDING 1768, FLAMMABLE STORAGE							
LOCATION	HAZMAT DESCRIPTION	PART#/ID#/NSN#	MSDS SN	1st QTR	2nd QTR	UI	+/-
	Cabot Stain, 2000 Clear Base, Colonial Pine	NO RESULT	No MSDS#	3	3	gal	0
	Davlin Paint, Silicone Alkyd Copolymer 490E	8010-00-145-0165	BNPLM	1	1	5 gal	0
	Devoe Alithane Part A, Deep Base	DP52U153	No MSDS#	1	1	gal	0
	Devoe Alithane Part B	DP52U902	No MSDS#	1	1	pt	0
	Devoe Bar-Ox, Gloss Enamel Clear Base	DP58157	No MSDS#	1	1	gal	0
	Devoe Coatings, Bar-Ox, Rawhide, Low VOC	452S9501	No MSDS#	4	4	gal	0
	Devoe Coatings, Catha Coat 302-B-0250	8030-00-N03-4143	BQBNG	1	1	gal	0
	Devoe Coatings, Catha Coat Zinc Primer 302-C-0910	8010-00-N00-3489	BCKCW	1	1	qt	0
	Devoe Coatings, Devthane 359/369-C-0910	8010-01-306-0742	BNRLJ	1	1	qt	0
	Devoe Coatings, Devthane 369-B-3501, White	8010-01-306-0742	BNRLH	1	4	gal	3
	Devoe Coatings, Marine Black, 221B-9903	8030-00-N03-5387	BQGFG	4	4	gal	0
	Devoe Coatings, Marine Black, 221C-0903	8030-00-N03-5387	BQGFH	4	4	gal	0
	Farwest Zone Marking Coating, Black 37038	8010-00-286-9072	CJFXL	3	3	gal	0
	Forrest Versa Coat Gloss Enamel, White	U42E110	HFRP	1	1	5 gal	0
	Octagon Process, Morpholine	6810-00-616-9437	BFJCY	1	1	dr	0
	Rodda, Polycoat, 2-part, White	759301	HRFP230H	1	1	5 gal	0

Photograph 31. Air Force Facility 1769, Storage Yard.

Photograph 32. Air Force Facility 1769, Supply Warehouse.

TABLE A15 ALL RESULTS OF ORGANIC ANALYSES FOR SOIL SAMPLES, Galena Airport 1994.

PARAMETER	MB MB-SS-06 G94-MB-SS-06 0 - 0.5				MB MB-SS-07 G94-MB-SS-07 0 - 0.5				MB MB-SS-08 G94-MB-SS-08 0 - 0.5				MB MB-SS-09 G94-MB-SS-09 0 - 0.5			
SW8080 - Organochlorine Pesticides and PCBs (ug/kg)																
4,4'-DDD	2930		(43.3)	[100]	275	(	7.61)	[20]	170	(	1 66)	[5]	431	(	3.24)	[10]
4,4'-DDE	597		(49.8)	[100]	28.0	(	8.75)	[20]	39.4	(	1.91)	[5]	120	(	3 73)	[10]
4,4'-DDT	13400		(53.0)	[100]	363	(	9.33)	[20]	112	(	2.04)	[5]	1180	(	3.97)	[10]
Aldrin	ND		(34.6)	[100]	ND	(	10.4)	[20]	ND	(	2.28)	[5]	ND	(	4.45)	[10]
Chlordane	ND		(288)	[100]	ND	(	50.6)	[20]	ND	(	11.1)	[5]	ND	(	21.6)	[10]
Dieldrin	484		(40.6)	[100]	ND	(	10.3)	[20]	24.0	(	1.56)	[5]	9.15	(	3.04)	[10]
Endosulfan I	35.5	KJ	(64.8)	[100]	ND	(	5.46)	[20]	ND	(	1 19)	[5]	4.45	KJ (	4 86)	[10]
Endosulfan II	ND		(54 5)	[100]	ND	(	9 58)	[20]	ND	(	2.09)	[5]	ND	(	4.08)	[10]
Endosulfan Sulfate	ND		(71.9)	[100]	ND	(	12.6)	[20]	ND	(	2.76)	[5]	5.46	KJ (	10.8)	[10]
Endrin	ND		(110)	[100]	ND	(	19.3)	[20]	1.38	KJB (	4.21)	[5]	3.76	KJ (	8.21)	[10]
Endrin Aldehyde	ND		(90.5)	[100]	ND	(	15.9)	[20]	ND	(	3.48)	[5]	0.611	KJ (	6.44)	[10]
Heptachlor	ND		(78.4)	[100]	ND	(	13.8)	[20]	ND	(	3.02)	[5]	ND	(	5.88)	[10]
Heptachlor epoxide	10.5	KJ	(135)	[100]	ND	(	23.8)	[20]	ND	(	5.20)	[5]	ND	(	10.1)	[10]
Methoxychlor	ND		(572)	[100]	ND	(	100)	[20]	ND	(	22.0)	[5]	ND	(	42 8)	[10]
PCB-1016	ND		(464)	[100]	ND	(	81.5)	[20]	ND	(	17.8)	[5]	ND	(	34.8)	[10]
PCB-1221	ND		(417)	[100]	ND	(	73 3)	[20]	ND	(	16.0)	[5]	ND	(	31.2)	[10]
PCB-1232	ND		(1050)	[100]	ND	(	185)	[20]	ND	(	40.5)	[5]	ND	(	79.0)	[10]
PCB-1242	ND		(386)	[100]	ND	(	67.8)	[20]	ND	(	14.8)	[5]	ND	(	28.9)	[10]
PCB-1248	ND		(457)	[100]	ND	(	80 3)	[20]	ND	(	17.6)	[5]	ND	(	34.2)	[10]
PCB-1254	ND		(183)	[100]	ND	(	32.2)	[20]	ND	(	7.03)	[5]	ND	(	13.7)	[10]
PCB-1260	ND		(508)	[100]	ND	(	89.3)	[20]	ND	(	19.5)	[5]	ND	(	38.0)	[10]
Toxaphene	ND		(816)	[100]	ND	(	143)	[20]	ND	(	31.4)	[5]	ND	(	61.1)	[10]
alpha-BHC	ND		(41.4)	[100]	ND	(	7.28)	[20]	ND	(	1 59)	[5]	ND	(	3.10)	[10]
beta-BHC	ND		(58.6)	[100]	ND	(	10 3)	[20]	ND	(	2 25)	[5]	ND	(	4.39)	[10]
delta-BHC	ND		(33.8)	[100]	ND	(	5.94)	[20]	ND	(	1.30)	[5]	ND	(	2.53)	[10]
gamma-BHC	ND		(25.8)	[100]	ND	(	4.54)	[20]	ND	(	0.992)	[5]	ND	(	1.93)	[10]

Compiled: 15 March 1995 () = Detection Limit [] = Dilution Factor ND = Not Detected NA = Not Applicable * - Value considered suspect, Refer to QC Report

TABLE A15 ALL RESULTS OF ORGANIC ANALYSES FOR SOIL SAMPLES, Galena Airport 1994.

PARAMETER	MB MB-SS-18 G94-MB-SS-18 0 - 0.5				MB MB-SS-19 G94-MB-SS-19 0 - 0.5				MB MB-SS-20 G94-MB-SS-20 0 - 0.5				MB MB-SS-21 G94-MB-SS-21 0 - 0.5			
SW8080 - Organochlorine Pesticides and PCBs (ug/kg)																
4,4'-DDD	158	(	12.9)	[40]	2920	(	35.4)	[100]	5810	(	31 9)	[100]	105	(	6.97)	[20]
4,4'-DDE	33.1	(	14.8)	[40]	1950	(	40.7)	[100]	249	(	36.7)	[100]	94.6	(	8.02)	[20]
4,4'-DDT	272	(	15.8)	[40]	8450	(	43.4)	[100]	8540	(	39 1)	[100]	861	(	8.55)	[20]
Aldrin	ND	(	17.7)	[40]	ND	(	48.6)	[100]	ND	(	43.8)	[100]	ND	(	5.58)	[20]
Chlordane	ND	(	85.8)	[40]	ND	(	235)	[100]	ND	(	212)	[100]	ND	(	46.4)	[20]
Dieldrin	ND	(	17.5)	[40]	409	(	33.2)	[100]	109 P	(	43.4)	[100]	26.5	(	6.54)	[20]
Endosulfan I	ND	(	9.26)	[40]	22.1 KJ	(	53.0)	[100]	ND	(	22 9)	[100]	ND	(	5.01)	[20]
Endosulfan II	ND	(	16.2)	[40]	ND	(	44.5)	[100]	ND	(	40.2)	[100]	ND	(	8.78)	[20]
Endosulfan Sulfate	ND	(	21.4)	[40]	ND	(	58.8)	[100]	ND	(	53.0)	[100]	ND	(	11.6)	[20]
Endrin	ND	(	32.7)	[40]	23.4 KJ	(	89.7)	[100]	32.5 KJ	(	80 9)	[100]	ND	(	17.7)	[20]
Endrin Aldehyde	ND	(	27.0)	[40]	ND	(	74.0)	[100]	ND	(	66.7)	[100]	ND	(	14.6)	[20]
Heptachlor	ND	(	23.4)	[40]	ND	(	64.2)	[100]	ND	(	57.8)	[100]	ND	(	12.6)	[20]
Heptachlor epoxide	ND	(	40.3)	[40]	ND	(	111)	[100]	ND	(	99.8)	[100]	3.27 KJ	(	4.39)	[20]
Methoxychlor	ND	(	170)	[40]	ND	(	468)	[100]	ND	(	422)	[100]	ND	(	92.1)	[20]
PCB-1016	ND	(	138)	[40]	ND	(	379)	[100]	ND	(	342)	[100]	ND	(	74.7)	[20]
PCB-1221	ND	(	124)	[40]	ND	(	341)	[100]	ND	(	308)	[100]	ND	(	67.2)	[20]
PCB-1232	ND	(	314)	[40]	ND	(	862)	[100]	ND	(	777)	[100]	ND	(	170)	[20]
PCB-1242	ND	(	115)	[40]	ND	(	316)	[100]	ND	(	285)	[100]	ND	(	62.2)	[20]
PCB-1248	ND	(	136)	[40]	ND	(	374)	[100]	ND	(	337)	[100]	ND	(	73.6)	[20]
PCB-1254	ND	(	54.5)	[40]	ND	(	150)	[100]	ND	(	135)	[100]	ND	(	29.5)	[20]
PCB-1260	ND	(	151)	[40]	ND	(	415)	[100]	ND	(	374)	[100]	ND	(	81.8)	[20]
Toxaphene	ND	(	243)	[40]	ND	(	667)	[100]	ND	(	601)	[100]	ND	(	131)	[20]
alpha-BHC	ND	(	12 3)	[40]	ND	(	33.9)	[100]	ND	(	30.5)	[100]	ND	(	6.67)	[20]
beta-BHC	ND	(	17.5)	[40]	ND	(	47.9)	[100]	ND	(	43.2)	[100]	ND	(	9.44)	[20]
delta-BHC	ND	(	10.1)	[40]	ND	(	27.6)	[100]	ND	(	24.9)	[100]	ND	(	5.44)	[20]
gamma-BHC	ND	(	7.70)	[40]	ND	(	21.1)	[100]	ND	(	19.0)	[100]	ND	(	4.16)	[20]

Compiled: 15 March 1995 () = Detection Limit [] = Dilution Factor ND = Not Detected NA = Not Applicable * - Value considered suspect, Refer to QC Report

ALASKA
BASIC
INDUSTRIES
ALASKA
BASIC
INDUSTRIES

SHIPPING CONTAINER TALLY

REQUISITION AND INVOICE / SHIPPING DOCUMENT

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0246), Washington, DC 20503.

Form Approved
OMB No. 0704-0246
Expires Dec 13, 1996

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES. RETURN COMPLETED FORM TO THE ADDRESS IN ITEM 2

1. FROM: (Include ZIP Code)
CHUGACH SUPPORT SERVICES
P.O. BOX 595
KING SALMON, AK. 99613 907-721-3062

2. TO: (Include ZIP Code)
CHUGACH SUPPORT SERVICES
P.O. BOX 319
GALENA, AK. 99741

3. SHIP TO - MARK FOR
JOHN ROSE 907-446-3062

SHEET NO	NO. OF SHEETS	REQUISITION DATE	5. REQUISITION NUMBER
1	1	8/05/08	FY50268129X003XXX

7. DATE MATERIAL REQUIRED (YYMMDD): 8/05/20
8. PRIORITY: 2
9. AUTHORITY OR PURPOSE: LATERAL SUPPORT
10. SIGNATURE
11a. VOUCHER NUMBER & DATE (YYMMDD): LIVINGSTON
b.
12. DATE SHIPPED (YYMMDD)
13. MODE OF SHIPMENT
14. BILL OF LADING NUMBER
15. AIR MOVEMENT DESIGNATOR OR PORT REFERENCE NO.

4. APPROPRIATION SYMBOL AND SUBHEAD	OBJECT CLASS	EXPENDITURE ACCOUNT (From)	EXPENDITURE ACCOUNT (To)	CHARGEABLE ACTIVITY	BUREAU CONTROL ACTIVITY NO.	BUREAU CONTROL NO.	AMOUNT
F8NP							

ITEM NO. (a)	FEDERAL STOCK NUMBER, DESCRIPTION, AND CODING OF MATERIAL AND / OR SERVICES (b)	UNIT OF ISSUE (c)	QUANTITY REQUESTED (d)	SUPPLY ACTION (e)	TYPE CONTAINER (f)	CONTAINER NOS. (g)	UNIT PRICE (h)	TOTAL COST (i)
1	AGGRIGATE LAST ITEM THIS SHIPMENT CONTAINS NO SENSITIVE OR HAZARDOUS MATERIALS.	BG	2					$0.00

16. TRANSPORTATION VIA MATS OR MSTS CHARGEABLE TO F8NP
17. SPECIAL HANDLING VZ

18. RECAPITULATION OF SHIPMENT

ISSUED BY	TOTAL CONTAINERS	TYPE CONTAINER	DESCRIPTION	TOTAL WEIGHT	TOTAL CUBE
	2	BG	PALLETIZED	6488	82
CHECKED BY					
PACKED BY					
	2		TOTAL	6488	82

19. RECEIPT

	DATE (YYMMDD)	BY	SHEET TOTAL
CONTAINERS RECEIVED EXCEPT AS NOTED			
QUANTITIES RECEIVED EXCEPT AS NOTED			GRAND TOTAL
POSTED			20. RECEIVER'S VOUCHER NO.

DD Form 1149, DEC 93
(EF-V1) (PerFORM PRO)

PREVIOUS EDITION MAY BE USED.

EMPTY

Propylene
Glycol
Recycled June 18, 2006
CSS Environmental Dept.
C12687C240/CL2/22947
CGU-1/B 5000 LB. CAP.

CERTIFIED
THE DIELECTRIC FLUID IN THIS UNIT HAS BEEN TESTED TO DETERMINE THE AMOUNT OF POLYCHLORINATED BIPHENYLS (PCB CONTENT) WE CERTIFY THAT BASED ON THE TEST SAMPLE, THE FLUID CONTAINED LESS THAN 50 PPM PCB AND IS THEREFORE CLASSIFIED A NON-PCB AS DEFINED IN THE AUG. 25, 1982, VOL. 47, NO. 165 OF THE FEDERAL REGISTER.
CERTIFIED
CERTIFIED
THE DIELECTRIC FLUID IN THIS UNIT HAS BEEN TESTED TO DETERMINE THE AMOUNT OF POLYCHLORINATED BIPHENYLS (PCB CONTENT) WE CERTIFY THAT BASED ON THE TEST SAMPLE, THE FLUID CONTAINED LESS THAN 50 PPM PCB AND IS THEREFORE CLASSIFIED A NON-PCB AS DEFINED IN THE AUG. 25, 1982, VOL. 47, NO. 165 OF THE FEDERAL REGISTER.
CERTIFIED
75

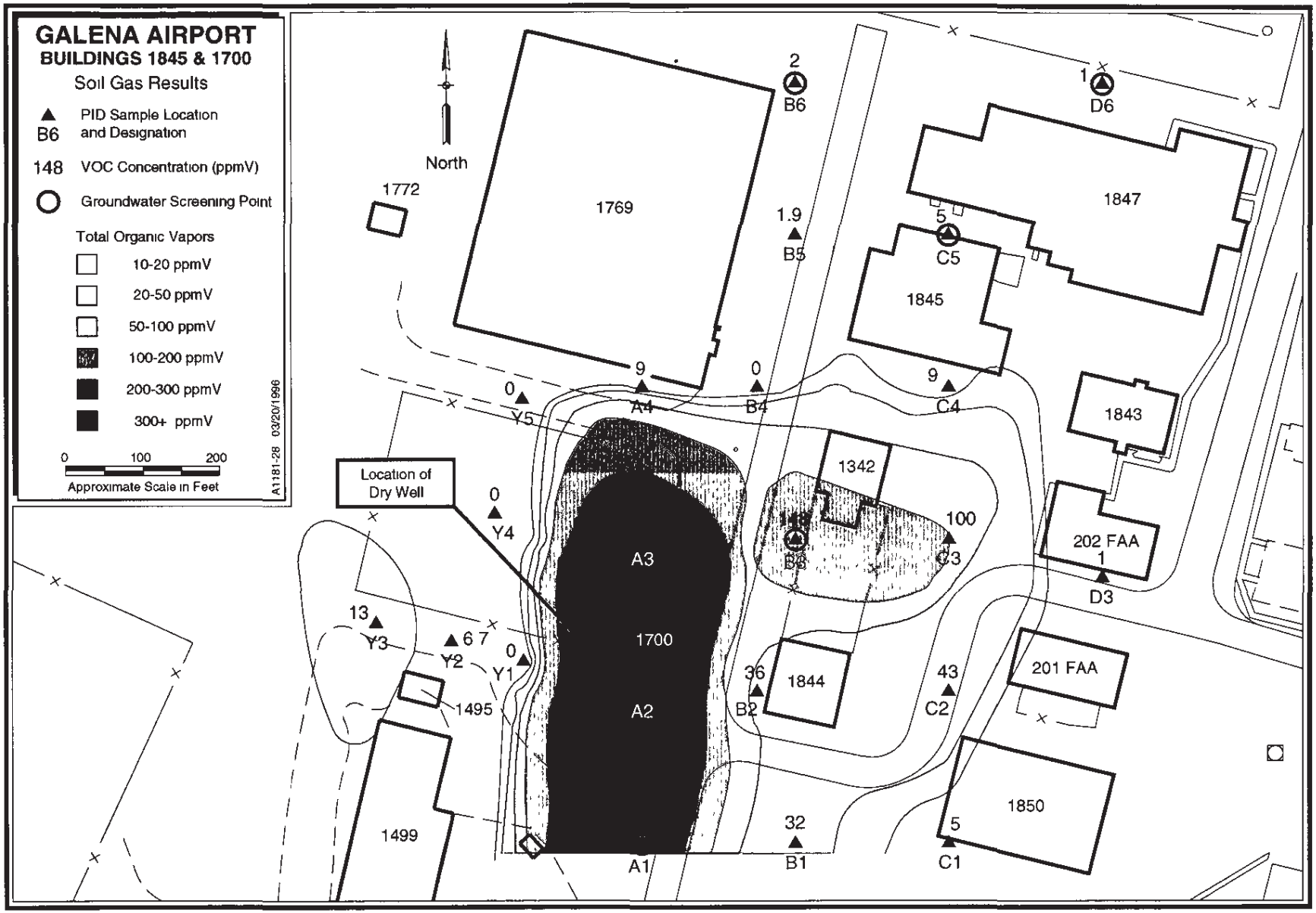


Figure 3.4-7. Soil Gas Survey Results for the Building 1845 and 1700 Source Areas

APPENDIX A

B1770

Building 1770 – Former Incinerator (Site ID B1770)

Site Location

Site B1770 is located on the eastern side of the cantonment "triangle" immediately west of the Building 1769 Supply Warehouse and storage yard.

Site Characteristics

Site features are shown on Figure A1-B1770. Site B1770 consists of the former location of Building 1770, the incinerator building. The surface of Site B1770 currently consists of a gravel pad. The feature of concern at Site B1770 is potential contamination related to operation and spills of ash from the incinerator. Contamination from the removed USTs located on the southern side of Building 1770 is being investigated separately as Site UST1770.

Site Description and History

The 1,440-square-foot Building 1770 was constructed in 1974 and had a concrete foundation and floor, corrugated metal walls and roof, and two large overhead doors that faced east for access and loading of the incinerator (USAF, June 1974). The Building 1770 incinerator burned solid waste from the Former Galena FOL, which can be classified as "household garbage." Incinerator ash was disposed of at local landfills starting in 1975 (Engineering-Science, September 1985, p. 4–42). The real property records indicate that the incinerator was no longer functioning by 1987 and was demolished in 2000 (USAF, June 1974). Building records are provided in the supporting documentation.

Closure of this site was suggested by the USAF at a Technical Project Team (TPT) meeting in December 2007 (USAF, December 5–6, 2007, p. 2). The path to closure of this site was also discussed at the May 2008 TPT meeting where it was noted that the site was regraded after building demolition (USAF, May 5–7, 2008, p. 3). The meeting minutes indicate that the USAF contractor suggested a visual inspection for any ash that could be sampled.

Historical aerial photographs of Site B1770, dated 1963, 1978, 1985, and 2002, are shown on Figure A2-B1770. Figure A3-B1770 shows Building 1770 before demolition.

Summary of Previous Investigations

No investigations have been conducted or samples collected at Site B1770.

Potential chemicals of interest associated with incinerator ash are metals and dioxins. Dioxin is formed in trace levels from the low-temperature combustion of raw garbage that contains organic compounds and chlorine. Household garbage contains sufficient amounts of both organic matter and chlorine compounds to form dioxin. Although separating out highly chlorinated wastes such as polyvinyl chloride (PVC) pipe can help, it is generally thought that the temperature of combustion is the main controlling factor in preventing dioxin formation. Smoke (particulates) is also needed for the formation of dioxin to occur. Open burning, burn cages, burn barrels, and improperly designed and operated burn boxes all

tend to produce more smoke and therefore more contaminants, including dioxin (ADEC, May 2004).

Soil samples were collected immediately south of Building 1770 during the removal of the USTs (Site UST1770). The soil samples were analyzed for fuel-related constituents (results are discussed in Appendix A, Site UST1770). Because one of the USTs stored waste oil, soil samples were also analyzed for metals, PCBs, and VOCs, but concentrations were not detected above the applicable ADEC Method 2 cleanup levels (HLA/Wilder J.V., February 1999, p. 8, second and third para.).

Soil samples were collected from borings installed at UST Site 1770 in 2010, including one boring (UST1770_GP001) located within the former Building 1770 footprint. No ash was observed. The boring log for UST1770_GP001 and a figure showing the location are included in the supporting documentation.

October 2009 Site Visit Observations

An inspection of Site B1770 was conducted in October 2009. The site appeared to have been regraded in the recent past and gravel may be stockpiled in this area. With the addition of gravel and recent regrading, the existing ground surface no longer represents the ground surface when the incinerator building was in operation. No sign of incinerator ash was noted.

Figure A4-B1770 shows Site B1770 in October 2009. The date on the photo, 2003, is incorrect. The photo was taken during the 2009 site visit, but the photographer was unaware at the time that the date setting on the camera was incorrect.

Target Analytes

The incinerator ash was disposed of in local landfills (Engineering-Science, September 1985, p. 4–42). No ash has been observed at the site. It is unlikely that any incinerator ash was released at Site B1770; therefore, target analytes are not present at the site.

Potential Exposure Pathways and Receptors

Because a release has not occurred from Site B1770, media at the site have not been impacted. Therefore, no complete human health or ecological exposure pathways exist at Site B1770.

Conclusions

Because records indicate that incinerator ash was disposed of at local landfills (Engineering-Science, September 1985, p. 4–42), and there is no visible indication of ash at the site, it is concluded that a release of incinerator ash to media did not occur at Site B1770.

Recommendation: “Non-Site”

Because no incinerator ash was released to media, designation of Site B1770 as a “Non-Site” is recommended.

References

Alaska Department of Environmental Conservation (ADEC), Alaska Energy Authority. May 2004. *Burning Garbage and Land Disposal In Rural Alaska A Publication for Small Alaskan Communities Considering Incineration and Energy Recovery.*

Engineering-Science. September 1985. *Installation Restoration Program, Phase 1: Records Search, AAC Northern Region.*

HLA/Wilder J.V. February 1999. *Remedial Action Report, Galena Tank Removal and Soil Remediation, Galena Air Force Station, Alaska, Volume I of IV.*

U.S. Air Force (USAF). May 5–7, 2008. *Galena Technical Project Team meeting minutes.*

U.S. Air Force (USAF). December 5–6, 2007. *Galena Technical Project Team meeting minutes.*

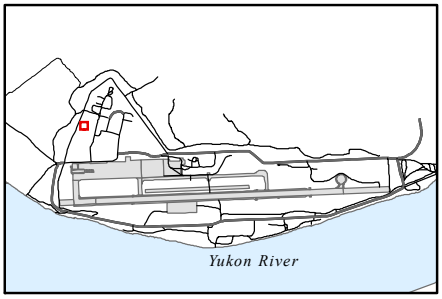
U.S. Air Force (USAF). June 1974. Real Property Accountable Records – Buildings, Building 1770.

LEGEND

- B1770
- Adjacent Site
- Approximate Location of Former Feature
- Abandoned Wastewater Line

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meters.

VICINITY MAP



N

0 15 30
Feet

FIGURE A1-B1770
Site Layout

Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

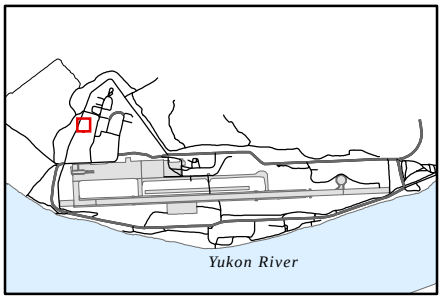
RDD \\BALDUR\PROJ\GALENATO184_394439\MAPFILES\PA_2010\B1770\B1770_PA_SITE.MXD CVONFREE 4/1/2010 13:35:33

LEGEND

B1770

Notes:
1. Photography Dated 9-4-1963, Georeferenced.
2. Photography Dated 5-30-1978, Georeferenced.
3. Photography Dated 1985, Georeferenced.
4. Imagery August, 2002. Pixel size 0.075 meters.

VICINITY MAP



N

0 50 100
Feet

FIGURE A2-B1770
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

FIGURE A3-B1770
Facility before Demolition, Undated AFRPA document

FIGURE A4-B1770
Gravel Pad at Location of Former Building 1770, October 2009
(Note: The date on the photo is incorrect. The photo was taken during the 2009 site visit, but the photographer was unaware at the time that the date setting on the camera was incorrect.)

Supporting Documentation

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	RP ACCOUNT NO.	CONTROL NO.	BUILDING NO.
Galena Airport	Jun 74		2001	58030	1770

DIMENSIONS (*Width x length*)

MAIN BUILDING	OFFSETS	WINGS	BASEMENTS
36' x 40'			

MATERIALS

FOUNDATION	FLOOR	WALL	ROOF
conc	conc	corr steel	corr steel

HEATING

SOURCE	TYPE	FUEL

NO. OF USABLE FLOORS	FIRE PROTECTION NO.	FIRE PROTECTION TYPE

UTILITY CONNECTIONS	
WATER	3"
SEWER	6"
ELECTRIC	
GAS	
STEAM	
CONDENSATE	

BLDG EQPT	NO.	TOTAL CAPACITY
AIR CONDITIONING		
EVAPORATIVE COOLING		
MECHANICAL COOLING		
HOT WATER FACILITIES		

Retired

		CODE
STATE	Alaska	
ASSIGNMENT	AAC	
TYPE OF CONSTRUCTION	Permanent	P
CONDITION	Usable	14
OCCUPANCY	USAF	
AIR FORCE INTEREST	OWNED	
UNIT OF MEASURE (*Other than area*)		TN
QUANTITY		3
NOMENCLATURE	s/Waste Dspl Facity	
CATEGORY		833-354
REMARKS		

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
75-0046	24 Jun 74	CONSTRUCT NEW FACILITY	1 APR 74		1440			271,623	03
880021	Jan 88	Vacant Cond Code-4 Change Inv Date 8711	NOV 87						
~~910300~~	~~Jan 91~~	~~Site Inventory~~							
2000 ~~005245~~	24 Aug 00	Demolished under contract F65501-99-C0012, mod P00006							
~~2000 005234~~									
BALANCES FORWARDED									

AF FORM 15 JUN 56 1430 REPLACES OA FORM 5-47, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
394439	UST1770GP001	1	2

SOIL BORING LOG

PROJECT Galena FOL LOCATION NW of Supply Warehouse Storage Yard

ELEVATION N/A DRILLING CONTRACTOR Geotek Alaska, Inc.

DRILLING METHOD AND EQUIPMENT Geoprobe 8040 DT

WATER LEVELS ~17.0' BGS START 1615/8-23-10 FINISH 1800/8-23-10 LOGGER L. Kieffe

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
5	0-5	1-GP	3.6	SP	0-3.6 Poorly Graded Sand w/ Gravel (SP) very dark grayish brown 10YR 3/2, moist, dense, fine gravel, subrounded, slight odor	Core PID = 0.4 ppm Headspace PID = 7.9 ppm
10	5-10	2-GP	4.2	SP	5.0-9.2 Poorly Graded Sand w/ Gravel (SP) SAA slight odor	Core PID = 5.4 ppm Headspace PID = 1250 ppm Collect UST 1770GP001-SO_05-07 @1640
15	10-15	3-GP	3.5	ML ML	10-12.7 Silt (ML) very dark grayish brown 10YR 3/2, moist, stiff, minor v. fine sand 12.7-13.5 Sandy Silt (ML) very dark grayish brown 10YR 3/2, moist, stiff, v. fine sand	Core PID = 1.0 ppm Headspace PID = 15.2 ppm Collect UST 1770GP001 SO-10-12 @1655
20	15-20	4-GP	3.6	ML	15-18.6 Sandy Silt (ML) SAA, wet @ ~17.0'	Core PID = 0.8 ppm Headspace PID = 2.8 ppm
25	20-25	5-GP	4.1	SP	20-24.1 Poorly Graded Sand (SP) very dark grayish brown 10YR 3/2, wet, med. dense, fine sand, minor fine gravel	Core PID = 0.1 ppm Headspace PID = 0.3 ppm Collect UST1770GP001 SO_21-23 @1705 plus Dup @1715
30	25-29	6-GP	1.8	SP	25-26.8 Poorly Graded Sand w/ Gravel (SP) very dark grayish brown 10YR 3/2, wet, med. dense, fine sand, fine gravel, subrounded	Core PID = 0.2 ppm Headspace PID = 0.8 ppm

CH2M HILL

PROJECT NUMBER	BORING NUMBER	
394439	UST 1770GP001	SHEET 2 OF 2

SOIL BORING LOG

PROJECT Galena FOL LOCATION NW of Supply Warehouse Storage

ELEVATION TBD DRILLING CONTRACTOR Geotek Alaska, Inc

DRILLING METHOD AND EQUIPMENT Geoprobe 8040 DT

WATER LEVELS ~17.0' BGS START 1615/8-23-10 FINISH 1800/8-23-10 LOGGER L. Kieffer

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	29-33	7-GP	2.1	SP	29-31.1 Poorly Graded Sand w/ Gravel (SP) SAA	Core PID = 0.1 ppm Headspace PID = 0.3 ppm Collect UST1770GP001 @ 1720 SO-29-31
35	33-37	8-GP	2.1	SW GW	33.0-34.3 Well Graded Sand w/ Gravel (SW) dark brown, wet, dense, fine-med, gravel subrounded. 34.3-35.1 Well Graded Gravel w/ Sand (GW) dk brown, wet, dense, fine-coarse sand	Core PID = 0.2 ppm Headspace PID = 0.8 ppm
40	37-41	9-GP	1.5	GW	Well Graded Gravel w/ Sand (GW) dark brown 10YR 3/3, wet, dense, fine-coarse sand, subrounded.	Core PID = 0.2 ppm Headspace PID = 3.8 ppm Collect UST1770GP001 @ 1730 SO-39-41
45					Terminate borehole @ 41' BGS	

CH2M HILL

PROJECT NUMBER	BORING NUMBER	
394439	UST1770GP002	SHEET 1 OF 2

SOIL BORING LOG

PROJECT Galena FOL LOCATION NW of Supply Warehouse Storage Yard

ELEVATION N/A DRILLING CONTRACTOR Geotek Alaska, Inc.

DRILLING METHOD AND EQUIPMENT Geoprobe 8040 DT

WATER LEVELS ~17.0' BGS START 8-24-10/0815 FINISH 8-24-10/1000 LOGGER L. Kieffe

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
5	0-5	GP-1	2.7	SP	0-2.7 Poorly Graded Sand (SP) dark yellowish brown 10YR 3/4, moist, med. dense, fine sand, minor fine gravel, subrounded	Core PID = 0.0ppm Headspace PID = 0.6ppm
10	5-10	2-GP	3.5	SP	5-8.5 Poorly Graded Sand (SP) SAA	Core PID = 0.1ppm Headspace PID = 0.5ppm
15	10-15	3-GP	3.4	ML SM	10-12.4 Silt (ML) very dark grayish brown 10YR 3/2, moist, stiff, light staining, slight odor 12.4-13.4 Silty Sand (SM) dark brown 10YR 3/3, moist, med. dense, fine sand,	Core PID = 10.5ppm Core PID = 31.1ppm Headspace PID = 81.9 Collect UST1770GP002 SO_10-12 @ 0830
20	15-20	4-GP	3.8	SM SP	15-15.7 Silty Sand (SM) SAA 15.7-18.8 Poorly Graded Sand (SP) dark yellowish brown 10YR 3/4, moist-wet @ ~17.0, med. dense, very fine-fine sand	Core PID = 0.1ppm Core PID = 0.1ppm Headspace PID = 0.2ppm
25	20-25	5-GP	4.4	SP	20-24.4 Poorly Graded Sand (SP) very dark grayish brown 10YR 3/2, wet, med. dense, fine-med. sand, subrounded, wood @ 24.1'	Core PID = ~~[illegible]~~ 0.4ppm Head space PID = 0.5ppm Collect UST1770GP002 SO_21-23 plus MS/MSD @ 0900
30	25-29	6-GP	3.2	SP SW	25-26.6 Poorly Graded Sand (SP) SAA 26.6-28.2 Well Graded Sand w/ Gravel (SW) very dark grayish brown, wet, dense, fine gravel, subrounded	Core PID = 0.3ppm @ 0900 Core PID = 0.2ppm Headspace PID = 7.0ppm

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CH2M HILL

PROJECT NUMBER	BORING NUMBER	
394439	UST1770GP002	SHEET 2 OF 2

SOIL BORING LOG

PROJECT Galena FOL LOCATION NW of Supply Warehouse Storage Yard

ELEVATION N/A DRILLING CONTRACTOR GeoTek Alaska, Inc.

DRILLING METHOD AND EQUIPMENT Geoprobe 8040 DT

WATER LEVELS ~17.0' START 8-24-10/0815 FINISH 8-24-10/1000 LOGGER K. Kieffer

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	29-31	7-GP	2.6	SW GW	29-30.5 Well Graded Sand w/ Gravel (SW) SAA 30.5-31.6 Well Graded Gravel w/ Sand (GW) very dark grayish brown 10YR 3/2, wet, dense, fine-coarse sand, subrounded	Core PID = 0.2 ppm Core PID = 0.2 ppm Headspace PID = 0.4 ppm Collect UST1770GP002 @0910 SO-29-31
35	34-39	8-GP	2.0	GW	34-36.0 Well Graded Gravel w/ Sand (GW) SAA	Core PID = 0.1 ppm Headspace PID = 0.5 ppm
40	39-43	9-GP	2.7	SW	39-41.7 Well Graded Sand w/ Gravel (SW) very dark gray 10YR 3/1, wet, dense, fine gravel, subrounded	Core PID = 0.1 ppm Headspace PID = 0.3 ppm Collect UST1770GP002 @0925 SO-39-41
45					Terminate boring @ 43' BGS	

CH2MHILL

PROJECT NUMBER	BORING NUMBER
394439	UST 1770GP003 SHEET 1 OF 2

SOIL BORING LOG

PROJECT: Former Galena Forward Operating Location, Task Order 184 LOCATION: NW of Supply Warehouse Storage Yard
ELEVATION: TBD DRILLING CONTRACTOR: Geotek Alaska, Anchorage, Alaska
DRILLING METHOD AND EQUIPMENT: Direct Push, Geoprobe 8040 DT ~~: Hollow Stem Auger~~
WATER LEVELS: 16.0' BGS START: 8-24-10/1005 END: 8-24-10/1140 LOGGER: L. Kieffer

DEPTH BELOW SURFACE (feet)	INTERVAL (feet)	RECOVERY (%)	#/TYPE (SS=Split Spoon, MC=Macrocore)	STANDARD PENETRATION TEST RESULTS 6 - 6 - 6 in (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, % gravel/sand/silt-clay	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TIME, TESTS, AND INSTRUMENTATION. OVM/PID reading (ppm): Bkg Breathing Zone Top of Hole Sample
5	0-5	2.4	1-GP	SP	0-2.4 Poorly Graded Sand w/ Gravel (SP) very dk. grayish brown 10YR 3/2, moist, med. dense, fine sand, fine gravel, subrounded	Core PID = 0.2 ppm Headspace PID = 12.5 ppm
10	5-10	3.2	2-GP	SP ML	5-6.3 Poorly Graded Sand w/ Gravel (SP) SAA 6.3-8.2 Silt (ML) very dark gray, moist, stiff, strong odor, mod. staining	Core PID = 0.6 ppm Core PID = 157 ppm Headspace PID = 435 ppm Collect UST1770GP003 @ 1015 SO_5-7
15	10-15	3.5	3-GP	ML ML	10-11.8 Silt (ML) SAA 11.8-13.5 Sandy Silt (ML) very dark grayish brown, moist, stiff, fine sand, mod. odor & staining	Core PID = 354 ppm Core PID = 62 ppm Headspace PID = 429.7 ppm Collect UST1770GP003 @ 1020 SO_10-12 Phi Pup
20	15-20	3.4	4-GP	SP	15-18.4 Poorly Graded Sand (SP) very dk. grayish brown, moist - wet @ ~16', med. dense, fine sand, subrounded	Core PID = 0.7 ppm @ 1030 Headspace PID = 3.1 ppm
25	20-25	3.0	5-GP	SP SP	20-22.4 Poorly Graded Sand (SP) SAA 22.4-23.0 Poorly Graded Sand w/ Gravel (SP) very dk. grayish brown, wet, dense, fine sand, fine gravel, subrounded	Core PID = 0.6 ppm Core PID = 1.0 ppm Headspace PID = 0.9 ppm Collect UST1770GP003 @ 1045 SO_21-23
	25-29	2.6	6-GP	SP	25-27.6 Poorly Graded Sand w/ Gravel (SP) SAA	Core PID = 1.0 ppm Headspace PID =
30	29-34	2.5	7-GP	SW	29-31.5 Well Graded Sand w/ Gravel (SW) very dark grayish brown, wet, dense, fine - med. gravel, subrounded	Core PID = 1.1 ppm Headspace PID = 3.5 ppm Collect UST1770GP003 @ 1055 SO_29-31

CH2MHILL

PROJECT NUMBER	BORING NUMBER
394439	UST 1770GP003 SHEET 2 OF 2

SOIL BORING LOG

PROJECT: Former Galena Forward Operating Location, Task Order 184 LOCATION: NW of Supply Warehouse Storage Yard
ELEVATION: TBD DRILLING CONTRACTOR: Geotek Alaska, Anchorage, Alaska
DRILLING METHOD AND EQUIPMENT: Direct Push, Geoprobe 8040 DT ~~Hollow Stem Auger~~
WATER LEVELS: ~16.0' BLS START: 8-24-10/1005 END: 8-24-10/1145 LOGGER: L. Kieffe

DEPTH BELOW SURFACE (feet)	INTERVAL (feet)	RECOVERY (%)	#/TYPE (SS=Split Spoon, MC = Macrocore)	STANDARD PENETRATION TEST RESULTS 6 - 6 - 6 in (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, % gravel/sand/silt-clay	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TIME, TESTS, AND INSTRUMENTATION. OVM/PID reading (ppm): Bkg Breathing Zone Top of Hole Sample
	34-39	1.7	8-GP	SW	34-39.0 Well Graded Sand w/Gravel (SW) SAA	Core PID = 0.8 ppm Headspace PID = 0.8 ppm
40	39-43	3.5	9-GP	SW SP	39-40.3 Well Graded Sand w/Gravel (SW) SAA 40.3-42.5 Poorly Graded Sand (SP) very dark grayish-brown 10YR 3/2, wet, med. dense, very fine-fine sand subrounded.	Core PID = 0.7 ppm Core PID = 0.7 ppm Headspace PID = 2.4 ppm Collect UST 1770GP003 SO-39-41 @ 1105
45					Terminate borehole @ 43' BLS	

SoilBoring.xls

CH2MHILL

PROJECT NUMBER	BORING NUMBER
394439	UST 1770GP004 SHEET 1 OF 2

SOIL BORING LOG

PROJECT: Former Galena Forward Operating Location, Task Order 184 LOCATION: NW of Supply Warehouse Storage Yard
ELEVATION: TBD DRILLING CONTRACTOR: Geotek Alaska, Anchorage, Alaska Geotek Alaska, INC.
DRILLING METHOD AND EQUIPMENT: Direct Push, Geoprobe 8040 DT: ~~Hollow Stem Auger~~
WATER LEVELS: ~15.0' BGS START: 8-24-10/1520 END 8-24-10/1630 LOGGER: L. Kieffe

DEPTH BELOW SURFACE (feet)	INTERVAL (feet)	RECOVERY (%)	#/TYPE (SS=Split Spoon, MC = Macrocore)	STANDARD PENETRATION TEST RESULTS 6 - 6 - 6 in (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, % gravel/sand/silt-clay	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TIME, TESTS, AND INSTRUMENTATION. OVM/PID reading (ppm): Bkg Breathing Zone Top of Hole Sample
5	0-5	1.7	1-GP	SP	0-1.7 Poorly Graded Sand (SP) very dk. grayish brown 10YR 3/2, moist, med. dense, fine sand, minor fine gravel, subrounded	Core PID = 1.8 ppm Headspace PID = 15.2 ppm
10	5-10	3.1	2-GP	SP	5-8.1 Poorly Graded Sand w/ Gravel (SP) very dark grayish brown 10YR 3/2, moist, med. dense, fine sand, fine gravel subrounded	Core PID = 0.2 ppm Headspace PID = 3.9 ppm Collect: UST1770GP004 @ 1540 SO_5-7
15	10-15	3.3	3-GP	ML ML	10-12.2 Silt (ML) very dark grayish brown 10YR 3/2, moist, stiff, 12.2-13.3 Sandy Silt (ML) dark brown 10YR 3/3, moist, firm-stiff, very fine-fine sand	Core PID = 0.2 ppm Headspace PID = 4.1 ppm Collect UST1770GP004 @ 1545 SO_10-12
20	15-20	3.6	4-GP	SP	15-18.6 Poorly Graded Sand (SP) very dark grayish brown 10YR 3/2, wet, med. dense, fine sand	Core PID = 0.1 ppm Headspace PID = 0.4 ppm
25	20-25	3.5	5-GP	SP SW	20-22.9 Poorly Graded Sand (SP) SAA 22.9-23.5 Well Graded Sand (SW) very dark grayish brown 10YR 3/2, wet, med.-dense, minor fine gravel	Core PID = 0.1 ppm Core PID = 0.1 ppm Headspace PID = 0.3 ppm Collect UST1770GP004 @ 1600 SO_21-23 + TA Split
30	25-29	3.2	6-GP	SW	~~Well~~ 25-28.2 Well Graded Sand w/ Gravel (SW) v. dk. grayish brown, wet, dense, fine gravel, subrounded	Core PID = 0.1 ppm Headspace PID = 0.3 ppm
35	29-34	1.9	7-GP	SW GW	29-30.3 Well Graded Sand w/ Gravel (SW) SAA 30.3-30.9 Well Graded Gravel w/ Sand (GW) very dk. grayish brown 10YR 3/2, wet, dense, fine-coarse sand, subrounded	Core PID = 0.1 ppm Core PID = 0.1 ppm Headspace PID = 0.1 ppm Collect UST1770GP004 @ 1610 SO_29-31

CH2MHILL

PROJECT NUMBER	BORING NUMBER
394439	UST1770GP004 SHEET 2 OF 2

SOIL BORING LOG

PROJECT: Former Galena Forward Operating Location, Task Order 184 LOCATION: NW of Supply Warehouse Storage Yard
ELEVATION: TBD DRILLING CONTRACTOR: Geotek Alaska, Anchorage, Alaska
DRILLING METHOD AND EQUIPMENT: Direct Push, Geoprobe 8040 DT ~~Hollow Stem Auger~~
WATER LEVELS: ~15.0' BLS START 8-24-10/1520 END 8-24-10/1630 LOGGER: L. Kieffer

DEPTH BELOW SURFACE (feet)	INTERVAL (feet)	RECOVERY (%)	#/TYPE (SS=Split Spoon, MC = Macrocore)	STANDARD PENETRATION TEST RESULTS 6 - 6 - 6 in (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, % gravel/sand/silt-clay	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TIME, TESTS, AND INSTRUMENTATION. OVM/PID reading (ppm): Bkg Breathing Zone Top of Hole Sample
	34-39	1.9	8-GP	GW	34-35.9 Well Graded Gravel w/Sand (GW) SAA	Core PID = 0.1 ppm Headspace PID = 0.5 ppm
40	39-44	2.4	9-GP	SW	39-41.4 Well Graded Sand w/Gravel (GW) v. dark gray 10YR 3/1, wet, dense, fine-coarse gravel	Core PID = 0.1 ppm Headspace PID = 0.5 ppm Collect UST1770GP004 @ 1615 SO-39-41
45					Terminate borehole @ 44' BLS	

SoilBoring.xls

CH2MHILL

PROJECT NUMBER	BORING NUMBER
394439	UST 1770GP005 SHEET 1 OF 2

SOIL BORING LOG

PROJECT: Former Galena Forward Operating Location, Task Order 184 LOCATION: NW of Supply Warehouse Storage Yard
ELEVATION: TBD DRILLING CONTRACTOR: Geotek Alaska, Anchorage, Alaska
DRILLING METHOD AND EQUIPMENT: Direct Push, Geoprobe 8040 DT : ~~Hollow Stem Auger~~
WATER LEVELS: ~15.0' BLS START 8-24-10/1640 END 8-24-10/1810 LOGGER: L. Kieffi

DEPTH BELOW SURFACE (feet)	INTERVAL (feet)	RECOVERY (%)	#/TYPE (SS=Split Spoon, MC=Macrocore)	STANDARD PENETRATION TEST RESULTS 6 - 6 - 6 in (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, % gravel/sand/silt-clay	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TIME, TESTS, AND INSTRUMENTATION. OVM/PID reading (ppm) Bkg Breathing Zone Top of Hole Sample
5	0-5	2.9	1-GP	SP	0-2.9 Poorly Graded Sand w/Gravel (SP) v. dk grayish brown, moist, med. dense, fine sand, fine-coarse gravel, subrounded	Core PID = 3.6 ppm Headspace PID =
10	5-10	2.6	2-GP	ML	5-7.6 Silt (ML) very dark gray 10YR 3/1, moist, stiff, strong odor, mod. staining	Core PID = 347 ppm Headspace PID = 428 ppm Collect UST 1770GP005 @ 1650 SO_5-7
15	10-15	2.9	3-GP	SM	10-11.9 Silty Sand (SM) V. dk grayish brown 10YR 3/2, moist, med. dense, v. fine-fine sand	Core PID = 55.6 Headspace PID = 88.7 ppm Collect UST 1770GP005 @ 1655 SO_10-12
20	15-20	3.1	4-GP	SP	15-18.1 Poorly Graded Sand (SP) very dark grayish brown, wet, med. dense, fine sand, subrounded	Core PID = 0.3 ppm Headspace PID = 15.8 ppm Collect UST 1770GP005 @ 1700 SO_15-17
25	20-25	3.0	5-GP	SP SW	20-21.4 Poorly Graded Sand (SP) SAA 21.4-23.0 Well Graded Sand (SW) v. dk. grayish brown, wet, med. dense,	Core PID = 0.3 ppm MS/MSD Headspace PID = 4.5 ppm ~~Collect UST 1770GP005 @~~ SO_21-23
30	25-29	2.3	6-GP	SW	~~Well~~ 25-27.3 Well Graded Sand w/ Gravel (SW) v. dk. grayish brown 10YR 3/2, wet, dense, fine-coarse gravel	Core PID = 0.2 ppm Headspace PID = 0.2 ppm
35	29-34	2.8	7-GP	SW	29-31.8 Well Graded Sand w/Gravel (SW) SAA	Core PID = 0.1 ppm Headspace PID = 0.4 ppm Collect UST 1770GP005 @ 1730 SO_29-31 plus Dup @ 1720

SoilBoring.xls

CH2MHILL

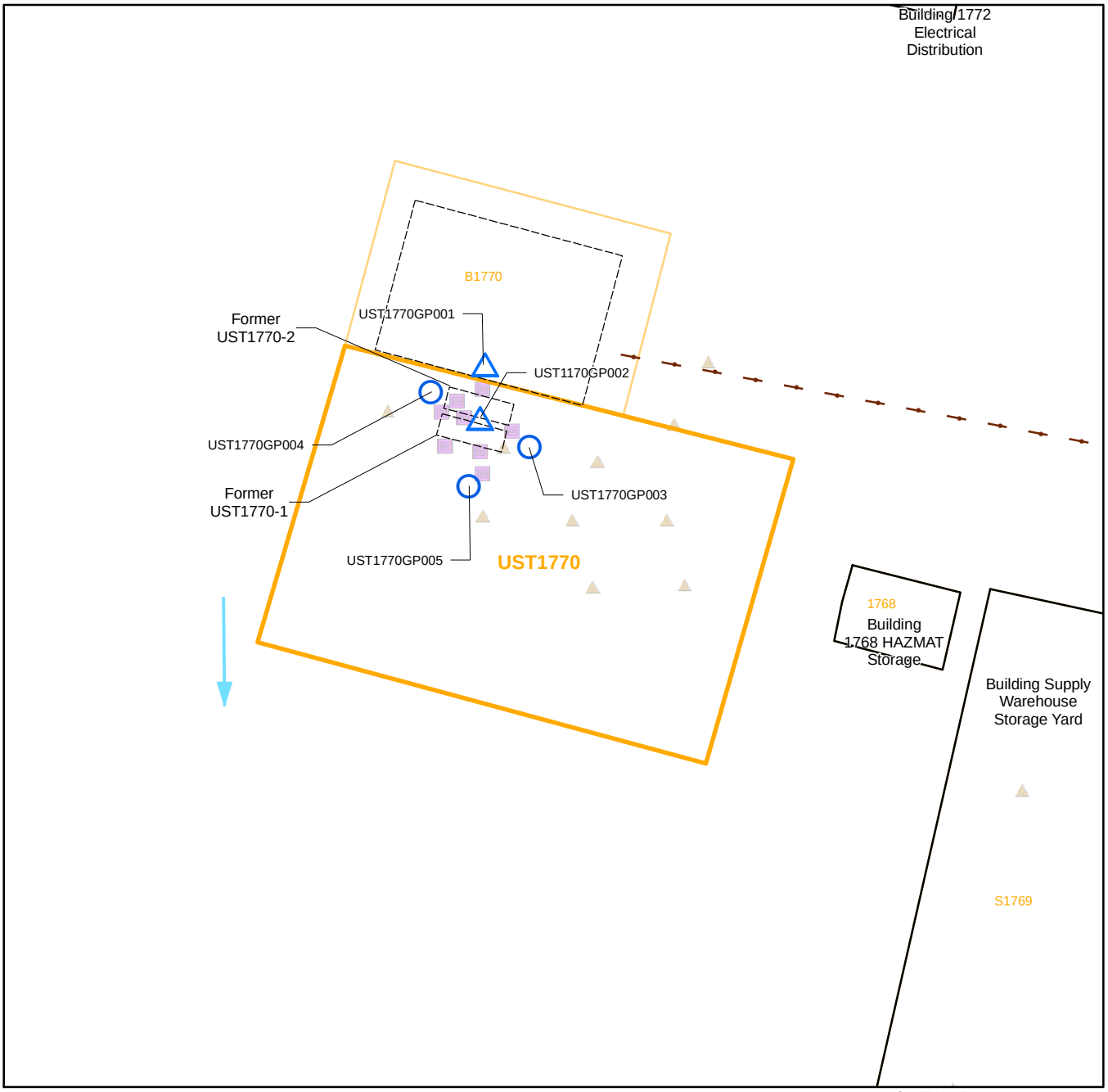
PROJECT NUMBER	BORING NUMBER
394439	UST 1770 GP005 SHEET 2 OF 2

SOIL BORING LOG

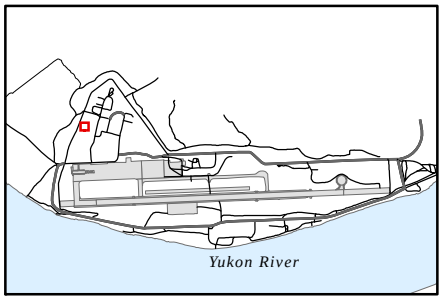
PROJECT: Former Galena Forward Operating Location, Task Order 184 LOCATION: NW of Supply Warehouse Storage Yard
ELEVATION: TBD DRILLING CONTRACTOR: Geotek Alaska, Anchorage, Alaska
DRILLING METHOD AND EQUIPMENT: Direct Push, Geoprobe 8040 DT : ~~Hollow Stem Auger~~
WATER LEVELS: ~15.0' BGS START: 8-24-10/1640 END: 8-24-10/1810 LOGGER: L. Kieffe

DEPTH BELOW SURFACE (feet)	INTERVAL (feet)	RECOVERY (%)	#/TYPE (SS=Spit Spoon, MC = Macrocore)	STANDARD PENETRATION TEST RESULTS 6 - 6 - 6 in (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, % gravel/sand/silt-clay	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TIME, TESTS, AND INSTRUMENTATION. OVM/PID reading (ppm): Bkg Breathing Zone Top of Hole Sample
	34-39	1.4	8-GP	SW	34-35.4 Well Graded Sand w/ Gravel (SW) SAA	Core PID - 0.2 ppm Headspace PID = 0.6 ppm
40	39-43	2.6	9-GP	SW SP	39-40.7 Well Graded Sand w/ Gravel (SW) SAA 40.7-41.6 Poorly Graded Sand (SP) v. dk grayish brown wet, med. dense, v. fine-fine sand	Core PID = 0.2 ppm Headspace PID = 0.3 ppm Collect UST 1770 GP005 @ 1740 SO-39-41
45					Terminate borehole @ 43.0' BGS	

SoilBoring.xls



VICINITY MAP



LEGEND

- UST1770
- Adjacent Site
- Approximate Location of Former Feature
- Structure
- Approximate Groundwater Flow Direction
- Abandoned Wastewater Line
- Proposed Soil Sample
- Proposed Soil/Groundwater Sample

Historical Sample Location

- Excavation Sample
- Soil Vapor Sample

Note:
1. Approximate groundwater flow direction estimated from the October 2004 groundwater elevation contour map (USAF, May 2007, Figure 2-5).

N

0 15 30
Feet

FIGURE D7-UST1770
Proposed Sample Locations

Work Plan for Site Inspection, Remedial Investigation, and Site Characterization

Former Galena Forward Operating Location, Alaska

CH2MHILL

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APPENDIX A

B1812

Building 1812 – Former Satellite Hazardous Waste Accumulation Point (Site ID B1812)

Site Location

Site B1812 is located in Parcel Block 8, Lot 7, within the cantonment "triangle." The site is located north of the Water Treatment Plant (Building 1578) and south of the Civil Engineering (CE) Maintenance Shop (Building 1850) and storage yard.

Site Characteristics

Site features are shown on Figure A1-B1812. Site B1812 consists of the former location of Building 1812, Satellite Hazardous Waste Accumulation Point. The area is currently an unoccupied gravel pad. The building outline suggests that it was approximately 100 feet long and 40 feet wide. The features of concern at Site B1812 are potential contamination from surface spills from former hazardous waste storage and from a possible fuel pipeline.

Site Description and History

Building 1812 was constructed in 1942 for use as the CE maintenance shop (USAF, 1962; included in supporting documentation). Air Force Real Property Accountable records indicate that the building floor was initially comprised dirt with a 3-foot plank walkway (USAF, 1962). The dirt floor was later covered with "*steel landing mats*" (likely AM2 landing mats). Before it was vacated in 1997, the 3,869-square-foot building was the CE composite crafts shop (USAF, April 2007, Table 2-2, pp. 2–5), which included the plumbing and welding shop (CEMML, November 2008, Table 3-1, p. 29).

In the 1990s, the facility stored approximately 312 pounds per year (lbs/year) of paint and 23 lbs/year of solvent material and was a 90-day accumulation point for approximately 5 gallons of waste oil and 4 gallons of paint thinner, (USAF, June 1996, Table 3-1). Building 1812 was included in the 2006 LBP survey at the FOL. Table 3-6 of the 2010 EBS report indicates that LBP was detected (USAF, February 2010). The facility was demolished in 2007. Limited historical information is available to describe or pinpoint the hazardous materials accumulation or storage areas within the former Building 1812 footprint.

Existing WW #3 (Well_No_3), located within the Building 1812 footprint, was constructed in 1942. The 214-foot-deep, 6-inch-diameter water supply well has a capacity of 500 gpm (USAF, 1965). The Alaska Department of Transportation currently uses the well for nonpotable purposes, including dust control (USAF, February 2010, Table 3-1, p. 3-7). WW #2 (Well_No_2) was located approximately 125 feet south of Site B1812. The status of the 210-foot-deep, 8-inch-diameter water well was listed in the 2010 EBS report as abandoned. However, the date of abandonment is unknown (USAF, February 2010). As shown in Figure 3-2 from the 2010 EBS report (USAF, February 2010; included in the supporting documentation), existing WW #7 is currently located at the same approximate location as abandoned WW#2. As listed in Table 3-1 of the 2010 EBS report, WW #7 was constructed in

1990. This 198-foot-deep, 8-inch-diameter WW has a capacity of 100 gpm and is used as a potable water supply.

A reported fuel pipeline from the Old Power Plant USTs to the site was recently identified. The pipeline was reportedly shown on the June 25, 1962, MOGAS Bulk Storage Relocation drawing.

Historical aerial photographs of Site B1812, dated 1963, 1985, 2002, and 2009, are shown on Figure A2-B1812. Building 1812 is shown on the 1963, 1985, and 2002 photographs. The 2009 photograph shows an empty lot.

Summary of Previous Investigations

Site B1812 is located on the southern edge (downgradient) of ERP Site SS006, VOC plume area. In the past, investigations in the Site B1812 area focused mainly on delineation of the VOC plume (from the Site 006 upgradient source). Therefore, many of the available groundwater sample results in the site boundary may not accurately depict groundwater conditions directly related to Site B1812 site use history.

Beginning in 1992, multiple site investigations of soil and groundwater were conducted near Site B1812 to characterize the extent of environmental impacts associated with other sites. Historic sample locations at Site B1812 are shown on Figure A3-B1812.

Remedial Investigation (Earth Tech, May 2007)

In 1992 and 1993, surface soil samples were collected at four locations (06-SS-04, 06-SS-07, 06-SS-09, and 06-SS10) along the Site B1812 perimeter and analyzed for arsenic and lead. Sample 06-SS-04 was also analyzed for DRO (M8015D), GRO (M8015V), metals, pesticides, SVOCs, and VOCs.

Lead was detected at Sample 06-SS-07 (469 mg/kg) at a concentration above the Method 2 screening level of 400 mg/kg (Earth Tech, Inc., May 2007, p. 12-5, second paragraph, Figure 12-7). Gasoline was not detected, and diesel was detected at 23 mg/kg (Earth Tech, May 2007, Figure 12-5). One SVOC, benzo(a)pyrene, was detected at Sample 06-SS-04 above the ADEC Method 2 clean-up level of 0.49 mg/kg at 0.52 mg/kg. Arsenic was detected at concentrations exceeding the ADEC Method 2 clean-up level of 3.9 mg/kg at Samples 06-SS-07 (5.93 mg/kg), 06-SS-09 (9.68 mg/kg), and 06-SS-10 (4.83 mg/kg).

In 1992 and 1994, groundwater samples were collected at WW #3, located at Site B1812. Samples were analyzed for metals, pesticides, SVOCs, VOCs, GRO, DRO, and general chemistry parameters. DRO was detected in one sample, but the detection was attributed to the well pump. GRO was detected, but was also detected in the laboratory blank (Earth Tech, May 2007, p. 2-17). Metal concentrations were below screening levels.

Groundwater Monitoring (1994 to 2004)

Groundwater Monitoring Wells 06-MW-16 and 06-MW-06 are located south of B1812. Well 06-MW-16 was sampled in June 2004, and Well 06-MW-06 was sampled 11 times between 1992 and 2004. Samples were analyzed for a combination of GRO, DRO, RRO, metals, pesticides, SVOCs, VOCs, explosives, PCBs, and general chemistry parameters.

DRO exceeded the ADEC groundwater clean-up level of 1,500 µg/L twice at Monitoring Well 06-MW-06, with concentrations of 3,300 (1992) and 2,300 (2000) µg/L. Arsenic was detected at concentrations exceeding the ADEC groundwater clean-up level of 0.01 mg/L at Monitoring Well 06-MW-06 in 1998 (0.02 mg/L) and 2000 (0.124 mg/L) and at Monitoring Well 06-MW-16 in 2004 (0.0225 mg/L). Aldrin exceeded the ADEC groundwater clean-up level of 0.05 µg/L once in 1994 (0.613 µg/L).

Groundwater samples were collected from WWs #3 and #7 in July and August 2009. Samples were analyzed for VOCs by methods SW8260B (July) and SW8021 (August). Chloromethane was detected at WW #3; however, the result was estimated and the concentration (0.36 µg/L) was below the ADEC groundwater clean-up level of 66 µg/L. The following VOCs were detected at WW #7 (although the concentrations were estimated): 1,2,4-trimethylbenzene (0.16 µg/L), benzene (0.18 µg/L), and chloromethane (0.78 µg/L). Concentrations of these analytes were below the ADEC groundwater clean-up levels.

October 2009 Site Visit Observations

An inspection of Site B1812 was conducted in October 2009. A photograph of the site during the visit is provided in Figure A4-B1812. During the site visit, it was observed that the building formerly present at Site B1812 had been demolished and the only remaining feature present was a raised gravel area with patches of grass. No surface staining, petroleum odors, or solvent odors were observed. No viable ecological habitat exists at the site. A nonpotable water well pump (WW #3) is adjacent to the site in a small building.

Target Analytes

Target analytes for Site B1812 were determined on the basis of the site's history as a 90-day accumulation point for a variety of hazardous wastes (paint, solvent, waste oil, and 4 gallons of paint thinner). These target analytes are DRO, GRO, RRO, VOCs (including BTEX), SVOCs (including 1,4-dioxane), PCBs, pesticides, and metals (arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and vanadium).

Potential Exposure Pathways and Receptors

Based on current and reasonably anticipated potential future land uses at Site B1812, potential human receptors and potentially complete exposure pathways include the following:

- **Excavation/Construction Workers**: Potential exposure to chemicals in soil to 15 feet bgs and shallow groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind or during onsite excavation activities. Potentially complete routes of exposure to shallow groundwater include dermal contact with groundwater and inhalation of ambient vapors from groundwater.
- **Future Occupational Workers**: Potential exposure to chemicals in surface soil to 2 feet bgs. Potentially complete routes of exposure to surface soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated

from wind. Vapor intrusion from VOCs in environmental media migrating into current or future occupational buildings is also a potentially complete exposure route.

- **Hypothetical Future Residents**: Potential exposure to chemicals in soil to 15 feet bgs and groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Potentially complete routes of exposure to groundwater include ingestion, dermal contact, and inhalation of VOCs during showering or other household activities. Vapor intrusion from VOCs in environmental media migrating into current or future residences is also a potentially complete exposure route.

The ground surface at the site consists of sparsely vegetated gravel surfaces and provides no viable habitat. Terrestrial ecological exposure pathways are considered incomplete; therefore, no terrestrial ecological receptors were identified and the site will not be evaluated for terrestrial ecological risk. An aquatic ecological exposure pathway is unlikely to be complete because the site is located more than 1,000 feet from the Yukon River. Data are being collected as part of the FSP for the 2010 Hydrogeologic Study to refine the understanding of the groundwater system at the FOL (CH2M HILL, August 2010). This pathway should be evaluated further if subsurface contamination is found at the site and the data collected as part of the hydrogeological characterization suggest there is a potential for site contamination to affect the Yukon River.

Conclusions

Building 1812 was constructed in 1942 for use as the CE maintenance shop. The site was a former hazardous waste accumulation point. Paint, paint thinner, solvents, and waste oil were stored at Site B1812. In addition, a possible fuel pipeline from the Old Power Plant USTs to the site has been identified.

Previous investigations detected the presence of lead, arsenic, and benzo(a)pyrene in surface soil at concentrations exceeding the ADEC Method 2 clean-up levels. Exceedances of the groundwater clean-up levels for DRO, arsenic, and aldrin have been detected in groundwater monitoring wells south of Building 1812. To date, no groundwater impacts have been observed at the water supply wells near Site B1812 (WW7-WP and WW3-WP), which are approximately 200 feet deep. All groundwater used for potable supply is treated before consumption.

In addition, a possible fuel pipeline extends from the Old Power Plant USTs to the site. The feature is shown on Figure A1-B1812 as "Approximate Trend, Reported Fuel Pipeline." The pipeline was shown on the June 25, 1962, MOGAS Bulk Storage Relocation drawing (AECOM, December 2009).

Limited information is available to identify historical locations for the hazardous materials accumulation or storage areas within the former Building 1812 footprint. Existing data are also limited for evaluating whether or not activities at Site B1812 resulted in a release. Most of the available analytical data are related to investigating VOC contamination from the ERP Site SS006 VOC plume area (the former vehicle maintenance shops and equipment repair facilities) near Buildings 1844, 1845, and 1700, approximately 425 feet upgradient of Building

1812. At this time, historical data are insufficient to determine whether activities at Site B1812 resulted in a release to the environment. Additional analytical data are needed to determine the presence or absence of contamination in soil and, if present, whether potential contaminants in soil have impacted groundwater.

Recommendation: Site Inspection Sampling

Limited site inspection sampling is recommended to identify if soil or groundwater at Site B1812 have been impacted by contaminants related to hazardous waste storage. Sampling at the location of the historical fuel pipeline is recommended to determine if a release has occurred. If impacts to groundwater are observed following implementation of the Hydrogeologic Study at the Former Galena FOL and/or the SI investigation at Site B1812, land use controls will be considered at these wells.

References

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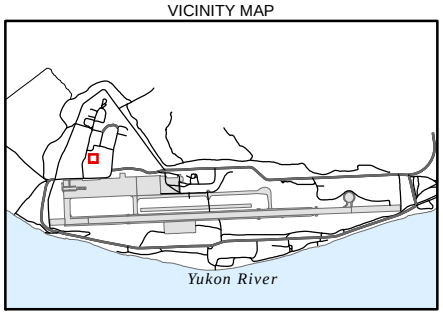
U.S. Air Force (USAF). June 1996. *Final Installation-Wide Environmental Baseline Survey Galena Alaska*, 611th Civil Engineer Squadron, Elmendorf AFB, Alaska.

U.S. Air Force (USAF). 1965. AF Form 1433, Real Property Accountable Record – Plants.

U.S. Air Force (USAF). 1962. AF Form 1430, Real Property Accountable Record - Buildings, Building 1812.

VICINITY MAP



LEGEND

- B1812
- Adjacent Site
- Approximate Location of Former Feature
- Fence
- Approximate Trend Reported Fuel Pipeline
- Main Wastewater Line
- Service Wastewater Line

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meter

N

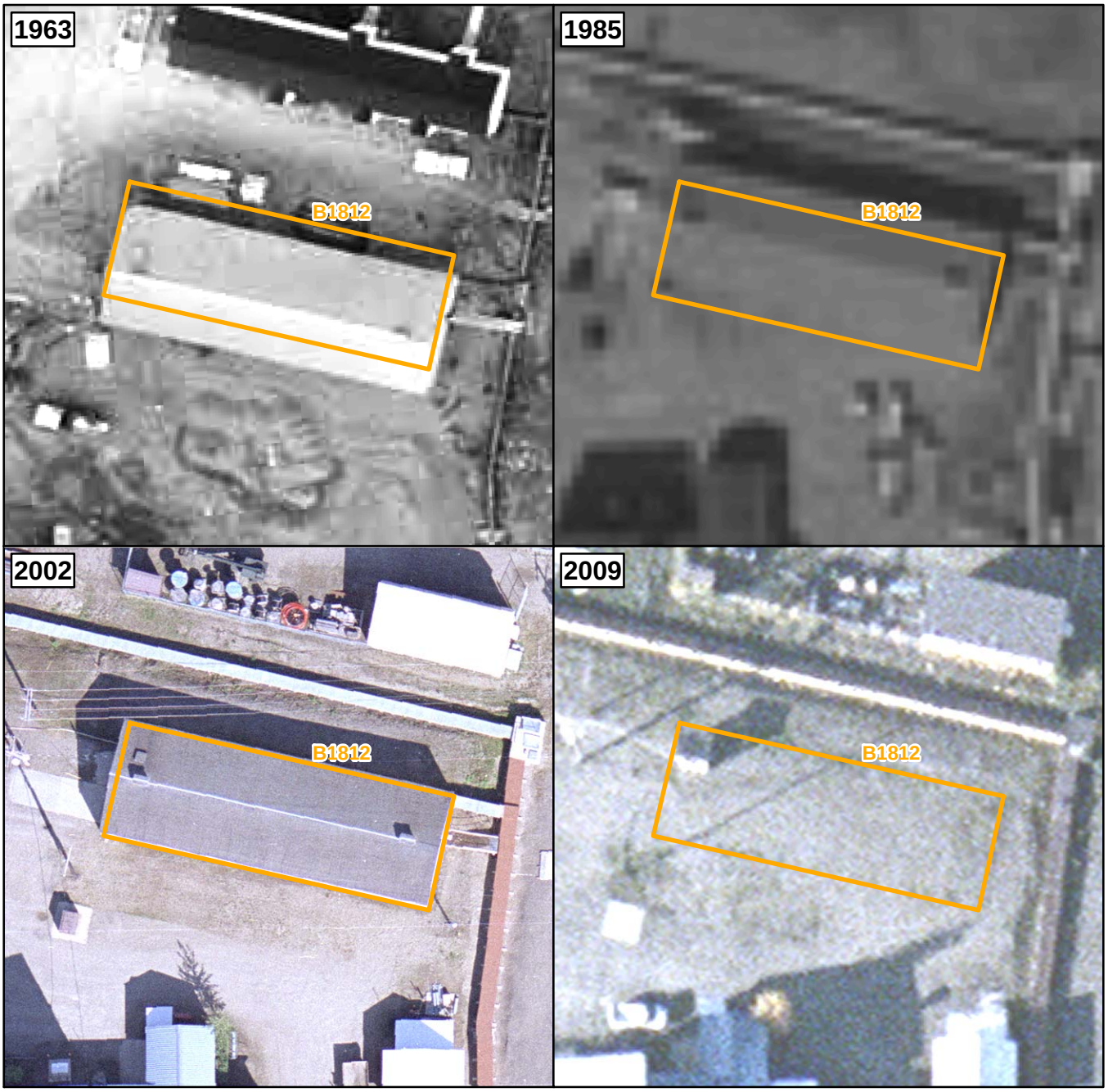
0 15 30
Feet

FIGURE A1-B1812
Site Layout

Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

\\BALDUR\PROJ\GALENATO184_394439\MAPFILES\PA_2010\B1812\B1812_PA_SITE.MXD SEARLY 12/1/2010 13:28:44

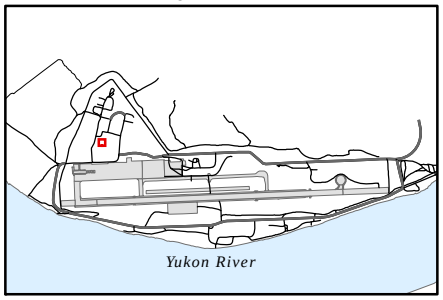


LEGEND

B1812

Notes:
1. Photography dated 9-4-1963, georeferenced
2. Photography dated 1985, georeferenced
3. Imagery August 2002. Pixel size 0.075 meter
4. Imagery September 4, 2009. Pixel size 0.25 meter

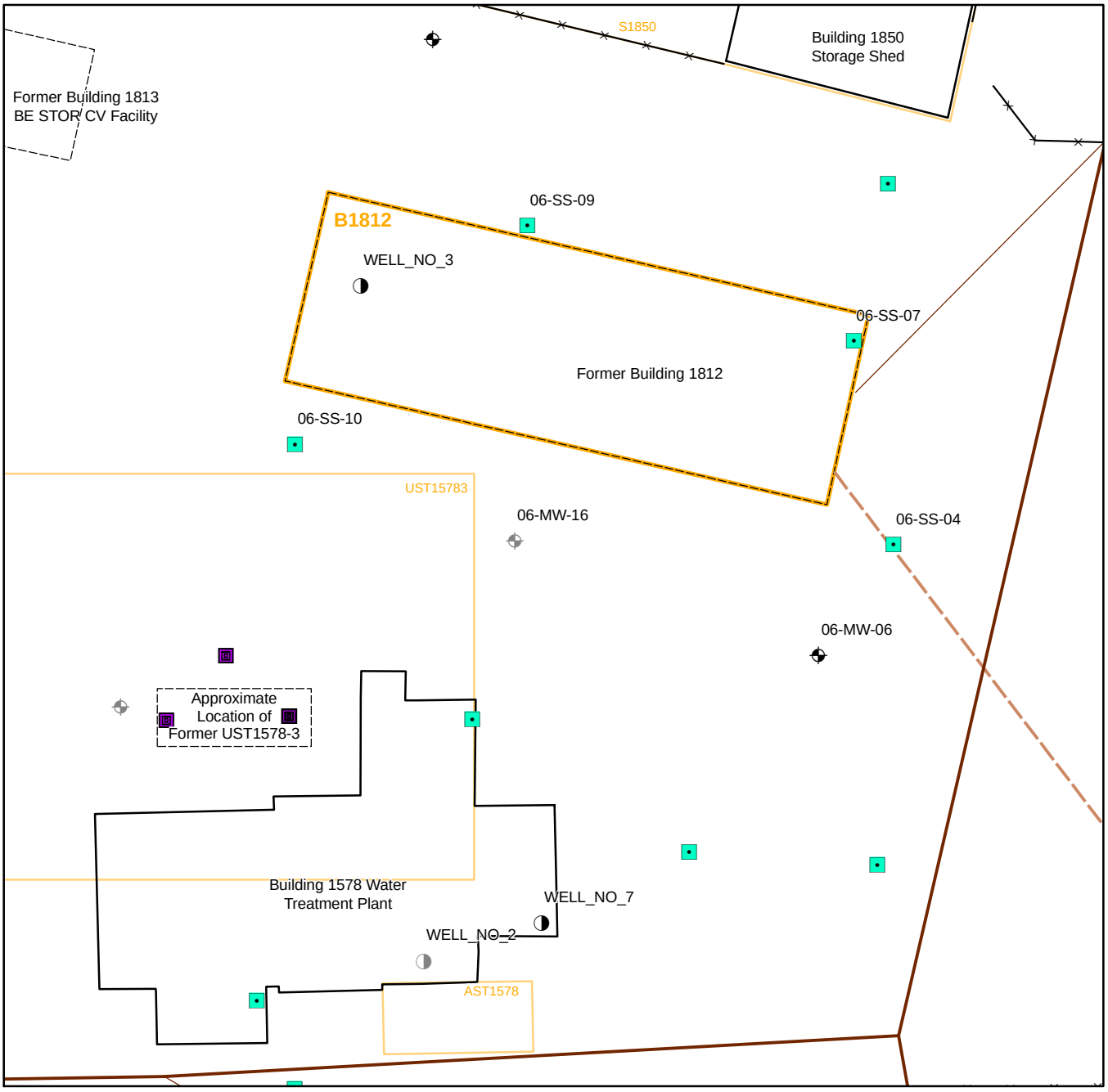
VICINITY MAP



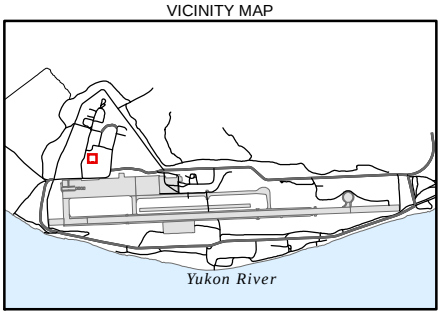
N

0 25 50
Feet

FIGURE A2-B1812
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska



VICINITY MAP



LEGEND

- B1812
- Adjacent Site
- Approximate Location of Former Feature
- Structure
- Fence
- Approximate Trend Reported Fuel Pipeline
- Main Wastewater Line
- Service Wastewater Line

N

0 15 30
Feet

FIGURE A3-B1812
Historical Sample Locations

Preliminary Assessment Report

Former Galena Forward Operating Location, Alaska

CH2MHILL

\\BALDUR\PROJ\GALENATO184_394439\MAPFILES\PA_2010\B1812\B1812_PA_SAMP.MXD SEARLY 12/2/2010 13:25:03

FIGURE A4-B1812
Former Location of Building 1812 and Water Well #3, October 2009

Supporting Documentation

GALENA AIRPORT (INSTALLATION NAME AND NO.)	2034 HPZW	JAN 62 (DATE)	DRAWING NO.	2001 (RP ACCOUNT NO.)	~~2003~~ ~~52003-5T~~ (CONTROL NO.)	T-1812 (BUILDING NO.)

DIMENSIONS (*Width x length*)

MAIN BUILDING	OFFSETS	WINGS	BASEMENTS
~~36' x 100'~~			
~~10' Height~~			
36.6" x 106'			

MATERIALS

FOUNDATION	FLOOR	WALL	ROOF
Wood ~~Mud~~ Sills	Steel landing mats ~~3" plank walk~~ ~~& dirt floor~~	Wood ~~Celotex(inside)~~ ~~No insulation~~	Composition ~~Tar paper~~ gable ~~roof.~~

HEATING

SOURCE	TYPE	FUEL
Central System	Power House	Steam

NO. OF USABLE FLOORS	FIRE PROTECTION NO.	FIRE PROTECTION TYPE
1		Extinguishers 1

UTILITY CONNECTIONS	
WATER	
SEWER	
ELECTRIC	120/208
GAS	
STEAM	1/2
CONDENSATE	1"

BLDG EQPT	NO.	TOTAL CAPACITY
~~XXX~~ ~~XXXXXXXX~~ ~~Est value~~	4 Ea.	27,500 Stor ~~$3,025.~~ Oil Storage
EVAPORATIVE COOLING		
MECHANICAL COOLING		
HOT WATER FACILITIES		

	CODE
STATE: ALASKA	702
ASSIGNMENT: AAC	
TYPE OF CONSTRUCTION: TEMPORARY	~~8T~~
CONDITION: USABLE ~~SUBSTANDARD~~ ~~Class B~~ INU	3 ~~2~~
OCCUPANCY	
AIR FORCE INTEREST: OWNED	1
UNIT OF MEASURE (*Other than area*)	
QUANTITY	
NOMENCLATURE: ~~CE STORAGE, COVERED~~ (Original)	219-944 ~~219-946~~
CATEGORY: BE MAINT SHP A	

REMARKS: ~~BE, Pave & Grds Fac 219-948~~ Grnd Foltz 1 Fund K $1,000 XX

ENGR MG C

Land - owned (1)

OPR: B Inv 6704

17102

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
~~72-60~~	~~4 Dec 59~~	~~Erect Bldg for LOX Lab w/b 4/23-59~~	~~2 Feb 59~~						
62-0352	2 Jan 62	Transferred from FAA WO 99030-2 L.4	~~Est~~ 1942	3,600	3,600	38,000		38,000	
64-0294	16 Oct 63	Deletes cost of 3 existing Stor Tks				9,075		28,925	00
64-0759	14 May 64	Install 2 Heaters , W/O 45576				1,228.		30,153	.00
66-0128	2 Aug 65	Inv Adj		269	3,869	26,000	00	56,153	00
66-0186	20 Sep 65	Cost correction from Vo 66-0128			3,869	-26,000	00	30,153	00
BALANCES FORWARDED					3,869			30,153	00

AF FORM 15 JUN 56 1430 REPLACES DA FORM 5-47. 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
		BALANCES FORWARDED	1942		3869			30,153	00
66-0283	5 Nov 65	Approved Changed Utilization			3869			30,153	00
67-0105	15 JUL 66	AFM 170-5 Cost Code Changes						30,153	00
		ACCOUNTABLE DATA SUMMA							
		PITED ON VOUCHER 705589							
		DATED 60183							
		CONVERTED TO BEAMS							
88DD21	Jan 88	Chg Cond Code to 3 Change Inv Date to 8711	Nov 87						
920058/71		(Plumb. & Electrical)							
~~910300~~	~~June 91~~	~~Site Inventory~~							
970833	Aug	Just facility vacant							
2003 005539	4 Apr 03	Change interest code to 7							
		BALANCES FORWARDED							

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	FACILITY NO.	RP ACCOUNT NO.	CONTROL NO.	NOMENCLATURE
Galena Airport 2034 HPZW	Nov 65	See Remarks	1812	2001	58410-7 ~~58410-146~~	Cote ~~Water~~ Well

TYPE	CAPACITY	STATE: Alaska	CODE: 702
~~FUEL USED~~ DEPTH 214'	POWER SOURCE	ASSIGNMENT: AAC	
~~SUPPLY SOURCE~~ DIAMETER 6"	NO. OF PUMPS	CONDITION: Usable Class 4	~~1~~ 3
~~LIFT (Feet)~~ STATIC WATER SUPPLY 23.6' below grade	REFRIGERANT	OCCUPANCY: USAF	
NO. OF BOILERS	OPERATING PRESSURE	AIR FORCE INTEREST: OWNED	1
	Well #3 8-IN CASING 300 FOOT DEEP	UNIT OF AREA MEASURE	TD
NO. OF RETORTS	PRIME MOVER 25-HP 500 GPM CAPACITY TURBINE WELL PUMP & DIESEL ENGINE STANDBY POWER	QUANTITY	
		CATEGORY X	841-166

CURRENT CHARACTERISTICS

VOLTS	AMPERE
PHASE	CYCLE

REMARKS

Re: '65 Inventory Drawing G-1 of Master Plan - Water System

Well #3

Land - Owned (1)

Standby Fire Protection

Inv 6704

OPR: B

ENGR MG

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE AMOUNT	UNIT OF MEASURE TOTAL	COST AMOUNT	COST TOTAL
66-0283	5 Nov 65	1965 Inv adj	1942		120		20,300 00
		ACCOUNTABLE DATA SUMMA					
		DATED 6 1 3					
		CONVERTED TO BEAMS 732590					
880021	Jan 88	Chg Cond Code to 3 Change Inv Date to 8711	Nov 87				
920058/71 910300	June 91	Sit Inventory					
970833	Aug 97	Sust facility vacant					
		BALANCES FORWARDED					

90 AF FORM 15 JUN 56 1433

REAL PROPERTY ACCOUNTABLE RECORD - PLANTS

59

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 910386

INSTALLATION NAME AND NO.	DATE	DRAWING NO.	FACILITY NO.	PLANT NO.	RP ACCOUNT NO	CONTROL NO.	NOMENCLATURE
Galena Airport	Aug 76		1812				COMPRS AIR DISTR

SYSTEM

TYPE	CAPACITY	SOURCE

MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES

CURRENT	NO. OF LIGHTS

STORAGE

TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO.	CAPACITY	NO.	CAPACITY

	CODE
STATE: Alaska	
ASSIGNMENT: AAC	
CONDITION: ~~usable~~	3
OCCUPANCY: AJ	
AIR FORCE INTEREST: owned	F
UNIT OF MEASURE	LF
QUANTITY	110
CATEGORY	890-144

REMARKS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES ~~(Pt)~~ LF AMOUNT	MAINS AND LINES ~~(Pt)~~ LF TOTAL	COST AMOUNT	COST TOTAL
		Est x Item			110		700
77-02642	Oct 76						
880021	Jan 88	Chg Cond Code to 3 Change ~~Inv~~ Date to 8711	Nov 87				
~~920058/71~~ ~~910300~~	~~June 91~~	~~Site Inventory~~					
970833	Aug 97	Test facility vacant					
		BALANCES FORWARDED					

AF FORM 15 JUN 56 1431 REPLACES DA FORM 5-52, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GALENA APT	2034 HPZW	APR 67		1812	
INSTALLATION NAME AND NO.		DATE	DRAWING NO.	FACILITY NO.	PLANT NO.

2001	~~58800-19~~ 58070	AUTO ~~FIRE DETECTION SYS~~ FR DTECTN SYS
RP ACCOUNT NO	CONTROL NO.	NOMENCLATURE

SYSTEM

TYPE	CAPACITY	SOURCE
PROTECTOW (RC 1 TRANS PANEL 2 FIRE BELLS		
MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES		STORAGE	
CURRENT	NO. OF LIGHTS	TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO.	CAPACITY	NO.	CAPACITY

	CODE
STATE: ALASKA	702
ASSIGNMENT: AAC	
CONDITION: USABLE Usable	1
OCCUPANCY: USAF	
AIR FORCE INTEREST: OWNED	1
UNIT OF MEASURE	EA
QUANTITY	1
CATEGORY X	880-221 ~~880-213~~

REMARKS

ENGR MG C
Land - owned (1)

OPR: B
Inv 6704 57 ~~EA~~

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES ~~(PC)~~ AMOUNT	MAINS AND LINES TOTAL	COST AMOUNT	COST TOTAL
67-0528	27 Apr 67	1967 Inventory Adj, Establish Sys	1942	1	1	464 00	464 00
68-0030 ~~68-1026~~	7 Aug 67	W/OB19897 Cost Adjustment EXP $464.00				2 00	466 00
68-0249	8 Dec 67	AFM 300-4 change to category code and primary unit of measure			3869		466 00
		ACCOUNTABLE DATA SUMMA					
		RIZED ON VOUCHER					
		DATED 67183 732591					
		CONVERTED TO BEAMS					
		BALANCES FORWARDED					

17102

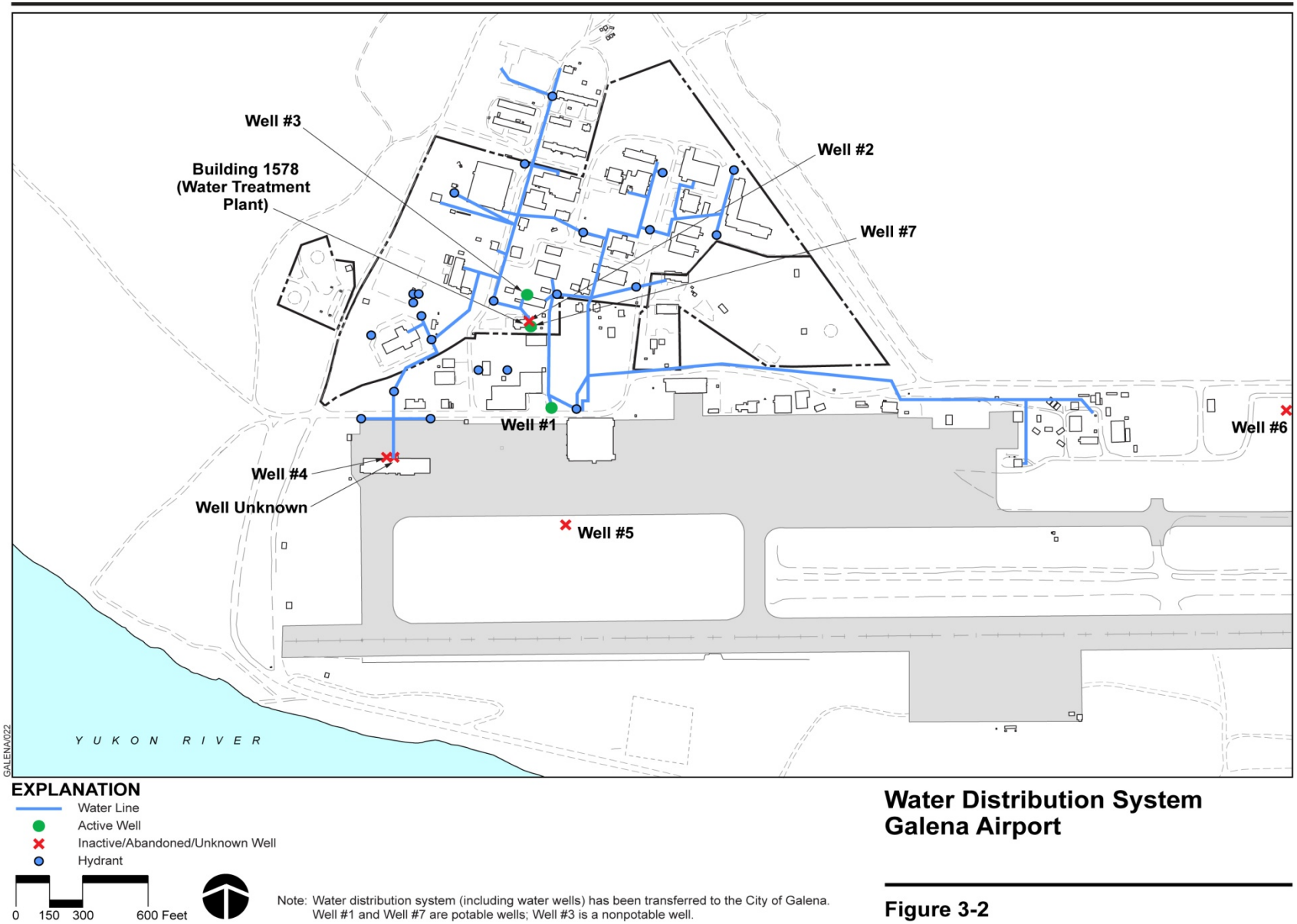
117AF FORM 15 JUN 56 1431 REPLACES OA FORM 5-52, 1 NOV 45 WHICH IS OBSOLETE IN THE USAF.

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
880021	Jan 88	Change Inv Date to 8711	Nov 87						
920058/71 ~~910300~~	~~June 91~~	Site Inventory							
970833	Aug 97	Rust facility Vacant							
		BALANCES FORWARDED							

GPO 935305

GPO: 1956 O - 405199



Water Distribution System
Galena Airport

Figure 3-2

APPENDIX A

S1850

Building 1850 – Storage Yard (Site ID S1850)

Site Location

Site S1850 is located south of Building 1850 and within the cantonment "triangle."

Site Characteristics

Site features are shown on Figure A1-S1850. Site S1850 consists of the fenced 120-foot–by-70-foot storage yard located south of Building 1850, the former CE Maintenance Shop. The area consists of a gravel surface with some grassy areas. A storage shed is located in the southeastern corner of the storage yard. The features of concern at Site S1850 are former hazardous waste storage containers, including former ASTs, electrical equipment, and batteries located within the Building 1850 storage yard. The current 1,100-gallon AST located within the storage yard is addressed under separate investigation as Site AST1850.

Site Description and History

Site S1850 was historically used as a hazardous waste accumulation point for waste products generated from maintenance activities. Former ASTs have been recorded as being located at Building 1850 (USAF, February 2010, Section 3.3.3.1), including a 2,000-gallon MUR box tank (USAF, October 2004, Table 3.1-1); a 3,000-gallon self-diked, used-oil tank (USAF, October 2004, Table 3.1-1); and two 1,000-gallon used-oil tanks (USAF, May 2008, Table 3-1). Potential spills to soil from waste storage containers, transformers, and former ASTs located within the storage yard are the sources of potential contamination at Site S1850.

The original building was constructed in 1966 at Champion AFB and was reconstructed on the existing Building 1850 location at Galena FOL in 1988 (USAF, January 1995; documentation is included in the supporting documentation). The building is currently used by the school district for storing appliances.

Historical aerial photographs of the site, dated 1963, 2002, and 2009, are shown on Figure A2-S1850. The 1963 photograph shows the site before the construction of Building 1850. The 2002 and 2009 photographs show Building 1850.

Summary of Previous Investigations

A soil survey and soil sampling were conducted at Site S1850 in 1993, and groundwater samples were collected in the vicinity of the site in 2004. Historic sampling locations at Site S1850 are shown on Figure A3-S1850.

Remedial Investigation Soil Gas Survey and Soil Sampling (1993)

In 1993, a soil gas survey was conducted at Site S1850 to investigate petroleum-stained soil found during construction for the waste-oil tank, AST 1850 (Appendix A, Site AST1850). The investigation results are presented in a Remedial Investigation report (Radian, March 1996). Nine soil gas samples (01 through 09) were collected around the Building 1850 perimeter,

and 19 soil gas samples (11 through 29) were collected from the storage yard. The locations of these samples are shown on Figure 3.4-9 of the RI excerpt in the supporting documentation. Samples were analyzed with a combination of field instruments (PID, FID, and CAT). The soil gas survey results indicated potential contamination in the area south of the current AST. Eleven soil samples were collected in the area of high PID/CAT readings at 5 feet bgs, and samples were analyzed for AH and TPH using a field IR method.

An area of petroleum contamination was found approximately 60 feet south of Building 1850. AH was detected at concentrations ranging from 1 to 47 mg/kg, and TPH was detected at concentrations ranging from 3 to 1,182 mg/kg. The highest concentrations were detected in Sample 11 (36 mg/kg AH, 1,182 mg/kg TPH), Sample 25 (47 mg/kg AH, 792 mg/kg TPH), and Sample 24 (30 mg/kg AH, 273 mg/kg TPH).

The source of contamination was not identified definitively because soil gas and AH/TPH data suggested that the spill was weathered, and no spills or leaks were known to have occurred at that location (Radian Corporation, March 1996, p. 3-35).

Former Galena FOL Remedial Investigation/Feasibility Study (2003 to 2005)

Monitoring Well 06-MW-17 was installed immediately south (downgradient) of Site S1850 and Monitoring Well 06-MW-12 was installed at the northwest corner of Building 1850, upgradient from Site S1850. Both wells are screened from 35 to 45 feet bgs. Groundwater samples collected from the wells in June 2004 were analyzed for DRO by Method AK102, metals by Methods SW6010B and SW6020, VOCs by Method 8260B, and natural attenuation indicator parameters. Laboratory analytical results are presented in Appendix B of the RI/FS report (Earth Tech, May 2007), and are included in the supporting documentation.

At Monitoring Well 06-MW-17, DRO was detected at 136 µg/L, but was also detected in the control blank. BTEX were not detected above laboratory reporting limits. Toluene was detected at a concentration of 0.44J µg/L (qualified J for estimated concentration). Other VOC detections (all qualified J for estimated) include TCE (0.42J µg/L), chloroform (1.76J µg/L), and acetone (4.14J µg/L). Groundwater samples collected at Monitoring Well 06-MW-12 during June 2004 had detected concentrations of VOCs. However, these data have been qualified as estimated concentrations. These included TCE (53.1J µg/L), benzene (0.37J µg/L), toluene (6.7 µg/L), ethylbenzene (3.2J µg/L), xylenes (19.26 µg/L), 1,3,5-trimethylbenzene (1.27J µg/L), 1,2,4-trimethylbenzene (8.15J µg/L), chloroform (2.58J µg/L), cis-1,2-DCE (0.33J µg/L), and n-propylbenzene (0.77J µg/L). Arsenic was detected in samples from both wells; however, the data were flagged as estimated results.

October 2009 Site Visit Observations

An inspection of Site S1850 was conducted in October 2009. Photographs of AST 1850 from October 2009 are provided in Figures A4-S1850 and A5-S1850. Building 1850 did not have a floor drain or OWS visible during the 2009 site visit and is not considered to be a source of potential contamination. Access to the inside of the fenced storage area was not available during the site visit. From outside the fence, no odors and no visual signs of ecological impact or acute toxicity were observed. The surface within the fenced storage yard was observed to be gravel with some patches of grass. Metal objects and upright compressed-gas

canisters were in the storage yard. It could not be determined if the canisters were empty. The flammable materials storage shed in the southeast portion of the storage yard was empty during the site visit.

Target Analytes

Target analytes for Site S1850 were determined on the basis of Site S1850's history as a storage yard for hazardous wastes (paint ASTs, electrical equipment, and batteries). These target analytes include DRO, RRO, GRO, VOCs (including BTEX), SVOC, PCB, pesticides, and metals (arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium, silver, and vanadium).

Potential Exposure Pathways and Receptors

Based on current and reasonably anticipated potential future land uses at Site S1850, potential human receptors and potentially complete exposure pathways include the following:

- **Excavation/Construction Workers**: Potential exposure to chemicals in soil to 15 feet bgs and shallow groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind or during onsite excavation activities. Potentially complete routes of exposure to shallow groundwater include dermal contact with groundwater and inhalation of ambient vapors from groundwater.
- **Future Occupational Workers**: Potential exposure to chemicals in surface soil to 2 feet bgs. Potentially complete routes of exposure to surface soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Vapor intrusion from VOCs in environmental media migrating into current or future occupational buildings is also a potentially complete exposure route.
- **Hypothetical Future Residents**: Potential exposure to chemicals in soil to 15 feet bgs and groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Potentially complete routes of exposure to groundwater include ingestion, dermal contact, and inhalation of VOCs during showering or other household activities. Vapor intrusion from VOCs in environmental media migrating into current or future residences is also a potentially complete exposure route.

The pavement and gravel surfaces provide no viable terrestrial habitat. Terrestrial ecological exposure pathways are considered incomplete at Site S1850. Therefore, no ecological receptors were identified and the site will not be evaluated for ecological risk. An aquatic ecological exposure pathway is unlikely to be complete because this site is more than 1,000 feet from the Yukon River. Data are being collected as part of the FSP for the 2010 Hydrogeologic Study (CH2M HILL, August 2010) to refine the understanding of the groundwater system at the FOL. This pathway may be evaluated further if subsurface contamination is found at the site and the data collected as part of the hydrogeological

characterization suggest that there is a potential for site contamination to impact the Yukon River.

Conclusions

Results from a 1993 soil gas survey and soil field sampling indicate petroleum hydrocarbon contamination at Site S1850. The extent of the petroleum contamination is unknown. Media at Site S1850 have not been evaluated to confirm the presence or absence of other chemicals of interest such as VOCS, metals or PCBs.

Recommendation: Site Inspection Sampling

Limited site inspection sampling is recommended to determine the current nature and extent of the petroleum contamination and to identify if target analytes are present above ADEC Method 2 cleanup levels.

References

CH2M HILL. August 2010. *Final Work Plan for Site Inspection, Remedial Investigation, and Site Characterization; Former Galena Forward Operating Location, Alaska*. Prepared for Air Force Center for Engineering and the Environment.

Earth Tech, Inc. May 2007. *Final Remedial Investigation/Feasibility Study Report for United States Air Force Sites at Galena Airport and Campion Air Station, Alaska.*

Radian Corporation. March 1996. *Final Remedial Investigation Report, Galena Airport and Campion Air Station, Volume I-Text*.

U.S. Air Force (USAF). February 2010. *Final Environmental Baseline Survey Air Force Property at Galena Airport, Alaska*.

U.S. Air Force (USAF). May 2008. *Final Environmental Baseline Survey, Air Force Property at Galena Alaska*, 611th Civil Engineer Squadron, Elmendorf AFB, Alaska.

U.S. Air Force (USAF). October 2004. *Galena Air Station Oil Discharge Prevention and Contingency Plan*. Revision 5. 611th Air Support Group, 611th Civil Engineer Squadron, Elmendorf AFB, Alaska.

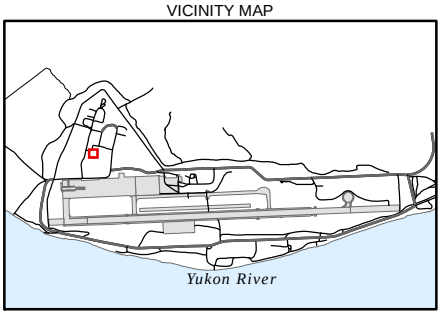
U.S. Air Force (USAF). June 1996. *Final Installation-Wide Environmental Baseline Survey, Galena Alaska*. 611th Civil Engineer Squadron, Elmendorf AFB, Alaska.

LEGEND

- S1850
- Adjacent Site
- Approximate Location of Former Feature
- Fuel Tank
- Fence
- Main Wastewater Line
- Service Wastewater Line

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meters.

VICINITY MAP



N

0 15 30
Feet

FIGURE A1-S1850
Site Layout

Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

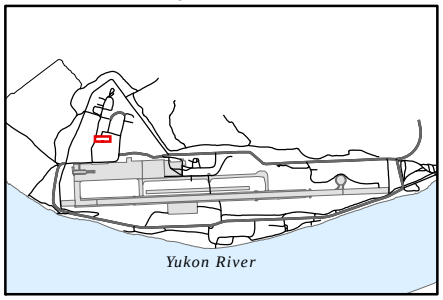
CH2MHILL

LEGEND

S1850

Notes:
1. Photography Dated 9-4-1963, Georeferenced.
2. Imagery August, 2002. Pixel size 0.075 meters.
3. Imagery September 4, 2009. Pixel size 0.25 meters.

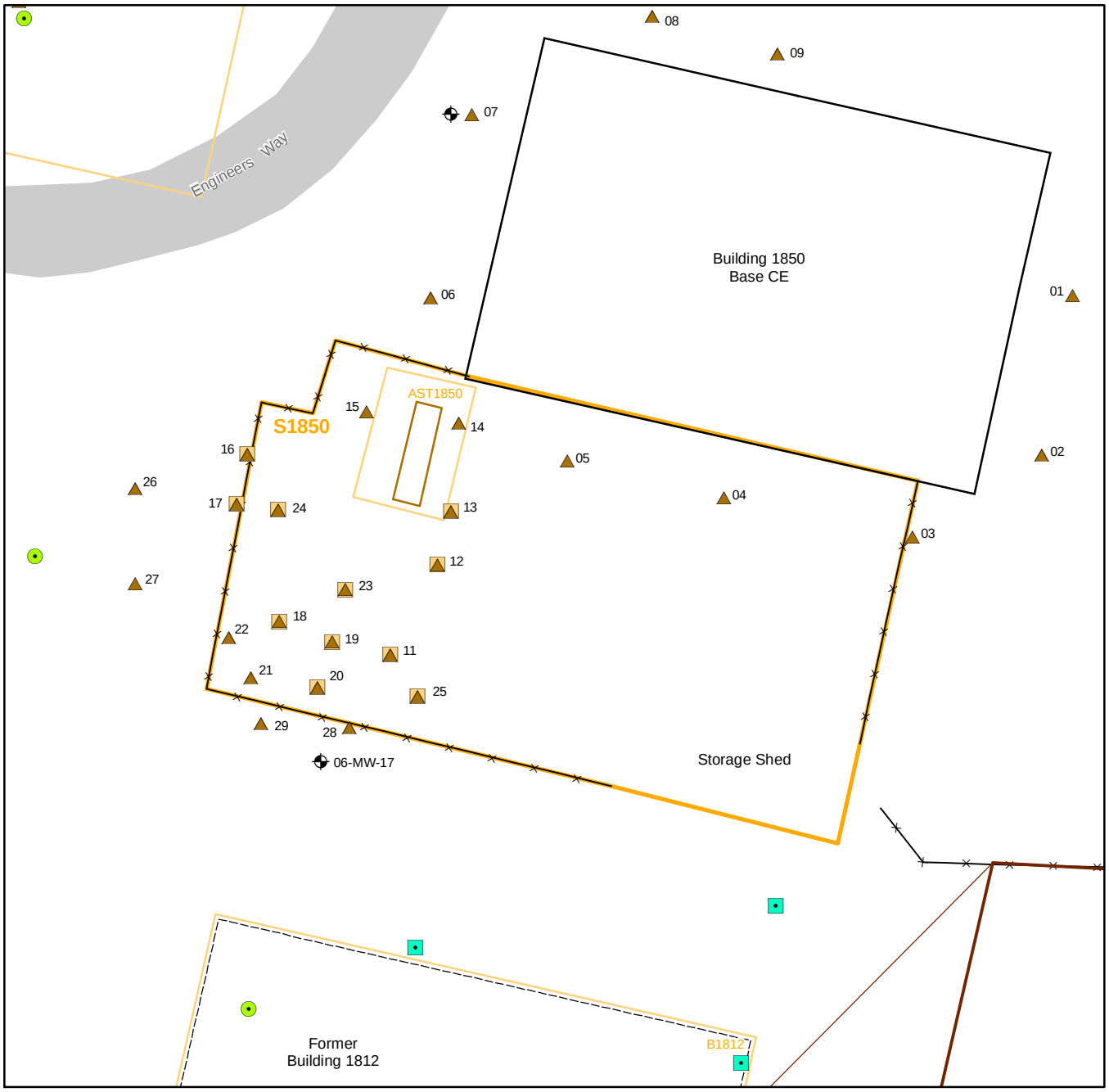
VICINITY MAP



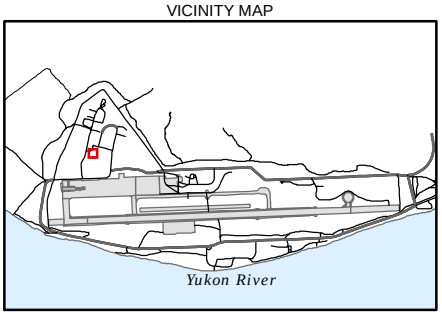
N

0 30 60
Feet

FIGURE A2-S1850
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska



VICINITY MAP



LEGEND

- S1850
- Adjacent Site
- Structure
- Approximate Location of Former Feature
- Fuel Tank
- Road
- Fence
- Main Wastewater Line
- Service Wastewater Line

Historical Sample Location

- Soil Boring
- Surface Soil Sample
- Hydro Punch
- Monitoring Well
- Soil Vapor Sample

N

0 15 30
Feet

FIGURE A3-S1850
Historical Sample Locations

Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

FIGURE A4-S1850
Building 1850 Storage Yard (Building 1850 is upper right), October 2009

FIGURE A5-S1850
Used Oil Tank and Other Supplies in Yard
Source: USAF, June 1996, Appendix B, Photo 52

Supporting Documentation

Real Property - Facility Usage Info (SFACUS)

Install	Facility	Constr Year	Facility Type	Prime Cat	Category Name	Int Code	Type Constr	Cap Lease	Act	Hert	Last Inventory
HPZW	01850	1987	A	219944	BE MAINT SHP	7	P	N	N	N	02-DEC-2002

Facility Usages

IC	Occupant	HD	BDR	CC	Cat Nbr	Cat Desc	PML
A	CON			1	219944	BE MAINT SHP	1
X	CON			1	124134	OPG STOR,DIESEL	1
X	CON			1	880221	AUTO FR DTECTN SYS	1

Usage Info | Area | Housing | Comment | Installation Readiness

Cmd Indicator 4N

Proj Cat

Proj Cat Desc

Cost Acct 51070

Title BUILDINGS - ALL OTHER

P & E Install Date

DUERS N - DUERS Non-reportable

Mission BASE SUPPORT

Find Facility | Go to Facility | Customers | Plant Components | Area Reallocation | Validate Facility

BLDG 1850

HISTORIC NAME OF STRUCTURE Base Engineer Maintenance Shop

SECONDARY OR COMMON NAME OF STRUCTURES CE (Civil Engineer) Shop

COMPLETE ADDRESS For information regarding this facility contact, 611 CES/CERR, 21885 2nd St, Elmendorf AFB AK 99506-4420

DATE OF CONSTRUCTION Original construction 1965, reconstructed 1988

ARCHITECT Unknown

STYLE Butler

MATERIALS OF CONSTRUCTION Concrete foundation, corrugated metal walls and roof

SHAPE AND DIMENSIONS OF STRUCTURE Original building 100 x65 , vestibule 5 x5 , 100 square foot added after reconstruction Total square footage 6,625

EXTERIOR FEATURES OF NOTE None

INTERIOR FEATURES OF NOTE None

MAJOR ALTERATIONS AND ADDITIONS WITH DATES A 100 square foot addition was added in 1989

PRESENT CONDITION AND USE Facility is maintained, heated and in use by civil engineers

OTHER INFORMATION AS APPROPRIATE Formerly Bldg 134, Gymnasium, constructed at Campion Air Station in 1966 Building was relocated from Campion and reconstructed at Galena in 1988

SOURCES OF INFORMATION AF Form 1430, Real Property Accountable Record - Buildings, Mr Robert Lowe, Facility Engineer, Galena Airport, Ms Moira Dennis, Real Property Officer, 611 Civil Engineer Squadron

COMPILER SSgt Michael F White DATE 29 Jan 95

Galena Airport
Air Force Building No. 1850, Maintenance Shop
Constructed: 1988, (Formerly Building 134, Gymnasium, constructed at Campion AFS in 1966. Building was relocated from Campion and reconstructed at Galena in 1988)
Square footage: 6,625
Type construction: Concrete foundation, corrugated metal walls, and roof.

INSTALLATION NAME AND NO	DATE	DRAWING NO	RP ACCOUNT NO	CONTROL NO	BUILDING NO
Galena Apt, Alaska HPZW	Dec 87		2001	51070	1850

DIMENSIONS (Width x length)			
MAIN BUILDING	OFFSETS	WINGS	BASEMENTS

MATERIALS			
FOUNDATION	FLOOR	WALL	ROOF
Concrete	Concrete	Metal	Metal

HEATING		
SOURCE	TYPE	FUEL

NO OF USABLE FLOORS	FIRE PROTECTION	
	NO	TYPE

UTILITY CONNECTIONS	BLDG EQPT	NO	TOTAL CAPACITY
WATER	AIR CONDITIONING		
SEWER			
ELECTRIC	EVAPORATIVE COOLING		
GAS	MECHANICAL COOLING		
STEAM			
CONDENSATE	HOT WATER FACILITIES		

	CODE
STATE: Alaska	702
ASSIGNMENT: AAC	
TYPE OF CONSTRUCTION: Permanent	P
CONDITION	
OCCUPANCY: AF	
AIR FORCE INTEREST: Owned	
UNIT OF MEASURE (Other than area)	
QUANTITY	
NOMENCLATURE: BCE MAINT SHP	
CATEGORY: (A)	219-944

REMARKS

(old FAC #134 from Campion)

Original Cost - $308,000 00

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
880029	25 NOV 87	W/O# 55007 EXP# 50,676 22 Relocate Gym from Campion to Galena	1965	SF	6525	152,034	68		
400016	11 Oct 89	WO#58368 Constructed Addition to Facility	1989	SF 100		9,013	99		
90-0175		CORRECT COST OF Buildings to True Value	Mar 90			(167,000	—)	315,000	00
920058/71 ~~910300~~	~~Jun 71~~	Site Inventory							
		Inventory	2 Dec 05						
BALANCES FORWARDED									

AF FORM 1430 15 JUN 56 REPLACES OA FORM 5 47 1 NOV 45 WHICH IS OBSOLETE IN THE USAF

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT		COST		TOTAL COST	
				AMOUNT	TOTAL				
		BALANCES FORWARDED							
		BALANCES FORWARDED							

☆ U S Government Printing Office 1985—490 982/42240

INSTALLATION NAME AND NO	DATE	DRAWING NO	FACILITY NO	PLANT NO	RP ACCOUNT NO	CONTROL NO	NOMENCLATURE
Galena Apt, ALASKA HPZW	DEC87		1850		2001	48000	Auto FR Dtectn Sys

SYSTEM

TYPE	CAPACITY	SOURCE

MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES

CURRENT	NO OF LIGHTS

STORAGE

TYPE	CAPACITY

SUB STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO	CAPACITY	NO	CAPACITY

	CODE
STATE: Alaska	702
ASSIGNMENT: AAC	
CONDITION	
OCCUPANCY: USAF	
AIR FORCE INTEREST: Owned	
UNIT OF MEASURE	
QUANTITY	
CATEGORY (X)	880-221
REMARKS	

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft) AMOUNT	MAINS AND LINES (Ft) TOTAL	COST AMOUNT		COST TOTAL	
		W/O # 55007		EA	1				
880029	25 NOV 87	Relocate GYM from Campion to Galena Apt	JAN 86	SF	6525	27,034	68		
92005871 ~~910300~~	~~Jun 91~~	Sale Inventory							
BALANCES FORWARDED									

AF FORM 15 JUN 56 1431

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 936305

☆U S GPO 1984-0-420-979/14866

The field screening and analytical results at this site indicate the presence of fuel contamination from a subsurface source that is separate from the Building 1845 source area. This contamination probably originates from the dry well and waste oil tank associated with Building 1700.

Recommendations

It is recommended that the floor drains and the dry well be abandoned in place and rendered unuseable so that no additional releases can occur from this facility. Building 1700 should be eliminated as a continuing source area since the baseline risk assessment (USAF, 1996) shows that contaminated soil within the West Unit poses an insignificant risk to human or ecological receptors. The Air Force recommends NFRA for this source area.

3.4.7 Building 1850

Fuel-stained soil was discovered during construction of an aboveground waste oil tank to the south of Building 1850. The origin of this staining is unknown, and it appeared to be weathered. No spills or leaks have been reported at this location.

RI Activities and Findings

Field screening was conducted around the perimeters of Building 1850 and the waste oil tank to define the nature and extent of the apparent contamination. Nine soil gas samples were collected from around the building and analyzed with photoionization detector (PID) and flame ionization detector (FID) portable analyzers. Thirteen soil gas samples were collected from the tank area and analyzed with the PID and a catalytic hydrocarbon (CAT) analyzers. The PID responds only to compounds that contain double bonds (and ethers, aldehydes, and ketones with less sensitivity), and the CAT responds to all combustible compounds. The FID and CAT will generally have comparable responses.

The results of the soil gas survey conducted around Building 1850 are shown in Figure 3.4-9. The area encircled by points 11 through 21 defines the location where the new waste oil tank is located. The CAT analysis shows a high concentration of organic compounds from soil gas points 11 through 28 (78 to 560 ppmV). Significantly lower concentrations of VOCs were detected by the PID. This difference indicates that most of the organic compounds at this source area are saturated, since PIDs detect only unsaturated compounds (i.e., those containing a double bond). The concentration of VOCs in soil gas increases in a southwesterly direction.

Subsurface soil samples were collected at a depth of 5 ft at 11 of the soil gas points. These samples were analyzed using the field IR method for AH and TPH. Table 3.4-5 summarizes the field analytical data. Elevated concentrations of TPH (up to 1,182 mg/kg) were detected in several of the samples from around the waste oil tank. Much lower concentrations of AH were detected in the soil samples. These results are in agreement with the soil gas results; the AH detections correspond to the double-bond compounds detected by the PID.

Table 3.4-5
Building 1850 Soil Field Screening Results

Sampling Location	Field IR Analysis (mg/kg)	
	AH	TPH
11	36	1182
12	2	56
13	ND	6
16	2	3
17	2	211
18	10	210
19	3 2	149
20	1	11
23	7	67
24	30	273
25	47	792

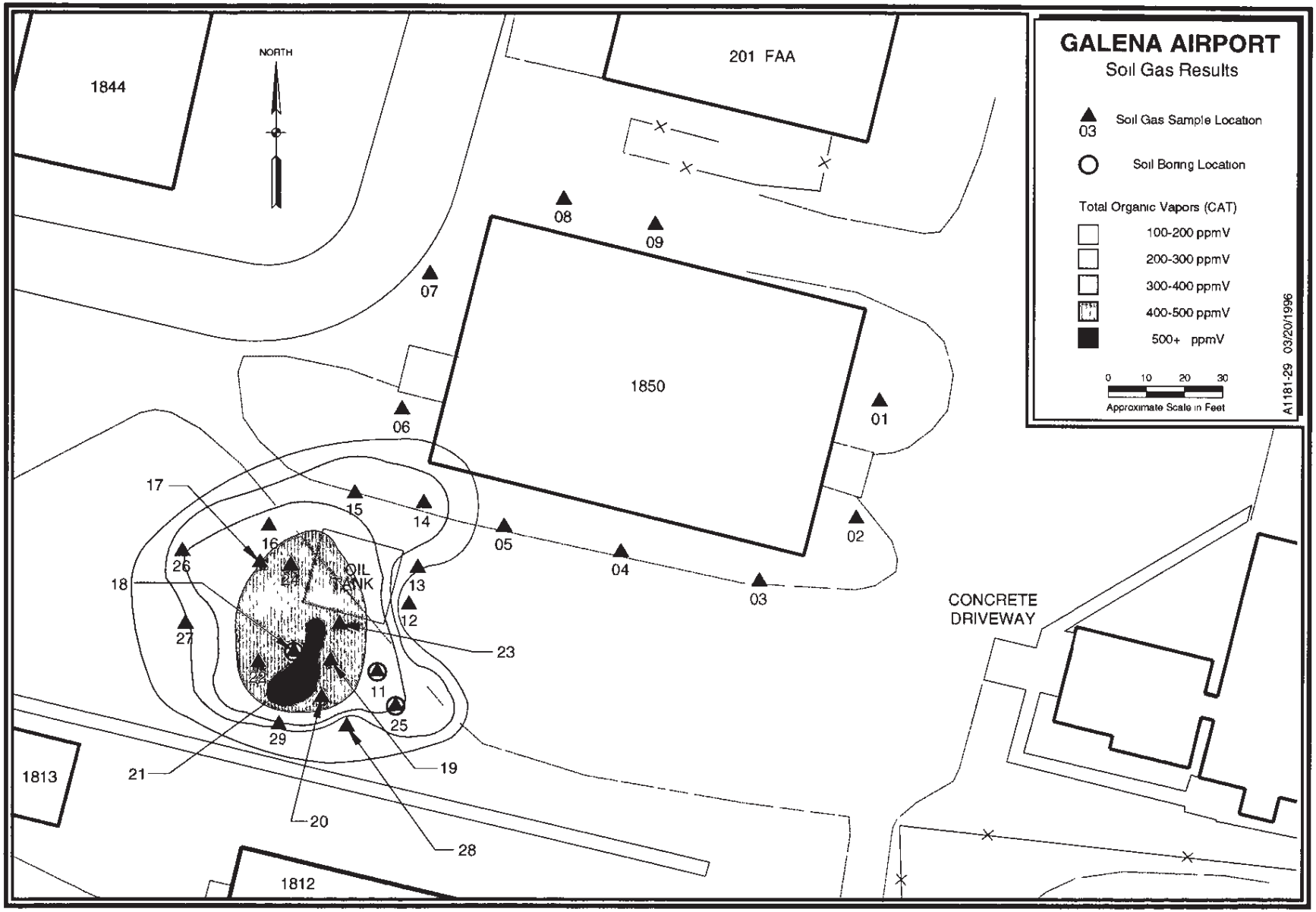


Figure 3.4-9. Soil Gas Survey Results for the Building 1850 Source Area

The area of petroleum contamination at Building 1850 is approximately 30 ft in diameter, as indicated by soil gas concentrations greater than 200 ppmV. The soil gas and AH/TPH data suggest that this spill may be weathered. In newer fuel spills, both saturated and unsaturated hydrocarbon compounds typically occur. Over time, the residual, or saturated, hydrocarbons are left while the unsaturated, or aromatic, hydrocarbons are volatilized or leached away. Neither the nature nor the source of these hydrocarbons is known, and no spills or leaks have been reported for this location.

Recommendations

It is recommended that Building 1850 be eliminated as a source area for the West Unit. The limited area and apparent age of the release suggest that this site will not pose an unacceptable risk to human or ecological receptors. The Air Force recommends NFRA for this source area.

3.4.8 West Unit Summary

Groundwater contamination at the West Unit is of two basic types: chlorinated solvents (primarily TCE) and fuel-related compounds. The highest levels of TCE contamination are located in the northeast portion of the West Unit. Building 1845, the original vehicle maintenance building, is presumed to be the source. Lower levels of TCE contamination also occur in the Million Gallon Hill source area. Groundwater contamination by fuel-related analytes at the West Unit is widespread. Individual plumes of contamination have been identified in the Million Gallon Hill and JP-4 Fillstand source areas. BTEX compounds are the primary contaminants that appear to be attributable to Million Gallon Hill (free product has been observed at some locations); benzene appears to be the primary contaminant in the JP-4 Fillstand area.

Soil contamination at the West Unit (not including pesticides—see Section 3.9) consists primarily of fuel-related compounds. DRO, GRO, and BTEX were present in numerous surface soils and sediments throughout the West Unit, suggesting that spills and leaks have occurred at several locations over a period of time. Past waste management practices, such as allowing sludge from tank cleaning to weather on the ground, may have also contributed to surface contamination at the Million Gallon Hill and Power Plant UST No. 49 source areas. Subsurface soil contamination by fuels occurs at several locations within the West Unit. Subsurface contamination at the JP-4 Fillstand source area appears to be associated with the fuel-water separator building. The fuel contamination has migrated to groundwater and may be spread by both vertical and horizontal movement of the groundwater. Building 1700 is a source area of petroleum contamination, which appears to originate from the drainage of maintenance-related wastes to an underground waste oil tank and dry well. The vertical extent of this contamination appears to be limited. Soil gas and soil samples collected for field TPH analysis confirmed the presence of contamination by organic compounds to the south of Building 1850, another newly defined service area. However, this soil contamination appears to be old, and probably does not represent a source for groundwater contamination.

SGS

SGS Ref.#	1043688010	**All Dates/Times are Alaska Standard Time**	
Client Name	Earth Tech USA	**Printed Date/Time**	07/26/2004 16:46
Project Name/#	Galena RI/FS	**Collected Date/Time**	06/23/2004 13:52
Client Sample ID	GSS006-06MW17-W062304	**Received Date/Time**	06/24/2004 14:07
Matrix	Water (Surface, Eff., Ground)	**Technical Director**	**Stephen C. Ede**
		Released By	

Sample Remarks:

8260 - Sample analyzed past hold time for vinyl acetate, which was not detected in this sample.
SW6020 ICP MS Metals - Detectable amount of Sb (2.28 ug/L) in the method blank. Sb was not detected in the sample above the PQL.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Methane	0.0965	0.00500	mg/L	RSK-175	D			07/02/04	KWM
Ethene	0.00500 U	0.00500	mg/L	RSK-175	D			07/02/04	KWM
Ethane	0.00500 U	0.00500	mg/L	RSK-175	D			07/02/04	KWM
Metals Department									
Iron	6.25	2.00	mg/L	SW6010B	H		07/07/04	07/12/04	BAG
Metals by ICP/MS									
Aluminum	146	100	ug/L	SW6020			07/13/04	07/15/04	SCL
Antimony	1.00 U	1.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Arsenic	11.3	10.0	ug/L	SW6020			07/13/04	07/15/04	SCL
Barium	399	3.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Beryllium	1.00 U	1.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Cadmium	2.00 U	2.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Calcium	102000	1000	ug/L	SW6020			07/13/04	07/15/04	SCL
Chromium	4.00 U	4.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Copper	6.00 U	6.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Lead	2.00 U	2.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Potassium	7250	1000	ug/L	SW6020			07/13/04	07/15/04	SCL
Selenium	10.0 U	10.0	ug/L	SW6020			07/13/04	07/15/04	SCL
Silver	2.00 U	2.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Sodium	51600	1000	ug/L	SW6020			07/13/04	07/15/04	SCL
Thallium	1.00 U	1.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Vanadium	20.0 U	20.0	ug/L	SW6020			07/13/04	07/15/04	SCL
Zinc	25.0 U	25.0	ug/L	SW6020			07/13/04	07/15/04	SCL
Cobalt	2.17	1.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Magnesium	25700	1000	ug/L	SW6020			07/13/04	07/15/04	SCL
Manganese	1480	2.00	ug/L	SW6020			07/13/04	07/15/04	SCL
Nickel	5.06	2.00	ug/L	SW6020			07/13/04	07/15/04	SCL

SGS

SGS Ref.#	1043688010	**All Dates/Times are Alaska Standard Time**	
Client Name	Earth Tech USA	**Printed Date/Time**	07/26/2004 15:55
Project Name/#	Galena RI/FS	**Collected Date/Time**	06/23/2004 13:52
Client Sample ID	GSS006-06MW17-W062304	**Received Date/Time**	06/24/2004 14:07
Matrix	Water (Surface, Eff., Ground)	**Technical Director**	**Stephen C. Ede**

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Waters Department									
Sulfate	3.35	0.100	mg/L	EPA 300.0	K			07/08/04	JJB
Chloride	7.72	0.100	mg/L	EPA 300.0	K			07/08/04	JJB
Total Nitrate/Nitrite	0.100 U	0.100	mg/L	EPA 300.0	K			07/08/04	JJB
Total Organic Carbon	5.92	0.500	mg/L	SW9060	G			06/30/04	JJB
Semivolatile Organic Fuels Department									
Diesel Range Organics	0.136F	0.306	mg/L	AK102	I		06/25/04	06/27/04	JC
Surrogates									
5a Androstane <surr>	109		%	AK102	I	50-150	06/25/04	06/27/04	JC
Volatile Gas Chromatography/Mass Spectroscopy									
Dichlorodifluoromethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Chloromethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Vinyl chloride	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Bromomethane	3.00 U	3.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Chloroethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Trichlorofluoromethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,1-Dichloroethene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Methylene chloride	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Acetone	4.14F	10.0	ug/L	SW8260B	A		07/05/04	07/05/04	VS
trans-1,2-Dichloroethene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,1-Dichloroethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
2,2-Dichloropropane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
cis-1,2-Dichloroethene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
2-Butanone (MEK)	10.0 U	10.0	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Bromochloromethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Chloroform	1.76	0.400	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,1,1-Trichloroethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Carbon tetrachloride	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,1-Dichloropropene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS

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SGS Ref.#	1043688010	**All Dates/Times are Alaska Standard Time**	
Client Name	Earth Tech USA	**Printed Date/Time**	07/26/2004 15:55
Project Name/#	Galena RI/FS	**Collected Date/Time**	06/23/2004 13:52
Client Sample ID	GSS006-06MW17-W062304	**Received Date/Time**	06/24/2004 14:07
Matrix	Water (Surface, Eff., Ground)	**Technical Director**	**Stephen C. Ede**

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy									
Benzene	0.400 U	0.400	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,2-Dichloroethane	0.500 U	0.500	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Trichloroethene	0.420F	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,2-Dichloropropane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Dibromomethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Bromodichloromethane	0.500 U	0.500	ug/L	SW8260B	A		07/05/04	07/05/04	VS
cis-1,3-Dichloropropene	0.500 U	0.500	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Toluene	0.440F	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
trans-1,3-Dichloropropene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,1,2-Trichloroethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Tetrachloroethene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,3-Dichloropropane	0.400 U	0.400	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Dibromochloromethane	0.500 U	0.500	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,2-Dibromoethane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Chlorobenzene	0.500 U	0.500	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,1,1,2-Tetrachloroethane	0.500 U	0.500	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Ethylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
P & M -Xylene	2.00 U	2.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
o-Xylene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Styrene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Bromoform	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Bromobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,1,2,2-Tetrachloroethane	0.500 U	0.500	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,2,3-Trichloropropane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
n-Propylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
2-Chlorotoluene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
4-Chlorotoluene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,3,5-Trimethylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
tert-Butylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,2,4-Trimethylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
sec-Butylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,3-Dichlorobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
4-Isopropyltoluene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS

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Client Name	Earth Tech USA	**Printed Date/Time**	07/26/2004 15:55
Project Name/#	Galena RI/FS	**Collected Date/Time**	06/23/2004 13:52
Client Sample ID	GSS006-06MW17-W062304	**Received Date/Time**	06/24/2004 14:07
Matrix	Water (Surface, Eff., Ground)	**Technical Director**	**Stephen C. Ede**

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy									
1,4-Dichlorobenzene	0.500 U	0.500	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,2-Dichlorobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
n-Butylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,2-Dibromo-3-chloropropane	2.00 U	2.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Hexachlorobutadiene	0.600 U	0.600	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Naphthalene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Methyl-t-butyl ether	5.00 U	5.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1,2,3-Trichlorobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0	ug/L	SW8260B	A		07/05/04	07/05/04	VS
1-Chlorohexane	1.00 U	1.00	ug/L	SW8260B	A		07/05/04	07/05/04	VS
Vinyl acetate	10.0 U	10.0	ug/L	SW8260B	B		07/05/04	07/09/04	TJE
Surrogates									
Dibromofluoromethane <surr>	112		%	SW8260B	A	85-115	07/05/04	07/05/04	VS
1,2-Dichloroethane-D4 <surr>	110		%	SW8260B	A	72-119	07/05/04	07/05/04	VS
Toluene-d8 <surr>	89.7		%	SW8260B	A	84-113	07/05/04	07/05/04	VS
4-Bromofluorobenzene <surr>	102		%	SW8260B	A	78-124	07/05/04	07/05/04	VS

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SGS Ref.#	1043688003	**All Dates/Times are Alaska Standard Time**	
Client Name	Earth Tech USA	**Printed Date/Time**	07/26/2004 15:55
Project Name/#	Galena RI/FS	**Collected Date/Time**	06/22/2004 8:45
Client Sample ID	GSS006-06MW12-W062204	**Received Date/Time**	06/24/2004 14:07
Matrix	Water (Surface, Eff., Ground)	**Technical Director**	**Stephen C. Ede**
		Released By	Steven R. Crupi

Sample Remarks:

8260 - LCSD recovery for 1,1-dichloropropene does not meet laboratory QC criteria (biased low at 86%). This analyte was not detected in the sample.

8260 - Sample analyzed past hold time for vinyl acetate, which was not detected in this sample.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Ethane	0.00500 U	0.00500	mg/L	RSK-175	D			07/02/04	KWM
Ethene	0.00500 U	0.00500	mg/L	RSK-175	D			07/02/04	KWM
Methane	0.0181	0.00500	mg/L	RSK-175	D			07/02/04	KWM
Metals Department									
Iron	27.3	2.00	mg/L	SW6010B	H		07/07/04	07/12/04	BAG
Metals by ICP/MS									
Aluminum	100 U	100	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Antimony	1.00 U	1.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Arsenic	10.2	10.0	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Barium	632	3.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Beryllium	1.00 U	1.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Cadmium	2.00 U	2.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Calcium	106000	1000	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Chromium	4.00 U	4.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Lead	2.00 U	2.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Potassium	5050	1000	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Selenium	8.26F	10.0	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Silver	2.00 U	2.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Sodium	42600	1000	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Thallium	1.00 U	1.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Vanadium	20.0 U	20.0	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Cobalt	3.35	1.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Magnesium	24700	1000	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Manganese	2110	2.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW
Nickel	8.09	2.00	ug/L	SW6020	H		07/07/04	07/09/04	WAW

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Client Name	Earth Tech USA	**Printed Date/Time**	07/26/2004 15:55
Project Name/#	Galena RI/FS	**Collected Date/Time**	06/22/2004 8:45
Client Sample ID	GSS006-06MW12-W062204	**Received Date/Time**	06/24/2004 14:07
Matrix	Water (Surface, Eff., Ground)	**Technical Director**	**Stephen C. Ede**

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Waters Department									
Sulfate	13.8	0.100	mg/L	EPA 300.0	K			07/08/04	JJB
Chloride	8.16	0.100	mg/L	EPA 300.0	K			07/08/04	JJB
Total Nitrate/Nitrite	0.100 U	0.100	mg/L	EPA 300.0	K			07/08/04	JJB
Total Organic Carbon	6.59	0.500	mg/L	SW9060	G			06/30/04	JJB
Semivolatile Organic Fuels Department									
Diesel Range Organics	0.206F	0.309	mg/L	AK102	I		06/25/04	06/25/04	JC
Surrogates									
5a Androstane <surr>	129		%	AK102	I	50-150	06/25/04	06/25/04	JC
Volatile Gas Chromatography/Mass Spectroscopy									
Dichlorodifluoromethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Chloromethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Vinyl chloride	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Bromomethane	3.00 U	3.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Chloroethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Trichlorofluoromethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,1-Dichloroethene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Methylene chloride	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Acetone	10.0 U	10.0	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
trans-1,2-Dichloroethene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,1-Dichloroethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
2,2-Dichloropropane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
cis-1,2-Dichloroethene	0.330F	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
2-Butanone (MEK)	10.0 U	10.0	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Bromochloromethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Chloroform	2.58	0.400	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,1,1-Trichloroethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Carbon tetrachloride	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,1-Dichloropropene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE

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Project Name/#	Galena RI/FS	**Collected Date/Time**	06/22/2004 8:45
Client Sample ID	GSS006-06MW12-W062204	**Received Date/Time**	06/24/2004 14:07
Matrix	Water (Surface, Eff., Ground)	**Technical Director**	**Stephen C. Ede**

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy									
Benzene	0.370F	0.400	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,2-Dichloroethane	0.500 U	0.500	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Trichloroethene	53.1	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,2-Dichloropropane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Dibromomethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Bromodichloromethane	0.500 U	0.500	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
cis-1,3-Dichloropropene	0.500 U	0.500	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Toluene	6.70	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
trans-1,3-Dichloropropene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,1,2-Trichloroethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Tetrachloroethene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,3-Dichloropropane	0.400 U	0.400	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Dibromochloromethane	0.500 U	0.500	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,2-Dibromoethane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Chlorobenzene	0.500 U	0.500	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,1,1,2-Tetrachloroethane	0.500 U	0.500	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Ethylbenzene	3.20	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
P & M -Xylene	12.0	2.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
o-Xylene	7.26	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Styrene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Bromoform	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Isopropylbenzene (Cumene)	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Bromobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,1,2,2-Tetrachloroethane	0.500 U	0.500	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,2,3-Trichloropropane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
n-Propylbenzene	0.770F	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
2-Chlorotoluene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
4-Chlorotoluene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,3,5-Trimethylbenzene	1.27	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
tert-Butylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,2,4-Trimethylbenzene	8.15	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
sec-Butylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,3-Dichlorobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
4-Isopropyltoluene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE

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SGS Ref.#	1043688003	**All Dates/Times are Alaska Standard Time**	
Client Name	Earth Tech USA	**Printed Date/Time**	07/26/2004 15:55
Project Name/#	Galena RI/FS	**Collected Date/Time**	06/22/2004 8:45
Client Sample ID	GSS006-06MW12-W062204	**Received Date/Time**	06/24/2004 14:07
Matrix	Water (Surface, Eff., Ground)	**Technical Director**	**Stephen C. Ede**

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy									
1,4-Dichlorobenzene	0.500 U	0.500	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,2-Dichlorobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
n-Butylbenzene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,2-Dibromo-3-chloropropane	2.00 U	2.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,2,4-Trichlorobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Hexachlorobutadiene	0.600 U	0.600	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Naphthalene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Methyl-t-butyl ether	5.00 U	5.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1,2,3-Trichlorobenzene	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
1-Chlorohexane	1.00 U	1.00	ug/L	SW8260B	A		07/04/04	07/04/04	TJE
Vinyl acetate	10.0 U	10.0	ug/L	SW8260B	B		07/04/04	07/09/04	TJE
Surrogates									
Dibromofluoromethane <surr>	112		%	SW8260B	A	85-115	07/04/04	07/04/04	TJE
1,2-Dichloroethane-D4 <surr>	116		%	SW8260B	A	72-119	07/04/04	07/04/04	TJE
Toluene-d8 <surr>	91.7		%	SW8260B	A	84-113	07/04/04	07/04/04	TJE
4-Bromofluorobenzene <surr>	91.8		%	SW8260B	A	78-124	07/04/04	07/04/04	TJE

APPENDIX A

B1879

Building 1879 – Pump Station (Site ID B1879)

Site Location

Site B1879 is located approximately 100 feet west of Tank 44.

Site Characteristics

Figure A1-B1879 shows the current layout of Site B1879. The site contains Building 1879, the 750-square-foot pump station constructed to support Tank 44. Both Building 1879 and Tank 44 are within the area under investigation in ERP Site ST005, POL Tank Farm. Tank 44 is being addressed separately as Site AST44. Site B1879 is situated on a graded gravel pad west of the Tank 44 containment berm and is connected to this tank through two aboveground pipelines with expansion loops. The feature of concern at the site is the pump station.

Site Description and History

Building 1879 was constructed in conjunction with Tank 44 in 1996. Power is supplied to this facility through the Former Galena FOL electricity grid.

Though ERP Site ST005 has known subsurface fuel contamination, there is no evidence indicating contamination associated with operations at Building 1879 or Tank 44 (Earth Tech, May 2007, Section 10; USAF, October 2004, p. G-1).

Historical aerial photographs of Site B1879, dated 1963, 1985, and 2002, are shown on Figure A2-B1879. The 1963 and 1985 photographs shows the site before the construction of Building 1879, and the 2002 photograph shows Building 1879 and AST44.

Summary of Previous Investigations

No previous investigations or sampling have been conducted at Site B1879. No known sources of contamination are present at Site B1879. Soil samples were collected approximately 25 feet north of Building 1879 in September 2008 during an investigation of the adjacent piping associated with Tank 44 (Earth Tech, 2008). BTEX and VOCs were not detected at concentrations exceeding ADEC Method 2 screening levels (Earth Tech, 2008).

Known subsurface fuel contamination in the area is being investigated though ERP Site ST005.

October 2009 Site Visit Observations

An inspection of Site B1879 was conducted in October 2009. The site was observed to be on a graded gravel pad. No surface staining or petroleum odors were observed. No evidence was found that would indicate a potential release from Site B1879. A photograph of Building 1879 and Tank 44 is provided in Figure A3-B1879.

Target Analytes

Because a release has not occurred from Site B1879, no target analytes are present at the site.

Potential Exposure Pathways and Receptors

Because a release has not occurred from Site B1879, media at the site have not been impacted. Therefore, no complete human health or ecological exposure pathways exist at the site.

Conclusions

Building 1879, the pump station, was constructed in conjunction with Tank 44 in 1996. Building 1879 is a relatively new pump station that operates in conjunction with the modern spill and leak prevention systems of Tank 44 and has no indication or history of releases (Earth Tech, May 2007, Section 10; USAF, October 2004, p. G-1). During the 2009 site visit, no evidence was found that would indicate a potential release at Site B1879. Known subsurface fuel contamination in the area is being investigated though ERP Site ST005.

Recommendation: "Non-Site"

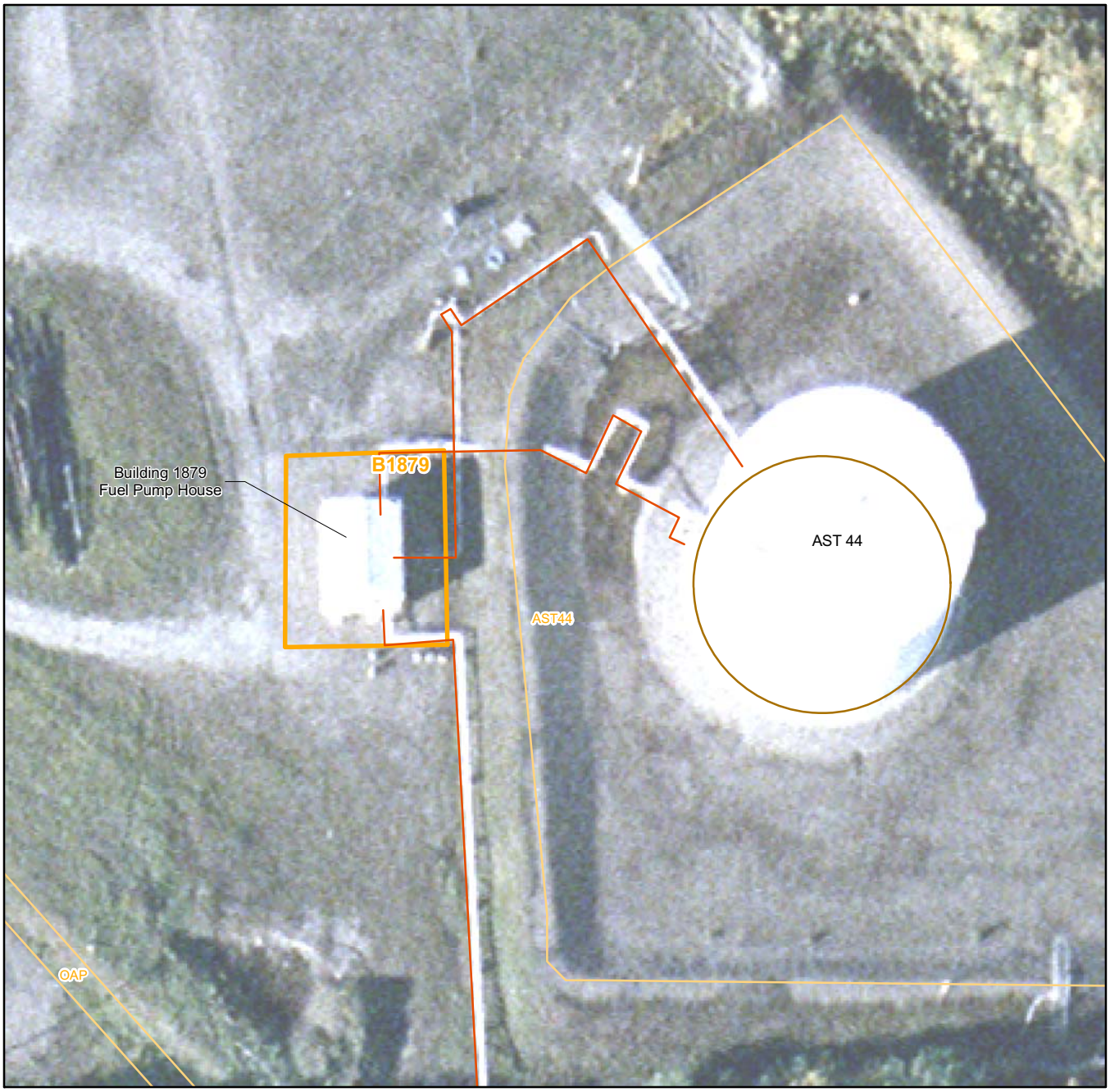
Because Site B1879 operates in conjunction with the modern spill and leak prevention systems of Tank 44 and has no indication or history of releases, designation of Site B1879 as a "Non-Site" is recommended.

References

Earth Tech, Inc. 2008. *Draft 2008 Site Characterization Data For Galena Airport, Alaska.*

Earth Tech, Inc. May 2007. *Final Remedial Investigation/Feasibility Study Report for United States Air Force Sites at Galena Airport and Campion Air Station, Alaska.* Prepared for the United States Air Force, 611th Civil Engineer Squadron/Environmental Restoration Element (CES/CEVR), Elmendorf Air Force Base, Alaska.

U.S. Air Force (USAF). October 2004. *Galena Air Station Oil Discharge Prevention and Contingency Plan.* Revision 5. Prepared for 611th Air Support Group, 611th Civil Engineer Squadron, Elmendorf AFB, Alaska.

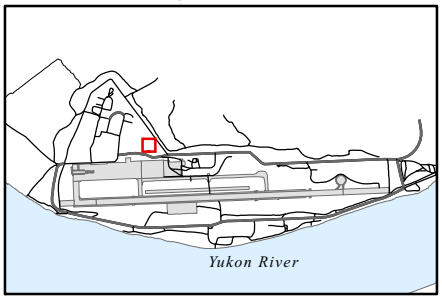


LEGEND

- B1879
- Adjacent Site
- Fuel Tank
- Main Fuel Line

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meters.

VICINITY MAP



N

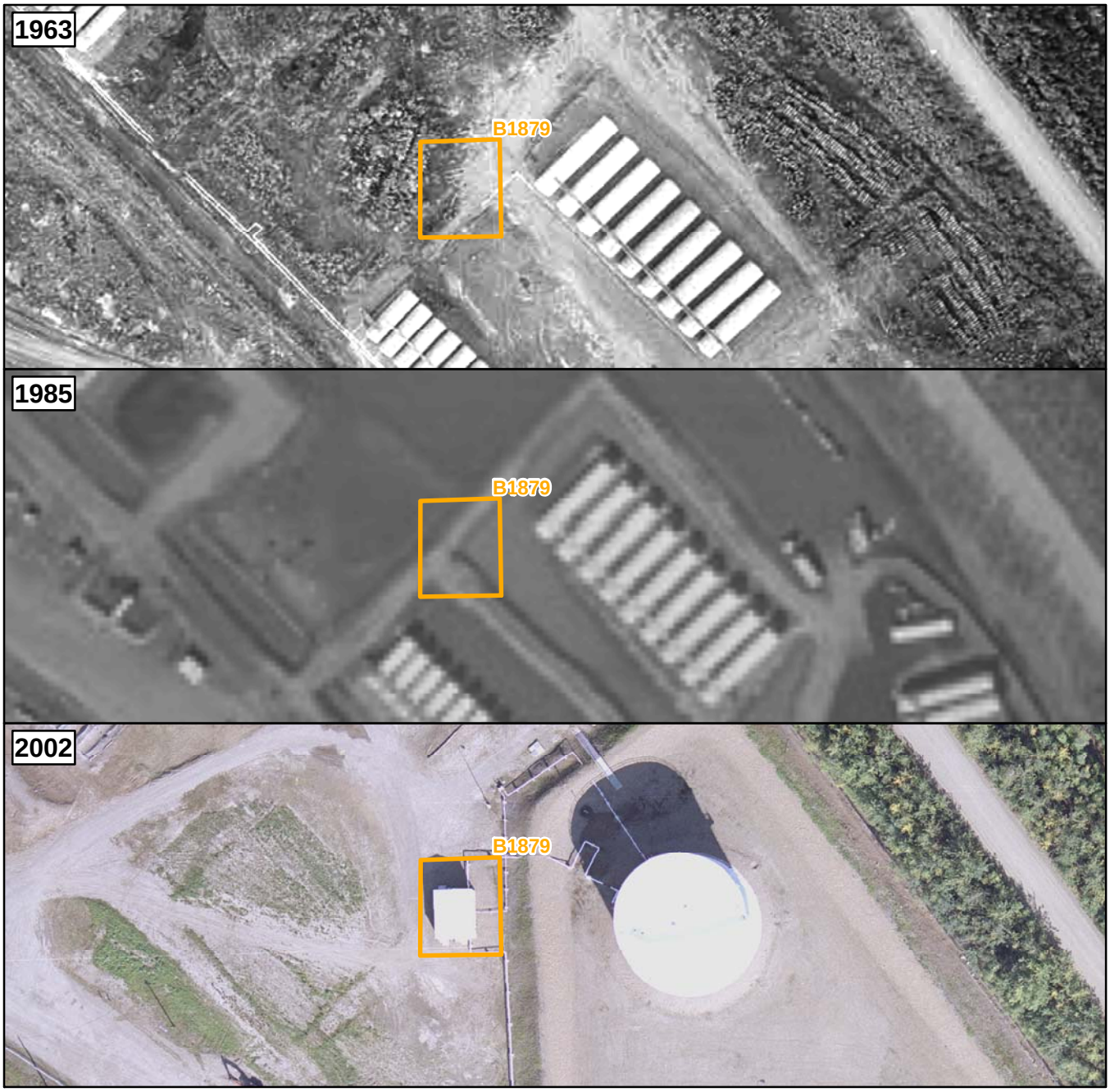
0 25 50
Feet

FIGURE A1-B1879
Site Layout

Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

RDD \\BALDUR\PROJ\GALENATO184_394439\MAPFILES\PA_2010\B1879\B1879_PA_SITE.MXD SRUDOLPH 4/1/2010 14:02:47

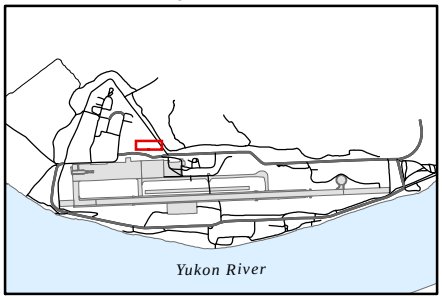


LEGEND

B1879

Notes:
1. Photography Dated 9-4-1963, Georeferenced.
2. Photography Dated 1985, Georeferenced.
3. Imagery August, 2002. Pixel size 0.075 meters

VICINITY MAP



N

0 50 100
Feet

FIGURE A2-B1879
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

RDD \\BALDUR\PROJ\GALENATO184_394439\MAPFILES\PA_2010\B1879\B1879_PA_PHOTO.MXD SRUDOLPH 4/5/2010 17:10:35

FIGURE A3-B1879
Building 1879 and Tank 44, Looking East

APPENDIX A

B3005

Building 3005 – Precision Approach Radar Electric Power Station (Site ID B3005)

Site Location

Site B3005 is located north of the central area of the runway in Parcel T outside of the cantonment "triangle."

Site Characteristics

Site features are shown on Figure A1-B3005. Site B3005 consists of the area surrounding the former location of Building 3005, the Precision Approach Radar (PAR) Electric Power Station. The current condition of Site B3005 is a level-graded, gravel pad with patches of grass. The feature of concern at Site B3005 is a former aboveground diesel storage tank.

Site Description and History

Air Force Parcel T includes approximately 4,900 square feet and was used by the USAF for the construction, operation, and maintenance of an airport surveillance radar, approach radar, operations center, and related underground power and communications distribution cables (State of Alaska, April 12, 1983).

Facility records indicate Building 3005 was an electric power station constructed in 1982 on a 20-foot-by-30-foot concrete slab. Primary electrical power was supplied to the building through an underground power cable identified as "Item 15" on the Galena Land Occupancy Drawings (State of Alaska, May 19, 2004, Sheet 11 of 11). Building 3005 contained a 50-kW backup generator and a 300-gallon diesel storage day tank (USAF, 1986a; USAF 1986c). The facility supported PAR Facility 3000, which was also built in 1982 (USAF, 1986c). In 1994, the generator at Building 3005 was relocated to Building 1875 (USAF 1986b). The USAF Real Property Accountable Records are included in the supporting documentation.

Historical aerial photographs of the site, dated 1985 and 2002, are shown on Figure A2-B3005. The small building (Building 3005) and the PAR surrounded by a concrete wall are shown on both photographs.

The location of the AST appears to be on the west side of the former Building 3005 based on a comparison of the 1985 aerial photograph taken when the facility was in use and the 2002 aerial photograph when the facility and the PAR were no longer in use. In the 1985 photograph, there appears to be an additional structure located adjacent to Site B3005.

The location of any exterior transformers or electrical equipment cannot be discerned from the available imagery or drawings. However, it is assumed that electrical components were housed inside the facility with the backup generator, and underground power cables connected Site B3005 and the PAR.

Summary of Previous Investigations

No previous investigations have been conducted or samples collected at Site B3005.

October 2009 Site Visit Observations

An inspection of Site B3005 was conducted in October 2009. A photograph of the site from October 2009 is provided in Figure A3-B3005. The surface of the site was observed to be a gravel pad with patches of grass. No visual evidence of contamination was observed. A 4-inch-diameter, capped steel pipe was observed protruding from the ground. The purpose of the pipe is not known and could not be discerned from available records, but it may be a fill pipe or a former water supply well. The location of the pipe in relation to Site B3005 and the PAR structure is shown on Figure A1-B3005.

Target Analytes

Potential target analytes associated with the from the former day tank include GRO, DRO, BTEX, and PAHs. PCBs were excluded as a potential target analyte for Site B3005. Although Site B3005 did have electrical components associated with a power station, PCBs were excluded for the following reasons:

1. The PAR and Site B3005 were constructed in 1982, which reduces the possibility that PCB-oil-containing components were used.
2. Although the available aerial imagery from the 1980s and 1990s is limited, it is not apparent that a transformer or electrical components were located outside of Site B3005's footprint. The building had a concrete foundation, and any spills or leaks would have been prevented from reaching soil.
3. The facility was in use in the 1980s and 1990s, at a time when USAF maintenance and disposal procedures had been updated to reflect new regulations regarding PCBs.
4. Maintenance or disposal of electrical components was not the primary function of Site B3005 or the Approach Radar Station.

Potential Exposure Pathways and Receptors

Based on current and reasonably anticipated potential future land uses at Site B3005, potential human receptors and potentially complete exposure pathways include the following:

- **Excavation/Construction Workers**: Potential exposure to chemicals in soil to 15 feet bgs and shallow groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind or during onsite excavation activities. Potentially complete routes of exposure to shallow groundwater include dermal contact with groundwater and inhalation of ambient vapors from groundwater.
- **Future Occupational Workers**: Potential exposure to chemicals in surface soil to 2 feet bgs. Potentially complete routes of exposure to surface soil include incidental soil

ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Vapor intrusion from VOCs in environmental media migrating into current or future occupational buildings is also a potentially complete exposure route.

- **Hypothetical Future Residents**: Potential exposure to chemicals in soil to 15 feet bgs and groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Potentially complete routes of exposure to groundwater include ingestion, dermal contact, and inhalation of VOCs during showering or other household activities. Vapor intrusion from VOCs in environmental media migrating into current or future residences is also a potentially complete exposure route.

On the basis of available information and site photos, ecological exposure pathways are considered incomplete at Site B3005. The ground surface around the site consists of gravel with sparse grass that provides no viable habitat onsite under current conditions. Therefore, no terrestrial ecological receptors were identified and the site will not be evaluated for ecological risk. An aquatic ecological exposure pathway is unlikely to be complete because Site B3005 is located more than 1,000 feet from the Yukon River. Data are being collected as part of the FSP for the 2010 Hydrogeologic Study (CH2M HILL, August 2010) to refine the understanding of the groundwater system at the FOL. This pathway may be further evaluated if subsurface contamination is found at the site, and the data collected as part of the hydrogeological characterization suggest that there is a potential for site contamination to impact the Yukon River.

Conclusions

Building 3005 was an electric power station constructed in 1982, which contained a 50-kW generator and a 300-gallon diesel storage day tank (USAF, 1986a; USAF 1986c). The facility supported PAR Facility 3000. No previous investigations have been conducted at Site B3005. A 4-inch-diameter, capped steel pipe was observed protruding from the ground during the October 2009 site visit.

Recommendation: Site Inspection Sampling

Limited site inspection sampling is recommended at Site B3005 to identify if soil at the site was contaminated by or fuel-related constituents (DRO, GRO, BTEX, and PAH) that would have resulted from leakage from the 300-gallon diesel AST. The site inspection should include a geophysical survey to determine the purpose of the 4-inch-diameter pipe found during the 2009 site visit. Geophysical surveying GPR will be required to identify the location of any unknown pipelines and any possible underground storage tanks that may be associated with the pipe. The pipe should also be evaluated to determine if it is a former water supply well.

References

CH2M HILL. August 2010. *Final Work Plan for Site Inspection, Remedial Investigation, and Site Characterization; Former Galena Forward Operating Location, Alaska*. Prepared for Air Force Center for Engineering and the Environment.

State of Alaska. May 19, 2004. Galena Airport Land Occupancy Drawing. Sheet 11 of 11.

U.S. Air Force (USAF). 1986a. AF Form 1430 Real Property Accountable Records - Buildings, Facility 3005.

U.S. Air Force (USAF). 1986b. AF Form 1430 Real Property Accountable Records - Buildings, Facility 3000.

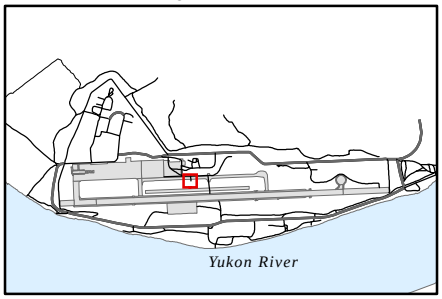
U.S. Air Force (USAF). 1986c. AF Form 1433 Real Property Accountable Records - Plants, Facility 3005.

LEGEND

- B3005
- Adjacent Site
- Approximate Location of Former Feature
- 4" Pipe

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meters.

VICINITY MAP

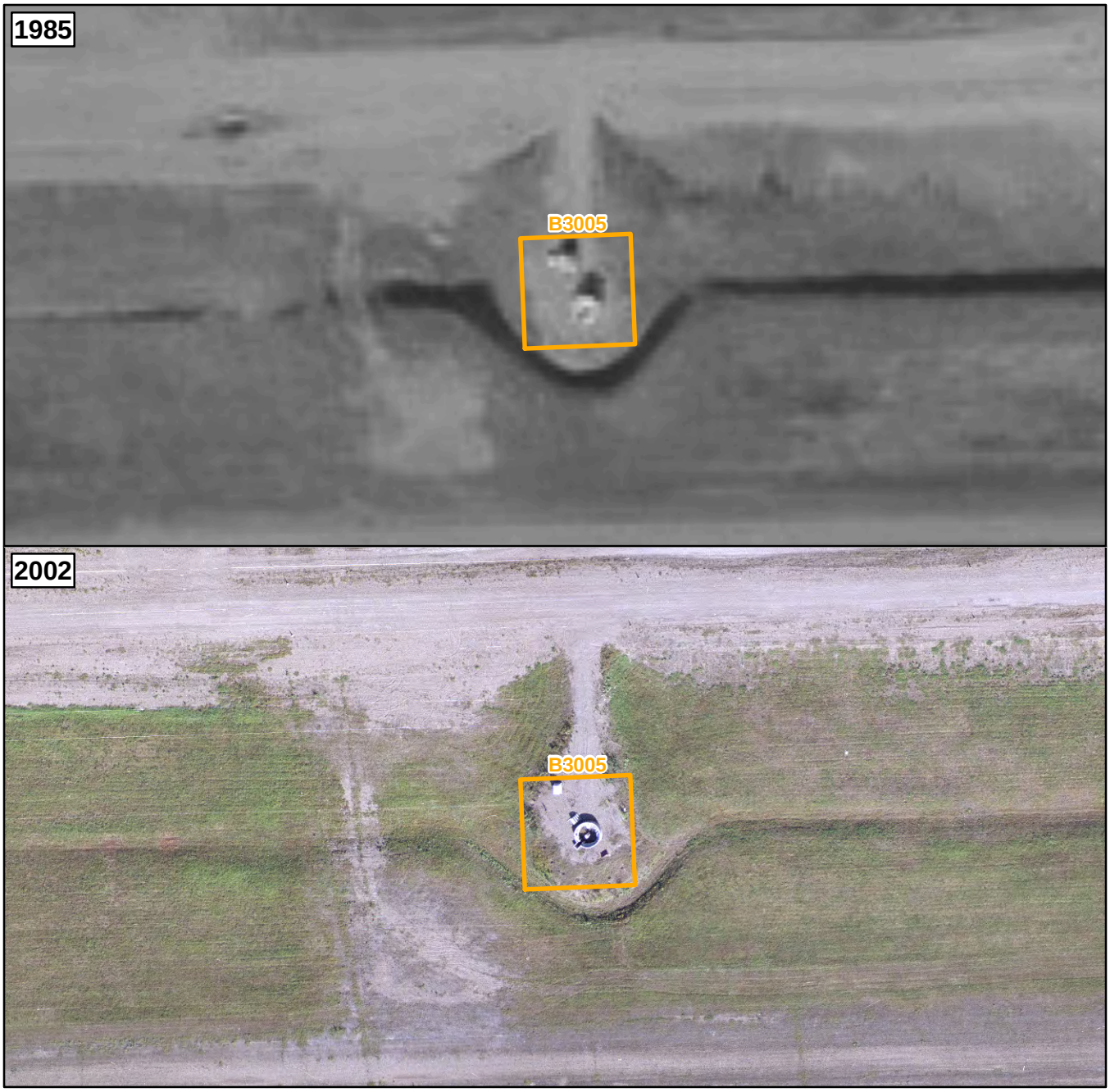


N

0 25 50
Feet

FIGURE A1-B3005
Site Layout
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

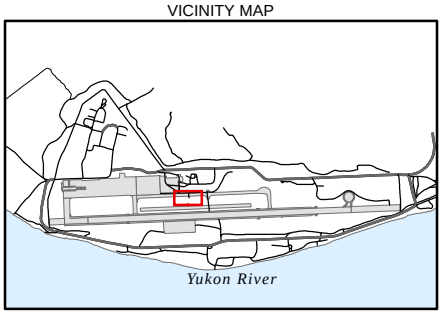


LEGEND

B3005

Notes:
1. Photography Dated 1985, Georeferenced.
2. Imagery August, 2002. Pixel size 0.075 meters.

VICINITY MAP



N

0 50 100
Feet

FIGURE A2-B3005
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

FIGURE A3-B3005
4-inch-diameter Steel Pipe, Looking North, October 2009

Supporting Documentation

GALENA APT, HPZW (INSTALLATION NAME AND NO)	DATE	DRAWING NO	2001 (RP ACCOUNT NO)	53010 (CONTROL NO)	~~3210~~ 3005 (BUILDING NO)

DIMENSIONS (Width x length)			
MAIN BUILDING	OFFSETS	WINGS	BASEMENTS
30' X 20'			

MATERIALS			
FOUNDATION	FLOOR	WALL	ROOF
Timber Beams	Concrete Slab	Insulated Metal Siding	Insulated Metal Roofing

HEATING		
SOURCE	TYPE	FUEL

NO OF USABLE FLOORS	FIRE PROTECTION	
	NO	TYPE

UTILITY CONNECTIONS	BLDG EQPT	NO	TOTAL CAPACITY
WATER	AIR CONDITIONING		
SEWER			
ELECTRIC	EVAPORATIVE COOLING		
GAS	MECHANICAL COOLING		
STEAM			
CONDENSATE	HOT WATER FACILITIES		

	CODE
STATE: AK	
ASSIGNMENT: AAC	
TYPE OF CONSTRUCTION: P	
CONDITION: 1	
OCCUPANCY: USAF	
AIR FORCE INTEREST: OWNED	7
UNIT OF MEASURE (Other than area): SF	
QUANTITY: 200	
NOMENCLATURE: ELEC PWR STN BLDG	
CATEGORY: (A) 811-149	
REMARKS	

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
860068	6 Mar 86	DACA85-81-C0040 Construct Glide Slope GCA RAPCON & ASR Fclty (P)	11/4/82		200			9,500	00
880021	Jan 88	DD 1354 Change ~~Inst~~ Date 8711	Nov 87						
890226	8 Aug 89	Bse Comprehensive Plan Chg	Aug 89						
870234	24 Sep 87	Corrective Voucher		SF 400	600	5,500	00	15,000	00
920058/71 910300	Jan 91	Site Inventory							
		BALANCES FORWARDED							

AF FORM 15 JUN 56 1430 REPLACES OA FORM 5 47 1 NOV 45 WHICH IS OBSOLETE IN THE USAF

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT		COST		TOTAL COST	
				AMOUNT	TOTAL				
		BALANCES FORWARDED							
	12 Dec 05	Inventory	2 Dec 02						
		BALANCES FORWARDED							

☆ U.S. Government Printing Office 1985—490 962/42240

INSTALLATION NAME AND NO	DATE	DRAWING NO	FACILITY NO	PLANT NO	RP ACCOUNT NO	CONTROL NO	NOMENCLATURE
GALENA APT, HPZW			~~3210~~ 3005		2001	48000	MAN FR ALRM/I SYS

SYSTEM

TYPE	CAPACITY	SOURCE

MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES		STORAGE	
CURRENT	NO OF LIGHTS	TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO	CAPACITY	NO	CAPACITY

	CODE
STATE: AK	
ASSIGNMENT: AAC	
CONDITION: 1	
OCCUPANCY: USAF	
AIR FORCE INTEREST: OWNED	
UNIT OF MEASURE: EA	
QUANTITY: 1	
CATEGORY: (X) 880-222	

REMARKS

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft) AMOUNT	MAINS AND LINES (Ft) TOTAL	COST AMOUNT	COST TOTAL
860068	6 Mar 86	DACA85-81-C0040 Construct Glide Slope GCA RAPCON & ASR Fclty (P) DD 1354	11/4/82		1		10464 00 ~~6,278 00~~
880021	Jan 88	Change Inv Date/8711	Nov87				
870234	24 Sep 87	Corrective Voucher				(9,514 00)	950 00
920058/71 910300	~~Jun~~ 91	Site Inventory					
BALANCES FORWARD							

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (FC)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 936305

INSTALLATION NAME AND NO	DATE	DRAWING NO	FACILITY NO	PLANT NO	RP ACCOUNT NO	CONTROL NO	NOMENCLATURE
GALENA ARPT HPZW			3005		2001		OPG STOR, DIESEL

SYSTEM

TYPE	CAPACITY	SOURCE

MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES		STORAGE	
CURRENT	NO OF LIGHTS	TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO	CAPACITY	NO	CAPACITY

CODE	
STATE	AK
ASSIGNMENT	AAC
CONDITION	
OCCUPANCY	AF
AIR FORCE INTEREST	Owned
UNIT OF MEASURE	
QUANTITY	
CATEGORY	(X) 124-134
REMARKS	Elec Pwr Stn Bldg AG

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft) AMOUNT	MAINS AND LINES (Ft) TOTAL	COST AMOUNT		COST TOTAL	
870254	24 Sep 87	Corrective Voucher		GA	300	1,200	00	1,200	00
~~920058171~~ ~~910300~~	~~June 91~~	~~Site Inventory~~							
BALANCES FORWARDED									

AF FORM 15 JUN 56 1431

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Pl)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 936505

GALENA APT, HPZW INSTALLATION NAME AND NO.	DATE	DRAWING NO.	3005 ~~3210~~ FACILITY NO.	2001 RP ACCOUNT NO.	53010 CONTROL NO.	E ELEC/PWR GEN PLT NOMENCLATURE

			CODE
TYPE JOHN DEERE S/N 589122T MODEL # 4276TF01 4 Cyl, 276 CU. In.	CAPACITY Alternator: Lima Part #3166-0010 50KW S/N BA 15575 CK	STATE AK	
FUEL USED	POWER SOURCE Automatic Transfer Switch 225 Amp Lexington Cat #25018 S/N01913-1-2	ASSIGNMENT AAC	
SUPPLY SOURCE	NO. OF PUMPS ~~120/208 V - 3 Pole~~	CONDITION 1	
		OCCUPANCY USAF	
LIFT (Feet)	REFRIGERANT	AIR FORCE INTEREST 1	
NO. OF BOILERS	OPERATING PRESSURE	UNIT OF AREA MEASURE KW	
		QUANTITY 50	
NO. OF RETORTS	PRIME MOVER	CATEGORY (X) 811-~~145~~ 147	
		REMARKS	

CURRENT CHARACTERISTICS

VOLTS	AMPERE
120/208 V	225 Amp
PHASE	**CYCLE**
3 Phase	4 Cycle

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE AMOUNT	UNIT OF MEASURE TOTAL	COST AMOUNT		COST TOTAL	
860068	6 Mar 86	DACA85-81-C0040 Construct Glide Slope GCA RAPCON & ASR Fclty (P) DD 1354	11/4/82	KW	50			9,291	00
880021	Jan 88	Chg Cat Code 811-147 ~~Change Inv Date 1871~~	Nov 87			10,209	00	19,500	00
870234	24 Sep 87	Corrective Voucher							
910300	June 91	Site Inventory							
940296	Sep 94	GENERATOR RELOCATED FROM THIS FACILITY TO GATE BLDG 1875							
		BALANCES FORWARDED							

AF FORM 15 JUN 56 1433

REAL PROPERTY ACCOUNTABLE RECORD - PLANTS

INSTALLATION NAME AND NO	DATE	DRAWING NO	RP ACCOUNT NO	CONTROL NO	BUILDING NO.
GALENA APT, HPZW			2001	52080	3000

DIMENSIONS (Width x length)				CODE
MAIN BUILDING	OFFSETS	WINGS	BASEMENTS	

MATERIALS			
FOUNDATION	FLOOR	WALL	ROOF

HEATING		
SOURCE	TYPE	FUEL

NO OF USABLE FLOORS	FIRE PROTECTION	
	NO	TYPE

UTILITY CONNECTIONS	BLDG EQPT	NO	TOTAL CAPACITY
WATER	AIR CONDITIONING		
SEWER			
ELECTRIC	EVAPORATIVE COOLING		
GAS	MECHANICAL COOLING		
STEAM			
CONDENSATE	HOT WATER FACILITIES		

		CODE
STATE	AK	
ASSIGNMENT	AAC	
TYPE OF CONSTRUCTION	P	
CONDITION	1	
OCCUPANCY	USAF	
AIR FORCE INTEREST	1	7
UNIT OF MEASURE (Other than area)	SF EA	
QUANTITY	227	
NOMENCLATURE	PAR	
CATEGORY	(A) 134-374	
REMARKS		

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT ~~AMOUNT~~ EA	AREA UNIT ~~TOTAL~~ SF	COST		TOTAL COST	
860068	6 Mar 86	DACA85-81-C0040 Construct Glide Slope GCA/RAPCON & ASR Fclty (P) DD 1354	11/4/82	1	227			173,836	00
880021	Jan 88	Change Inv Date/8711	Nov 87						
890226	8 Aug 89	Bse Comprehensive Plan Chg	Aug 89						
270234	24 Sep 89	Correction Voucher				9,990	00	183,826	00
920058/711 ~~770300~~	~~Jun 91~~	Site Inventory							
BALANCES FORWARDED									

AF FORM 1430 15 JUN 56 REPLACES OA FORM 5-47 1 NOV 45 WHICH IS OBSOLETE IN THE USAF

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT		COST		TOTAL COST	
				AMOUNT	TOTAL				
		BALANCES FORWARDED							
2003 005476	3apr2003	Disposal approval date	25Jun2001						
2003 005477	3apr2003	Disposal year2003							
	12Dec05	Inventory	2Dec02						
		BALANCES FORWARDED							

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APPENDIX A

B3205

Building 3205 – Airport Surveillance Radar Electric Power Station (Site ID B3205)

Site Location

Site B3205 is located north of the eastern section of the runway in Parcel BB.

Site Characteristics

Site features are shown on Figure A1-B3205. Site B3205 consists of the area surrounding the former location of Building 3205, the Airport Surveillance Radar (ASR) Electric Power Station. Site B3205 is a level-graded, gravel pad with patches of grass with a WOS on the southwestern corner. The features of concern at Site B3205 are the former power station, and a former diesel tank.

Site Description and History

Air Force Parcel BB includes approximately 12,000 square feet. It was used for the construction, operation, and maintenance of an airport surveillance radar, approach radar, operations center, and related underground power and communications distribution cable.

Building 3205 was a 600-square-foot electric-power station housing a 45-kW generator and a 300-gallon diesel storage tank (USAF, 1986, 1987). Because of its 300-gallon size, the storage tank was most likely an AST. The tank supported ASR Facility 3000. A construction date is not included in the AF Form 1430, but it is assumed based on the initial record entries in the AF Form 1430 and 1433 that the building was constructed between 1982 and 1987. The USAF Real Property Accountable Records are included in the supporting documentation.

Historical aerial photographs of the site, dated 1985 and 2002, are shown on Figures A2-B3205 and A3-B3205. The building is visible in the 1985 aerial photos. The location of the AST cannot be confirmed through the review of available photos. The ASR tower was located on the south side of the building, where the concrete block tower foundations are visible in the 2002 aerial photographs shown on Figure A2-B3205. Therefore, the AST most likely was not located on the south side of the building.

The locations of any exterior transformers or electrical equipment cannot be discerned from the available imagery or drawings. However, it is assumed that electrical components were housed inside the building with the backup generator and that underground power cables connected Site B3205 and the ASR. Primary power most likely was supplied to the ASR and Site B3205 from the underground power line adjacent to the south side of Parcel BB, as shown on Galena Land Occupancy Drawing sheet 8 of 11 (State of Alaska, 2004). As is standard with other USAF leases, the details of any utilities within the leased area are not shown on the Land Occupancy Drawing; therefore, the primary power source cannot be definitely confirmed.

Summary of Previous Investigations

No previous investigations have been conducted or samples collected at Site B3205.

October 2009 Site Visit Observations

An inspection of Site B3205 was conducted in October 2009. A photograph of the site from October 2009 is provided in Figure A4-B3205. The surface of the site was observed to be a gravel pad. No visual evidence of contamination was observed.

Target Analytes

A generator and a 300-gallon diesel AST were located at Site B3205. Target analytes associated with the former day tank include GRO, DRO, BTEX and PAHs.

PCBs were excluded as a potential target analyte for Site B3205. Although Site B3205 did have electrical components associated with a power station, PCBs were excluded for the following reasons:

1. The ASR and Site B3205 were constructed between 1982 and 1987, which reduces the possibility that PCB-oil-containing components were used.
2. The facility was in use in the 1980s and 1990s, a time when USAF maintenance and disposal procedures had been updated to reflect new regulations regarding PCBs.
3. Maintenance or disposal of electrical components was not the primary function of Site B3205 or the ASR.

Potential Exposure Pathways and Receptors

Based on current and reasonably anticipated potential future land uses at Site B3205, potential human receptors and potentially complete exposure pathways include the following:

- **Excavation/Construction Workers**: Potential exposure to chemicals in soil to 15 feet bgs and shallow groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind or during onsite excavation activities. Potentially complete routes of exposure to shallow groundwater include dermal contact with groundwater and inhalation of ambient vapors from groundwater.
- **Future Occupational Workers**: Potential exposure to chemicals in surface soil to 2 feet bgs. Potentially complete routes of exposure to surface soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Vapor intrusion from VOCs in environmental media migrating into current or future occupational buildings is also a potentially complete exposure route.
- **Hypothetical Future Residents**: Potential exposure to chemicals in soil to 15 feet bgs and groundwater. Potentially complete routes of exposure to soil include incidental soil ingestion, dermal contact with soil, and inhalation of ambient vapors or dust generated from wind. Potentially complete routes of exposure to groundwater include ingestion,

dermal contact, and inhalation of VOCs during showering or other household activities. Vapor intrusion from VOCs in environmental media migrating into current or future residences is also a potentially complete exposure route.

On the basis of available information and site photos, the site facility has been removed, and the site consists only of pavement and a gravel area where the drainage swale has been straightened. The surrounding area is relatively dry and has short vegetation (grass, forbs, and lichens). Ecological exposure pathways are considered unlikely to be complete and the site will not be evaluated for terrestrial ecological risk.

An aquatic ecological exposure pathway is unlikely to be complete because Site B3205 is located more than 1,000 feet from the Yukon River. Data are being collected as part of the FSP for the 2010 Hydrogeologic Study to refine the understanding of the groundwater system at the FOL. This pathway may be evaluated further if subsurface contamination is found at the site and the data collected as part of the hydrogeological characterization suggest that there is a potential for site contamination to affect the Yukon River.

Conclusions

Building 3205 was an electric power station which contained a 45- kW generator and a 300-gallon diesel storage day tank (USAF, 1986). The facility supported ASR Facility 3000. No previous investigations have been conducted at the site.

Recommendation: Site Inspection Sampling

Limited site inspection sampling is recommended at Site B3205 to identify if soil at the site was contaminated by fuel-related constituents (DRO, GRO, BTEX, and PAH).

References

State of Alaska. May 19, 2004. Galena Airport Land Occupancy Drawing. Sheet 8 of 11.

U.S. Air Force (USAF). 1987. AF Form 1430 Real Property Accountable Records - Buildings, Facility 3205.

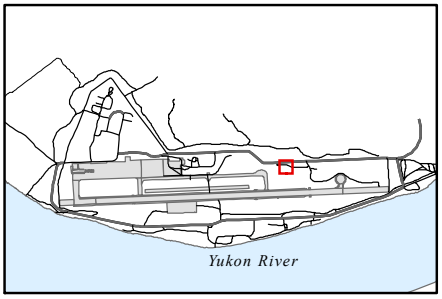
U.S. Air Force (USAF). 1986. AF Form 1433 Real Property Accountable Records - Plants, Facility 3205.

LEGEND

- B3205
- Adjacent Site
- Approximate Location of Former Feature
- Abandoned Fuel Line (1952)

Note:
1. Imagery September 4, 2009. Pixel size 0.25 meters.

VICINITY MAP



N

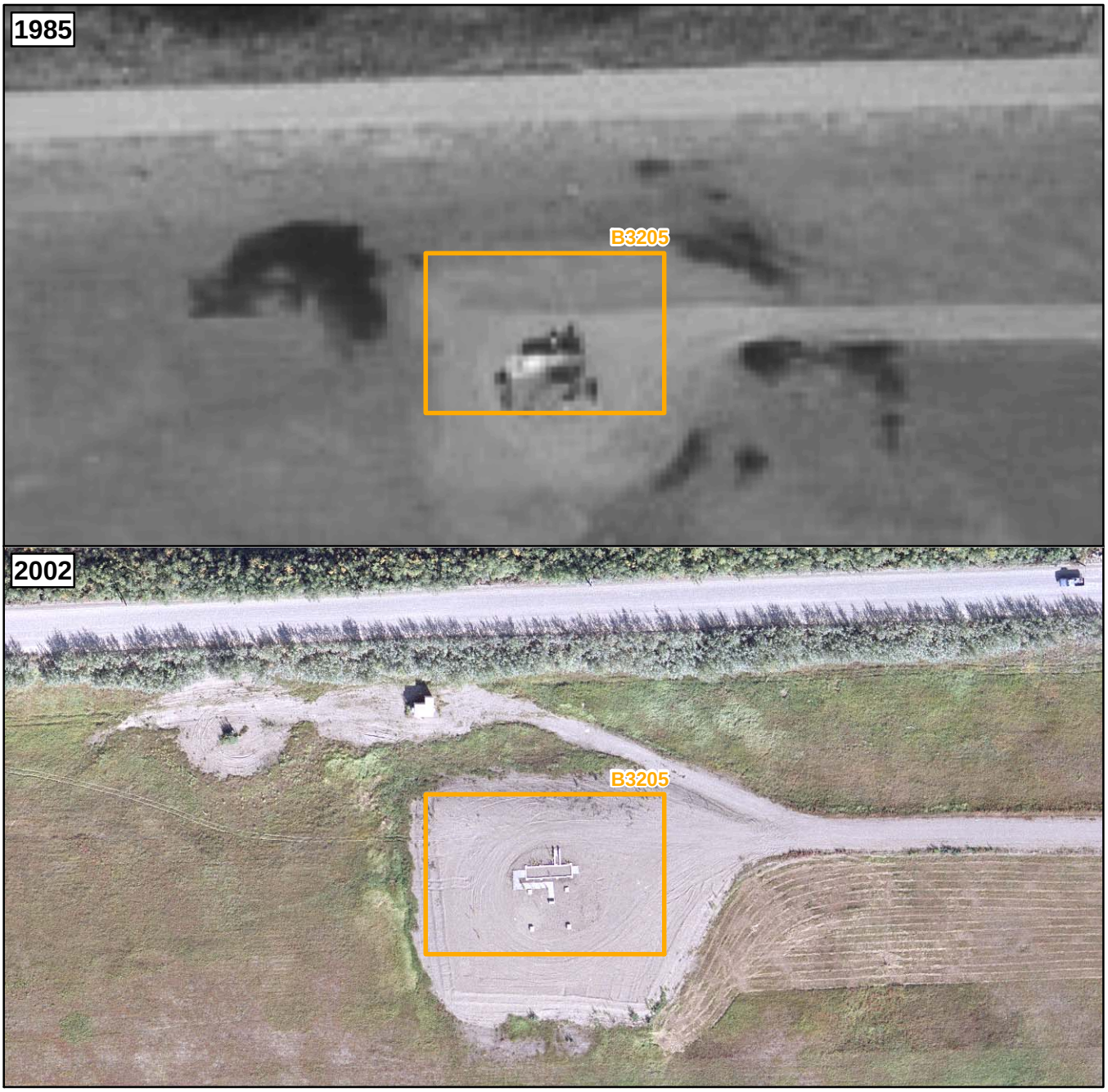
0 25 50
Feet

FIGURE A1-B3205
Site Layout

Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

RDD \\BALDUR\PROJ\GALENATO184_394439\MAPFILES\PA_2010\B3205\B3205_PA_SITE.MXD CVONFREE 4/20/2010 13:47:41

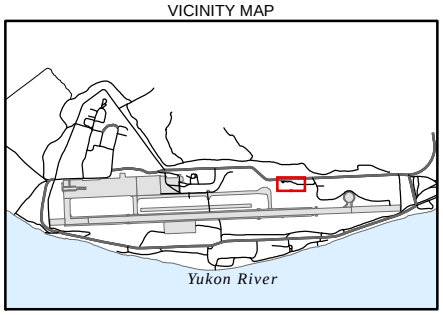


LEGEND

B3205

Notes:
1. Photography Dated 1985, Georeferenced.
2. Imagery August, 2002. Pixel size 0.075 meters.

VICINITY MAP



N

0 50 100
Feet

FIGURE A2-B3205
Historical Aerial Photography
Preliminary Assessment Report
Former Galena Forward Operating Location, Alaska

CH2MHILL

RDD \\BALDUR\PROJ\GALENATO184_394439\MAPFILES\PA_2010\B3205\B3205_PA_PHOTO.MXD CVONFREE 4/20/2010 13:48:27

FIGURE A3-B3205
Aerial Photo, 1985

FIGURE A4-B3205
Site B3205, October 2009

Supporting Documentation

INSTALLATION NAME AND NO	DATE	DRAWING NO	RP ACCOUNT NO	CONTROL NO	BUILDING NO.
GALENA ARPT HPZW			2001		3205

DIMENSIONS (Width x length)				CODE
MAIN BUILDING	OFFSETS	WINGS	BASEMENTS	

MATERIALS			
FOUNDATION	FLOOR	WALL	ROOF

HEATING		
SOURCE	TYPE	FUEL

NO OF USABLE FLOORS	FIRE PROTECTION	
	NO	TYPE

UTILITY CONNECTIONS	BLDG EQPT	NO	TOTAL CAPACITY
WATER	AIR CONDITIONING		
SEWER			
ELECTRIC	EVAPORATIVE COOLING		
GAS	MECHANICAL COOLING		
STEAM			
CONDENSATE	HOT WATER FACILITIES		

STATE	AK
ASSIGNMENT	AAC
TYPE OF CONSTRUCTION	
CONDITION	
OCCUPANCY	AF
AIR FORCE INTEREST	Owned
UNIT OF MEASURE (Other than area)	
QUANTITY	
NOMENCLATURE	ELEC PWR STN BLDD
CATEGORY	(A) 811-149
REMARKS	

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT AMOUNT	AREA UNIT TOTAL	COST		TOTAL COST	
870234	24Sep87	Corrective Voucher		SF	600	15,000	00	15,000	00
920058/71 ~~910300~~	~~June91~~	~~Site Inventory~~							
	12Dec05	Inventory	2Dec05						
BALANCES FORWARDED									

AF FORM 1430 15 JUN 56 REPLACES OA FORM 5 47 1 NOV 45 WHICH IS OBSOLETE IN THE USAF

REAL PROPERTY ACCOUNTABLE RECORD - BUILDINGS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	AREA UNIT		COST		TOTAL COST	
				AMOUNT	TOTAL				
		BALANCES FORWARDED							
		BALANCES FORWARDED							

☆ U S Government Printing Office 1985—490 962/42240

INSTALLATION NAME AND NO	DATE	DRAWING NO	FACILITY NO	RP ACCOUNT NO	CONTROL NO	NOMENCLATURE
GALENA ARPT HPZW			3205	2001		ELEC PWR GEN PAT

			CODE
TYPE	CAPACITY	STATE: AK	
FUEL USED	POWER SOURCE	ASSIGNMENT: AAC	
SUPPLY SOURCE	NO OF PUMPS	CONDITION	
		OCCUPANCY: AF	
LIFT (feet)	REFRIGERANT	AIR FORCE INTEREST: Owned	
NO OF BOILERS	OPERATING PRESSURE	UNIT OF AREA MEASURE	
		QUANTITY	
NO OF RETORTS	PRIME MOVER	CATEGORY: (X) 811-145	
		REMARKS	

CURRENT CHARACTERISTICS

VOLTS	AMPERE
PHASE	CYCLE

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE AMOUNT	UNIT OF MEASURE TOTAL	COST AMOUNT		COST TOTAL	
870234	24Sep87	Corrective Voucher		KW	45	19,500	00	19,500	00
920058171 ~~910300~~	~~June91~~	~~Site Inventory~~							
		BALANCES FORWARDED							

AF FORM 15 JUN 56 1433

REAL PROPERTY ACCOUNTABLE RECORD - PLANTS

GPO 932 261

INSTALLATION NAME AND NO	DATE	DRAWING NO	FACILITY NO	RP ACCOUNT NO	CONTROL NO	NOMENCLATURE

			CODE
TYPE	CAPACITY	STATE	
FUEL USED	POWER SOURCE	ASSIGNMENT	
SUPPLY SOURCE	NO OF PUMPS	CONDITION	
		OCCUPANCY	
LIFT (Feet)	REFRIGERANT	AIR FORCE INTEREST	
NO OF BOILERS	OPERATING PRESSURE	UNIT OF AREA MEASURE	
		QUANTITY	
NO OF RETORTS	PRIME MOVER	CATEGORY	
CURRENT CHARACTERISTICS		REMARKS	
VOLTS	AMPERE		
PHASE	CYCLE		

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	UNIT OF MEASURE		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
BALANCES FORWARDED									

AF FORM 15 JUN 56 1433

REAL PROPERTY ACCOUNTABLE RECORD - PLANTS

INSTALLATION NAME AND NO	DATE	DRAWING NO	FACILITY NO	PLANT NO	RP ACCOUNT NO	CONTROL NO	NOMENCLATURE
GALENA ARPT HPZW			3205		2001		OPG STOR, DIESEL

SYSTEM

TYPE	CAPACITY	SOURCE

MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES

CURRENT	NO OF LIGHTS

STORAGE

TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO	CAPACITY	NO	CAPACITY

	CODE
STATE AK	
ASSIGNMENT AAC	
CONDITION	
OCCUPANCY AF	
AIR FORCE INTEREST Owned	
UNIT OF MEASURE	
QUANTITY	
CATEGORY (X) 124-134	

REMARKS

Elec Pwr Stn 3'x3'
AG

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft) AMOUNT	MAINS AND LINES (Ft) TOTAL	COST AMOUNT		COST TOTAL	
870234	24 Sep 87	Corrective Voucher		GA	300	1,200	00	1,200	00
920058/71 ~~910300~~	June 91	Site Inventory							
BALANCES FORWARDED									

AF FORM 15 JUN 56 1431

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPO 938305

INSTALLATION NAME AND NO	DATE	DRAWING NO	FACILITY NO	PLANT NO	RP ACCOUNT NO	CONTROL NO	NOMENCLATURE
GALENA ARPT HPZU			3205		2001		MAN FR ALRM/I SYS

SYSTEM

TYPE	CAPACITY	SOURCE

MAXIMUM HYDRANT PRESSURE	TYPE OF PRODUCT	TYPE OF DISPENSING

MAINS

TYPE	DIAMETER (Inches)	PRESSURE (Lbs)

ELECTRIC LINES

PRIMARY		SECONDARY	
CURRENT	VOLTAGE	CURRENT	VOLTAGE

ELECTRIC SERVICE LINES

CURRENT	NO OF LIGHTS

STORAGE

TYPE	CAPACITY

SUB-STATIONS

TYPE	CURRENT	CAPACITY

FIELDS		PUMPS		OUTLETS	
TYPE	SIZE (Sq yds)	NO	CAPACITY	NO	CAPACITY

	CODE
STATE AK	
ASSIGNMENT AAC	
CONDITION	
OCCUPANCY AF	
AIR FORCE INTEREST Owned	
UNIT OF MEASURE	
QUANTITY	
CATEGORY (X) 880-222	

REMARKS

VOUCHER NO	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft) AMOUNT	MAINS AND LINES (Ft) TOTAL	COST AMOUNT		COST TOTAL	
870234	24 Sep 87	Corrective Vouchers		EA	1	950	00	950	00
92005817 ~~910300~~	~~June 91~~	~~Site Inventory~~							
BALANCES FORWARDED									

AF FORM 15 JUN 86 1431

REAL PROPERTY ACCOUNTABLE RECORD - SYSTEMS

VOUCHER NO.	DATE	DESCRIPTION	DATE COMPLETED	MAINS AND LINES (Ft)		COST			
				AMOUNT	TOTAL	AMOUNT		TOTAL	
		BALANCES FORWARDED							
		BALANCES FORWARDED							

GPC 916305