

MO (#52)
(MINFILE# 105M 013)

1. LOCATION AND ACCESS

The Mo site includes three areas. The first area of interest is on the Windy and Casy claims which are located on the east slope of Sourdough Hill. The other two areas, located on the south slope of Sourdough Hill are on the Bob and Boogla claims. All three areas can be accessed with a four-wheel drive vehicle along the Sourdough Hill Trail. The Windy and Casy claims are about 1 km south of the Sourdough Hill Road. The Bob claim can be found another 1 km further south just southeast of a three-way intersection in the trail. Turning southwest at the intersection leads to the Boogla claim about 0.5 km down the trail. The UTM coordinates for the Windy and Casy claims are 7085440 m N 487140 m E. The large trench on the Bob claim is at UTM coordinates 7084080 m N 486640 m E. The pit on the Boogla claim is at UTM coordinates 7085440 m N 487140 m E.

2. SITE PHYSIOGRAPHY

The Windy and Casy claims, one part of the Mo site, lie on the east slope of Sourdough Hill. Water runoff from this area drains into Thunder Gulch. The Bob and Boogla claims lie on the south slope of Sourdough Hill. Water runoff from these areas drains into Duncan Creek.

3. GEOLOGY AND MINERALIZATION

The major rock type observed at the Windy and Casy claims was grey phyllite. The rock was mostly unoxidized. The mineralization observed at Windy and Casy included sideritic veining with sphalerite and white quartz. Traces of galena were observed. Material was weakly to strongly limonitic. The sulphides observed were sphalerite and galena. Weak calcite was found in the vein. Other carbonates included dolomite and siderite. The major rock type observed at the Bob claim was green and grey phyllite. The rock was mostly unoxidized with traces of limonite. No mineralization was observed in this area. The major rock type observed at the Boogla claim was pale green phyllite. Black phyllite with minor amount of limonite coating was also found. The mineralization observed at the Boogla claim was white quartz.

4. SITE HISTORY

The minfile reports that the Mo site was under development from 1968 to 1991. Most of the work occurred at the Windy and Casy claims from 1968 to 1989. The work primarily consisted of bulldozer trenching. The minfile refers to a 2.4 m adit developed in 1980. No adit was found in the area. At least two shafts were developed at the Windy and Casy claims in 1981 and in 1989.

according to the minfile. According to the minfile bulldozer trenching at the Bob claim occurred in 1978. Bulldozer work at the Boogla claim occurred in 1991.

5. MINE DEVELOPMENT

5.1 Mine Openings and Excavations

Windy and Casy Trenches

The Windy and Casy Trenches are located just off of the Sourdough Hill Trail on the Windy and Casy claims. This is a large area of trenching with small pits and two small shafts. The trenches can be accessed on foot from the Sourdough Hill Trail. One trench of particular interest shows an example of the bedrock in the area (Photo 52-6).

Pit 1 (photo 52-2)

Location: at south end of Windy and Casy trenching at side of road running through area (see figure 1)

Dimensions: 4 m x 3 m x 2 m

Condition: stable

Comment: potential site of former adit

Shaft 1 (photo 52-3)

Two compartment shaft

Location: in a trench at south end of Windy and Casy trenching about 22 m east of Pit 1 (see map).

Dimensions: 2.5 m x 2.5 m – filled to within 2 metres of trench floor

Condition: the shaft has either been filled or it has collapsed

Shaft 2 (photo 52-4)

Small shaft

Location: in a trench at site of Windy and Casy trenching about 15 m south of a small shack (Building 52A)(see map).

Dimensions: 1.3 m x 1.5 m – filled to within 3 metres of trench floor

Condition: the shaft has either been filled or it has collapsed

Trench 1 (photo 52-7)

Large shallow trench

Location: on the Bob claim

Dimensions: 83 m x 12 m x 1.5 m – longitudinal bearing AZ 138

Condition: stable – no revegetation

Pit 2 (photo 52-9)

Pit 2 is a deep pit with vehicle access from either side. Bedrock and overburden is dumped on the downhill side in two large piles. Bedrock is showing on the north slope of the pit.

Location: on Boogla claim

Dimensions: 30 m x 20 m x 7 m

Condition: stable

5.2 Waste Rock Disposal Areas

Windy and Casy Trenching

The major displacement of material from the trenching in this area has made it difficult to distinguish waste rock from overburden. Material has been piled and graded in several places to make level areas and roads (photo 52-1). Significant revegetation has occurred in the area. The extent of natural reclamation ranges from 20 to 60 percent depending on the quality of the soils.

Trench 1 waste rock piles

The waste rock from Trench 1 is mostly contained in the walls of the trench. They contain a mixture of green and grey phyllite and overburden. A small waste rock pile lies at the end of a long depression at the north end of the trench. It also contains phyllite and overburden. A waste pile in the middle of the trench is composed of green phyllite from an area of digging in the trench floor. These waste rock piles show no signs of revegetation because the rock is not a suitable substrate.

Pit 2 waste rock piles (photo 52-10)

There are two large waste rock piles located at Pit 2. They are composed of pale green and black phyllite that originated from the pit. The dimensions of the piles are 35 m x 4 m x 4 m and 10 m x 4 m x 7 m. Both waste rock piles are stable. No significant revegetation of these waste piles has occurred.

5.3 Tailings Impoundments

No tailings were observed at the Mo site.

5.4 Minesite Water Treatment

No water treatment occurs at the Mo site.

6. MINE SITE INFRASTRUCTURE

6.1 Buildings

Building 52A (photo 52-5)

Wooden shack

Location: at Windy and Casy trenches (see Figure 1)

Dimensions (L x W x H): 5 m x 3 m x 2.5 m

Construction: wood

Paint: none observed

Asbestos: none observed

Foundation: none

Non-Hazardous Contents: woodstove, bed, cookware, clothing, magazines

Hazardous Contents: none observed

6.2 Fuel Storage

There was no fuel storage observed at the Mo site.

6.3 Rail and Trestle

There was no evidence of rail and trestle at the Mo site.

6.4 Milling and Processing Infrastructure

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

6.5 Electrical Equipment

There was no electrical equipment observed at the Mo site.

7. SOLID WASTE DUMPS

No solid waste dumps were observed at the Mo site.

8. POTENTIAL CONTAMINANTS OF CONCERN

No potential contaminants of concern were observed at the Mo site.

9. WATER QUALITY

Two small pools of standing water were observed at the Windy and Casy trenches. Water quality sample 99-53-2-2 was taken from a surface water pool (SWPA) at the south end of the trenches. Sample 99-53-2-4 was taken from a surface water pool (SWPB) at the north end of the trenches. A map of the Windy and Casy trenches shows the sample locations (see Figure 1). The field pH of SWPA was 7.6. The field pH of SWPB was 7.5. Field conductivity was not measured at either sample point. Laboratory sample analysis data is provided in Attachment B. Water runoff from the Windy and Casy trenches drains towards Thunder Gulch. No surface water was observed at the Bob and Boogla claims. Water runoff from these areas drains towards Duncan Creek.

10. RECLAMATION

The Windy and Casy claims area has mostly been revegetated except for some of the roads and trenches. The trench at the Bob claim is unsuitable for vegetation growth. Natural reclamation has not occurred in the pit at the Boogla claim. There have been no known reclamation measures carried out by past or present operators of the site.

Sample Number	Detection Limit	Units	99-MO-1-2 15/09/99	99-MO-1-4 15/09/99
Site Description			Sample from surface water pool A	Sample from surface water pool B
pH (field)	N/A	pH	7.6	7.5
Conductivity (field)	N/A	µS/cm	not measured	not measured
pH (Lab)	0.01	pH	7.68	7.57
Conductivity (Lab)	0.01	µS/cm	420	340
Total Alkalinity	5	mg CaCO ₃ /L	181	158
Chloride	0.25	mg/L	<0.25	<0.25
Hardness (CaCO ₃ equiv)	5	mg/L	228	176
Nitrate-N	0.05	mg/L	0.74	0.18
Nitrite-N	0.003	mg/L	0.003	<0.003
Sulphate	1	mg/L	36.8	20.2
Total Dissolved Solids	5	mg/L	251	214
Analysis by ICP-USN				
Aluminum	0.0008	mg/L	0.0386	0.0388
Antimony	0.005	mg/L	<0.005	<0.005
Arsenic	0.01	mg/L	<0.01	<0.01
Barium	0.00004	mg/L	0.0206	0.0186
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	<0.002
Cadmium	0.00006	mg/L	0.0001	0.00017
Calcium	0.002	mg/L	70.3	54
Chromium	0.00006	mg/L	0.00036	0.00038
Cobalt	0.00003	mg/L	<0.00003	0.00021
Copper	0.00003	mg/L	0.0021	0.00203
Iron	0.00001	mg/L	0.024	0.136
Lead	0.0003	mg/L	0.0005	0.0014
Lithium	0.001	mg/L	0.004	0.006
Magnesium	0.0005	mg/L	10	10.1
Manganese	0.00002	mg/L	0.00289	0.0283
Mercury	0.0001	mg/L	<0.0001	<0.0001
Molybdenum	0.00007	mg/L	<0.00007	0.00028
Nickel	0.00001	mg/L	0.0003	0.0008
Phosphorus	0.03	mg/L	<0.03	<0.03
Potassium	0.4	mg/L	<0.4	<0.4
Selenium	0.004	mg/L	0.01	<0.004
Silicon	0.004	mg/L	3.03	2.36
Silver	0.00005	mg/L	<0.00005	<0.00005
Sodium	0.004	mg/L	0.8	0.4
Strontium	0.00002	mg/L	0.375	0.248
Sulphur	0.008	mg/L	12.2	6.71
Thallium	0.001	mg/L	<0.001	<0.001
Titanium	0.00002	mg/L	0.00032	0.00087
Vanadium	0.00003	mg/L	<0.00003	<0.00003
Zinc	0.0002	mg/L	0.0158	0.0111
Analysis by Hydride AA				
Arsenic	0.0002	mg/L	0.0006	0.0007
Selenium	0.0001	mg/L	<0.0001	<0.0001

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

1999 Soil Sample (this study)

Pre 1999 Soil Sample (other sources)

1999 Waste Rock Sample (this study)

Pre 1999 Waste Rock Sample (other sources)

1999 Water Sample

Pre 1999 Water Sample

Tension Cracks

Mass Movement (note: for Forms: BelleKen)

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

Transformer Location (number of transformer in brackets)

Power Line

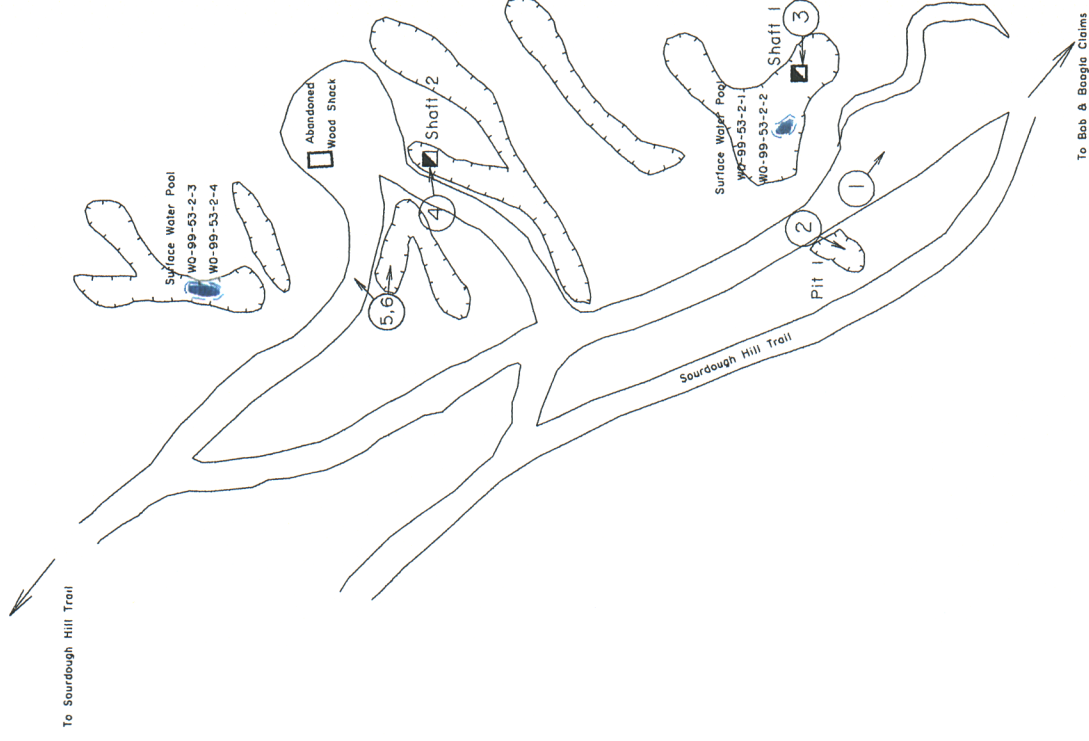
Power Line Collapsed

Aerial Transmission Towers

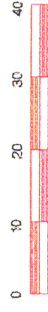
Photo Site (arrow shows view direction)

GPS Survey Location

Former Building Site (Eiso)



	Public Works and Government Services Canada Architectural & Engineering Services Western Region	designed by: conçu par: drawn by: dessiné par: approved by: approuvé par:	date: Nov. /99
Drawing title: Mo Site #52 Site Assessment Yukon Territory		project no. no. du projet: 125-12.01	draw. no. dessin no. 1 of 1



Scale 1:1000

CAD FILE: SITE52.DGN



Photo 52-1: Large area of displaced material at south end of Windy and Casy workings.

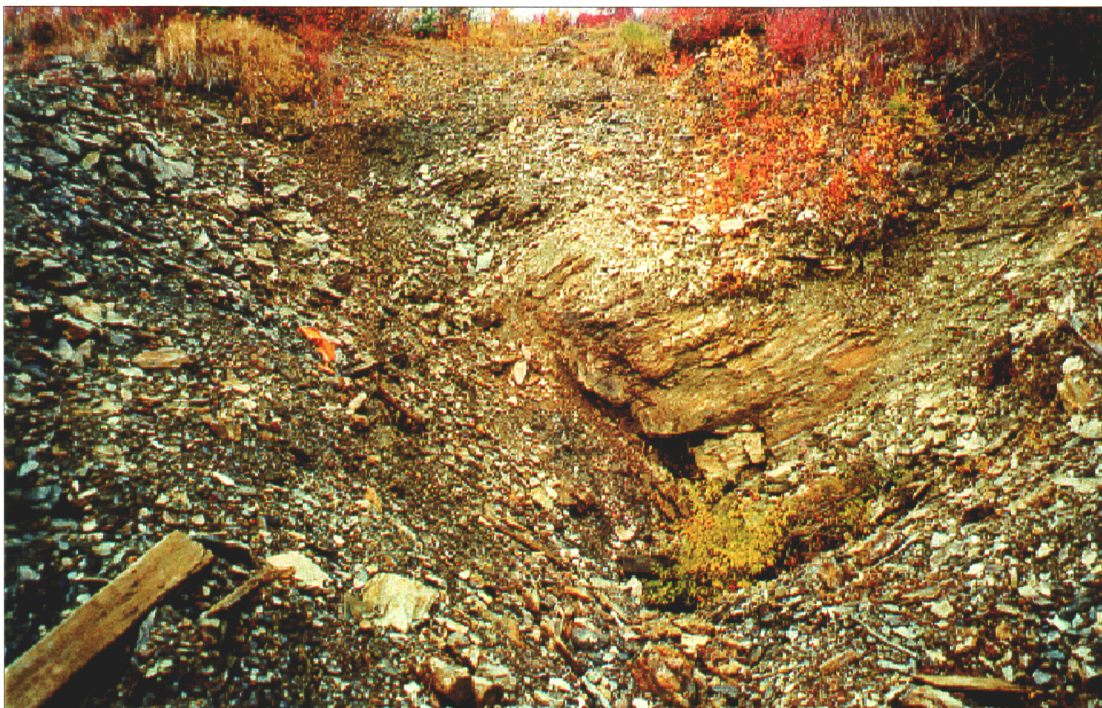


Photo 52-2: View of Pit1 at Windy and Casy workings.

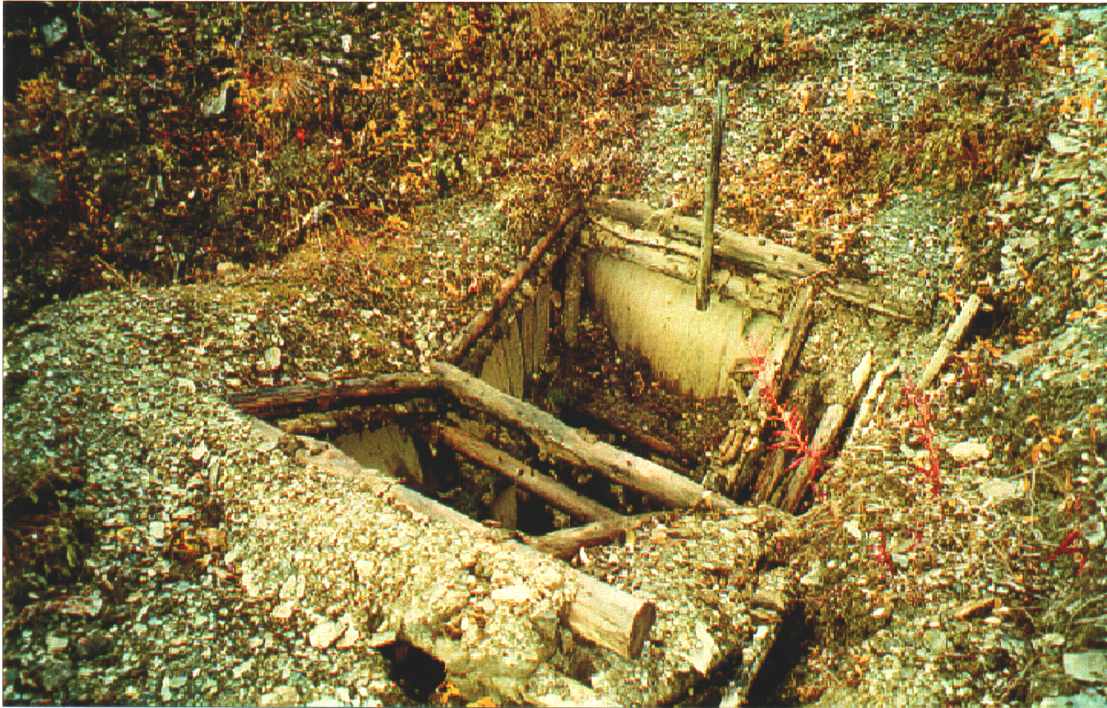


Photo 52-3: View of Shaft 1 at Windy and Casy workings.

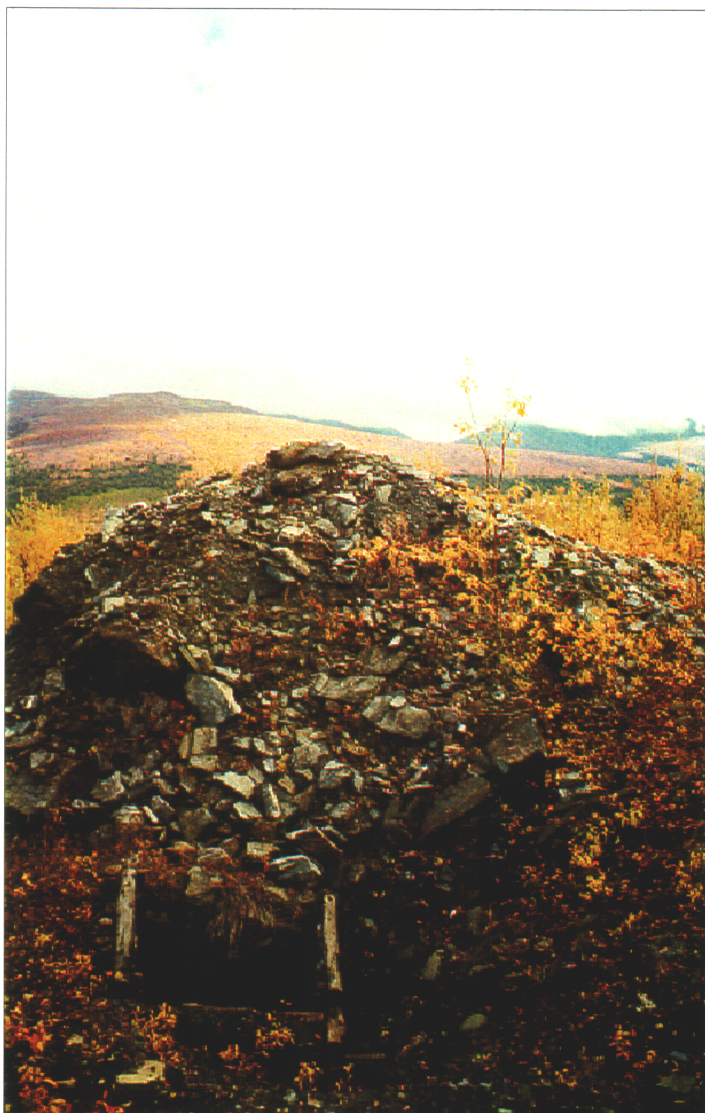


Photo 52-4: View of Shaft 2 at Windy and Casy workings.



Photo 52-5: Abandoned wood shack near north end of Windy and Casy workings.



Photo 52-6: Deep trench showing bedrock just west of shack at Windy and Casy workings.



Photo 52-7: View along length of large trench (Trench 1) located 2 km south of Windy and Casy workings on Bob claim. (AZ 138°)



Photo 52-8: Area of digging at the bottom of Trench 1.



Photo 52-9: View of Pit 2 at Boogla claim located 2.4km south of Windy and Casy workings showing exposed bedrock. (AZ 070°)



Photo 52-10: Example of waste rock piles surrounding Pit2