CHRISTAL (#71)
(MINFILE#105M 061)

1. LOCATION AND ACCESS

The Christal site lies on the western slope of Keno Hill south of Erickson Gulch. It can be accessed on foot by a trail departing from Keno 700 Road about 2.5 km out of Keno City. A camp site is located at the end of the trail. Shafts 1 and 2 lie at the base of a steep slope at the north end of the camp site. The approximate UTM coordinates of Shafts 1 and 2 are 7088540 m N 486780 m E. The elevation of the shafts is approximately 1250 m. Shaft 3 is located about 0.5 km southwest of Shaft 1 down the slope of Keno Hill. Several groups of trenches are located uphill from Shaft 1 about 0.5 km to the east.

2. SITE PHYSIOGRAPHY

The Christal site lies on the western slope of Keno Hill. The site slopes from the uphill trenches down to Shafts 1 and 2 and further down to Shaft 3. The drop in elevation from the trenches to Shaft 3 is about 200 m. The terrain consists of dense forests and fields of moss covered boulders. Surface water drainage from the area drains towards Erickson Creek.

3. GEOLOGY AND MINERALIZATION

The minfile reports that the major rock types at the Christal site include earn group schist and phyllite. Quartzite is also abundant. Veining is reported to consist of galena, sphalerite, tetrahedrite, arsenopyrite and pyrite mineralization in quartz-siderite gangues.

4. SITE HISTORY

According to the minfile a 15 m shaft was developed at the Christal site in 1940. Bulldozer trenching took place in 1965. A total of three shafts and several groups of trenches were found at the site.

5. MINE DEVELOPMENT

5.1 Mine Openings And Excavations

Shaft 1 (photo 71-2)

Collapsed shaft with water accumulated to within 1 m of surface

Location: at the base of a steep north facing slope about 75 m north of the camp site (see Figure 1)
Dimensions (L x W): 1.5 m x 1.5 m

Supports: timbered shaft
Condition: shaft is collapsed
Accessibility: shaft site can be accessed on foot from camp site

Shaft 2

Shaft under collapsed shed (Building 71B) with water accumulated to within 1 m of surface

Location: at the base of a steep north facing slope about 75 m north of the camp site (see Figure 1)
Dimensions (L x W): unknown
Supports: timbered shaft
Condition: unknown – likely to be collapsed
Accessibility: shaft site can be accessed on foot from camp site

Shaft 3

Shaft 3 was not located

Location: location 500 m southwest of Shaft 1 is taken from Murphy and Roots map (see Figure 1)
Dimensions (L x W): unknown
Supports: unknown
Condition: unknown
Accessibility: poor access

Trench Groups A, B, and C

The trenches located about 500 m east of Shaft 1 can be roughly assembled into three groups based on their location, size, and orientation. Trench Group A is series of 7 trenches located almost due east from Shaft 1 (photos 71-8 and 71-9). The trenches in Group A range in length from 30m to 100 m. Trench Group B, located south of Group A, consists of 8 parallel trenches that follow the contour of Keno Hill at an elevation of about 1350 m (photo 71-10). Another trench in Group B lies perpendicular to the rest. The trenches in Group B range in length from 30 m to 60 m. Trench Group C, located east of Group B is a series of three long, deep trenches about 200 m in length (photo 71-4).

5.2 Waste Rock Disposal Areas

A waste rock pile was found next to Shaft 2 (photo 71-3). It was approximately 10 m long, 5 m wide and of unknown depth. This waste rock pile was almost entirely revegetated.

5.3 Tailings Impoundments

No tailings were observed at the Christal site.

5.4 Minesite Water Treatment

No water treatment occurs at the Christal site.

6. MINE SITE INFRASTRUCTURE

6.1 Buildings

A wooden building (Building 71-1; photo 71-5) is located at the Christal camp site (see figure 1). Wooden debris provides evidence of other structures that used to occupy this site. A collapsed shed (Building 71-2; photo 71-1) is located over Shaft 2.

6.2 Fuel Storage

A number of empty 45 gallon drums were found discarded at the Christal camp site (photo 71-7).

6.3 Rail and Trestle

There was no evidence of a rail and trestle observed at the Christal site.

6.4 Milling and Processing Infrastructure

There was no evidence or record of milling or processing activities occurring at the Christal site.

6.5 Electrical Equipment

There was no electrical equipment observed at the Christal site.

7. SOLID WASTE DUMPS

A dump of cans and other debris was observed at the Christal site about 10 m north of Building 71-1 (photo 71-6).

8. POTENTIAL CONTAMINANTS OF CONCERN

No evidence of potential contamination was found at the Christal site.

9. WATER QUALITY

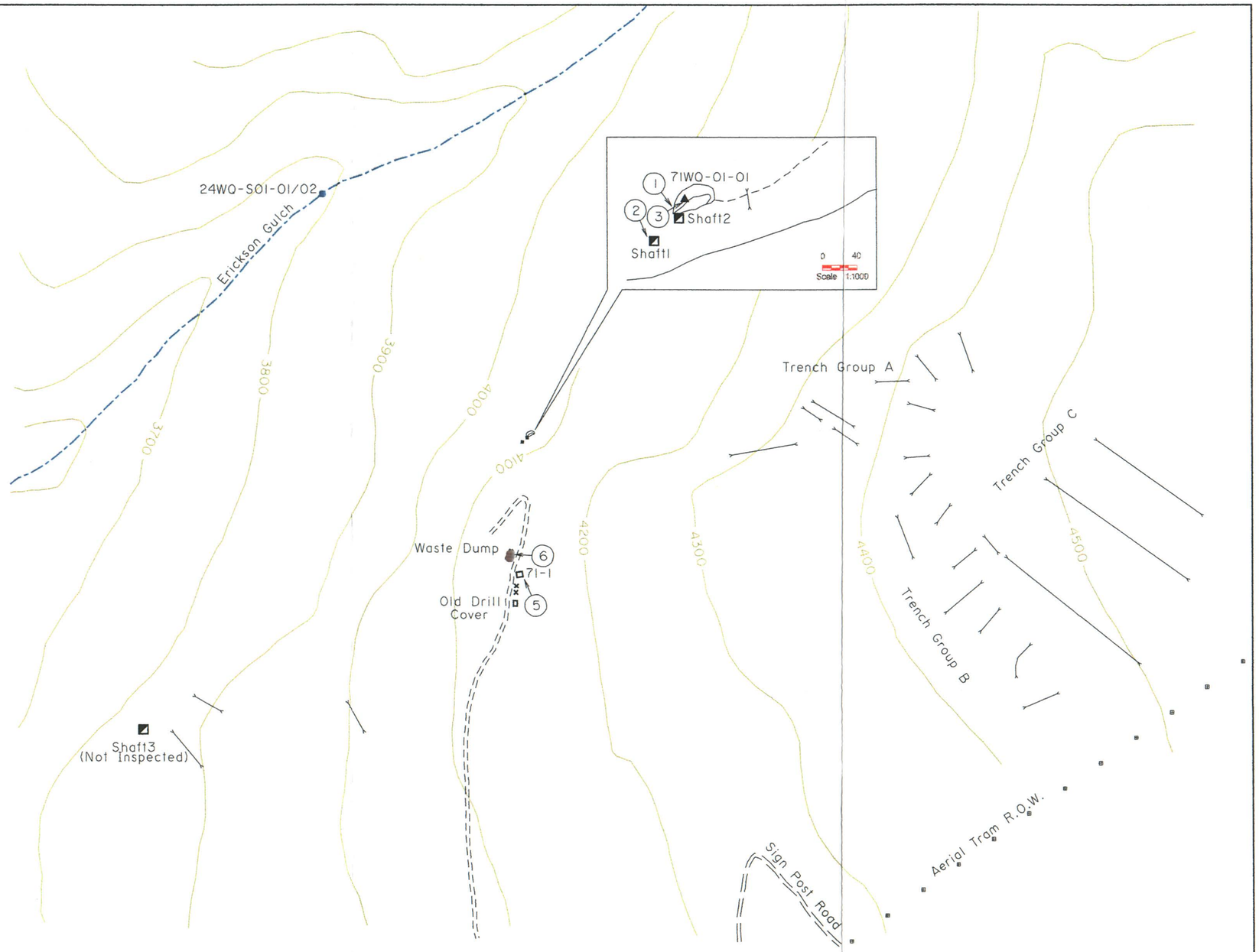
Water quality sample 71WQ-A01-02 was taken from the water accumulated in Shaft 1. Laboratory analysis data from this sample is provided in Attachment B. Surface water runoff from the Christal site area drains towards Erickson Gulch.

10. RECLAMATION

The disturbed areas of the Christal site have been mostly overgrown. There have been no known reclamation measures carried out by past or present operators of the site.

Sample Number		Detection Limit	Units	71-WQ-A01-02 - Christal - 20/09/99
pH (field)		N/A	pH	not measured
Conductivity (field)		N/A	µS/cm	not measured
pH (Lab)		0.01	pH	7.16
Conductivity (Lab)		0.01	µS/cm	92
Total Alkalinity		5	mg $CaCO_3$/L	45
Chloride		0.01	mg/L	0.07
Hardness (CaCO3 equiv)		5	mg/L	43.9
Nitrate-N		0.05	mg/L	0.06
Nitrite-N		0.003	mg/L	<0.003
Sulphate		1	mg/L	3.1
Total Dissolved Solids		5	mg/L	70
Analysis by ICP-USN				
	Aluminum	0.0008	mg/L	0.265
	Antimony	0.005	mg/L	<0.005
	Arsenic	0.01	mg/L	0.25
	Barium	0.00004	mg/L	0.0113
	Beryllium	0.00001	mg/L	<0.00001
	Bismuth	0.0004	mg/L	<0.0004
	Boron	0.002	mg/L	<0.002
	Cadmium	0.00006	mg/L	0.00039
	Calcium	0.002	mg/L	15.2
	Chromium	0.00006	mg/L	0.00054
	Cobalt	0.00003	mg/L	0.00059
	Copper	0.00003	mg/L	0.00457
	Iron	0.00001	mg/L	1.11
	Lead	0.0003	mg/L	0.014
	Lithium	0.001	mg/L	0.002
	Magnesium	0.0005	mg/L	1.32
	Manganese	0.00002	mg/L	0.103
	Mercury	0.0001	mg/L	<0.0001
	Molybdenum	0.00007	mg/L	0.00026
	Nickel	0.00001	mg/L	0.0018
	Phosphorus	0.03	mg/L	0.08
	Potassium	0.4	mg/L	0.4
	Selenium	0.004	mg/L	<0.004
	Silicon	0.004	mg/L	2.33
	Silver	0.00005	mg/L	0.00299
	Sodium	0.004	mg/L	1
	Strontium	0.00002	mg/L	0.0659
	Sulphur	0.008	mg/L	1.19
	Thallium	0.001	mg/L	<0.001
	Titanium	0.00002	mg/L	0.00686
	Vanadium	0.00003	mg/L	0.00046
	Zinc	0.0002	mg/L	0.0202
Analysis by Hydride AA				
	Arsenic	0.0002	mg/L	0.22
	Selenium	0.0001	mg/L	<0.0001

- Building (22A: building site present reference#) Indicates Asbestos Material (22A*)
- Collapsed Building (22A)
- 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
- 24SOI-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)



CAD FILE: SITE71.DGN

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

Architectural & Engineering Services
Western Region

designed by: / conçu par:
drawn by: / dessiné par: C.S. Nov./99
approved by: / approuvé par:
revisions:
date:

Drawing title: / Titre du dessin:

Christal Site #71
Site Assessment
Yukon Territory

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

dwg. no. / dessin no. 1 of 1

Photo 71-1: Collapsed shed building (Bldg. 71-2) over shaft A02. Note pully on cross beam. (Azimuth 140°)

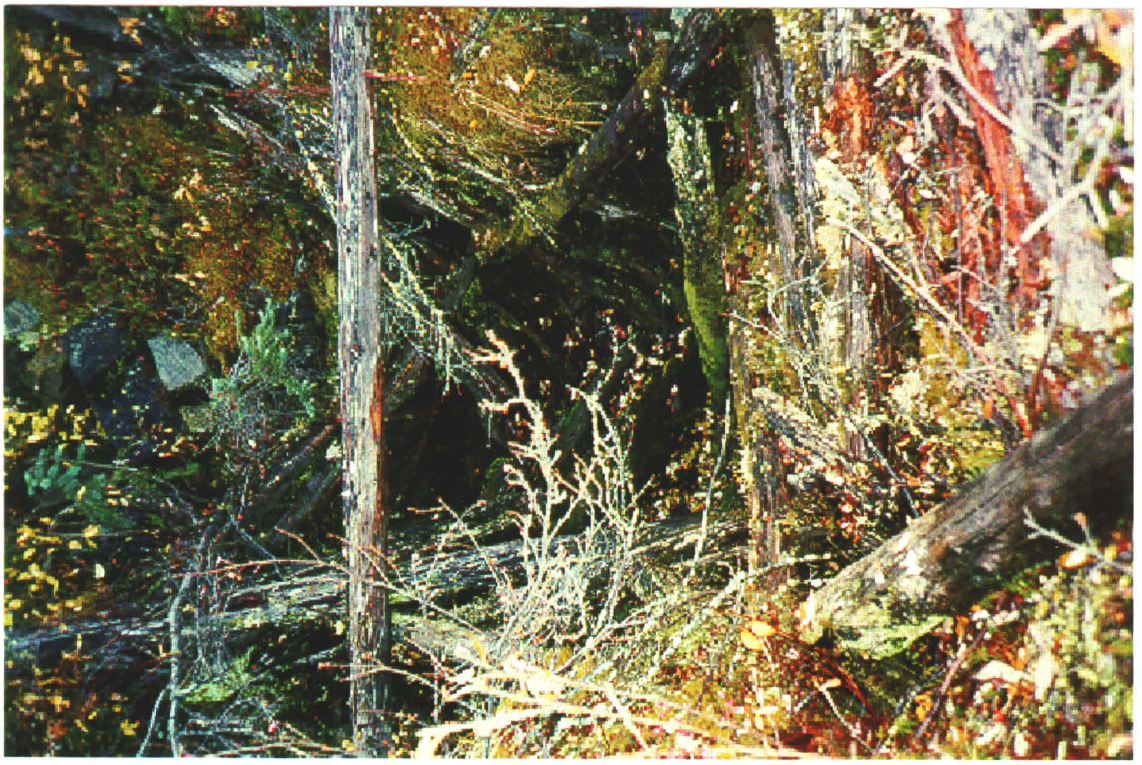


Photo 71-2: Shaft A02. (Azimuth 150°)

Photo 71-3: Waste rock dump below shafts A01 and A02. Note natural revegetation. (Azimuth 040°)

Photo 71-4: Recent cat trench; trench length 220m. (Azimuth 130^{0})

Photo 71-5: Mine shed (Bldg. 71-1). (Azimuth 000^0)

Photo 71-6: Camp garbage site; mostly cans and bottles. (Azimuth 280^0)