Geological and Geochemical Report

MAD Property

Clinton Mining Division

92 O/1E

Lat. 51°03'N
Long. 122°07'W

Owned and Operated by

Utah Mines Ltd.

Tom Pollock, M.Sc.A.
Utah Mines Ltd.

Vancouver, B.C.
August, 1983

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF MAPS

LIST OF APPENDICIES

SUMMARY

The Mad property consisting of nine claims was staked as a gold prospect in August, 1982. The staking was a result of a regional stream silt sampling survey which outlined the Watson Bar Creek area as being anomalous in copper, arsenic, gold and mercury. A preliminary geological and geochemical exploration program was carried out on the claims during the months of May and June, 1983. Sediments of the Jackass Mountain group underlie the property and are intruded by various small porphyritic and mafic stocks. Gold mineralization occurs in sandstone beds that have been replaced by extreme amounts of silicification, and in massive sulphide veins. The massive sulphide veins occur only in areas of highly broken sandstone where fractures are filled with clay and calcite. This broken and altered rock can also carry several hundred parts per billion gold.

INTRODUCTION

During the months of May and June 1983, field work was carried out on the property which included line cutting, soil and rock sampling and geological mapping. All claims comprising the Mad Property were covered by this exploration program. The field work was undertaken by Tom Pollock, Geologist; Greg Holland, Geologist; and Jeremy Howe, Thom Sedun, Bruce Andrews and Darcy Krohman as Geological Assistants.

LOCATION AND ACCESS

The Mad property is located on Watson Bar Creek, in the Camelsfoot Range, approximately 43 kilometers NNW of Lillooet, B.C. (Figure 1). It lies within the 1:50,000 Yalakom River map sheet, NTS 92 O/1, at a latitude of 51°03'N and longitude of 122°07'W.

Access to within "walking distance" of the property is provided by a two wheel-drive dirt road which leaves the highway seven kilometers north of Lillooet and follows along the west side of the Fraser River to eventually cross Watson Bar Creek.

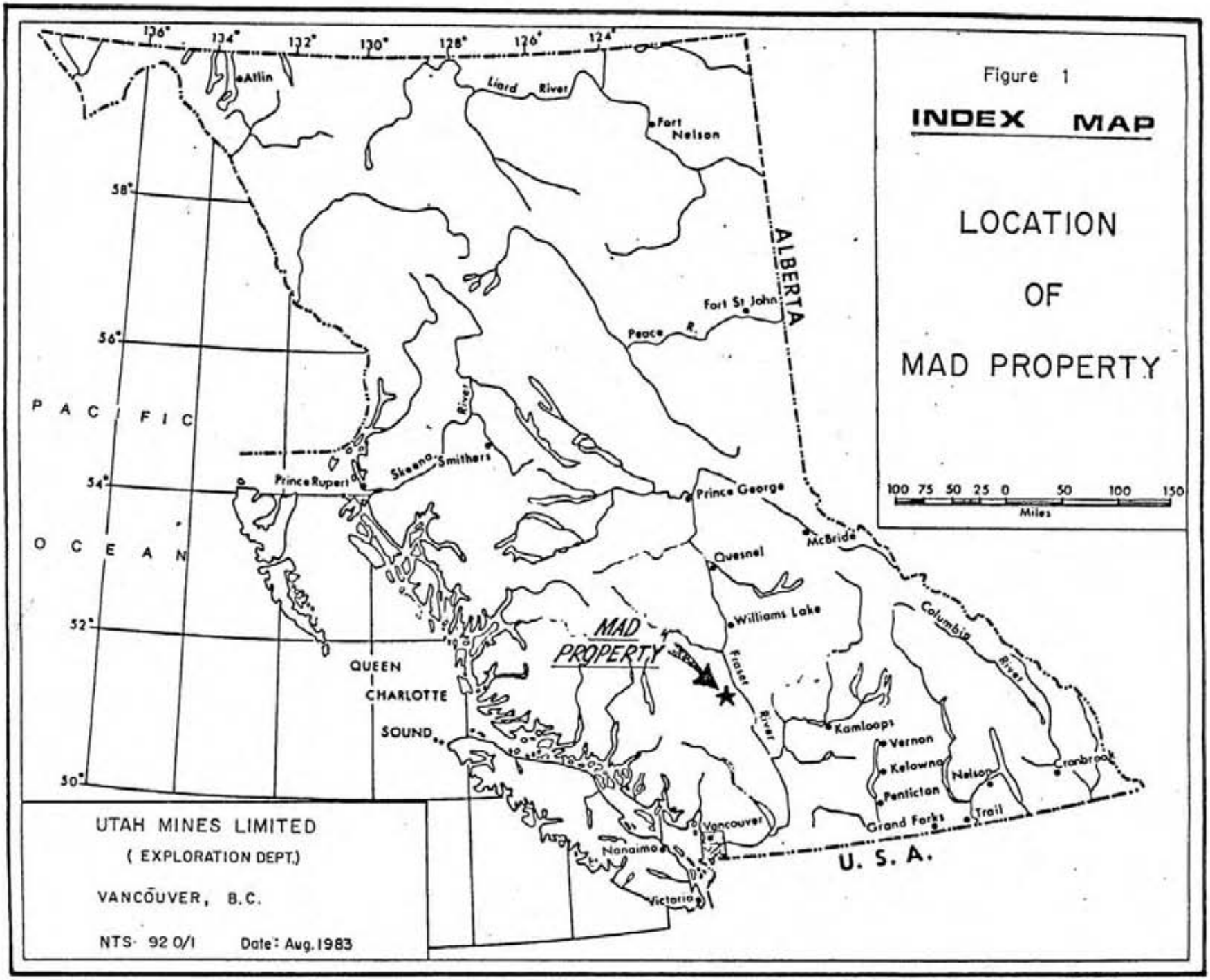


Figure 1
INDEX MAP
LOCATION
OF
MAD PROPERTY
100 75 50 25 0 50 100 150
Miles
136° 134° 132° 130° 128° 126° 124°
58°
56°
54°
52°
50°
Atlin
Liard River
Fort Nelson
ALBERTA
Fort St John
Peace R.
PACIFIC
OCEAN
Skeena River
Smithers
Prince Rupert
Prince George
McBride
Quesnel
Williams Lake
MAD PROPERTY
Fraser River
Columbia River
QUEEN CHARLOTTE SOUND
Kamloops
Vernon
Kelowna
Penticton
Nelson
Cranbrook
Grand Forks
Trail
Vancouver
Nanaimo
Victoria
U. S. A.
UTAH MINES LIMITED
(EXPLORATION DEPT.)
VANCOUVER, B.C.
NTS 92 O/1
Date: Aug. 1983

PHYSICAL SETTING

The Camelsfoot Range is bounded to the east and south by the Fraser River, to the west by the Yalakom River and to the north by the Chilcotin Plateau. Its slopes tend to be steep, and are cut by numerous valleys that are often deeply incised and narrow. Elevations of the range are mainly between 750 and 2000 meters but rise up to 2783 meters at Hogback Mountain.

Vegetation is relatively sparse, particularily on south facing slopes and valley bottoms, due to the "dry belt" climate of the area. Very little of the area rises above treeline which lies near 2000 meters. Sagebrush and bunch grass are characteristic of the lowest open valleys.

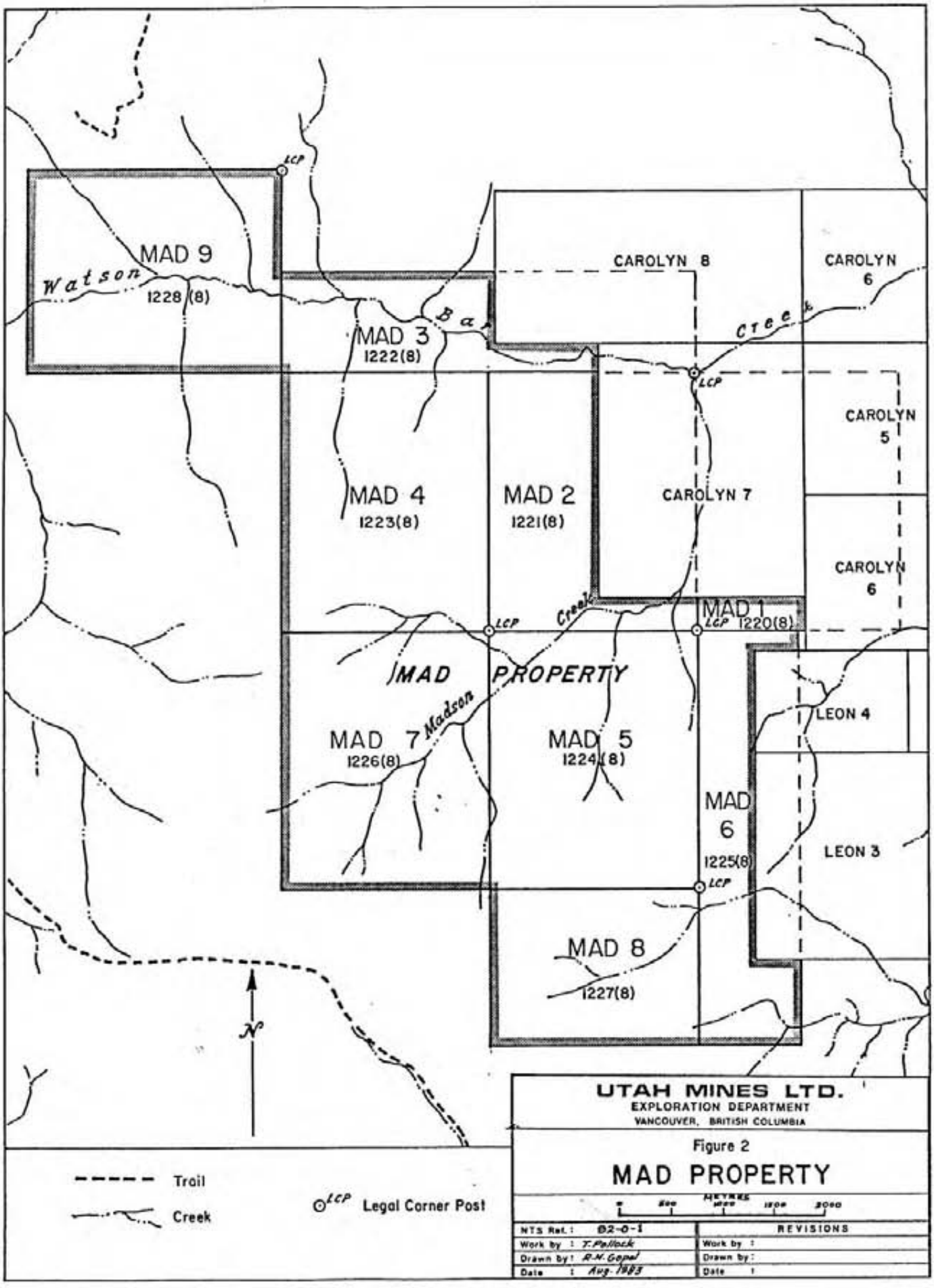
CLAIMS

The nine claims (164 units) comprising the Mad property are 100% owned and operated by Utah Mines Ltd. Figure 2 shows the location of the claims with respect to local topographic features while Table I gives their pertinant data.

TABLE I

Pertinant Data on the 9 Claims Comprising the Mad Property

Claim Name	Record No.	Anniversary Date	Expiry Date
Mad 1	1220(8)	August 12	September 12/83
Mad 2	1221(8)	August 12	September 12/83
Mad 3	1222(8)	August 12	September 12/83
Mad 4	1223(8)	August 12	September 12/83
Mad 5	1224(8)	August 12	September 12/83
Mad 6	1225(8)	August 12	September 12/83
Mad 7	1226(8)	August 12	September 12/83
Mad 8	1227(8)	August 12	September 12/83
Mad 9	1228(8)	August 12	September 12/83


MAD 9
Watson
1228(8)
MAD 3
1222(8)
Bar
Creek
CAROLYN 8
CAROLYN 6
LCP
CAROLYN 5
MAD 4
1223(8)
MAD 2
1221(8)
CAROLYN 7
CAROLYN 6
MAD 1
1220(8)
Creek
MAD PROPERTY
LEON 4
MAD 7
1226(8)
Madson
MAD 5
1224(8)
MAD 6
1225(8)
LEON 3
MAD 8
1227(8)
N
Trail
Creek
LCP Legal Corner Post
UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA
Figure 2
MAD PROPERTY
METRES
NTS Ref.: 82-O-1
Work by: J. Pollock
Drawn by: R.N. Gopal
Date: Aug. 1983
REVISIONS
Work by:
Drawn by:
Date:

WORK PROGRAM 1983

The work given in the following table gives a brief account of the exploration program completed on the Mad property during the summer.

TABLE II

1983 Exploration Program Completed on the Mad Property

Type of Work	Scale	Line kms.	Area	No. of Samples
Geological Mapping	1:5,000		3,000 hec	
Base Line Cut		2.2		
Cross Lines Flagged		15.0		
Grid Soil Samples		13.4		312
Contour Soil Samples		34		726
Rock Geochemistry				296

REGIONAL GEOLOGY

The Watson Bar Creek area is situated in a northwest trending trough of Jackass Mountain group sediments which underlie the greater part of the Fraser River Cretaceous belt. Although both marine and non-marine sediments comprise this group, in the vicinity of the Mad Property non-marine sediments prevail. Volcanic arenite, lithic sandstone and conglomerate with minor siltstone and limestone dominate the geology. Intruding these sediments are small quartz diorite, gabbroic and various porphyritic stocks.

The east and west fault bound Jackass Mountain group varies in width from 21 km in the north where it is overlain by Tertiary volcanics of the Chilcotin Plateau to less than 2 km in width, south of Lytton.

To the east, the group is in fault contact with the Cretaceous or Early Tertiary volcanic rocks of the Ward Creek assamblage. This unit is composed dominately of andesite, less dacite and felsitic rocks, and minor tuff, basalt, lithic sandstone and coal. The Yalakom fault forms the western boundary of the group and marks the beginning of the Shulaps Ultramafite complex to the north with the Triassic Bridge River sediments and volcanics to the south.

Although faults are an abundant and characteristic feature of the Jackass Mountain Group, the bedding dips are relatively moderate and folds within the group are inconspicuous. The prevalence of faulting over folding is believed to be due to the relatively great thickness of the sedimentary belt in proportion to its width.

The two northwest faults marking the east and west boundaries of the Jackass Mountain group are splays off the Fraser River fault zone.

Northwest striking faults are common throughout the Lillooet-Gold Bridge area and often are marked by river valleys between mountain ranges. They appear to be of particular interest as most of the past producing gold mines lie along them.

The past producing Big Slide Mine, which lies on a northwest fault is located 15 kilometers southeast of Watson Bar Creek at the junction of Kelly Creek and the Fraser River. Gold, silver and copper were removed from this small deposit in which two mineralized quartz veins were mined from a diorite stock that intruded shales, cherts and greenstones of the Cache Creek group. To the northwest of Watson Bar Creek, at the head of Stirrup Creek, a gold showing known as the "Astonisher Monty" property is present. At this showing gold is present on dry fractures both within a feldspar porphyry intrusion and in the adjacent altered Jackass Mountain group sediments. Stirrup Creek has also produced approximately $250,000 worth of placer gold.

LOCAL GEOLOGY

The geology of the Mad property, shown in Maps 1a,b,c and d, is dominated by sediments of the Cretaceous Jackass Mountain group. A downward stratigraphic progression from volcanic arenite, conglomerate, lithic sandstone through to interbedded sandstone and siltstone is evident on the property. The first three of these lithologies constitutes roughly 75% of the total sediment volume. Limestone and silty beds containing minor carbonaceous debris have also been noted but these sediments are volumetrically insignificant. The sediments generally strike between 80° and 120°, and dip gently to the north. Folding where present is very gentle and normally caused by small intrusive stocks. Stocks, dykes and sills of quartz feldspar and feldspar porphyry, dioritic and gabbroic composition intrude the sediments. Faulting is common throughout the property and is particularily noticeable through topographic expressions. Although faults may be measured as to belonging to one of several well defined direction sets, those at 110° appear to have the greatest regional extent.

Much of the sandstone exposed along the south side of Watson Bar Creek has been loosely referred to as red or weakly gossanous sandstone. This blatant red colouration of the rocks is due to the oxidation of iron in pyrite that is weakly disseminated in the sandstone. The areas of strong gossan marked on the geologic maps are from often intense mineralization occurring in varying forms. Arsenopyrite, chalcopyrite, sphalarite, galena with or without cinnabar and stibnite occur in locally altered sandstone beds. The alteration varies from weak to total replacement of sandstone by carbonate and/or silica with the degree of mineralization present varying directly with the amount of silica replacement. Appreciable

quantities of gold and silver are commonly associated with this siliceous replacement.

Other strongly gossanous areas exhibit intense veining and brecciation by quartz and calcite. These areas are often highly anomalous in arsenic, mercury and antimony but rarely contain anomalous gold. A final source of gossans are from narrow sulphide veins carrying arsenopyrite, chalcopyrite, cinnibar and varying amounts of gold.

The areas of clay alteration outlined on the geologic maps consist of clay and calcite fracture-fillings in sandstone and siltstone. The degree of fracturing and alteration, varies from negligable to extreme and only occurs in non-gossanous rock. Gold values associated with this alteration varies from less than 10 to several hundred parts per billion. Massive sulphide veins which on occasion are accompanied by varying amounts of quartz, and sulphide rich calcite veins may also be present in these altered and fractured zones. The massive sulphide veins consist of pyrite, arsenopyrite, chalcopyrite, sphalerite, galena and pyrrhotite, and carry appreciable quantities of gold and silver. The calcite veins are usually restricted to pyrite, chalcopyrite and arsenopyrite mineralization and are only weakly anomalous in gold.

ROCK GEOCHEMISTRY

The analytical results from the rock samples on the geologic maps are shown in Maps 2 and 3. All samples were analysed by Chemex Labs in North Vancouver for copper, arsenic, gold and mercury, and on occasion for one or more of lead, zinc, silver, antimony and barite. Included with the rock geochemistry are a minor number of stream silt and soil samples.

SOIL GEOCHEMISTRY

Soil samples were collected using two means of sample site location. The first method involved taking samples on previously established grid lines spaced 200 meters apart. Samples were taken at 25 or 50 meter spacings depending on the desired sample concentration. To sample the north half of the property where steep topographic gradients exist, contour soil sampling was necessary due to the difficulty in establishing grid lines. Sample lines were spaced at 100 meter contour intervals with samples taken at similar distances to those used on the grid lines. Soil samples collected on the Mad property are shown in Maps 4a,b,c and d. Samples were collected in kraft paper bags from the 'B' horizon, or if not present, from talus fines and sent to Chemex Labs in North Vancouver. A brief description of the analytical techniques used in the analyses is given in Appendix III.

Soil samples were analysed for copper, arsenic, gold, and locally for lead and mercury. The results for these elements are shown on Maps 5, 6 and 7.

GRID SOIL SAMPLING

Samples collected over the grid analysed for copper, arsenic and gold, returned discouraging results. No significant anomalies were discovered except for one sample that was anomalous in gold taken near the north corner of the grid. The overall lack of anomalous results is believed to be due, at least in part, from the presence of thick overburden in the area produced from the downslope movement of non-mineralized volcanic arenite debris.

CONTOUR SOIL SAMPLING

This form of soil sampling was concentrated in two separate areas on the Mad property. One of the areas occurs largely within the Mad 5 claim (Map 4a) where soil samples were collected and analysed for copper, arsenic, gold and mercury. A number of locallized weak gold anomalies exist along the two creeks where values range from 10 to 40 ppb. The source of these anomalies is unknown at present and therefore will require follow-up exploration. The three other elements analysed in the soil samples returned no anomalous values.

The second area sampled was along the south side of Watson Bar Creek continuing up the lower Stirrup Creek valley. Anomalous values in copper, arsenic and gold are concentrated in a general 110° direction following in close proximity to the 1000 and 1100 meter contour intervals in the southeast and to the 1100 and 1200 meter contour intervals to the northwest.

The anomalies around the northeast corner of the Mad 4 claim are due to the locallized replacement of sandstone beds by silica and minor carbonate. Associated with this alteration is gold mineralization often accompanied by arsenopyrite, chalcopyrite and lesser galena. The presence and amount of mineralization generally varies directly with amount of siliceous replacement. Other anomalies are due to narrow sulphide veins carrying arsenopyrite, chalcopyrite and occasionally minor amounts of gold, found in the weakly gossanous sandstone.

Although a number of anomalies have been investigated many other anomalous areas of yet unexplained source remain to be investigated but this may be difficult due to the large percentage of overburden in the area. In addition, due to the often locallized and concentrated nature of the mineralization with respect to the large volumes of unmineralized rock, soil anomalies that occur are often diluted by downslope movement of non-mineralized debris.

CONCLUSIONS

Significant soil anomalies in copper, arsenic and locally gold exist along the south side of Watson Bar Creek striking in a general 110° direction. A major fault striking in the same direction is believed to be connected with the source of the soil anomalies. This fault is marked by hydrothermal breccias and the presence of gossanous rock as one progresses northward towards Watson Bar Creek. Base and precious metal mineralization occurs in siliceous replacements, massive sulphide veins, and in clay and calcite fracture-fillings. This mineralization is reflected by the highest of the soil anomalies particularily where it outcrops. A large amount of dilution may occur in the areas of anomalous soils from the downward movement of overlying great thicknesses (100 - 300m) of non-mineralized rock. In addition, soil anomalies tend to be diluted by enclosing larger amounts of the less mineralized host rocks.

REFERENCES

Duffell, S., and McTaggart, K.C., 1952, Ashcroft Map-Area, British Columbia, Geological Survey of Canada, Memoir 262, 122p.

Jeletzky, J.A. , and Tipper, H.W., 1968, Upper Jurassic and Cretaceous Rocks of Taseko Lakes Map-Area and their bearing on the geological history of southwestern British Columbia, Geological Survey of Canada, Paper 67-54, 218p.

Trettin, H.P., 1961, Geology of the Fraser River valley between Lillooet and Big Bar Creek, B.C. Department of Mines and Petroleum Resources, Bill No. 44, 109 p.

APPENDIX A

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

The field work for this report was done by the following person whose qualifications are outlined below:

T. Pollock, Geologist for Utah Mines Ltd., Vancouver, British Columbia. Completed Hon. B.Sc. (geology) at Queen's University, Kingston, Ontario in 1977; completed M.Sc.A. at McGill University, Montreal, Quebec in 1980; employed by the Ontario Geological Survey as an assistant geologist during the 1974 and 1975 summer field seasons; employed by Inco Limited as a field geologist for the 1976, 1977 and 1978 summer field seasons; employed by the Geological Survey of Canada as a geologist, December 1977 to April 1978; employed by Kelvin Energy Ltd. during the 1979 field season as a field geologist; employed by Utah Mines Ltd. from May 1980 to date as a geologist under the supervision of John Deighton.

Tom Pollock

APPENDIX II

STATEMENT OF MAJOR COSTS

STATEMENT OF MAJOR COSTS

Chemex Labs Ltd.	$ 15,917.95	$ 15,917.95
Salaries - T. Pollock 56 days @ $138./day	7,728.00	
J. Deighton 5 days @ $160./day	800.00	
J. Howe 12 days @ $120./day	1,440.00	
T. Sedun 50 days @ $67./day	3,350.00	
B. Andrews 50 days @ $65./day	3,250.00	
D. Krohman 50 days @ $65./day	3,250.00	
	19,818.00	35,735.95
Redhawk Rentals	3,988.00	39,723.95
Airspan Helicopters	3,589.09	43,313.04
Field Expenses - T. Pollock	1,152.73	
T. Sedun	962.51	
D. Krohman	813.97	
B. Andrews	758.80	
J. Howe	383.20	
	4,071.21	47,384.25
Pacific Survey	3,500.00	50,884.25
G & H (food)	2,913.54	53,797.79
Westquip Diesel Sales	1,101.49	54,899.28
Imperial Oil	644.85	55,544.13
Chevron	243.79	55,787.92
Shell	105.35	55,893.27
Arrow Tent & Awning	348.37	56.241.64
B.C. Tel	217.52	56,459.16
Deakin Equipment	362.78	56,821.94
Vancal	232.31	57,054.25

Therefore the total value of expenditures towards the Mad property in 1983 was at least $57,054.25.

APPENDIX III

ANALYTICAL TECHNIQUES

ANALYTICAL TECHNIQUES

All geochemical analysis were performed by Chemex Labs Ltd. in North Vancouver. Silt and soil samples were dryed at 80°C for a period of 12 to 24 hours then seived to the -80 mesh fraction. Rock samples were crushed, dried and pulverized to the -100 mesh.

In analysing for copper, lead, zinc and silver the sample is digested using hot 70% $HClO_4$ and concentrated HNO_3. After the sample volume is adjusted using demineralized water the solutions are homogenized and allowed to settle before being analysed by atomic absorption procedures.

Gold was analysed by ashing 5 gm. samples at 800°C for one hour, digesting with aqua regia - twice to dryness - then by taking the sample up in 25% HCl. The gold was then extracted as the bromide complex into MIBK and analysed using atomic absorption.

In antimony analysis samples were digested with concentrated HCl followed by the reduction of the iron to the Fe^{t2} state and the complexing of Sb with I-. The complex is extracted with TOPO - MIBK and analysed using atomic absorption.

Mercury was analysed using the Hatt - Ott procedure and a closed cell atomic absorption determination.

Arsenic was analysed by taking an aliquot of the nitric degestion and acidifying, followed by reduction with Kl. A portion of the reduced solution is converted to arsine with $NaBH_4$ and the arsenic content is determined by atomic absorption.

MAD 4

MAD 2

MAD 1

CAROLYN 1

LEON 4

MAD 7

MAD 5

MAD 6

LEON 3

MAD 8

HOGBACK MOUNTAIN

LCP

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

LEGEND

JACKASS MOUNTAIN GROUP

- 1a Volcanic arenite
- 1b Sandstone
- 1c Interbedded sandstone and siltstone
- 1d Largely siltstone with minor sandstone
- Conglomerate
- 1f Limestone
- 2 Quartz feldspar porphyry
- 3 Feldspar porphyry
- 4 Diorite
- 5 Gabbro
- 6 Lamprophyre

Outline of strong gossan
Outline of weak gossan (red sandstone)
Outline of strong clay and calcite filled fractures
Outline of weak clay and calcite filled fractures
Geologic contact (defined, assumed)
Overburden contact
Outcrop outline
Fault

25 Bedding (inclined, vertical)
37 Joint (inclined, vertical)
Adit
O/B Overburden
X T 285 Rock sample with number. (Also outcrop)
Soil sample
Silt sample

TOPOGRAPHICAL SYMBOLS

Trail
1900 Contours in metres
Creek
Lake
LCP Legal Corner Post

SHEET INDEX

N

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

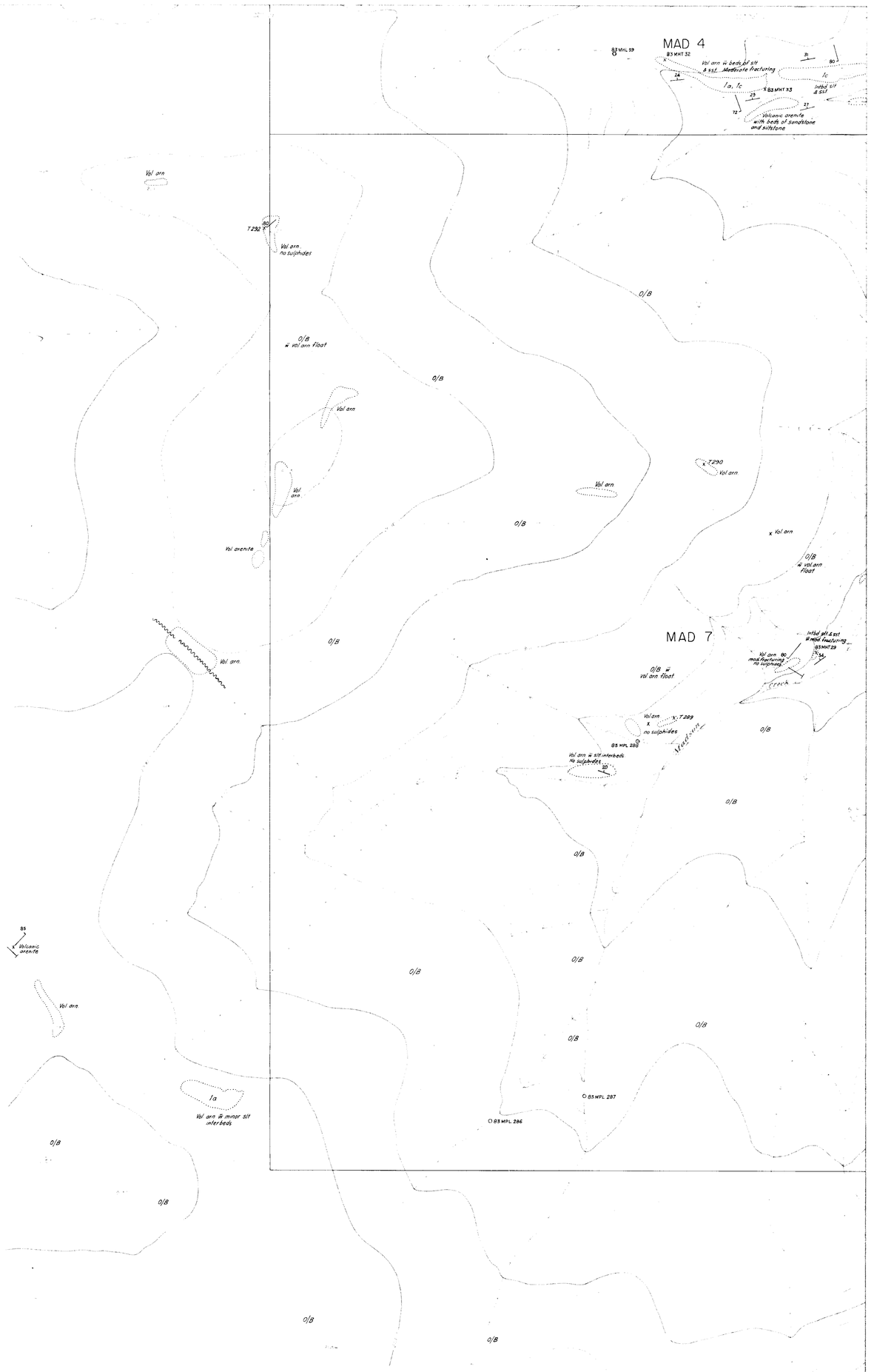
MAD PROPERTY

GEOLOGY

SCALE 1:5000
METRES 100 50 0 100 200 300 400 METRES

N.T.S. Ref.	92 O 11
Work By	Tom Pollock, G.H., B.A.
Drawn By	Ram N. Gopal
Date	July, 1985
SHEET 1	MAP 1a

REVISIONS
Work By
Drawn By
Date



LEGEND

JACKASS MOUNTAIN GROUP

- 1a Volcanic arenite
- 1b Sandstone
- 1c Interbedded sandstone and siltstone
- 1d Largely siltstone with minor sandstone
- Conglomerate
- 1f Limestone
- 2 Quartz feldspar porphyry
- 3 Feldspar porphyry
- 4 Diorite
- 5 Gabbro
- 6 Lamprophyre

- Outline of strong gossan
- Outline of weak gossan (red sandstone)
- Outline of strong clay and calcite filled fractures
- Outline of weak clay and calcite filled fractures
- Geologic contact (defined, assumed)
- Overburden contact
- Outcrop outline
- Fault
- 25 Bedding (inclined, vertical, horizontal)
- 37 Joint (inclined, vertical)
- Adit
- O/B Overburden
- X T289 Rock sample with number. (Also outcrop)
- Soil sample
- Silt sample

TOPOGRAPHICAL SYMBOLS

- Trail
- 1800 Contours in metres
- Creek
- Lake

SHEET INDEX

N

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROPERTY

GEOLOGY

NTS Ref	92
Work by	T.Pollock, C.Holland, B.Andrews
Drawn by	Ram N Gopal
Date	Aug. 1983
SHEET 2	

REVISIONS

Work by	
Drawn by	
Date	

MAP 1b

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

LEGEND

JACKASS MOUNTAIN GROUP

- 1a Volcanic arenite
- 1b Sandstone
- 1c Interbedded sandstone and siltstone
- 1d Largely siltstone with minor sandstone
- Conglomerate
- 1f Limestone
- 2 Quartz feldspar porphyry
- 3 Feldspar porphyry
- 4 Diorite
- 5 Gabbro
- 6 Lamprophyre

- Outline of strong gossan
- Outline of weak gossan (red sandstone)
- Outline of strong clay and calcite filled fractures
- Outline of weak clay and calcite filled fractures
- Geologic contact (defined, assumed)
- Overburden contact
- Outcrop outline
- Fault
- Bedding (inclined, vertical, horizontal)
- Joint (inclined, vertical)
- Adit
- O/B Overburden
- X T256 Rock sample with number (Also outcrop)
- Soil sample
- Silt sample

TOPOGRAPHICAL SYMBOLS

- Trail
- Contours in metres
- Creek
- Lake
- LCP Legal Corner Post

SHEET INDEX

3 4

2 1

N

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

MAD PROPERTY

GEOLOGY

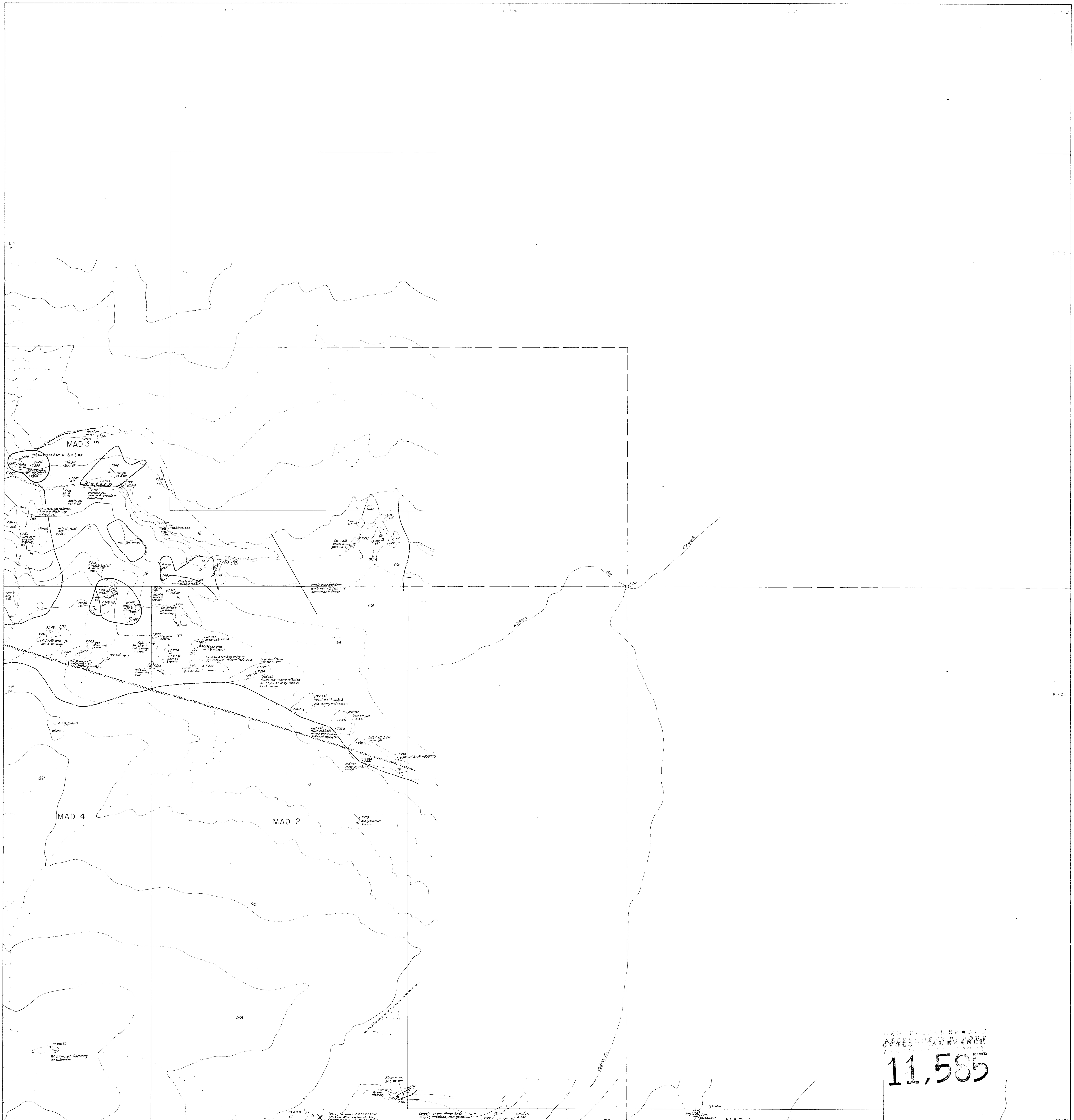
SCALE 1:5000

METRES 0 50 100 200 300 400 METRES

REVISIONS		

T. Pollock, G. Holland & B. Andrews — Written by
Ram N. Gopal — Drawn by
Aug. 1983 — Date

SHEET 3 — MAP 1c


MAD 3
MAD 4
MAD 2
MAD 1
Watson
Bar
Creek
LCP
Madson Cr.
local sil. in sst.
Sst, sil. zones in sst. w. Py, Sb?, asp
Wkly gos sst & slt.
non-gos. slt. & sst.
Talus
extreme cal. veining & breccia in sandstone
Weakly gos sst & slt.
Sst w local gos patches, w py asp, minor clay in fractures
red sst., local asp.
non-gossanous
sst. weakly gossan
Till slide
Limy sst.
Sst. w slt intbds, non-gossanous
thick over burden with non-gossanous sandstone float
Weakly local sil. & calc in red sst
Patchy gos. sil. bx in red sst.
Sulphide zones in red sst.
Sst w local slt & asp minor clay
red sst. Minor calc. vning
local sil. & sulphide vning — ccp, asp, py. Veins at 150°/70°S.W.
local total sil. in red sst to QPP
red sst. faults and veins @ 78°/065°NW local total sil. w py. Mod bx & calc. vning
red sst. local weak calc. & qtz veining and breccia
red sst. local str. gos & bx.
red sst. much qtz & calc vning & brecciation
Intbd slt & sst, minor gos
gos sil. bx @ 110°/070°S
red sst. Minor gosan & calc veining
non gossanous vol. arn.
Vol. arn
Vol. arn — mod fracturing no sulphides
O/B
1b
Str. py in sil. grit, vol. arn
Vol. arn minor clay
Vol. arn w zones of interbedded slt & sst. Minor section of a Vol. Agglomerate w rounded frags up to 20cm in size
Largely vol. arn, Minor beds of grit, siltstone, non gossanous
Intbd slt & sst.
cong
T116 gossanous

LEGEND

JACKASS MOUNTAIN GROUP

1a	Volcanic arenite
1b	Sandstone
1c	Interbedded sandstone and siltstone
1d	Largely siltstone with minor sandstone
1e	Conglomerate
1f	Limestone
2	Quartz feldspar porphyry
3	Feldspar porphyry
4	Diorite
5	Gabbro
6	Lamprophyre

Outline of strong gossan
Outline of weak gossan (red sandstone)
Outline of strong clay and calcite filled fractures
Outline of weak clay and calcite filled fractures
Geologic contact (defined, assumed)
Overburden contact
Outcrop outline
Fault

Bedding (inclined, vertical, horizontal)
Joint (inclined, vertical)
Adit
O/B Overburden
x T258 Rock sample with number. (Also outcrop)
Soil sample
Silt sample

TOPOGRAPHICAL SYMBOLS

Trail
1200 Contours in metres
Creek
Lake
LCP Legal Corner Post

SHEET INDEX: 3, 4, 2, 1

N

Contour interval 20 metres
Date of Photography 14th Sept 1974
Datum Approx. MSL

Base Map drawn by Ram N. Gopal & T. Drews. (March, 1983)

UTAH MINES LTD.

EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

MAD PROPERTY

GEOLOGY

SCALE 1:5000
METRES 100 50 0 100 200 300 400 METRES

NTS Ref	92-O-1	REVISIONS
Work by	T. Pollock, G. Holland & B. Andrews	Work by
Drawn by	Ram N. Gopal	Drawn by
Date	July, 1983	Date
SHEET 4		MAP 1d

MAD 4

MAD 2

creek

MAD 1
1220(8)

CAROLYN 1

LEON 4
937(8)

MAD 7
1226(8)

MAD 5
1224 (8)

MAD 6
1225(8)

LEON 3
936(8)

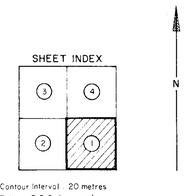
MAD 8
1227(8)

HOGBACK MOUNTAIN

Madson

LCP

122°07'
122°06'
122°05'
122°04'
51° 02'
51° 01'



Contour Interval : 20 metres
Datum : G.S.C. (approx.)
Date of Photography : 14th Sept. 1974
PS Corp. manuscript : 83-17

Base Map drawn by Ram N Goppl & T. Drews (March 1983)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROPERTY

GEOCHEMISTRY — ROCK, SILT & SOIL
Au, Cu, As, & Hg

METRES 100 50 0 SCALE 1:5000 100 200 300 400 METRES

NTS Ref. : 92-O-1	REVISIONS
Work by : G.H., T.P. & B.A.	Work by :
Drawn by : T.D.	Drawn by :
Date : Aug. 1983	Date :
SHEET 1	MAP – 2a

122° 10'

122° 09'

122° 08'

— 51° 02'

— 51° 01

MAD 4

MAD 7
1226 (8)

Creek

Madson

1998
2018
2037
2126
2077
2016
2099
2127
2113
2054

51° 02'

51° 01'

△ Rock Sample
□ Soil Sample
○ Silt Sample

Au(ppb) | Cu(ppm)
As(ppm) | Hg(ppb)

Trail
2100 Contours (m)
Creek
Lake
LCP Legal Corner Post
Corner or Identification Post

SHEET INDEX

Contour Interval : 20 metres
Datum : approx. G.S.C.
Date of Photography : 14th Sept. 1974
P.S.C. manuscript No. : 83-17

Base Map drawn by T. Drews & R.N. Gopal (Mar. 1983)

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROPERTY

GEOCHEMISTRY — ROCK, SILT & SOIL
Au, Cu, As, & Hg

METRES 100 50 0 SCALE 1:5000 100 200 300 400 METRES

NTS Ref. : 92—O—1	REVISIONS
Work by : G.H., T.P. & B.A.	Work by :
Drawn by : T.D.	Drawn by :
Date : Aug. 1983	Date :
SHEET 2	MAP — 2b

122°11'
122°10'
122°09'
122°08'
51°05'
51°04'
LCP
Stirrup
Creek
Watson
Bird Creek
Bar
Creek
MAD 9
1228(8)
MAD
1222
MAD 4
1223 (8)
1643
1636
1635
1515
1662
1789
1830
1877
1909
1600
1500
1400
1300
1200
1100
1000
900
800
700

△ Rock Sample
□ Soil Sample
○ Silt Sample

Au(ppb) | Cu(ppm)
As(ppm) | Hg(ppb)

Trail
1600 Contours (in metres)
Creek
Lake
LCP Legal Corner Post
Corner or Identification Post

SHEET INDEX

3	4
2	1

N

Contour Interval : 20 metres
Datum : G.S.C. (approx.)
Date of Photography : 14th Sept. 1974
P.S.C. manuscript No. : 83-17

Base Map drawn by T. Drews & R.N. Gopal, (March 1983)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROPERTY

GEOCHEMISTRY — ROCK, SILT & SOIL
Au, Cu, As, & Hg

SCALE 1:5000
METRES 100 50 0 100 200 300 400 METRES

NTS Ref. : 92 — O — 1	REVISIONS
Work by : G.H., T.P. & B.A.	Work by :
Drawn by : T.D.	Drawn by :
Date : Aug 1983	Date :
SHEET 3	MAP — 2c

122° 07'
122° 06'
122° 05'
122° 04'
51° 05'
51° 04'

MAD 3
1222(8)
MAD 4
1223(8)
MAD 2
1221(8)
MAD 1
1220(8)

Wilson Bar Creek

LCP

Rock Sample
Soil Sample
Silt Sample

Au(ppb) | Cu(ppm)
As(ppm) | Hg(ppb)

Trail
1220 Contours (m)
Creek
Lake
LCP Legal Corner Post
Corner or Identification Post

SHEET INDEX
3 | 4
2 | 1

N

Contour Interval 20 metres
Date of Photography 14th Sept 1974
Datum Approx. G.S.C.

Base Map Drawn by Ram N Gopal & T. Drews, (March, 1983)

GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,585

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROPERTY

GEOCHEMISTRY — ROCK, SILT & SOIL
Au, Cu, As, & Hg

METRES 100 50 0 SCALE 1:5000 100 200 300 400 METRES

NTS Ref. 92-O-1	REVISIONS
Work by G.H., T.P. & B.A.	Work by
Drawn by T.D.	Drawn by
Date Aug. 1983	Date
SHEET 4	MAP — 2d

△ Rock Sample
□ Soil Sample
○ Silt Sample

Ag (ppm)	Zn (ppm)	Pb (ppm)
Sb (ppm)	Ba (ppm)	

Trail
Contours (in metres)
Creek
Lake
Legal Corner Post (LCP)
Corner or Identification Post

SHEET INDEX: 3, 4, 2, 1

N

Contour interval: 20 metres
Datum: G.S.C. (approx.)
Date of Photography: 14th Sept 1974
PSC manuscript No.: 83-17

Base Map drawn by T. Drews & R.N. Gopal, (March 1983)

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROPERTY

GEOCHEMISTRY – ROCK, SILT & SOIL
Ag, Zn, Pb, Sb & Ba

SCALE 1:5000
METRES 100 50 0 100 200 300 400 METRES

NTS Ref.: 92-O-1	REVISIONS
Work by: G.H., T.P. & B.A.	Work by:
Drawn by: T.D.	Drawn by:
Date: Aug 1983	Date:
SHEET 3	MAP – 3c

122° 07'
122° 06
122°05
122°04'
51° 05'
51° 04'

MAD 3
1222(8)
MAD 4
1223(8)
MAD 2
1221(8)
MAD 1
1220(8)

Molson Bar Creek

LCP

△ Rock Sample
□ Soil Sample
○ Silt Sample

Ag (ppm) | Zn (ppm) | Pb (ppm)
Sb (ppm) | Ba (ppm)

Trail
Contours (m)
Creek
Lake
LCP Legal Corner Post
Corner or Identification Post

SHEET INDEX
1 2 3 4

Contour Interval 20 metres
Date of Photography 14th Sept. 1974
Datum Geod. G.S.C.

Base Map drawn by Pam N. Gopal & T. Drews, (March, 1983)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROPERTY

GEOCHEMISTRY – ROCK, SILT & SOIL
Ag, Zn, Pb, Sb & Ba

SCALE 1:5000
METRES 100 50 0 100 200 300 400 METRES

NTS Ref. 92-O-1	REVISIONS
Work by G.H., T.P. & B.A.	Work by
Drawn by T.D.	Drawn by
Date Aug. 1983	Date
SHEET 4	MAP-3d

MAD 4

MAD 2

MAD 7
I226(8)

MAD 5
I224 (8)

MAD 6
I225(8)

MAD 8
I227(8)

HOGBACK MOUNTAIN

BASE LINE

1300 N
1200 N
1100 N
1000 N
900 N
800 N
700 N
600 N
500 N
400 N
300 N
200 N
100 N
0
100 N
200 N
300
400 N
500 N

UTAH MINES LTD
EXPLORATION DEPARTMENT
VANCOUVER, B.C.

SOIL SAMPLES

TP, BA, TS, DK
Ram N. Gopal
July, 1983

MAP – 4a

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

AREA DELORITE

SOIL SAMPLES

N.T.S. Ref. -	REVISIONS
Work by TP, B.A., T.S. & D.K.	Work by
Drawn by R.N.G.	Drawn by
Date Aug. 1983	Date
SHEET NO.	MAP – 4b

GEOLOGICAL BRANCH
ASSESSMENT REPORT

UTAH MINES LTD.
GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585 SOIL SAMPLES

T.P., B.A., T.S. & D.K.
R.N. Gopal
July, 1983

MAP - 4c

122°07'

122°06'

122°04'

51°05'

51°04'

MAD 3
1222(8)

MAD 4
1223(8)

MAD 2
1221(8)

MAD 1
1220(8)

LCP

1500 N

1400 N

1300 N

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROPERTY

SOIL SAMPLES

NTS Ref.	REVISIONS
Work by T.P., B.A., T.S., D.K.	Work by
Drawn by R.N.G.	Drawn by
Date Aug. 1983	Date
SHEET 4	MAP – 4d

MAD 4

MAD 2

MAD 1
(220)(8)

CAMP 4

LEON 4
(221)(8)

MAD 7
(226)(8)

MAD 5
(224)(8)

MAD 6
(225)(8)

LEON 3
(219)(8)

MAD 8
(227)(8)

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

SOIL GEOCHEMISTRY
COPPER (ppm)

T.P., B.A., T.S. & D.K.
T.D.
Aug. 1983

MAP – 5a

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

UTAH MINES LTD.
EXPLORATION DIVISION
VANCOUVER, B.C.

SOIL GEOCHEMISTRY
COPPER (ppm)

TP, BA, TS & D.K.
T.D.
Aug. 1983

MAP – 5c

MAD 4

MAD 7
1226 (8)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROPERTY

SOIL GEOCHEMISTRY
COPPER (ppm)

DRAWN:	TP, BA, TS & DK
TRACED:	T.D.
DATE:	Aug 1983
APPROVED:	
SCALE:	
DATE:	

MAP - 5b

122°04'

51°05'

51°04'

MAD 3
1222(8)

MAD 4
1223(8)

MAD 2
1221(8)

MAD 1
1220(8)

LCP

Copper & (Lead) in ppm

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

MAD PROPERTY

SOIL GEOCHEMISTRY
COPPER & LEAD

SCALE 1:5000

N.T.S. Ref. 92-O-11	REVISIONS
Work by T.P., B.A., T.S. & D.K.	Work by
Drawn by T.D.	Drawn by
Date Aug. 1983	Date
SHEET 4	MAP 5d

MAD 4

MAD 3

MAD 7
1226(8)

MAD 5
1224 (8)

MAD 6
1225(8)

MAD 8
1227(8)

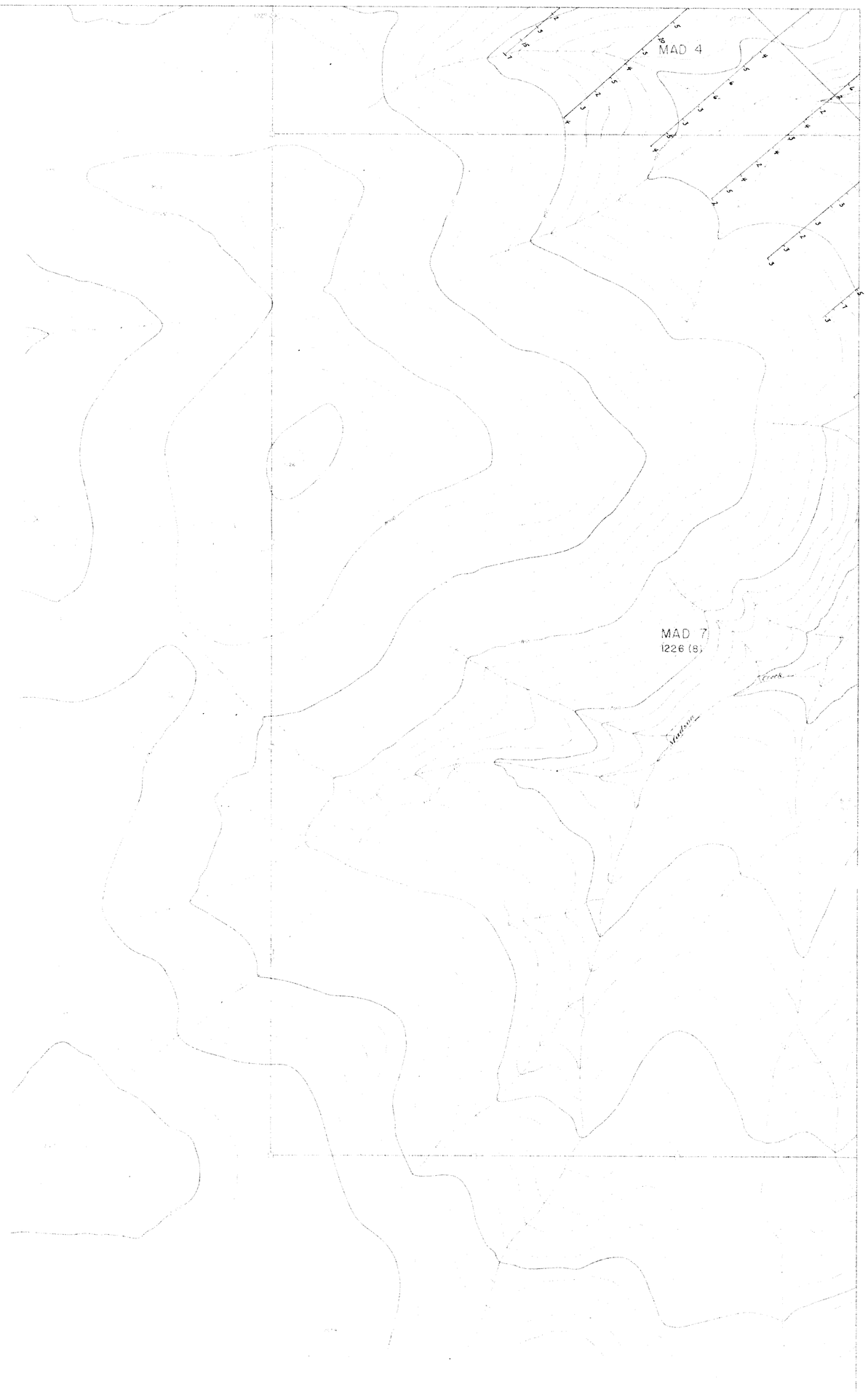
HOGBACK MOUNTAIN

UTAH MINES LTD.

SOIL GEOCHEMISTRY
ARSENIC (ppm)

T.P., B.A., T.S. & D.K.
T.D.
Aug. 1983

MAP – 6a



SHEET INDEX

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

MAD PROJECT

SOIL GEOCHEMISTRY
ARSENIC (ppm)

N.T.S. Ref.	Revised Date
Work By: T.P., B.A., T.S. & D.K.	Work By:
Drawn By: T.D.	Drawn By:
Date: Aug. 1983	Date:

MAP - 6b

MAD 9
(228(8)

MAD 3
(222(8)

MAD 4
(224(8)

11,585

UTAH MINES LTD
EXPLORATION DEPARTMENT
VANCOUVER

SOIL GEOCHEMISTRY
ARSENIC (ppm)

T.P., B.A., T.S. & D.K.
T.D.
Aug. 1983

MAP-6c

122°04'

122°00'

51°05'

51°04'

MAD 3
1222(8)

MAD 4
1223(8)

MAD 2
1221(8)

MAD 1
1220(8)

Watson Bar Creek

LCP

Arsenic & (Antimony) in ppm

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

MAD PROPERTY

SOIL GEOCHEMISTRY
ARSENIC

N.T.S. Ref.	REVISIONS
Work by T.R, B.A, T.S. & D.K.	Work by
Drawn by T.D.	Drawn by
Date Aug. 1983	Date
SHEET 4	MAP – 6 d

MAD 4

MAD 2

MAD 1
(220(8)

CARLYN 1

LEON 4
(93(8)

MAD 7
(226(8)

MAD 5
(224 (8)

MAD 6
(225(8)

LEON 3
(95(8)

MAD 8
(227(8)

HOLLAND MOUNTAIN

Gold & (Mercury) in ppb

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

UTAH MINES LTD.
EXPLORATION DEPARTMENT

SOIL GEOCHEMISTRY
GOLD & MERCURY

TP, BA, TS & D.K
T.D.
Aug 1983

MAP – 7a

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER, BRITISH COLUMBIA

SOIL GEOCHEMISTRY
GOLD (ppb)

N.T.S. Ref.		Revisions	
Work by	T.P., B.A., T.S. & D.K.	Work by	
Drawn by	T.D.	Drawn by	
Date	Aug. 1983	Date	

MAP – 7b

MAP 9
(228(8)

MAP 3
(222(8)

MAP 4
(223(8)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

UTAH MINES LTD.
EXPLORATION DEPARTMENT

11,585

MAP PROJECT

SOIL GEOCHEMISTRY
GOLD (ppb)

TP, BA, TS & D.K.
T.D.
Aug. 1983

SHEET 5

MAP - 7c

MAD 3
1222(8)

MAD 4
1223(8)

MAD 2
1221(8)

MAD 1
1220(8)

LCP

51°05'

51°04'

122° 04'

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,585

Gold & (Mercury) in ppb

SHEET INDEX

UTAH MINES LTD.
EXPLORATION DEPARTMENT
VANCOUVER BRITISH COLUMBIA

MAD PROPERTY

SOIL GEOCHEMISTRY
GOLD & MERCURY

SCALE 1:5000
100 METRES

NTS Ref. 92-O/	REVISIONS
Work by T.P., B.A., T.S. & D.K.	Work by
Drawn by T.D.	Drawn by
Date Aug. 1983	Date
SHEET 4	MAP-7d