Klondyke Keno (# 20)

MINFILE# 105M 001v

1. LOCATION AND ACCESS

Klondyke Keno is located on the northwest slope of Keno Hill, approximately 1.5 km southwest of the Wernecke town site. Air Photo identification NW 95030-77. Approximate UTM coordinates are 7090700 m N 484700 m E. The elevation of the site is approximately 38500 m. The site is located near the road from Keno city to Wernecke town site, approximately 3.8 km from Keno City. The site is easily accessible by foot or four-wheel drive.

2. SITE PHYSIOGRAPHY

Klondyke Keno if located on the northwest slope of Keno Hill. The elevation difference between the top of the site and the bottom is roughly 80 m. Site drainage flows southwest into the Christal Creek drainage area. The lower area of the site is well vegetated with bushes and spruce trees, the higher region of the site is vegetated by predominately grasses, and some dwarfed trees and bushes.

3. GEOLOGY AND MINERALIZATION

The minfile indicates that the host rock for both veins at Klondyke Keno is greenstone. The east-west vein which produced the ore, is up to 1 m wide, and contains quartz, arsenopyrite, pyrite, galena, sphalerite, calcopyrite, and tetrahedrite in a siderite gangue.

4. SITE HISTORY

The date of the adit and shaft workings are unknown. Bulldozing, drilling, and shipping of ore occurred in the 1950's.

5. MINE DEVELOPMENT

There are two main workings at the Klondyke Keno site consist of two adits, three shafts, and bulldozer trenching. The Air photo indicates access roads leading to a third possible area of workings located due north, in line with the two identified adits. Three depressions located within ten meters of the upper adit are possibly the three shafts identified in the minfile. Site details can be found on the site map.

5.1 Mine Openings and Excavations

Lower Adit

There is a level, cleared area outside of the portal. Approximately 10 meters of the portal has collapsed behind the enterance. A steady flow of water is running out of the adit.
Location: The adit is located in the center of the Klondyke Keno main site.
Dimensions (W x H): The lower adit portal is 2.0m x 2.0m (roughly).
Supports: Timber was used to support the portal.
Condition: The portal entrance is standing, but has collapsed for approximately 10 meters behind the entrance
Accessibility: The adit is inaccessible.

Upper Adit

Adit has collapsed and filled with overburden. Identified by obvious trench leading in and 2 inch steel pipe leading out of collapsed entrance.
Location: Approximately 225m N (Az 16^0) from lower adit.
Dimensions (L x W x H): unknown
Condition collapsed
Accessibility: inaccessible.

5.2 Waste Rock Disposal Areas

Waste rock areas were located near the lower adit. The waste rock was located in three main areas, but appeared to be uniform in content. Small areas of minor iron staining were observed on the surface.

Waste rock pile #1

There was minor iron (Fe) staining on the surface of the waste rock pile; there is no evidence of oxidation below the surface. Observed lithological content included (1b)carbonaceous phyllite, (2b) thin banded, broken, quartzite with carbonaceous phyllite interbeds, and (4c) Quartz-siderite veins. Pyrite content was estimated at 0.5 %
Location: center of site, 50 south of lower adit.
Sampling: 30cm test pit was dug and sample #20-WR-01 was collected. Field paste pH and conductivity were 7.4 and 42 µS respectively.

Waste rock pile #2

There was minor iron (Fe) staining on the surface of the waste rock pile; there is no evidence of oxidation below the surface. Observed lithological content included (1b)carbonaceous phyllite, (4c)

Quartz-siderite veins, and amphibole-chlorite-plagioclase greenstone. Pyrite content was estimated at 0.5%

Location: 35 m southwest of lower adit.

Sampling: 30cm test pit was dug and sample #20-WR-02 was collected. Field paste pH and conductivity were 7.8 and 42 µS respectively. This sample was not sent for analysis.

5.3 Tailings Impoundments

No ore was processed at this site and no tailings were encountered.

5.4 Minesite Water Treatment

There was no water treatment observed on this site.

6. MINE SITE INFRASTRUCTURE

6.1 Buildings

There are several small collapsed buildings on this site (see map). Debris from four cabins including a bunkhouse, outhouse, and cooking area, is found in the southern portion of the site, approximately 110 meters south of lower adit. Debris from two buildings, including a core shack, is located in the northern area, near the lower adit.

Construction: wood frames, some roll asphalt shingle, and metal fittings.

Paint: none observed

Asbestos: none observed

Foundation: none

Non-Hazardous Contents: miscellaneous scrap metal, fabric.

Hazardous Contents: none observed

6.2 Fuel Storage

Three heating oil drums located on wood platform at the Southern area of the site. Approximately 150 meters of 2" steel pipes lead from drum platform to collapsed cabins and lower adit area. All lines and drums are empty.

6.3 Rail and Trestle

Rail remnants leading from lower adit.

Fabrication: steel rail and wooden ties

Amount of materials: volume of material approx. 0.25 m^3.

Condition: Rail in decent condition, no apparent safety concerns.

6.4 Milling and Processing Infrastructure

No ore was processed at this site and no tailings were encountered.
Collapsed core shack was located approximately 30 meters NNW from lower adit. Cores were scattered throughout the debris.

6.5 Electrical Equipment

No electrical equipment was encountered at this site.

7. SOLID WASTE DUMPS

No large solid waste dumps were encountered at this site. Some empty drums and debris were observed down slope of waste rock pile #2.

8. POTENTIAL CONTAMINANTS OF CONCERN

No hazardous materials were encountered on this site. The only contaminants of concern would be the possibility of dissolved metals seeping or washing from the waste rock, or the seep from the adit.

9. WATER QUALITY

There is a steady stream flowing from the lower adit, across the waste rock and continuing westward. A sample was taken at the point nearest the adit (20-WS-1, 20-WS-2; field pH 7.6, cond 0.21 ms). The stream had no suspended particulate and no precipitation of metals was observed.

10. RECLAMATION

Natural revegetation is occurring in the trenches and on the roads. The waste rock piles have very little vegetation growing on them.

11. OTHER SOURCES OF INFORMATION AND DATA

No other sources of information and data were identified.

12. REFERENCES

Minfile #105M001v

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.

ATTACHMENT A: Klondyke Keno (#20) WATER SAMPLES LABORATORY RESULTS				
Sample Number	**Detection Limit**	**Units**	**20-WS-01 18/9**	**20-WS-0218/9**
Site Desciption				**Duplicate**
pH (field)	N/A	pH	7.4	7.8
Conductivity (field)	N/A	µS/cm	420	130
pH (Lab)	0.01	pH	7.33	7.44
Conductivity (Lab)	0.01	µS/cm	600	600
Total Alkalinity	5	mg CaCO3/L	197	197
Chloride	0.25	mg/L	<0.25	<0.25
Hardness (CaCO3 equiv)	5	mg/L	351	358
Nitrate-N	0.05	mg/L	<0.05	<0.05
Nitrite-N	0.003	mg/L	<0.003	<0.003
Sulphate	1	mg/L	115	116
Total Dissolved Solids	5	mg/L	391	375
Analysis by ICP-USN				
Aluminum	0.0008	mg/L	0.0071	0.0093
Antimony	0.005	mg/L	<0.005	<0.005
Arsenic	0.01	mg/L	<0.01	<0.01
Barium	0.00004	mg/L	0.0156	0.0155
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	0.00014	0.00016
Calcium	0.002	mg/L	75.1	75.7
Chromium	0.00006	mg/L	0.00021	0.00017
Cobalt	0.00003	mg/L	<0.00003	<0.00003
Copper	0.00003	mg/L	0.0009	0.00079
Iron	0.00001	mg/L	0.021	0.022
Lead	0.0003	mg/L	<0.0003	0.0006
Lithium	0.001	mg/L	0.009	0.008
Magnesium	0.0005	mg/L	33.1	33.4
Manganese	0.00002	mg/L	0.00464	0.00538
Mercury	0.0001	mg/L	<0.0001	<0.0001
Molybdenum	0.00007	mg/L	0.00847	0.00836
Nickel	0.00001	mg/L	0.0015	0.0015
Phosphorus	0.03	mg/L	<0.03	<0.03
Potassium	0.4	mg/L	<0.4	<0.4
Selenium	0.004	mg/L	<0.004	<0.004
Silicon	0.004	mg/L	3.87	3.87
Silver	0.00005	mg/L	<0.00005	<0.00005
Sodium	0.004	mg/L	2.2	2.2
Strontium	0.00002	mg/L	0.396	0.392
Sulphur	0.008	mg/L	36.6	36.4
Thallium	0.001	mg/L	<0.001	<0.001
Titanium	0.00002	mg/L	<0.00002	0.0001
Vanadium	0.00003	mg/L	<0.00003	<0.00003
Zinc	0.0002	mg/L	0.0159	0.0145
Analysis by Hydride AA				
Arsenic	0.0002	mg/L	0.0007	0.0009
Selenium	0.0001	mg/L	0.0002	0.0002

ATTACHMENT A: Klondyke Keno (#20) WASTE ROCK SAMPLES LABORATORY RESULTS			
Site Number	**Detection Limit**	**Units**	**20-WR-01 - Klondike KENO - 5-20cm - 18/9/99 - Waste**
Sample Desciption			
Paste pH (field)	N/A	pH	
Conductivity (field)	N/A	µS/cm	
pH in Saturated Paste			
pH	0.1	pH	7.2
pH in Soil (1:2 water)			
pH	0.01	pH	7.2
ICP Semi-Trace Scan			
Aluminum	5	µg/g	23600
Antimony	2	µg/g	4
Arsenic	2	µg/g	75
Barium	0.05	µg/g	173
Beryllium	0.1	µg/g	0.5
Bismuth	5	µg/g	<5
Cadmium	0.1	µg/g	67.7
Calcium	5	µg/g	15700
Chromium	0.5	µg/g	22.6
Cobalt	0.1	µg/g	16.7
Copper	0.5	µg/g	50.8
Iron	1	µg/g	43000
Lead	1	µg/g	239
Lithium	0.5	µg/g	13
Magnesium	1	µg/g	8910
Manganese	0.5	µg/g	2190
Mercury	0.01	µg/g	<0.01
Molybdenum	1	µg/g	13
Nickel	1	µg/g	50.1
Phosphorus	5	µg/g	1510
Potassium	20	µg/g	6100
Selenium	2	µg/g	<2
Silicon	5	µg/g	530
Silver	0.5	µg/g	17
Sodium	5	µg/g	384
Strontium	1	µg/g	38
Sulphur	10	µg/g	18500
Thorium	1	µg/g	<1
Tin	1	µg/g	2
Titanium	0.2	µg/g	53.1
Uranium	5	µg/g	<5
Vanadium	1	µg/g	30
Zinc	0.5	µg/g	5900
Zirconium	0.1	µg/g	42.9

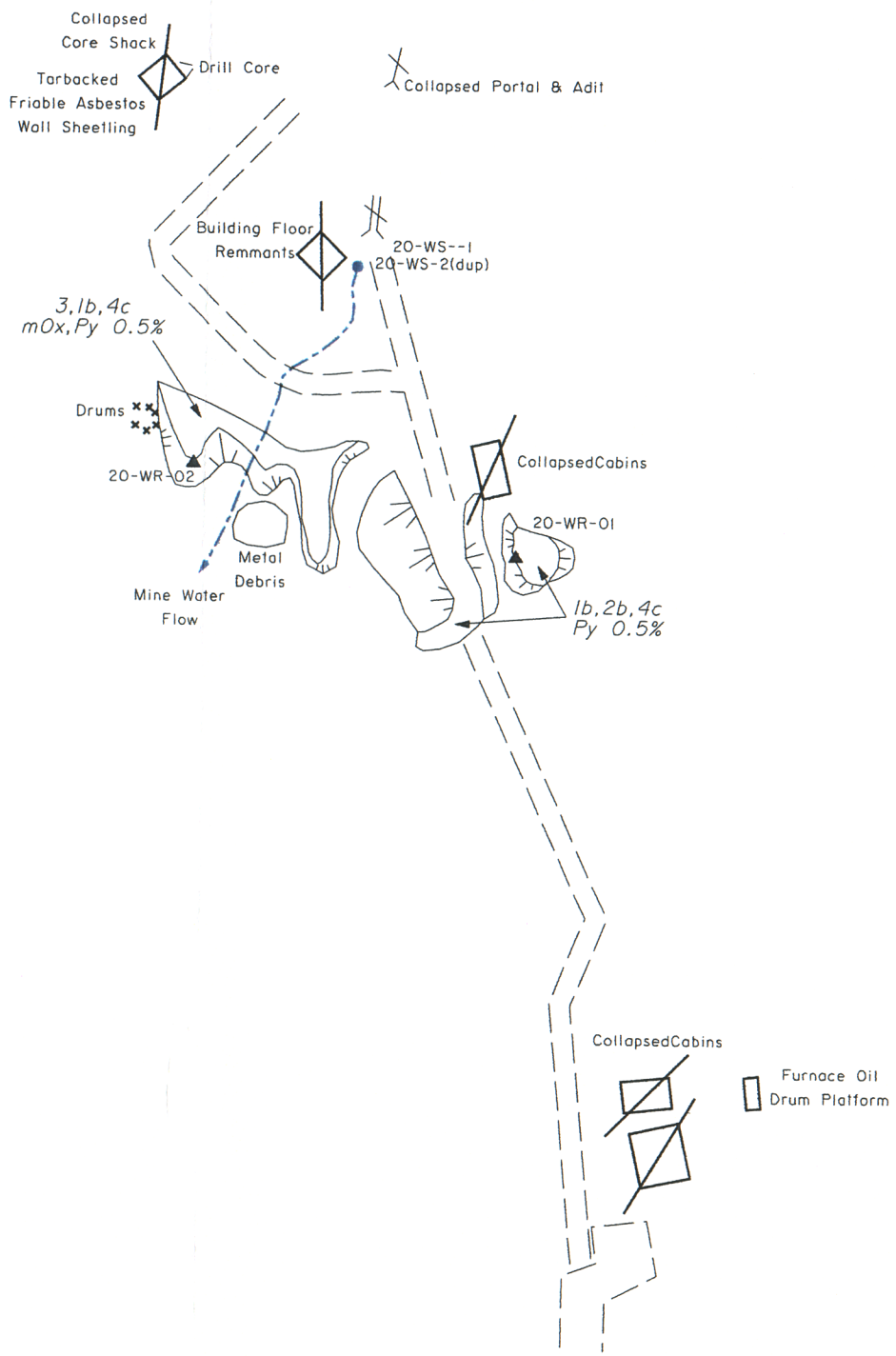
ATTACHMENT A: 1999 Klondyke Keno (#20) WASTE ROCK LABORATORY RESULTS
MODIFIED SOBEK METHOD ACID-BASE ACCOUNTING TEST

SAMPLE	SITE DESCRIPTION	PASTE pH	S(T) %	S(SO4) %	AP	NP	NET NP	NP/AP
20-Wr-01 - Klondike KENO -5-20cm - 18/9/99 - Waste		7.9	1.09	0.06	32.2	62.8	30.6	1.9
20-Wr-01 - Klondike KENO -5-20cm - 18/9/99 - Waste RE		-	1.10	0.05	32.8	-	-	-

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

- 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)
- WQ-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)



0 10 20 30 40

Scale 1:1000

CAD FILE: SITE20.DGN

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.

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Architectural & Engineering Services
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Klondike–Keno Site #20
Site Assessment
Yukon Territory

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

dwg. no. / dessin no.: 1 of 1