

**HUSKY #2**  
**(MINFILE#105M 001bb)**

**1. LOCATION AND ACCESS**

The site is located downslope from the Elsa townsite, north of Highway #11, crossed by Flat Creek. Access to the site is by short roads from the highway. The site is accessible from Keno City by a 12 km drive west on Highway #11 to the first Elsa Townsite turnoff, continue past the first turnoff for 0.7 km then turn left (north/downhill) and follow the access road for ~0.5 km NW to the site. There is a locked gate at the entrance to the Husky access road. The Husky turnoff is the third left turnoff past the Elsa townsite junction. The site is located at latitude 63°54'26"N, longitude 135°30'53"W and at an elevation of 760 m. UTM co ordinates for the site are 7 086 77m N 474 740m E.

**2. SITE PHYSIOGRAPHY**

The site consists of mining structures constructed on a waste rock plateau. There is very little vegetation on the site. Soils that exist in the area are very coarse in texture. Vegetation that exists in the area of the mine site is stunted black spruce, a variety of willow, scrub brush and a variety of mosses and lichens. Site drainage is present southwest towards Flat Creek. The entire site access road is built on waste rock. The site is fairly leveled, with an elevation drop of about 15 m to the west. Drainage is south west towards Flat Creek; whole site access is built on waste rock; site is fairly level with elevation drops of 15m at mine waste dumps.

**3. GEOLOGY AND MINERALIZATION**

The Husky deposit is located near the base of Galena Hill and any surface exposure is covered by overburden and glacial till. The deposit is hosted in Keno Hill Quartzites with interbedded graphitic and micaceous schists and some greenstone sills. The vein material is reported to consist of siderite, argentiferous galena, quartz, pyrargyrite, calcite, barite, minor stephenite and polybasite, there is little evidence of any oxidation.

**4. SITE HISTORY**

The deposit was discovered using surface rotary percussion drilling in the mid-1960's. From 1968 to 1988 ore was mined from the 400 foot shaft with 2 raises constructed to the surface. Four main mining levels were located at 125, 250, 375 and 400 feet. A ramp was constructed from the 375 level to the 450 level. Total production was 389,519 tonnes at 1430g/t Ag, 3.9% Pb, and 0.4% Zn (Minfile 105M 001bb).

## 5. MINE DEVELOPMENT

### 5.1 Mine Openings and Excavations

Husky mine is accessed via a shaft. The workings are flooded to surface. There are two raises to the surface. One of the raises was used for ventilation to the underground workings and has a heating furnace and downcast fans at the surface (photo 2-1).

#### Adits/Shafts/Portals

##### Raise

Location: Located on Husky mine site map 106 m @ 325° from the main shaft headframe structure.

Dimensions (L x W x H): 2m x 2m x 8m.

Supports: The building concealing the raise is of wood frame construction with a painted plywood exterior.

Condition: Structure appears to be in good condition.

Accessibility: Structure was padlocked and no access was available to building.

##### Shaft

Location: Located on Husky mine site map adjacent to the hoist house.

Dimensions (L x W x H): Headframe building is 17m x 18m x 25m.

Supports: Information on the building can be found in Section 6.0 under Building 2A

Condition: Structure appears to be in good condition.

Accessibility: The shafthouse was padlocked, restricting any access to the interior.

### 5.2 Waste Rock Disposal Areas

#### Husky Shaft Dump

The dump is located on the north side of the shaft pad area. It consists mainly of quartzite with some quartz and minor amounts of schist. The quartzite has disseminated pyrite, arsenopyrite and quartz veinlets. The toe of the dump shows significant iron staining and precipitates. The vegetation near the flow is heavily stressed (photo 2-2).

Analyses was conducted on waste rock at the mine shaft dump during 1995. The following chart indicates the sample analyses.

Location	Sample ID	Paste PH	S (tot.) %	S (SO4) %	AP	NP	NET NP	NP/AP
					kg CaCO3/tonne			
Husky Shaft Dump	95UKHYD01	3.69	7.76	0.09	239.69	0.00	-239.7	<0.10

### 5.3 Tailings Impoundments

No tailings impoundments were encountered at the Husky mine site.

### 5.4 Tailings Dams

No tailings dams were noted at the site.

### 5.5 Tailings Ponds

No tailings ponds were noted at the site.

### 5.6 Minesite Water Treatment

No mine site water treatment facilities or operations were noted at the site.

## 6. MINE SITE INFRASTRUCTURE

### 6.1 Buildings

There were two areas of infrastructure at the Husky mine site. One area included a raise structure and a boiler house that were attached by an air duct. Both structures were used as a hot air ventilation unit to the underground workings. The main site was situated approximately 106m from the raise and included a shaft headframe, hoist house, and numerous outbuildings. A utilidor appears to extend from the raise and boiler down to the main site.

#### Building 2A – Shaft Headframe (photo 2-3)

The structure has been constructed over the main shaft.

Location: Located on the Husky mine site map approximately 14m from the hoist house.

Dimensions (L x W x H): 17m x 18m x 25m.

Construction: The building appears to be wood frame with metal sheathing encompassing the structure, roof and headframe. There are timber supports tied into the concrete pads on the southwall and timber supports on the north wall tied into a submerged concrete wall, both were constructed to stabilize the headframe structure.

Paint: No paint was noted on the exterior.

Asbestos: No asbestos was noted on the exterior.

Foundation: It appears from the exterior that the foundation is a floating concrete slab.

Non-Hazardous Contents: No contents were noted around the exterior of the building.

Hazardous Contents: There was one fuel drum that was not labeled sitting horizontally with a small amount of product having leaked from the bung. Soil staining was very minor.

Note: The building was locked and the interior was not accessible.

#### Building 2B – Hoist House (photo 2-4)

The structure was the hoist house adjacent to the shaft headframe building.

Location: Located on the Husky mine site location map approximately 14m from the head frame shaft house.

Dimensions (L x W x H): 24m x 12.5m x 10m.

Construction: The structure was wood frame and encased in exterior steel sheathing including the roof. The building had fibreglass insulation. A small wooden porch was located off the west end. The doors were metal. The hoist cable openings were stained with lubricants and tar. There were some tar stains located directly under the cable openings, however, soil staining was minor in nature.

Paint: There was no paint noted on the exterior.

Asbestos: No asbestos was noted on the exterior.

Foundation: The foundation consisted of a concrete pad.

Non-Hazardous Contents: No non-hazardous contents were noted around the exterior of the building.

Hazardous Contents: No hazardous contents were noted around the exterior of the building.

Note: The building was locked and the interior was not accessible.

#### Building 2C-Boiler House (photo 2-5)

The building housed a boiler and a diesel generator.

Location: The boiler house is located 18m to the southwest of the hoist house.

Dimensions (L x W x H): 10m x 7m x 6m.

Construction: The structure consists of wood frame construction sheathed in metal with wood panel doors. A utilidor is attached to the east side of the building. A plywood addition was located at the rear of the building.

Paint: No paint was noted in the building.

Asbestos: {estimate volume of friable asbestos as waste (e.g. exterior siding on collapsed building) and asbestos still in service (e.g., exterior and interior siding, vinyl-and-asbestos floor tiles)}

Foundation: Concrete slab foundation.

Non-Hazardous Contents: No non-hazardous contents were noted.

Hazardous Contents: There were two ASTs located in the interior of the building in the northeast corner. There did not appear to be any contents, however, it was difficult to determine as the tanks were encompassed with building debris.

Note: Staining was noted in the exterior of the building on the concrete floor as well as on the exterior of the rear addition. No staining was noted on the surrounding soils. A large vertical AST was located at the rear of the boiler house.

#### Building 2D – Storage Shed (photo 2-5)

The building appeared to be used as a storage shed.

Location: Structure is directly adjacent to the west wall of the boiler house.

Dimensions (L x W x H): 2.5m x 4m x 4m

Construction: Wood frame construction with metal sheathing.

Paint: No paint was noted.

Asbestos: No asbestos was noted on the structure.

Foundation: Raised wood platform.

Non-Hazardous Contents: There were no hazardous contents noted.

Hazardous Contents: The interior of the structure was heavily stained with both tar and rock drill oil. There was a drip pan under a 200L drum of rock drill oil that contained some product. There was some minor staining at the entrance to the building. 3 - 200L drums were located at the rear of the building and were empty. Minor surficial staining was noted surrounding the drums.

#### Building 2E - Large Storage Shed (photo 2-6)

The building was padlocked, however, it appeared to be used for storage.

Location: The structure was located 15m to the northwest of the boiler house.

Dimensions (L x W x H): 16m x 5m x 4m

Construction: The structure was of wood frame construction with metal sheathing on exterior and roof.

Paint: No paint was noted on the exterior.

Asbestos: No asbestos was noted on the exterior.

Foundation: Raised timber foundation.

Non-Hazardous Contents: No non-hazardous contents were noted around the exterior of the building.

Hazardous Contents: No hazardous contents were noted around the exterior of the building.

Note: There was some metal debris that was noted along the south side of the building that included empty and rusted out drums (photo 2-7). There was no sign of staining around the perimeter of building 2E.

## **6.2 Fuel Storage**

Location: An aboveground storage tank was located behind the boiler house (photo 2-8).

Above Ground Storage Tanks: The AST measured 3m in height and 2 m in diameter and consisted of steel bolted construction. There appeared to be staining along the bolted joints (photo 2-9). Soil staining was evident around the perimeter of the tank. There was heavy staining at the valves. A waste rock berm extends around the perimeter of the AST. Samples were not collected as the area surrounding the AST consisted exclusively of large waste rock.

## **6.3 Rail and Trestle**

There were rails extending approximately 25m from the shaft house and stopped abruptly, rail debris and cars were abandoned in this area (photo 2-10). Approximately 28 rail cars were located behind building 2E (photo 2-11).

## **6.4 Milling and Processing Infrastructure**

No milling or processing infrastructure was noted at the site.

## **6.5 Electrical Equipment**

There were three transformers at the site located to the southeast of the boiler house (photo 2-12). No samples were taken as the transformers were still in use and the perimeter was fenced and padlocked.

## **7. SOLID WASTE DUMPS**

No solid waste dumps were identified at the site.

## **8. POTENTIAL CONTAMINANTS OF CONCERN**

### **8.1 Out-of-Service Transformers**

No out-of-service transformers were noted at the site.

### **8.2 Metals and Hydrocarbons in Soil**

Soil staining was apparent in numerous areas of the site. Most of the areas were surficial in nature and did not appear to be adversely affecting the surrounding environment. The major area of concern noted was the aboveground storage tank. There is staining around the perimeter of the AST and it is difficult to determine the extent of contamination as the AST was placed on top of

waste rock as well as the perimeter bermed with waste rock. Samples were not taken as the sample medium was too coarse to provide a representative sample.

### 8.3 Liquid Hazardous Materials

There were only 2 drums that contained product. One unlabelled 200L drum was located to the east of the headframe shaft house. There was some very minor leakage and the drum was  $\frac{3}{4}$  full of unknown product. A sample of the product was not taken as the drum itself was in poor condition, lying horizontal and the bung was inaccessible.

Location(s): Behind headframe shaft house.

Volume(s): 150L

Label information: Unlabelled

Contents: Unknown

The second drum was located in the small storage shed (building 2D). The drum was labeled as "rock drill oil" and had been placed horizontally with only residue remaining in the drum. A drip pan had been placed under the nozzle.

Location(s): Building 2D

Volume(s): Residue

Label information: Rock drill oil

Contents: Hydrocarbon based liquid

### 8.4 Solid Hazardous Materials

No solid hazardous waste materials were noted at the site.

## 9. WATER QUALITY

Mine water from this site flows through a drainage system that extends underground from the shafthouse and discharges under the toe of the waste rock dump.

Two water quality samples were taken at the site. Sample 02-03-water was collected 78m from the headframe building @170° (photo 2-2). The sediments at this location were orange brown with a noticeable sheen on the surface. Water flow rate at the sample location was .3L/s with a pH level of 2.6 and conductivity at 147  $\mu$ S.

Sample 02-04-water was collected 200m downstream of sample 02-03-water at the toe of the dump. Water flow at this location was .3L/s with a pH of 3.6 and conductivity of 99 $\mu$ S. The vegetation at the sample location appeared to be stressed.

Laboratory metal analysis, pH and conductivity results on both samples can be found in Attachment B.

#### 10. RECLAMATION

There did not appear to be any reclamation measures carried out by past or present site operators. Some scrub brush and willows have grown on the site, however, very little natural revegetation has occurred.

#### 11. OTHER SOURCES OF INFORMATION AND DATA

No other sources of information and data were identified.

#### 12. REFERENCES

United Keno Hill Mines Limited. 1996. *United Keno Hill Mines Limited – Site Characterization*. Report No. UKH/96/01, prepared by Access Mining Consultants Limited.

United Keno Hill Mines Limited. 1996. *United Keno Hill Mines Limited – Site Characterization, Technical Appendices I-VI*. Report No. UKH/96/01, prepared by Access Mining Consultants Limited.

DIAND 1984 YUKON GEOLOGY Volume 1, pp83-87.

**Table B1. 1999 Water Quality Results, Husky Site**

Sample Number	Detection Limit	Units	Site 02-03-Water Husky - 99/09/16	Site 02-04-Water Husky - 16/09/99
pH (field)				
Conductivity (field)				
pH (Lab)	0.01	pH	1.98	3.46
Conductivity (Lab)	0.01	µS/cm	13000	1450
Total Alkalinity	5	mg CaCO3/L	<5	<5
Chloride	0.01	mg/L	na	1.4
Chloride	5	mg/L	<5	na
Hardness (CaCO3 equiv)	5	mg/L	457	557
Nitrate-N	0.05	mg/L	364	na
Nitrite-N	0.003	mg/L	0.15	0.003
Sulphate	1	mg/L	1020	740
Total Dissolved Solids	5	mg/L	3420	1240
ICP-USN Total Metals Scan in Water				
Aluminum	0.0008	mg/L	10.9	6.68
Antimony	0.005	mg/L	<0.005	<0.005
Arsenic	0.01	mg/L	0.1	<0.01
Barium	0.00004	mg/L	0.00929	0.0475
Beryllium	0.00001	mg/L	0.002	0.00114
Bismuth	0.0004	mg/L	0.0005	<0.0004
Boron	0.002	mg/L	0.078	0.022
Cadmium	0.00006	mg/L	0.0849	0.0469
Calcium	0.002	mg/L	113	169
Chromium	0.00006	mg/L	0.0152	0.00549
Cobalt	0.00003	mg/L	0.11	0.0609
Copper	0.00003	mg/L	0.736	0.284
Iron	0.00001	mg/L	99.8	13
Lead	0.0003	mg/L	0.184	0.0257
Lithium	0.001	mg/L	0.031	0.024
Magnesium	0.0005	mg/L	40.6	44.8
Manganese	0.00002	mg/L	8.48	8.26
Mercury	0.0001	mg/L	<0.0001	<0.0001
Molybdenum	0.00007	mg/L	<0.00007	<0.00007
Nickel	0.00001	mg/L	0.279	0.144
Phosphorus	0.03	mg/L	0.17	0.05
Potassium	0.4	mg/L	<0.4	0.5
Selenium	0.004	mg/L	0.014	0.007
Silicon	0.004	mg/L	9.02	8.61
Silver	0.00005	mg/L	0.0125	0.00366
Sodium	0.4	mg/L	1.3	1.8
Strontium	0.00002	mg/L	0.183	0.242
Sulphur	0.008	mg/L	372	247
Thallium	0.001	mg/L	0.079	0.044
Titanium	0.00002	mg/L	0.00074	0.022
Vanadium	0.00003	mg/L	<0.00003	0.00232
Zinc	0.0002	mg/L	5.82	3.07
Total Arsenic by Hydride AA				
Arsenic	0.0002	mg/L	0.108	0.0036
Total Selenium by Hydride AA				
Selenium	0.0001	mg/L	<0.0001	<0.0001

**HUSKY SOUTHWEST #2**  
**(MINFILE # 105M 001bb)**

**1. LOCATION AND ACCESS**

From Keno City drive 14 km west on Highway #11 just past the Elsa Townsite turn left (approximately 0.3 km past the Flat Cr. crossing) follow the access road for ~0.8 km NW to the site. There is a locked gate at the entrance to the Husky SW access road. The site is at latitude 63°54'26"N and longitude 135°30'53"W with an elevation of 970m. UTM co ordinates for the site are 7 086 77m N 474 740m E.

**2. SITE PHYSIOGRAPHY**

The site consists of mining structures constructed on a waste rock plateau. There is very little vegetation on the site. Soils that exist in the area are very coarse in texture. Vegetation that exists in the area of the mine site is stunted black spruce, a variety of willow, scrub brush and a variety of mosses and lichens.

**3. GEOLOGY AND MINERALIZATION**

The Husky deposit is located near the base of Galena Hill and any surface exposure is covered by a significant depth of overburden and glacial till. The deposit is hosted in Keno Hill Quartzites with interbedded graphitic and micaceous schists. The vein material is reported to consist of quartzite breccia, quartz, with pyrite/graphitic veinlets. The mineralization occurs as non-visual native silver with minor argentite and stephanite. There is very little galena and almost no sphalerite associated with this deposit.

**4. SITE HISTORY**

From 1987 to 1988 a 600 foot shaft was developed with partial development on 3 levels and was connected to the Husky mine site on the 250 level. Total production was estimated at 9,490 tonnes @ 1358g/t Ag, 0.3% Pb, 0.1% Zn and some gold.

**5. MINE DEVELOPMENT**

**5.1 Mine Openings and Excavations**

The Husky southwest mine is accessed via a shaft. The workings are flooded to surface and are hydraulically connected with the Husky workings. The headframe structure and shop buildings remain onsite and in good condition.

## Husky SW Shaft

Location: Main workings, located at the north of the hoist house.

Dimensions (L x W x H): Shaft house is 15m x 8m x 25m.

Supports: Head frame structure is supported.

Condition: The structure appears to be stable.

Accessibility: The building is padlocked.

## 5.2 Waste Rock Disposal Areas

### Husky SW Shaft Dump

The dump is located on the northwest (downhill) side of the shaft pad area. It consists of a base of glacial till excavated from the shaft pad covered with development material. The development waste consists of quartzite with some quartz and minor amounts of schist. The quartzite has disseminated pyrite. The waste dump has stockpiles of ore remaining on its surface. The ore consists of Quartzite breccia flooded with quart stringers containing both disseminated and veinlets of pyrite and arsenopyrite

Analyses was conducted on waste rock at the mine shaft dump during 1995. The following chart indicates the sample analyses.

Location	Sample ID	Paste PH	S (tot.) %	S (SO4) %	AP	NP	NET	NP/AP
							NP	
kg CaCO3/tonne								
Husky SW Shaft Dump	95UKHWD01	3.72	0.96	0.28	21.25	0.00	-21.3	<0.10

## 5.3 Tailings Impoundments

No tailings impoundments were noted at the site.

### Tailings Dams

There were no tailings dams noted at the site.

### Tailings Ponds

There were no tailings ponds noted at the site.

#### 5.4 Minesite Water Treatment

There were no minesite water treatment facilities at the site.

### 6. MINE SITE INFRASTRUCTURE

#### 6.1 Buildings

The buildings at the Husky Southwest mine site appear well maintained and consist of a shaft headframe, hoist house and various outbuildings. An active transformer compound is also present at the site (photo 2-12). A utilidor extends from the rear of the shaft headframe to the west side of the hoist house.

##### Building 2H – Workshop (photo 2-13)

The building was used as a workshop.

Location: Listed as building 2H on the Husky SW site map.

Dimensions (L x W x H): 6m x 4m x 5m.

Construction: The structure consisted of wood frame construction with metal sheathing on the exterior and roof.

Paint: There was no paint noted on the interior.

Asbestos: No asbestos was noted on the building.

Foundation: The foundation consisted of raised wood platform.

Non-Hazardous Contents: There were no containers noted inside the building.

Hazardous Contents: No hazardous contents were noted in the building.

##### Building 2I – Shaft House and Headframe (photo 2-14)

The structure consisted of a shaft house and headframe.

Location: Listed as building 2I on the Husky SW site map.

Dimensions (L x W x H): 15m x 4m x 5m (headframe structure measured 25m in height).

Construction: The structure consisted of wood frame construction with exterior galvanized steel sheathing. A timber reinforcement structure was located on the west wall of the building to stabilize the headframe.

Paint: No paint was noted on the interior.

Asbestos: No asbestos was noted.

Foundation: The foundation consisted of both plank flooring and soils.

Non-Hazardous Contents: No non-hazardous contents were noted at the site during the inspection.

Hazardous Contents: No hazardous contents were noted during the site inspection.

Building 2J – Hoist House (photo 2-15)

The building served as the hoist house, administration offices, and garage.

Location: Listed as building 2J on the Husky SW site map.

Dimensions (L x W x H): 35m x 12m x 10m

Construction: The building was wood frame with galvanized steel exterior and roof.

Paint: Interior was not accessible, no paint was noted on exterior.

Asbestos: No asbestos was noted at the site.

Foundation: Concrete pad foundation.

Non-Hazardous Contents: There were no non-hazardous contents noted at the building site.

Hazardous Contents: An aboveground storage tank was located on the northwest corner of the building and was incorporated into the structure(photo 2-15). Secondary containment consists of a concrete berm that extends half way up the AST. The tank is open to the elements, however, it is located under a building overhang (photo).

Note: The area to the west of the building has scattered debris. Approximately 300 bags of powder concrete are stacked. Approximately half of the bags have been exposed and are no longer useful. There is various metal debris scattered, one empty AST was noted, and a fuel drum that was labeled as motor oil Chevron 200L was  $\frac{3}{4}$  full. There is some staining surrounding the fuel drum indicating that it is or has been leaking. Area impacted is approximately 4m x 2m. Two air compressor tanks are located on the south wall of the hoist house (photo 2-16). The tanks are situated on a concrete pad and are piped into the utilidor that enters the hoist house at this point. Both tanks measure 6m in height and 3m in diameter.

Building 2K – Atco Trailer (photo 2-17)

Structure appears to be used as a storage shed for miscellaneous debris.

Location: Listed as building 2K on the Husky SW mine site map.

Dimensions (L x W x H): 11m x 3m x 3m

Construction: The trailer is metal.

Paint: The trailer is painted yellow and brown – no samples were taken.

Asbestos: No asbestos was noted.

Foundation: No foundation.

Non-Hazardous Contents: No non-hazardous contents were noted.

Hazardous Contents: No hazardous contents were noted.

Note: It appears that the site is maintained and potentially in use. The above information regarding non-hazardous and hazardous contents pertains to the date of the site inspection and may potentially change should the site be in use.

Building 2L – Detonator House ( photo 2-18)

Ammunitions magazine.

Location: The detonator house was located on the access road to the mine site.

Dimensions (L x W x H): 3.5m x 3m x 3.5m

Construction: The structure is a wood frame, metal clad building with metal roof and metal padlocked door.

Paint: Interior was not accessible; no paint was noted on exterior.

Asbestos: No asbestos was noted at the site.

Foundation: Structure was situated on steel sleds.

Non-Hazardous Contents: There were no non-hazardous contents noted at the building site.

Hazardous Contents: No hazardous materials were noted at the site.

## 6.2 Fuel Storage

There was one aboveground storage tank (photo 2-15) that was located on the northwest corner of the hoist house. The tank was welded steel and no leaks were noted - no staining was noted in the concrete secondary containment.

There were two 200L drums labeled as torque fluid. One of the drums was horizontal on a wood platform with a closed bottom valve (photo 2-19). The drums did not contain any product or residue however, the area around the horizontal drum was stained. Intrusive investigation indicated that the contamination was surficial. The area of contamination was estimated at 10m x 8m with an approximate depth of .25m.

## 6.3 Rail and Trestle (photo 2-20)

Location: There was a track that extended from the interior of the headframe building to just beyond the hoist house. There were six rail cars that had been abandoned beside the rails.

Fabrication: Steel tracks with wooden ties.

Amount of materials: Tracks extended 60m.

Condition: The tracks and ties appear to be in good condition.

## 6.4 Milling and Processing Infrastructure

There were no milling or processing structures at the site.

## 6.5 Electrical Equipment

### In-Service Transformers

There was a transformer station at the site that was fenced and padlocked (photo 2-12). The transformers were situated on a concrete pad. They were still in service at the time of the site inspection, however, admittance to the transformers was restricted by padlock and no identification of the equipment was attempted. No samples were taken. These transformers were older and may contain PCB's.

A utilidor extends from the shaft headframe building on the south wall to the hoist house and is protected by a fibreglass insulated 1m x.5m boxed plywood receptacle with power cables running alongside (photo 2-21).

## 7. SOLID WASTE DUMPS

No solid waste dumps were noted at the site.

## 8. POTENTIAL CONTAMINANTS OF CONCERN

### 8.1 Out-of-Service Transformers

There did not appear to be any out-of-service transformers at the site.

### 8.2 Metals and Hydrocarbons in Soil

There was surficial staining in various areas of the site that indicated some hydrocarbon contamination. The stained areas were investigated. All were determined to be surficial in nature and did not appear to pose any severe environmental conditions that would adversely affect surrounding receptors. Samples were not taken of the soils.

### 8.3 Liquid Hazardous Materials

Location(s): One drum was noted at the site.

Volume(s): 200L.

Label information: labeled as Chevron motor oil.

Contents: ¾ full of product.

### 8.4 Solid Hazardous Materials

No solid hazardous materials were noted at the site.

## 9. WATER QUALITY

Two samples were taken at the Husky SW mine site. The first sample (02-01-upswater) was taken above the site (photo 2-22). The water was clear and there was abundant mosses and lichens along the rock faces. The sample was taken on the south side of the road at the culvert. Water flow at the sampling location was .75L/s with a field testing of 7.6 pH and conductivity at 18µS. Laboratory sample results can be found in Attachment B.

The second sample (02-02-water) was collected at the toe of the waste rock dump (photo 2-23). Flow rate at the sampling location was 0.1L/s with field testing indicating a pH of 7.1 and conductivity of 132 µS. Laboratory sample results can be found in Attachment B.

### Previous Environmental Studies/Sampling

Documentation from the United Keno Hills Mines Limited (Report No. UKH/96/01 Site Characterization) indicates that the drainage from the Husky SW shaft has been reasonably consistent in chemistry and flow over the past five years. The pH values are generally alkaline in nature - approximately 7. Zinc appears to be the primary contaminate of interest with occasional spikes of other metals above detection limits.

The chart below indicates results from a water sampling program conducted in 1995. The sample was collected 500m downstream from the discharge point.

Sample	PH	Alkalinity	SO4	Fet	Fed	Znt	Znd
Shaft Discharge	6.9	135	685	16.3	9.68	0.555	0.45
500m Downstream	8.2	120	762	4.3	0.01	0.071	0.024

## 10. RECLAMATION

There has been little natural revegetation in the area, possibly due to the fact that the mine has been recently active. It does not appear that reclamation measures have been carried out by past or present site operators.

## 11. OTHER SOURCES OF INFORMATION AND DATA

No other sources of information and data were identified.

## 12. REFERENCES







































United Keno Hill Mines Limited. 1996. *United Keno Hill Mines Limited – Site Characterization*. Report No. UKH/96/01, prepared by Access Mining Consultants Limited.

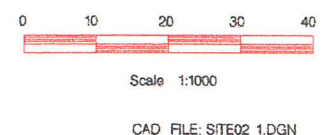
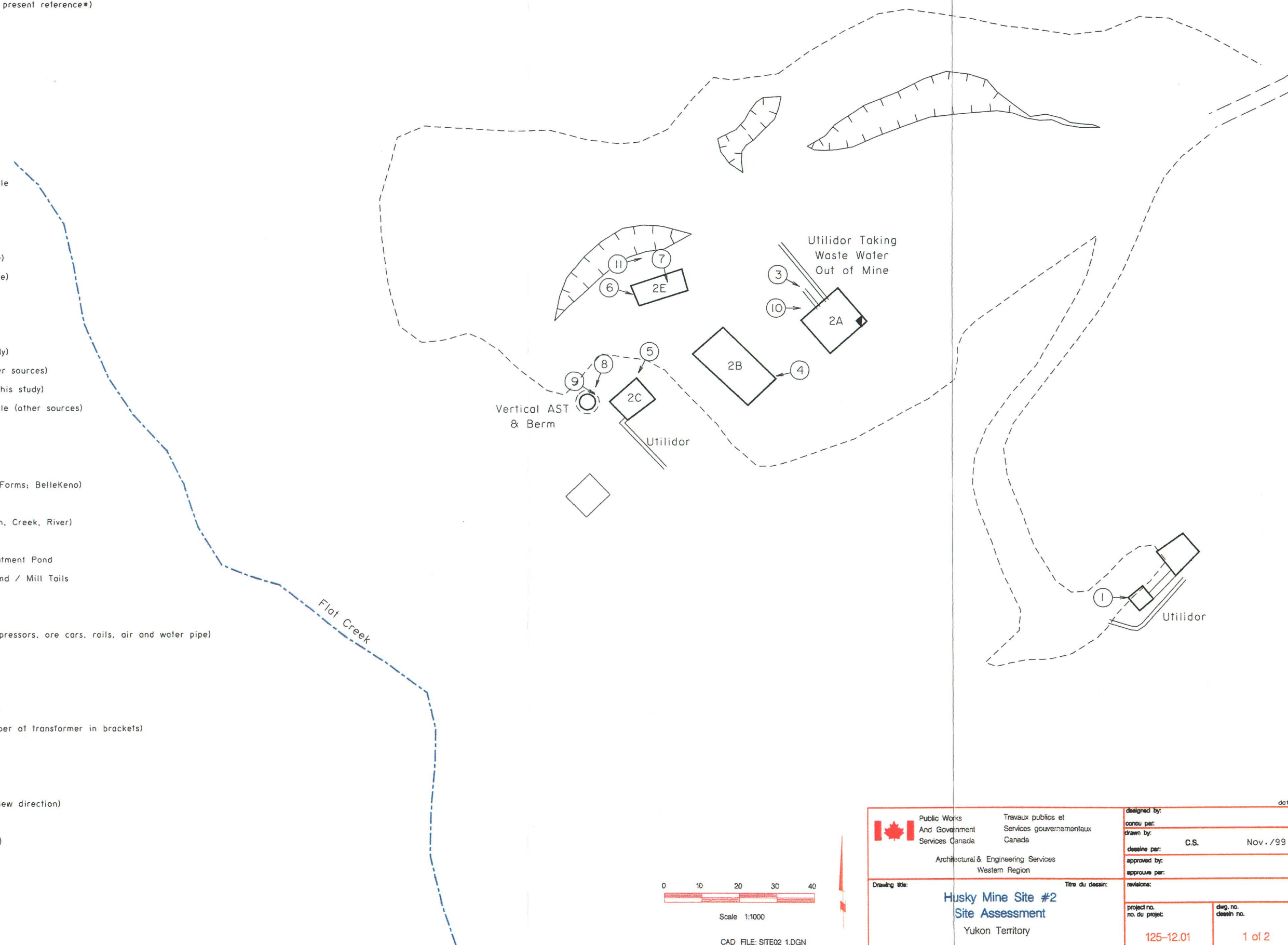
United Keno Hill Mines Limited. 1996. *United Keno Hill Mines Limited – Site Characterization, Technical Appendices I-VI*. Report No. UKH/96/01, prepared by Access Mining Consultants Limited.


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**Table B1. 1999 Water Quality Results, Husky Southwest Site**

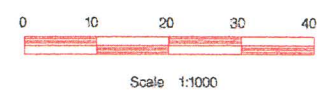
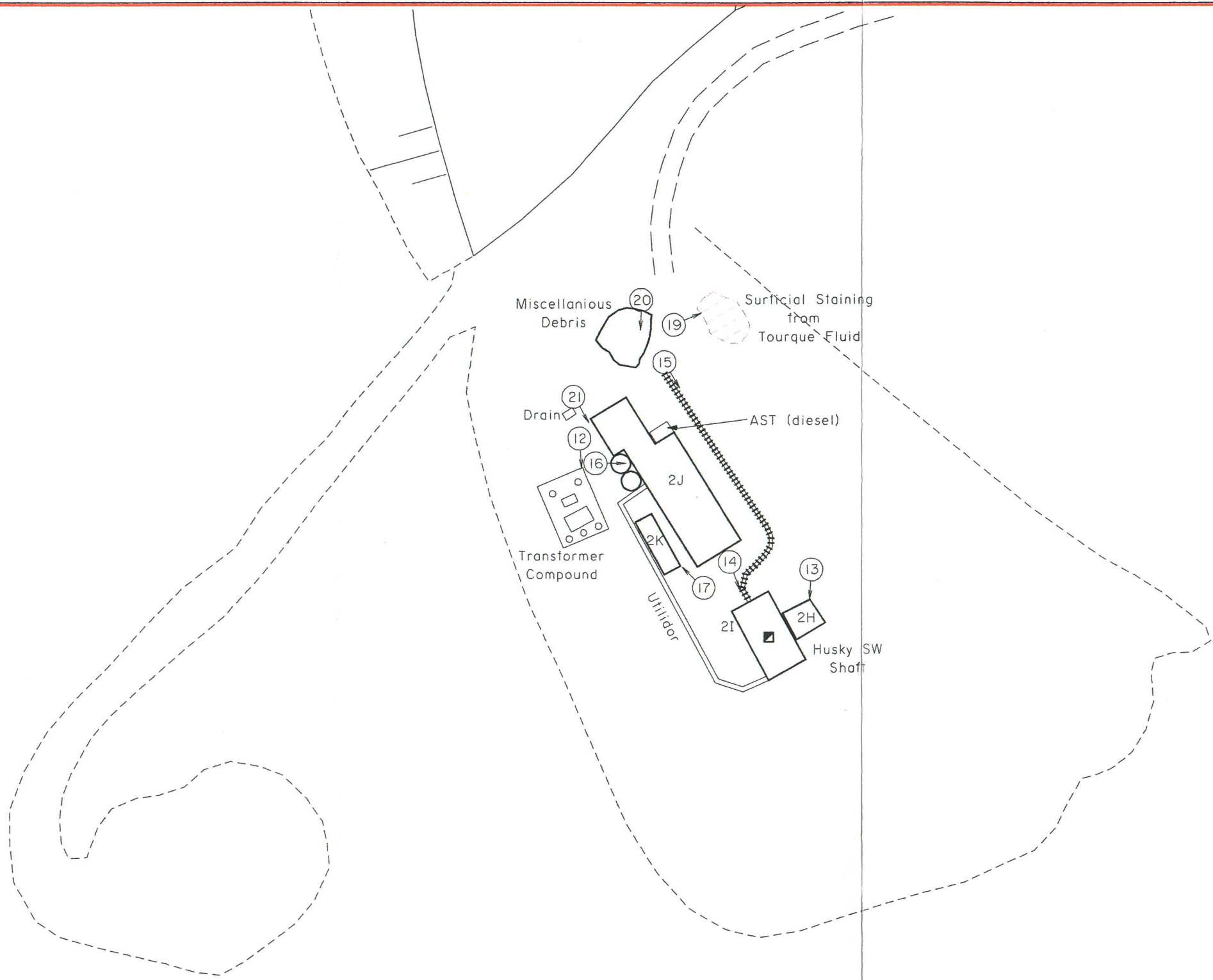
	Detection Limit	Units	Husky SW 02-01- Upwater - Husky SW - 99/09/16	Site 02-02 - Husky - 99/09/16
pH (field)				
Conductivity (field)				
pH (Lab)	0.01	pH	7.62	1.84
Conductivity (Lab)	0.01	µS/cm	490	21000
Total Alkalinity	5	mg CaCO3/L	230	<5
Chloride	0.01	mg/L	na	na
Chloride	0.25	mg/L	<0.25	<5
Hardness (CaCO3 equiv)	5	mg/L	257	1160
Nitrate-N	0.05	mg/L	0.14	730
Nitrite-N	0.003	mg/L	<0.003	0.013
Sulphate	1	mg/L	21.5	952
Total Dissolved Solids	5	mg/L	308	3100
ICP-USN Total Metals Scan in Water				
Aluminum	0.0008	mg/L	0.0203	0.008
Antimony	0.005	mg/L	<0.005	<0.005
Arsenic	0.01	mg/L	<0.01	<0.01
Barium	0.00004	mg/L	0.0822	0.0111
Beryllium	0.00001	mg/L	<0.00001	<0.00001
Bismuth	0.0004	mg/L	<0.0004	<0.0004
Boron	0.002	mg/L	<0.002	0.008
Cadmium	0.00006	mg/L	0.00012	0.0388
Calcium	0.002	mg/L	72.8	336
Chromium	0.00006	mg/L	<0.00006	<0.00006
Cobalt	0.00003	mg/L	<0.00003	0.00171
Copper	0.00003	mg/L	0.0013	0.00381
Iron	0.00001	mg/L	0.048	0.084
Lead	0.0003	mg/L	<0.0003	0.003
Lithium	0.001	mg/L	0.002	0.026
Magnesium	0.0005	mg/L	17.4	90.7
Manganese	0.00002	mg/L	0.0118	1.95
Mercury	0.0001	mg/L	<0.0001	<0.0001
Molybdenum	0.00007	mg/L	0.00029	0.00021
Nickel	0.00001	mg/L	0.0002	0.0951
Phosphorus	0.03	mg/L	<0.03	<0.03
Potassium	0.4	mg/L	0.5	4.1
Selenium	0.004	mg/L	0.011	0.004
Silicon	0.004	mg/L	2.49	2.83
Silver	0.00005	mg/L	<0.00005	0.00014
Sodium	0.4	mg/L	0.6	5.6
Strontium	0.00002	mg/L	0.207	0.613
Sulphur	0.008	mg/L	7.43	350
Thallium	0.001	mg/L	<0.001	0.002
Titanium	0.00002	mg/L	0.0003	<0.00002
Vanadium	0.00003	mg/L	<0.00003	<0.00003
Zinc	0.0002	mg/L	0.0138	2.25
Total Arsenic by Hydride AA				
Arsenic	0.0002	mg/L	0.0006	0.0007
Total Selenium by Hydride AA				
Selenium	0.0001	mg/L	<0.0001	<0.0001

-  Building (22A: building site present reference\*)
-  22A Indicates Asbestos Material
-  Collapsed Building
-  Adit
-  Collapsed Adit
-  Shaft
-  Collapsed/Backfilled Shaft
-  Mine Rock Dump
-  Bedrock Open Pit
-  Trench
-  Stripped Overburden Stockpile
-  Stripped / Disturbed Area
-  Outcrop Boundary
-  Highway
-  Road (gravel, 2 wheel drive)
-  Road (gravel, 4X4 accessible)
-  Road (inaccessible)
-  Trail
-  Culvert
-  24501-01 1999 Soil Sample (this study)
-  Pre 1999 Soil Sample (other sources)
-  25WR04-01 1999 Waste Rock Sample (this study)
-  Pre 1999 Waste Rock Sample (other sources)
-  10-12-06 1999 Water Sample
-  Pre 1999 Water Sample
-  Tension Cracks
-  Mass Movement (note: for Forms; BelleKeno)
-  Groundwater Seep
-  Surface Water Flow (Stream, Creek, River)
-  Lake
-  Settling Pond / Water Treatment Pond
-  Tailings Dam / Tailings Pond / Mill Tails
-  Pounded Water / Trench
-  Barrels
-  Abandoned Equipment (compressors, ore cars, rails, air and water pipe)
-  Mine Rails / Trestle
-  Collapsed Trestle
-  Solid Waste Disposal Site
-  Area of Soil Contamination
-  \*(6) Transformer Location (number of transformer in brackets)
-  Power Line
-  Power Line Collapsed
-  Aerial Transmission Towers
-  5 Photo Site (arrow shows view direction)
-  GPS Survey Location
-  Former Building Site (Elsa)



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	approved by: approuvé par:	revisions:
Drawing title: <b>Husky Mine Site #2 Site Assessment</b> Yukon Territory	Titre du dessin:	project no. no. du projet: 125-12.01
		desig. no. dessin no.: 1 of 2

- Building (22A: building site present reference\*)  
Indicates Asbestos Material
- 22A Collapsed Building
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CAD FILE: SITE02\_2.DGN

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	Architectural & Engineering Services Western Region		C.S.	
Drawing title: <b>Husky S.W. Site #2</b> Site Assessment Yukon Territory			Titre du dessin:	
project no. no. du projet:		125-12.01		dwg. no. dessin no.: 2 of 2



Photo 2-1: Boiler house down draft raise & duct.



Photo 2-2: Sample location 02-03, water taken 98 m from headframe.



Photo 2-3: Shaft & headframe.



Photo 2-4: Hoist house.



Photo 2-5: Boiler house.



Photo 2-6: Large storage shed.



Photo 2-7: 200L drums at rear of storage shed.



Photo 2-8: AST behind boiler.



Photo 2-9: AST & piping.



Photo 2-10: West side of headframe.



Photo 2-11: 28 Rail cars.

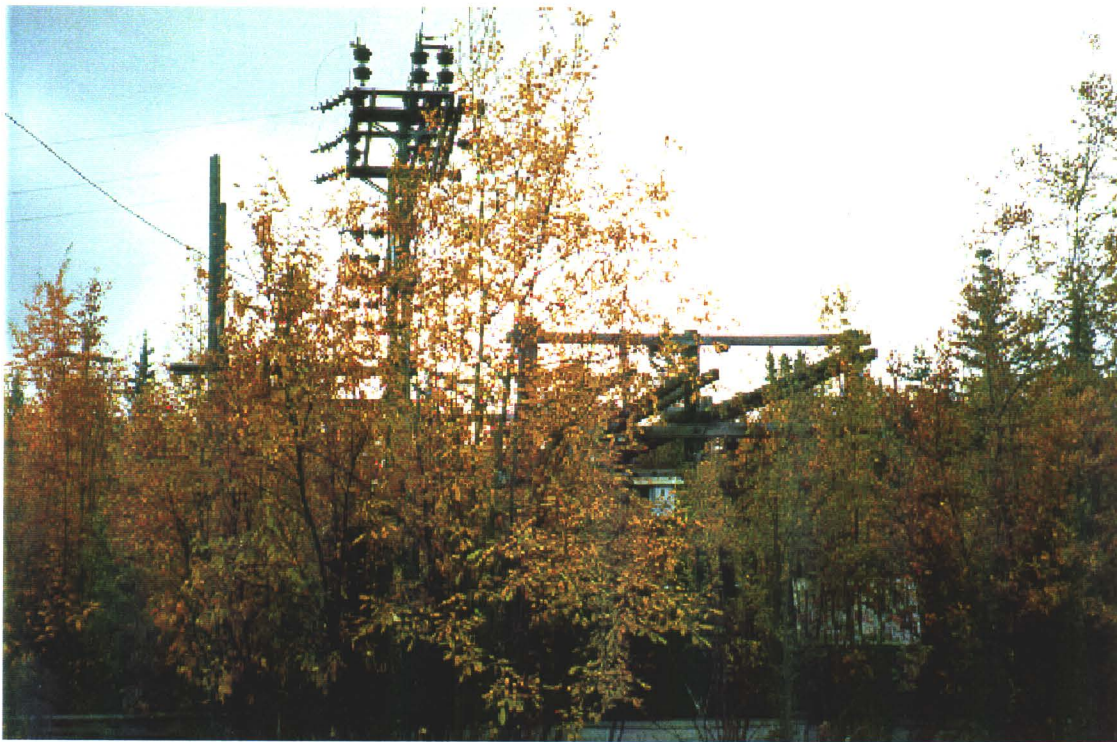


Photo 2-12: Transformer compound.



Photo 2-12: Power compound generating station.



Photo 2-13: Building 1 - Workshop.



Photo 2-14: Shaft headframe house.



Photo 2-15: Structures at site.



Photo 2-16: Air compressor tanks, south wall.



Photo 2-17: Atco trailer.

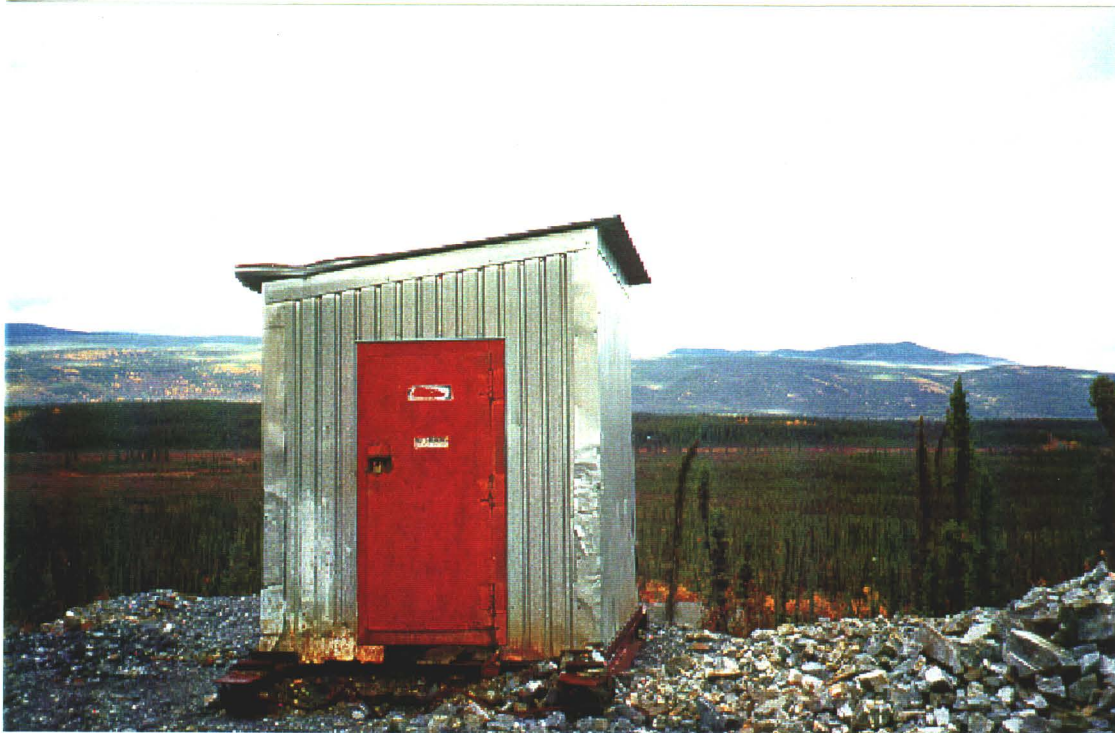


Photo 2-18: Ammunitions magazine



Photo 2-19: Torque fluid 200L staining is evident.



Photo 2-20: Tracks & Cars.



Photo 2-21:



Photo 2-22: Sample location 02-01 - upstream. Sample location just off Hwy 2 at culvert.