PADDY (# 58)
(MINFILE# 105M 020)

1. LOCATION AND ACCESS

The site is located off of the Hansen-McQuesten Road, which joins Highway 11 approximately 5 km east of the village of Elsa and the main site is not accessible by vehicle. The primary means of accessing this site is along a gravel access road stemming from the Highway to the south west. The road loops around and enters the barrel storage area (photo 58-1), with one road continuing on and splitting to the south. The barrel storage area is situated at 63°56'55.0"N and 135°22'42.8W at an approximate elevation of 700 m. The east road crosses Christal Creek at a demolished bridge and parallels the creek to the west, finally entering the main (adit) site through the Christal Creek canyon. The second (west) fork travels uphill and runs along the hill/canyon top to the north before ending above the adit immediately west of the east fork.

A second road exits the barrel storage area to the east, turning north and running along the top of the canyon before rejoining the west fork of the main road north of the adit site and north of the new trenching area. The adit is at 63°56'55.0"N and 135°22'42.8"W at an approximate elevation of 730 m. UTM co ordinates are 7091342.832m N and 481450.112m E.

2. SITE PHYSIOGRAPHY

The site is spread out along Christal Creek to the north of the Highway. The creek itself enters a canyon to the north of the main adit site. The adit and waste rock slope are spread down a steep hillside immediately west of the creek with some trenching and waste rock piles present on at the top of the slope above the adit. A gravel road runs north-south parallel to the creek and a steep sparsely forested hill is present immediately east of the road. Another gravel access road runs north along the top of the hill to the west of the adit. Second growth forest is present in this area, with mature spruce forest further to the east. The road accesses a second area of trenching to the north, which is located immediately west of the canyon. Drainage from each of these areas is directly into Christal Creek.

The barrel storage area to the north is located in a relatively flat area of second growth willow forest. While surface drainage from this site is not along established runoff pathways, it is clear that Christal Creek is the local surface water receptor.

3. GEOLOGY AND MINERALIZATION

The Paddy veins are composed of siderite with variable, but small, amounts of quartz, sphalerite, galena and freiberigite (silver-bearing tetrahedrite). The cubiform galena occurs as clots and clusters rarely more than a few centimeters in size. The vein has been affected by post-mineralization fault movement, as well as intense weathering. Siderite and galena are commonly weathered to limonite and anglesite. The footwall is greenstone and the hangingwall is graphite schist which highly brecciated within a few meters of the vein. Note also that mineralized waste piles at the sorting area contained significant calcite and pyrite, and trace chalcopyrite.

4. SITE HISTORY

Two short adits were driven after staking in 1918, the longest adit was 10 m. Bulldozer trenching was performed in the 1950 to 1963 era, ground sluicing in 1964-65, a short adit in 1965, and two drill holes in 1966. Underground exploration was conducted in 1968, 1969 and 1971. Additional bulldozing was conducted in 1975, and 25 holes were drilled in 1976. 224 tonnes of ore were mined in 1978. Trenching was conducted in 1982. 20 tonnes of hand-sorted ore were mined in 1984. Further trenching was conducted in 1986, 1990 and 1993.
(Source: Yukon Minfile)

5. MINE DEVELOPMENT

5.1 Mine Openings And Excavations

Note: Only one adit was noted in recent field investigations. The open cut above the adit may have destroyed the early adits. It is thought that almost all of the underground mining was conducted from the known adit.

Adit (photo 58-2)

A timbered adit is present just above Christal Creek to the west.
Location: See map.
Dimensions (L x W x H): About 2.5 x 2.5 m size, total length is at least 241m of drifting and crosscutting, more than 61m of raising, and some stoping.
Supports: The timbered portal is partially collapsed.
Condition: Poor condition, could collapse at any time.
Accessibility: Fair access by foot, or by ATV on road above.

No samples were collected, as Phase III testing was considered adequate (samples PAD-WR 1-1 and PAD-WR 2-1).

Open Pits

A small open cut is present above the adit on the upper road. It is located at a contact between graphitic phyllite and greenstone.

Location: Approximately 20 vertical meters above the adit.
Dimensions (L x W x H): Approximately 20 m x 10 m x 10 m.
Condition: Pit walls appear to be stable, but are locally very steep. The road going past the pit has slumped considerably, and may be unstable, but has changed little since the Phase III report.
Accessibility: Good access by foot or fair access by ATV.

No samples were collected, as Phase III testing was considered to be adequate (samples PAD-WR 1-1 and PAD-WR 2-1).

Trenches (photo 58-3 to 58-5)

Three trenches basically parallel to each other, not previously discussed, were noted at a separate site to the south of the main (adit) site. Trenches run approximately east-west on top of knoll ending at or near cliff face. Trenches appear to be relatively recent and have had no revegetation over surface. Only a small amount of bedrock is exposed.

Location: Approximately 400 m south west of main (adit) site.
Dimensions (L x W x H): Approx. 75 m x 25 m x 3 m; approx. 35 m x 10 m x 2 m; and approx. 25 m x 8 m x 2 m.
Condition: Two largest trenches recent and no revegetation; older trench partially reveged; material sloughing off two newer trenches into adjacent Christal Creek canyon at east end; remainder of trenches are stable.
Accessibility: along high road south to barrel storage area.

5.2 Waste Rock Disposal Areas

Waste rock piles were adequately described in the Phase III report. The following table summarizes the results of the Phase III waste rock samples.

Table 1 – Phase III Report

Sample ID	Sample Location and Discription	Summary of ABA Test Results
PAD-WR 1-1	Collected from main waste rock pile below the adit	Low potential for acid generation (NP:AP=5.0)
PAD-WR 2-1	Collected from the smaller waste rock pile to the south and west of the adit.	Low potential for acid generation (NP:AP=5.3)

Waste rock pile – Adit

The waste rock from the adit and the excavation located above the adit was dumped down the hillside (photo 58-6). The waste rock dump below the adit extends down to Christal Creek. The rock in the upper waste rock dump has started to slump down the hillside.

Location: See map.

Dimensions (L x W x H): Approximately 35 m x 30 m (measure from map). Estimated average depth of mine waste 1 m.

Samples: Waste rock pile was adequately sampled in Phase II/III reports (samples PAD-WR 1-1 and PAD-WR 2-1). The waste rock samples were submitted for ABA tests as part of the Phase III assessment (results in Table 1).

Waste rock piles (2) – South of adit

Some waste rock from the adit and the excavation above the adit was placed into two small waste rock piles on a level area to the north of the adit.

Location: See map.

Dimensions (L x W x H): Both approximately 8 m x 8 m (measure from map). Average depth of mine waste rock approximately 2 m.

Samples: Waste rock pile was adequately sampled in Phase II report (samples PAD-WR 1-1 and PAD-WR 1-2). The waste rock samples were submitted to lab for analysis (results in Table 1)

5.3 Tailings Impoundments

None present.

5.4 Minesite Water Treatment

None present.

6. MINE SITE INFRASTRUCTURE

6.1 Buildings

A single small building was noted along the road, north of the adit. Access was not gained to the building interior.

Building 58A – Storage Building

The building appeared to have been used for storage purposes.

Location: Along the roadway north of the adit, immediately adjacent to the west bank of Christal Creek.

Dimensions (L x W x H): 4 m x 2.5 m x 2.5 m.
Construction: Wood frame with wood floor; asphalt shingle roofing.
Paint: White painted exterior. Unknown interior.
Asbestos: None on exterior.
Non-Hazardous contents: Unknown.
Foundation: None.

Hazardous contents: Unknown.
Surrounding area: No materials noted in immediately area.

6.2 Fuel Storage

There is currently no fuel in storage at the site. Barrels at the barrel storage area were probably formerly used for high grading and are currently empty.

6.3 Rail and Trestle (photo 58-7)

Location: Rails piled on road below adit.
Fabrication: Metal rail.
Amount of materials: 25, 5 m lengths.
Condition: Rails are in satisfactory condition, however, they have been removed and there is no evidence of their former location.

6.4 Milling and Processing Infrastructure

There is no milling or processing infrastructure present at this site.

6.5 Electrical Equipment

No electrical equipment was identified at the site.

7. SOLID WASTE DUMPS

No solid waste dumps were identified at the site.

8. POTENTIAL CONTAMINANTS OF CONCERN

No potential contaminants of concern were observed at the site.

9. WATER QUALITY

Water quality samples were collected during the previous Phase II and III assessments. Water samples were also collected during this assessment. The Phase II water sampling program included three surface water samples (upgradient, downgradient and at adit) and a seep sample (below adit). The Phase III water sampling program included three sampling events (19 August, 1997; 18 October, 1997; 23 April 1998) at each of the locations identified during Phase II, however, the seep was only active during the August sampling episode. With the exception of the sample collected in Christal Creek at the adit, these sampling locations were repeated as part of the 1999 site assessment. Results of these previous episodes are detailed in Attachment C.

Christal Creek was sampled upstream of the site immediately upstream of a beaver dam (photo 58-8) constructed at the collapsed bridge (58-WQ-StrCD-02). The beaver dam was not identified in previous assessments and is probably of recent construction. Christal Creek was also sampled downstream of the site, immediately upstream of the north collapsed bridge (58-WQ-StrCD-01) at a location similar to previous sampling programs (photo 58-9).

A small seep was noted immediately downhill below the adit. The seep was sampled (58-WQ-SCD-01). The volume of water noted in the seep was noted at less than 1 L/sec, similar to the two previous episodes where water was noted at this location.

Laboratory sample analysis and field data from the 1999 site assessment is provided in Attachment B.

10. RECLAMATION

Reclamation at the site has included removal of all rail and trestle and stockpiling at the base of the site as well as storage of two ore cars. High-grade ore barrels have also been stacked at the barrel storage site. The site itself does not appear to have been reclaimed and the portal is open.

11. OTHER SOURCES OF INFORMATION AND DATA

This site was previously assessed under contract to PWGSC and both Phase II and III reports were produced as part of the previous assessment. Changes to the site since that time are limited to erosion of the slope such that the second adit is no longer visible. As well, a beaver dam has been constructed immediately upstream of the site and the adjacent road has begun to erode into the creek.

12. REFERENCES AND PERSONAL COMMUNICATIONS

Public Works and Government Services Canada. March 1997. Site Assessment Report, Paddy Camp, Elsa, Yukon, prepared by Norecol, Dames & Moore.

Public Works and Government Services Canada. June 1998. Phase III Site Assessment, Paddy Mine Site.

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.

Table B1. 1999 Water Quality Results, Paddy Site

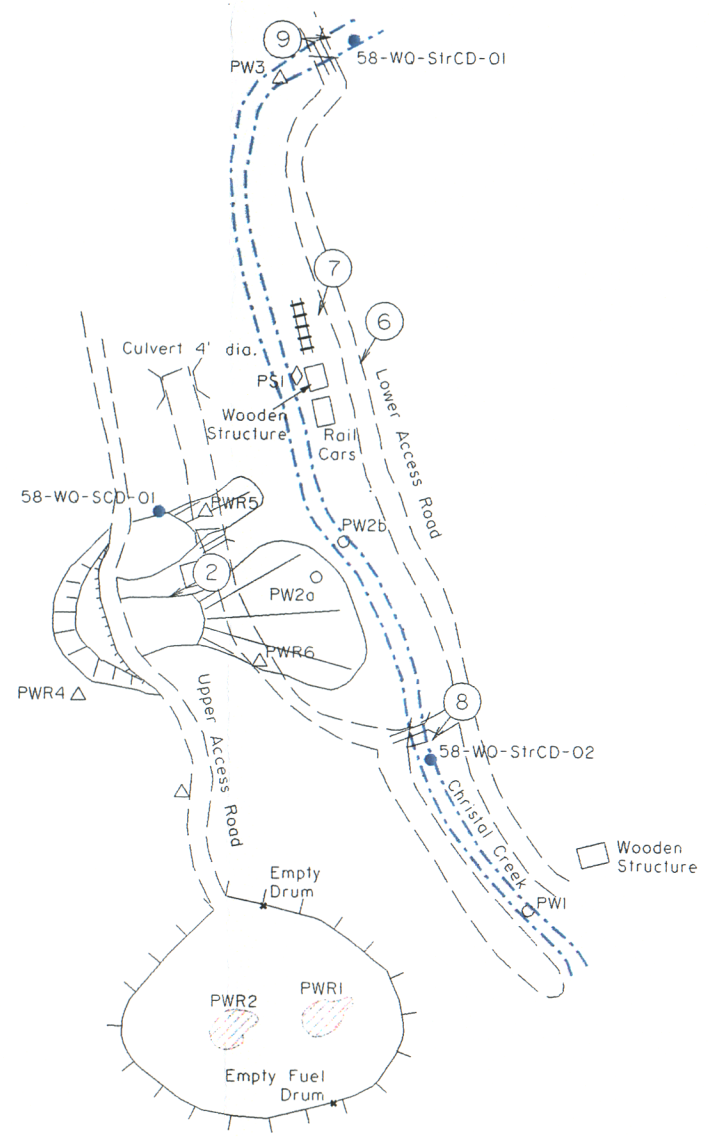
Sample Number		Detection Limit	Units	58 - WQ - StrCD-01	58 - WQ - StrCD-02	58 - WQ - SCD-01
Site Description						
pH (field)		0.01	pH	7.9	8	7.8
Conductivity (field)		0.01	µS/cm	830	610	6120
Total Alkalinity		5	mg CaCO3/L	125	125	205
Chloride		0.1	mg/L	0.45	0.46	4.2
Electrical Conductivity		0.01	µS/cm	665	660	1750
Hardness (CaCO3 equiv)		5	mg/L	356	362	1090
Nitrate-N		0.05	mg/L	0.06	0.1	0.25
Nitrite-N		0.003	mg/L	<0.003	<0.003	<0.003
pH		0.01	pH	7.92	7.9	7.77
Sulphate		1	mg/L	221	218	831
Total Dissolved Solids		5	mg/L	472	477	1490
ICP-USN Total Metals Scan in Water						
	Aluminum	0.0008	mg/L	0.0585	0.0802	0.0217
	Antimony	0.005	mg/L	<0.005	<0.005	<0.005
	Arsenic	0.01	mg/L	<0.01	<0.01	<0.01
	Barium	0.00004	mg/L	0.053	0.0548	0.0211
	Beryllium	0.00001	mg/L	<0.00001	<0.00001	<0.00001
	Bismuth	0.0004	mg/L	<0.0004	<0.0004	<0.0004
	Boron	0.002	mg/L	<0.002	<0.002	<0.002
	Cadmium	0.00001	mg/L	0.00153	0.00163	0.00879
	Calcium	0.002	mg/L	104	104	276
	Chromium	0.00006	mg/L	0.00012	0.00011	0.00043
	Cobalt	0.00003	mg/L	0.00023	0.00028	0.0002
	Copper	0.00003	mg/L	0.00051	0.00076	0.00226
	Iron	0.00001	mg/L	0.339	0.354	0.096
	Lead	0.0003	mg/L	0.0008	0.0018	0.01
	Lithium	0.001	mg/L	0.005	0.005	0.01
	Magnesium	0.0005	mg/L	19.3	19	85.7
	Manganese	0.00002	mg/L	0.184	0.203	0.0165
	Mercury	0.0001	mg/L	<0.0001	<0.0001	<0.0001
	Molybdenum	0.00007	mg/L	0.00044	0.00033	0.00124
	Nickel	0.00001	mg/L	<0.00001	<0.00001	0.0014
	Phosphorus	0.03	mg/L	<0.03	<0.03	<0.03
	Potassium	0.4	mg/L	<0.4	<0.4	1.5
	Selenium	0.004	mg/L	0.005	<0.004	<0.004
	Silicon	0.004	mg/L	2.48	2.54	2.56
	Silver	0.00005	mg/L	<0.00005	<0.00005	<0.00005
	Sodium	0.004	mg/L	1.3	1.3	4.1
	Strontium	0.00002	mg/L	0.209	0.206	0.475
	Sulphur	0.008	mg/L	71.6	71.6	285
	Thallium	0.001	mg/L	<0.001	<0.001	<0.001
	Titanium	0.00002	mg/L	0.00149	0.00204	<0.00002
	Vanadium	0.00003	mg/L	<0.00003	<0.00003	<0.00003
	Zinc	0.0002	mg/L	0.213	0.229	0.656
Total Arsenic by Hydride AA						
	Arsenic	0.0002	mg/L	<0.0002	<0.0002	<0.0002
Total Selenium by Hydride AA						
	Selenium	0.0001	mg/L	0.0002	0.0005	0.0012

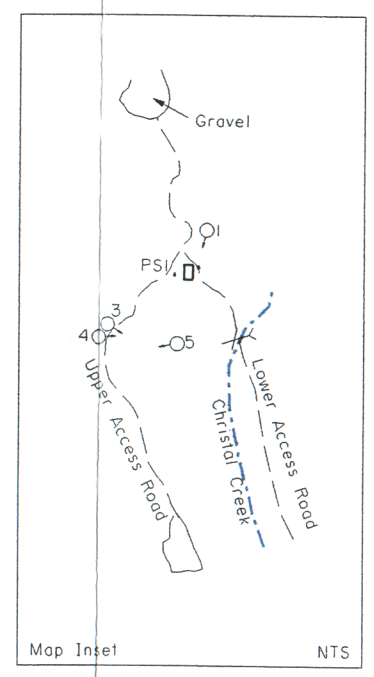
Accredited By: CANADIAN ASSOCIATION FOR ENVIRONMENTALANALYTICAL LABORATORIES (CAEAL)

na = not available

For specific tests registered with the Association

- Building (22A: building site present reference*) 22A* Indicates Asbestos Material
- 22A 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)
- WO-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
- Ponded 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 Loaction (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)





Waste Rock Geological Legend

This legend intended for use as a key to the observed lithological content of the mine dumps and stockpiles of surficial materials investigated.It does not represent regional stratigraphy and no stratigraphic sequence is implied.

Pyrite content as percent: eg. Py 2%. Occurs as an alteration halo adjacent to vein fault structure.

Oxidation: Weak (wOx), moderate (mOx) and intense (iOx).

Quarternary: (5) Undifferentiated, unconsolidated colluvium, glacial till.

Veins:
- (4a) Quartz veins;
- (4b) Quartz-pyrite veins;
- (4c) Quartz-siderite •trace galena-sphalerite veins;
- (4d) Siderite-quartz •trace galena-sphalerite veins;
- (4e) Suphide (galena-sphalerite) •quartz•siderite veins.

Greenstone: (3) Amphibole-chlorite-plagioclase metadiorite or metagabbro.

Quartzite:
- (2a) Thick beded, blocky gray quartzite;
- (2b) Thin banded, broken, quartzite with carbonaceous phyllite interbeds;
- (2c) Calcareous quartzite.

Phyllite:
- (1a) Broken sericite-chlorite phyllite;
- (1b) Carbonaceous phyllite.

0 10 20 30 40

Scale 1:1000

CAD FILE SITE58.DGN

date:

Public Works And Government Services Canada
Travaux publics et Services gouvernementaux Canada

Architectural & Engineering Services
Western Region

designed by:
concu par:
drawn by: C.S. Nov./99
dessine par:
approved by:
approuve par:
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Drawing title: / Titre du dessin:

Paddy Site #58
Site Assessment
Yukon Territory

project no. / no. du projet: 125-12.01

dwg. no. / dessin no. 1 of 1

Photo 58-1: Barrel storage area to north of main sites.

Photo 58-2: Open adit.

Photo 58-3: Trenched area to north west of main site.

Photo 58-4: Top of knoll at newly trenched area.

Photo 58-5: Trenched area visible from Christal Creek canyon below.

Photo 58-6: Waste rock on slope adjacent to adit.

Photo 58-7: Stockpiled rail below adit.

Photo 58-8: Beaver dam immediately downstream of site.

Photo 58-9: Second collapsed bridge downstream of site.