

CARIBOU and ALICE

SITE #39

MINFILE# 105M 001ax, aw (105M 062)

1. LOCATION AND ACCESS

The main Caribou showing is approximately 250m southwest of the Caribou Hill summit. The Alice showing is located in the steep walled cirque immediately west of Caribou Hill summit. Access is by the 5.5 km Hope Gulch Trail (possibly suitable for 4x4 vehicles) which leaves the Lightning Creek Road near the mouth of Hope Gulch. The approximate UTM co-ordinates are 7 090 700 m N and 492 900m E (Latitude: 63° 56' 40" N and Longitude: 135° 08' 54" W).

2. SITE PHYSIOGRAPHY

The site is located on a moderate southwest-facing slope, at an elevation of 5800ft (1770m). The site is well above treeline, in alpine tundra terrain with characteristic thin soils, talus, grass and moss. Surface runoff from the site drains 700m to the south into Faith Gulch, a tributary of the Keno Ladue River. Given the elevation and the presence of frost heaved bedrock, the site is presumably underlain by permafrost.

3. GEOLOGY AND MINERALIZATION

The bulldozer trench east of Caribou Hill summit cut a poorly exposed, irregular, approximately 1m wide vein fault containing up to 0.3m wide pods of vein quartz. The vein fault is hosted by thin interbands of carbonaceous phyllite and Keno Hill Quartzite.

The stripping west of Caribou Hill summit exposed a vein fault containing up to 2m wide siderite at the south end and decreasing to <0.3m wide at the rim cirque rim on the north side. Most of the siderite was heavily oxidized, however, occasionally fresh siderite was seen where it sometimes had minor fine tetrahedrite. The wallrock for the vein was thin (<0.15m) interbanded, gray phyllite carbonaceous phyllite and Keno Hill quartzite. This vein in this trench is probably the same, or parallel to the vein fault seen in the main Caribou showing.

The main Caribou showing has exposed a vein fault for over 100m in strike length. The vein fault is narrow (<0.10m) to poorly developed at the north end as well as the south end where it splits into two separate diverging veins. Approximately at the middle of the trench, the vein takes an abrupt change in strike and the vein fault has a 2m wide band of oxidized siderite. The narrow vein faults have pods of oxidized siderite. In places, fresh siderite is seen and minor fine disseminated tetrahedrite and galena is on occasion present. The wallrock for the vein fault is thin to medium banded Keno Hill Quartzite and minor carbonaceous phyllite.

The Yukon Mine file reports that lenses of galena, tetrahedrite and sphalerite occur in the vein. No sphalerite was seen in our visit.

4. SITE HISTORY

Between 1920 and 1928 a 13.7m adit and 40.2m of drifting were excavated. During this period, 78.9 tonnes of ore grading 6103 g/t silver and 70% lead was hand mined and shipped from the Caribou Showing. In 1952, a second adit, 8.2m in length, and some bulldozer trenching were excavated. Further bulldozer trenching on a vein was undertaken in 1986.

5. MINE DEVELOPMENT

The Alice adit could not be located. It has probably collapsed and been buried by slide rock from the steep walled cirque. Bulldozer trenching at the Caribou showing and the Caribou Adit were examined. No ore was processed at the site and no tailings were encountered. There is no mine wastewater treatment facility at this site. Site details can be found on Figure 1; site photos are located in Attachment 1 and laboratory results for sampling are in Attachment 2.

5.1 Mine Openings and Excavations

Caribou Adit (photo 39-1)

Surface stripping has exposed part of the adit, at least 10m from the portal. The support structure at the portal of the adit has likely been buried by the bulldozer trenching. The dimensions of the adit could not be determined. There is no evidence of the adit collapsing, however it is difficult to determine since the area around the adit has been extensively worked. The adit cannot be accessed.

Trenches (photo 39-2)

There were four trenches examined. Trench #1 is a single about 65m in length, bulldozer trench located at the rim of the cirque, 50 m east of Caribou Hill summit. Trench #2 is a 30m by 40m area at the rim of the cirque, approximately 100m west of Caribou Hill summit, where the bulldozer has stripped to expose bedrock. There are two trenches near the Caribou Adit. Trench #3 is 67m in length, 4-13m in width and up to 8m high. At the south end of the Trench #3 is Trench #4, measuring 33m in length and 3m wide, which was filled with ponded water at the time of the site visit.

5.2 Waste Rock Disposal Areas

Waste rock from Trenches #1 and #2, and possibly the Alice Adit, was pushed into the Caribou cirque. The volume and composition is unknown. The waste rock from Trenches #3 and #4, and from the adit is located on either side of Trench #3. The waste rock is composed of Keno Hill Quartzite, carbonaceous phyllite and siderite veining with minor fine disseminated tetrahedrite and galena. The waste rock on the west side of the trench is

70m long and up to 30m wide and 8m high. The waste rock on the east side of the trench is 65m long, up to 15m in width and 8m high. Some oxidation in the siderite was observed. A waste rock sample (Site #39-Waste Rock-Sept.14/99) was collected from the southern end of the western pile beside Trench #3. The field paste pH was 6.2 and the conductivity was 30 μ S/cm.

6. MINE SITE INFRASTRUCTURE

No mine site infrastructure including buildings, rail and trestle, fuel storage areas and electrical equipment was encountered.

7. SOLID WASTE DUMPS

There were no solid waste dumps observed at this site.

8. POTENTIAL CONTAMINANTS OF CONCERN

No hazardous waste was encountered at the site. Potential contaminants of concern include any metals washing from the trench walls.

9. WATER QUALITY

There is ponded water at the base of Trench #4. A water sample (Site #39-Sample 1-Caribou 13/09/99) was collected for analysis. The field pH was 6.2 and the conductivity was 50 μ S/cm. No other surface water was encountered at the site.

10. RECLAMATION

Due to the high elevation and sparse vegetation, no revegetation of the disturbed areas has occurred.

11. REFERENCES AND PERSONAL COMMUNICATIONS

Minfile #105M 001aw,x

ATTACHMENT 2: 1999 CARIBOU WATER SAMPLES

LABORATORY RESULTS

Sample Number	Detection Limit	Units	Site 39 Sample 1 - Caribou - 13/09/99
Site Description			Collected from ponded water at the eastern end of Trench #4
pH (field)	N/A	pH	6.2
Conductivity (field)	N/A	µS/cm	50
pH (Lab)	0.01	pH	5.87
Conductivity (Lab)	0.01	µS/cm	63
Total Alkalinity	5	mg CaCO3/L	<5
Chloride	0.25	mg/L	<0.25
Hardness (CaCO3 equiv)	5	mg/L	20.7
Nitrate-N	0.05	mg/L	1.14
Nitrite-N	0.003	mg/L	<0.003
Sulphate	0.5	mg/L	18.3
Total Dissolved Solids	5	mg/L	35

Analysis by ICP-USN

Aluminum	0.0008	mg/L	15
Antimony	0.005	mg/L	0.09
Arsenic	0.01	mg/L	0.29
Barium	0.00004	mg/L	0.26
Beryllium	0.00001	mg/L	0.00046
Bismuth	0.0004	mg/L	<0.0004
Boron	0.002	mg/L	0.011
Cadmium	0.00006	mg/L	0.0448
Calcium	0.002	mg/L	8.82
Chromium	0.00006	mg/L	0.0233
Cobalt	0.00003	mg/L	0.0162
Copper	0.00003	mg/L	0.0678
Iron	0.00001	mg/L	24.5
Lead	0.0003	mg/L	6.24
Lithium	0.001	mg/L	0.017
Magnesium	0.0005	mg/L	6.66
Manganese	0.00002	mg/L	3.62
Mercury	0.0001	mg/L	0.0001
Molybdenum	0.00007	mg/L	0.00056
Nickel	0.00001	mg/L	0.0388
Phosphorus	0.03	mg/L	2.23
Potassium	0.4	mg/L	1.6
Selenium	0.004	mg/L	<0.004
Silicon	0.004	mg/L	15.3
Silver	0.00005	mg/L	0.0779
Sodium	0.004	mg/L	1
Strontium	0.00002	mg/L	0.0861
Sulphur	0.008	mg/L	7.6
Thallium	0.001	mg/L	0.003
Titanium	0.00002	mg/L	0.604
Vanadium	0.00003	mg/L	0.0343
Zinc	0.0002	mg/L	1.78

Analysis by Hydride AA

Arsenic	0.0002	mg/L	0.54
Selenium	0.0001	mg/L	0.0022

ATTACHMENT 2: 1999 CARIBOU WASTE ROCK

LABORATORY RESULTS

Site Number	Detection Limit	Units	Caribou #39 - Waste Rock - Sept 14/99
Sample Description			Collected from the waste rock pile on the west side of Trench #3, at the southern end.
Paste pH (field)	N/A	pH	6.2
Conductivity (field)	N/A	µS/cm	30
pH in Saturated Paste			
pH	0.1	pH	5.6
pH in Soil (1:2 water)			
pH	0.01	pH	6.4
ICP Semi-Trace Scan			
Aluminum	5	µg/g	13900
Antimony	2	µg/g	79
Arsenic	2	µg/g	169
Barium	0.05	µg/g	211
Beryllium	0.1	µg/g	0.4
Bismuth	5	µg/g	<5
Cadmium	0.1	µg/g	8.6
Calcium	5	µg/g	2150
Chromium	0.5	µg/g	21.1
Cobalt	0.1	µg/g	7.2
Copper	0.5	µg/g	62.1
Iron	1	µg/g	28000
Lead	1	µg/g	3210
Lithium	0.5	µg/g	12.5
Magnesium	1	µg/g	2780
Manganese	0.5	µg/g	3160
Mercury	0.01	µg/g	0.21
Molybdenum	1	µg/g	1
Nickel	1	µg/g	23.2
Phosphorus	5	µg/g	649
Potassium	20	µg/g	2850
Selenium	2	µg/g	<2
Silicon	5	µg/g	4010
Silver	0.5	µg/g	27.2
Sodium	5	µg/g	1420
Strontium	1	µg/g	43
Sulphur	10	µg/g	290
Thorium	1	µg/g	4
Tin	1	µg/g	7
Titanium	0.2	µg/g	367
Uranium	5	µg/g	<5
Vanadium	1	µg/g	35
Zinc	0.5	µg/g	520
Zirconium	0.1	µg/g	22.1

**ATTACHMENT 2: 1999 CARIBOU WASTE ROCK LABORATORY RESULTS
MODIFIED SOBEK METHOD ACID-BASE ACCOUNTING TEST**

SAMPLE	SITE DESCRIPTION	PASTE pH	S(T) %	S(SO4) %	AP	NP	NET NP	NP/AP
Caribou #39 - Waste Rock - Sept.14/99	Collected from the waste rock pile on the west side of Trench #3, at the southern end.	6.7	<0.01	<0.01	0.0	0.8	0.8	~~~~

AP = ACID POTENTIAL IN TONNES CaCO₃ EQUIVALENT PER 1000 TONNES OF MATERIAL.

NP = NEUTRALIZATION POTENTIAL IN TONNES CaCO₃ EQUIVALENT PER 1000 TONNES OF MATERIAL.

NET NP = NET NEUTRALIZATION POTENTIAL = TONNES CaCO₃ EQUIVALENT PER 1000 TONNES OF MATERIAL.

NOTE: WHEN S(T) AND/OR S(SO₄) IS REPORTED AS <0.01, IT IS ASSUMED TO BE ZERO FOR THE AP CALCULATION.

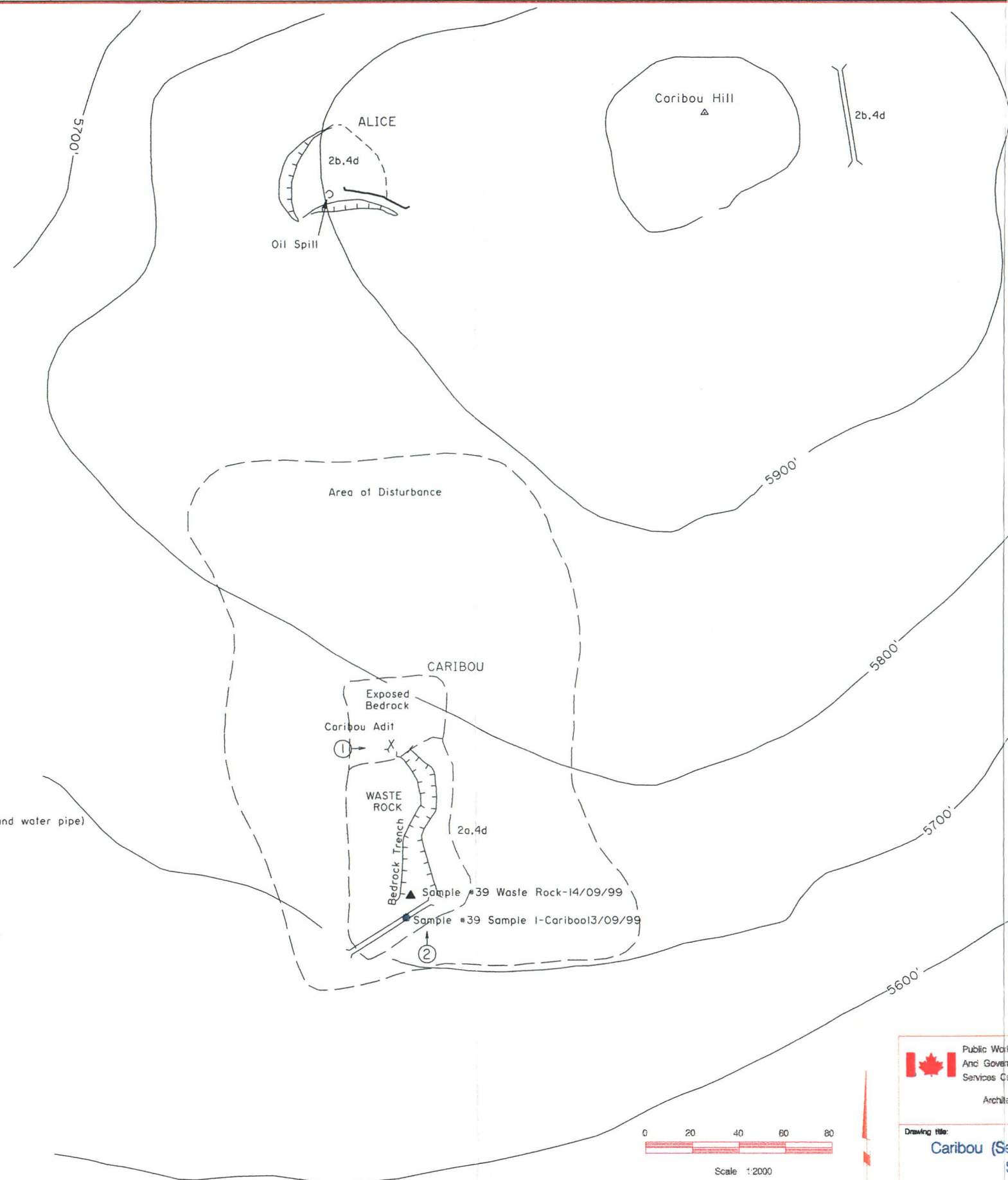
N/D = NO DUPLICATE ASSAY. CALCULATIONS ARE BASED ON ASSAY RESULTS OF THE INITIAL SAMPLE.

RE = REPLICATE.

NOTE - A HIGH LEVEL OF SOLUBLE METALS (ESPECIALLY IRON) WERE OBSERVED IN MANY SAMPLES DURING THE ABA TITRATIONS.

SAMPLES WITH A NEGATIVE NET NP SHOULD BE TESTED FOR MOBILE METALS USING STANDARD SHAKE FLASK EXTRACTION TESTS.

- 22A* Building (22A: building site present reference*)
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)
- W0-12-06 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 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)



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).

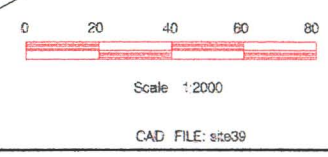
Quaternary: (5) Undifferentiated, unconsolidated colluvium, glacial till.

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

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

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

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



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	approved by: approuvé par:	revisions:	project no. no. du projet:
Drawing title: Titre du dessin: Caribou (Sagsworth) & Alice Site #39 Site Assessment Yukon Territory		125-12.01	1 of 1



Photo 39-1 : Caribou. Caribou adit; portal exposed by bedrock striping. (Azimuth 080 °)



Photo 39-2 : Caribou. View of bedrock trench at Caribou. Note empty plastic pails and water sample site in foreground. (Azimuth ~000 °)