GEOLOGICAL AND GEOCHEMCIAL SURVEY REPORT

on the

TENAS CREEK PROPERTY

(HORSES ASS CLAIMS)

LILLOOET MINING DIVISION

LATITUDE 50°30'N LONGITUDE 122°45'W

NTS 92J/7W,10W
92J/7E,10E

OWNER	K. W. Livingstone
OPERATOR	GEO-EX RESOURCES LTD.
CONTRACTOR	JMT SERVICES CORP. 8827 Hudson Street Vancouver, B.C.
WRITTEN BY	W. A. Howell

TABLE OF CONTENTS

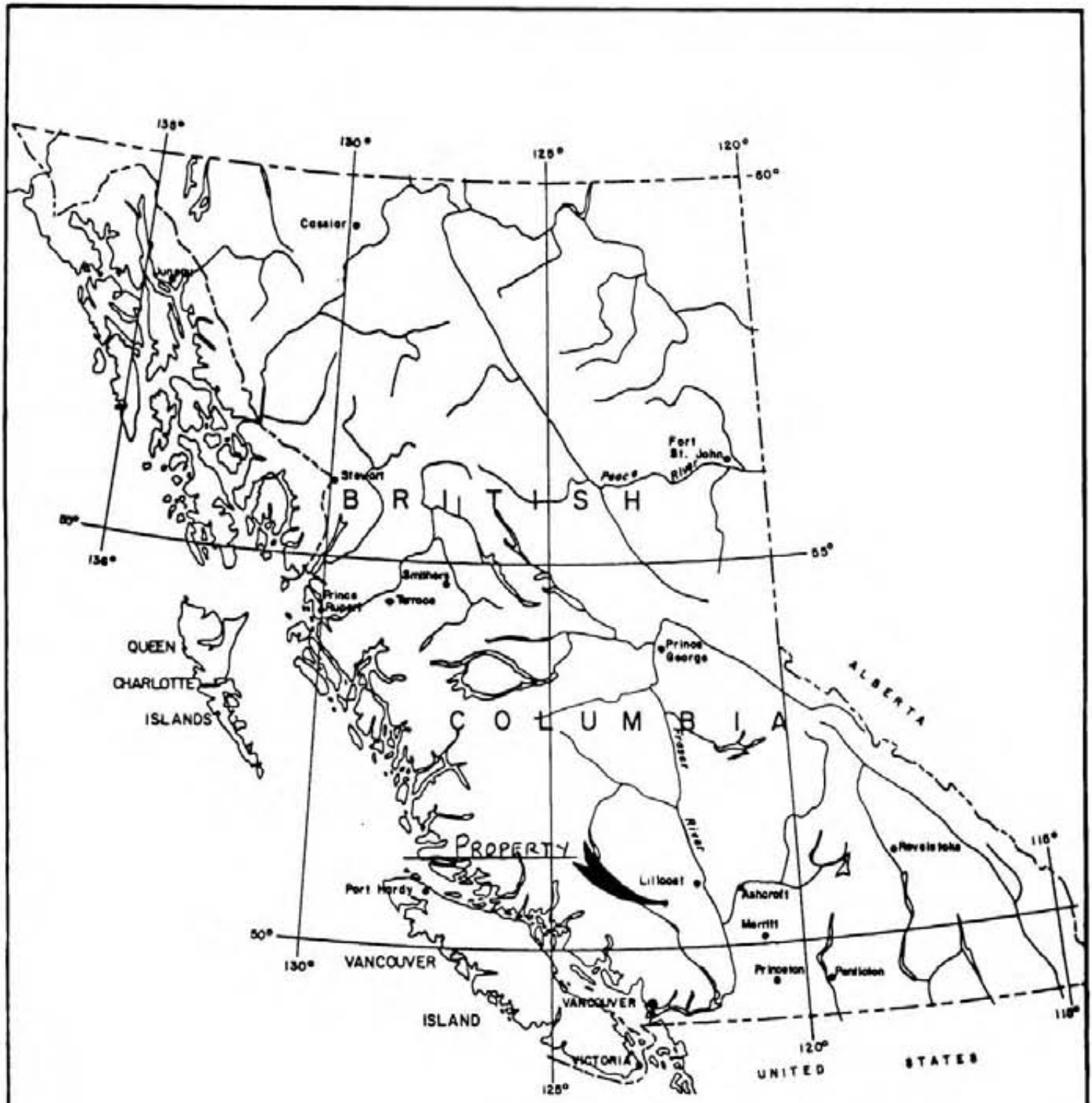
LIST OF ILLUSTRATIONS

SUMMARY

The Tenas Creek Property is situated in the Lillooet mining district near the junction of Tenas Creek and the Birkenhead River. Easy road access exists to the property from Pemberton, B.C. The area is of interest because of a large pyritic, altered and gossanous zone along Tenas Creek that is geochemically anomalous in As, Au, Zn and Cu. The regional geological setting has also been demonstrated to be favourable for massive sulphide deposits and is presently being successfully explored for precious metals (eg Rhyolite Resources).

Programmes consisting of continuation of a basic geological and geochemical evaluation (Stage I) and an electromagnetic survey with detailed geochemical follow-up (Stage II) are warranted for the property. The recommended Stage I programme is estimated to cost $24,000. The recommended Stage II programme is estimated to cost $38,000.

If Stage I and Stage II produce significant exploration targets and an independent engineer recommends proceeding, then a Stage III trenching and diamond drilling programme will be warranted. An initial 610 metre drilling programme, trenching, and site preparation is estimated to cost $140,000.



JMT SERVICES CORP

FIG 1

PROPERTY LOCATION MAP

136 mi. 0 136 mi.

SCALE

Prepared by: Drawn by:	Date: Revised:	N.T.S. MAP AREA	DRAWING No.

INTRODUCTION

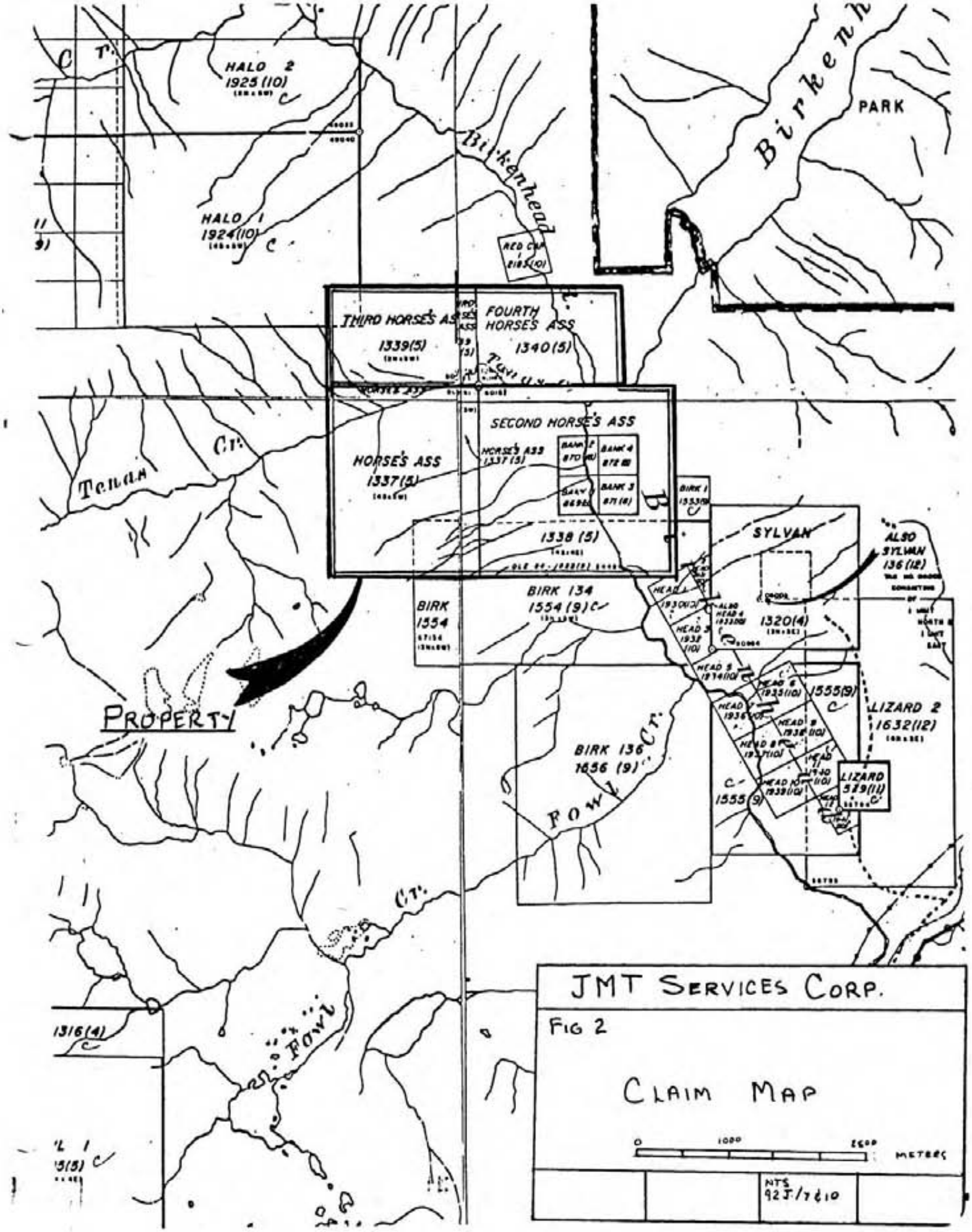
The Tenas Creek Property was examined by the writer on May 17, 1983 at the request of Morgain Minerals Inc. The purpose of the examination was to review the geological setting of the Tenas Creek Property in order to recommend an appropriate programme for testing the mineral potential of the property. Based on a one day property examination, review of assessment reports, and previous examinations of other properties in the same geological belt, the writer has recommended an initial, two stage geological, geochemical and geophysical programme, and suggests that a Stage III trenching and diamond drilling programme is contingent on favourable results during Stage I and II.

LOCATION AND ACCESS (Figure 1 and II)

The property is situated in NTS Map sheets 92J/7E,7W, 10E and 10W and straddles Tenas Creek and the Birkenhead River near their junction. Access is by approximately 8 miles (12.0 km) of gravel road from Gramson's Siding on the B. C. Railroad. Gramson's Siding is reached via paved highway from Vancouver to Pemberton and then northward along the Pemberton-D'Arcy road approximately 20 miles (32.2 km).

PROPERTY DEFINITION

The Tenas Creek Property, consisting of the four Horses Ass claims totalling 40 units was staked using the modified grid system. The writer has examined the legal corner post and identification posts: OS and ON, 1E, OS and ON, 2E, and OS and ON, 3E for the claims. The legal corner post, identification posts and sections of the claim lines examined all comply with the mineral act. Pertinent claim data is summarized in Table I. The claim shown on Figure II from Bitish Columbia Government Mineral Claim maps NTS 92J/7E, 7W, 10E and 10W is believed to represent a reasonable location of the Tenas Creek property.


HALO 2
1925 (10)
HALO 1
1924 (10)
Birkenhead
PARK
THIRD HORSE'S ASS
1339(5)
FOURTH HORSE'S ASS
1340(5)
SECOND HORSE'S ASS
HORSE'S ASS
1337(5)
1338 (5)
SYLVAN
ALSO SYLVAN
136 (12)
1320(4)
BIRK 134
1554 (9)
BIRK
1554
PROPERTY
BIRK 136
1556 (9)
1555(9)
LIZARD 2
1632(12)
LIZARD
529(11)
1316(4)
JMT SERVICES CORP.
FIG 2
CLAIM MAP
0
1000
2000
METERS
NTS
92 J/7 & 10

PERTINENT CLAIM DATA

TABLE II

CLAIM NAME	TAG #	RECORD #	DATED RECORDED	UNITS	OWNER
HORSES ASS	60181	1337 (5)	May 13, 1980	12	K. W. Livingstone
SECOND HORSES ASS	60182	1338 (5)	"	16	"
THIRD HORSES ASS	60183	1339 (5)	"	6	"
FOURTH HORSES ASS	60184	1340 (5)	"	6	"

HISTORY

Old exploration workings indicate that the Tenas Creek Property has experienced mineral exploration activity for at least a half century. Old claim posts and several sets of more recently tagged posts indicate intermittent activity on the property in more recent times. An established baseline and cut grid is believed to be about 10 years old.

A programme of trenching was completed in 1969 on ground held as the BASK 1-10 claims which straddled the Birkenhead River south of the Horses Ass claims. A brief discussion of these claims and trenches is contained in Assessment Report #4230 by J. Foster, Engineering and Management Services Ltd. for Home Exploration Ltd., dated 1969.

The claim area was first investigated by JMT geologist in 1977, as a consequence of regional exploration for massive sulphides in the area. Reconnaissance soil and silt samples and prospecting indicated an area of interest around Tenas Creek. In the spring of 1980, the present claims were staked to cover an area of massive sulphide potential. JMT Services conducted geochemical surveys over parts of the claim area in 1981 and 1983. Morgain Minerals Inc. acquired the property from Geo-Ex Resources Ltd. in May 1983.

TOPOGRAPHY AND VEGETATION

Topographic relief on the property ranges from elevation 2,000 feet (600 m) along the Birkenhead River to 5,500 feet (1,700 m) on the southwestern boundary of the claims.

The claims are roughly bisected north-south by the Birkenhead River and east-west by Tenas Creek.

Slopes range from gently rolling in Birkenhead Valley to steeply wooded on the higher slopes. Tenas Creek has locally formed a precipitous canyon with several waterfalls between 2m and 20m in height.

Vegetation is generally quite 'open' with jackpine, and little underbrush on the lower to intermediate slopes where drainage is good and the underlying soil is, for the most part, gravelly tills. A few local areas support well developed stands of cedar and fir. Locally, particularly on the higher, steeper slopes in the southwestern portion of the claims are the scars of old avalanches. These areas are presently overgrown with alder, willow, and birch, a variety of shrubs, and, along the water courses devil's club is not uncommon.

Limited logging has taken place on the east side of the Birkenhead River within the claims and recent logging has taken place (1981) north and north-west of the property.

GEOLOGY

REGIONAL GEOLOGY

A pendant of Triassic age rock extends from the B. C. Railway north and west of Pemberton to approximately Tenquille Lake, the pendant is composed of tuffs, argillites, limestones agglomerates and their medium grade metamorphic equivalents.

The pendant is contained within plutonic rocks of the coast crystalline complex, with diorite to granodiorite most common and lesser amounts of quarts monzonite to granite recognized. (Roddick and Hutchison, 1973). Local skarns may be developed close to the intrusive contacts.

The regional geology has been compiled and remapped on the Pemberton Map Sheet by G. Woodsworth of the Geological Survey of Canada.

GENERALIZED PROPERTY GEOLOGY

The claims are underlain by andesitic volcanic breccias, rhyolite, argillite and minor limestone of the Upper Triassic Pioneer Formation. These have been intruded on the west part of the claims by granodiorite. Gossanous bedrock exposed in Tenas Creek is predominantly pyritic and argillic or propyllitic altered andesite and rhyolite.

Detailed mapping of the property has not yet been completed. Outcropping bedrock is scarce over the lower to intermediate valley slopes and sparse at best over the upper slopes. The lower areas appear to be mantled with a gravelly till believed to be up to a few tens of feet thick, as suggested by drainage incision patterns and thicknesses observed along Tenas Creek.

The lower portion of Tenas Creek and the area around its confluence with the Birkenhead River appears to be a locally substantial boulder-gravel outwash fan, with the present Tenas Creek having cut into its own alluvium.

MINERALIZATION

The property covers a gossanous zone which reflects a pyrite content of up to at least several percent. Adjacent to the southern bank of Tenas Creek, a blasted pit reveals bedrock exposures containing minor sphalerite and chalcopyrite in a layered chloritic, epidote rich skarn zone. The projection of this zone at Tenas Creek has been explored by adits and pits which were inaccessible because of high water.

GEOCHEMISTRY

Anomalous geochemical values for zinc in regional reconnaissance silt samples from Tenas Creek lead to acquisition of the property. Follow-up silt, soil and rock sampling has led to a large soil anomaly for zinc with indication of possible associated gold, silver and copper. Arsenic, a significant pathfinder for gold mineralization, shows a pattern of spot highs. Lead is generally low and could be eliminated from future analyses.

Gold values in rock samples are generally anomalous with two strongly anomalous sample containing 410 ppb (83B459) and 510 ppb (83B462) gold. Pulps from samples containing anomalous values in Zn, Ag, As, or Cu should be analysed for gold.

ADDENDUM TO REPORT 83-257

SAMPLING PROCEDURE AND ANALYTICAL TECHNIQUES

A total of 104 soil samples, 11 silt samples and 20 rock chip samples were taken by two geologists and a geochemical soil sampler under geological guidance.

Soil samples were collected from the "B" soil horizon or the best approximation available, usually at a depth of 10-24 cm. Soil pits were excavated with a hand pick and an appropriate sample collected using a stainless steel scoop or spoon. The sample was placed in a gussetted kraft paper bag and shipped to the assay lab.

Silt samples were collected from active silts, i.e. not dry or stranded silt, care was taken to collect from such locations and to avoid as far as possible silts contaminated from bank soils road bed or otherwise artifically disturbed material.

The sample was collected from several places if possible, within the stream bed at each sample location. The sample was collected using a stainless steel scoop or spoon and transferred immediately to a gusseted kraft sample bag.

Rock chip samples were likewise placed in a kraft paper sample bag.

Field notes were made for each sample. Observations as to colour, granularity, moisture and general nature of the soil, grain size, stream size, and general nature of the stream bed, type of coarse float and any other relevant information about silts, rock type, structure, mineralization, alteration, and general hand specimen description, were appropriately noted for each sample collected.

Samples were analysed for arsenic and gold by Chemex Labs, 212 Brooksbank Avenue, North Vancouver, B.C.

Soil and silt samples were dried and sieved with the -80 mesh fraction retained for analysis. Rock samples were crushed and pulverized with an appropriate quantity of -80 mesh material retained for analysis. Lead, zinc, silver and arsenic dterminations were made using a perchloric/nitric acid digestion followed by a standard atomic absorption hydride finish.

Gold was subjected to a fire assay preconcentration followed by neutron activation analysis.

CORRECTION TO LEGEND Fig. 3 - Report 83-257

B-445 sample location and assay results

1, 85, 1.7, 32 Pb ppm, Zn ppm, Ag ppm, As ppm

1, 85, 1.7, 32, 10 Pb ppm, Zn ppm, Ag ppm, As ppm, Au ppb

Silver values are generally either high background or weakly anomalous (+0.5 ppm) with two strongly anomalous samples running 2.6 and 2.7 ppm. The anomalous samples show an erratic pattern.

Zinc shows the most consistently anomalous results which may reflect its mobility in heavy overburden. Over 20% of the samples contained over 200 ppm zinc and several samples exceeded 1500 ppm zinc. Howell's (1981) map showed a zinc anomaly extending roughly north-south for the entire length of the grid (about 2000 m). The limit of the anomalous values in soils should be defined.

Copper and arsenic both show erratic distribution with spot highs, but their distribution deserve further evaluation because of their value as gold pathfinder. The highest copper values in soils of 326 ppm and 100 ppm are situated at the northern and southern portions of the grid. The highest arsenic value obtained from soil and rock samples is 180 ppm.

DISCUSSION OF THE TENAS CREEK PROPERTY

The Tenas Creek property is situated in a belt of rocks that has been demonstrated to be favourable for massive sulphide deposits (e.g. near Mt. Baker, Wash.). Active exploration for massive sulphides is continuing, but more emphasis has recently been placed on the precious metal potential of acid volcanic rocks. The Fire Creek and Doctor's Point (Rhyolite Resources) areas are presently under extensive exploration programmes for precious metals.

The Tenas Creek Property represents a mineralized system that is reflected in a large gossanous zone along Tenas Creek as well as anomalous silt, rock and soil results for As, Au, Ag, Zn, and Cu. The erratic nature of anomalous values in soils probably results from a variable of till in the area. The writer feels that trenching and/or overburden drilling will eventually be needed to define geochemical patterns, but the basic geochemical geological and geophysical surveys should be completed before expensive physical programmes are undertaken.

CONCLUSIONS AND RECOMMENDATIONS

The Tenas Creek Property merits a continued evaluation in light of favourable geochemical results for both base metal (copper/zinc) and precious metal (gold/arsenic) indicators. Recent discoveries by Rhyolite Resources Inc. at Doctor's Point on Harrison Lake also suggests that rhyolite/dacite volcanic piles in the belt require re-evaluation for precious metals. A Stage I Programme consisting of extension of the grid, rock sampling and geological mapping and a Stage II Programme of follow up geochemical sampling and an electromagnetic survey over selected areas of the grid are recommended. Soil samples should be collected at 50 metre intervals on lines spaced at 100 metres with analytical results for Cu, Pb, Zn, Ag and As obtained. Pulps should be retained and analysed for gold as required. Mapping and rock sampling along Tenas Creek should be scheduled to coincide with low water levels. The grid should be extended north and south to the claim boundaries and about 300 metres added to the east side. About 250 hectares or 10 units are involved and 500 soil samples should be allowed.

Stage II should be spaced to allow time for compilation of Stage I results. Anomalous areas should be further tested by geochemical soils and if possible rock samples. An electromagnetic survey (Pulse Or Max Min II System) should be run over anomalous areas of the grid.

A Stage III trenching and diamond drilling programme is contingent on the success of Stages I and II in defining suitable targets and on an independent engineer's recommendation to proceed.

W D Harvey

BIBLIOGRAPHY

HOWELL, W. A. 1981 Geochemical Survey Report on The Tenas Creek Property for JMT Services Corp.

CHRISTOPHER, P. A. 1983 Report on The Tenas Creek Property (internal report)

RODDICK, J. A. and HUTCHISON, W. W. 1973 Pemberton Map Area 92J 3½; G.S.C. Paper 73-17 Map 13-1973

COST ESTIMATES - STAGE I

Geological, geochemical and consulting wages	$ 6,950
TRANSPORTATION	
Vehicle Rental	840
ROOM AND BOARD	1,360
GEOCHEMISTRY	
Soil and rock geochemical assays	6,750
CONSUMABLES	800
RENTALS	500
REPORT PREPARATION	
Consulting and evaluation of Stage I	2,000
Report preparation including drafting, supplies, reproduction	1,600
	$20,800
Contingency	3,200
TOTAL STAGE I	$24,000

COST ESTIMATES - STAGE II

SURVEYS — GEOCHEMICAL DETAIL AND GEOPHYSICS

Geochemical, geological consulting wages	$ 5,450
Geophysical Survey, includes reporting, vehicle, equipment, etc.	15,000
TRANSPORTATION	
Vehicle rental	900
ROOM AND BOARD	2,800
GEOCHEMISTRY	
Geochemical and fire assays include some plasma analyses	3,825
CONSUMABLES	500
RENTALS	500
REPORT PREPARATION	
Consulting and evaluation of Stage II	2,500
Report preparation including drafting, supplies, reproduction	1,500
	$32,975
Contingency	5,025
TOTAL	$38,000

COST ESTIMATES - STAGE III

TRENCHING - DIAMOND DRILLING
(Contingent on results of Stages I and II and independent engineers recommendations)

Bulldozer, trench sampling and supervision		$ 15,000
Diamond drilling	610 metres @ $175 each all inclusive	103,700
		$118,700
	Contingency	21,300
	TOTAL	$140,000

STAGE I	$ 24,000
STAGE II	38,000
STAGE III	140,000
TOTAL	$202,000

STATEMENT OF COSTS

Pre May 13, 1983

Wages - W. A. Howell, geologist	May 11-13	3 days @ $250		$ 750.00
Martin Kroll, assistant	May 11-13	3 days @ $150		450.00
				1,200.00

Post May 13, 1983

Wages - W. A. Howell, geologist	May 14,17,18	3 days @ $250		750.00
P. Christopher,geologist	May 17,18	2 days @ $325		650.00
Martin Kroll,assistant	May 14	1 day @ $150		150.00
				1,550.00

DISBURSEMENTS	
Food & lodging, 15 mandays @ $40	600.00
Truck rentals, 6 days @ $75.00(incl. gas, mileage & ins.)	450.00
Geochemical assays (Chemex)	1,184.05
Supplies consumed	75.00
Drafting & Typing	250.00
Report preparation and reproduction	1,700.00
	4,259.05

Pro rata distribution of costs

Pre May 13	50%	$2,129.52		
Post May 13	50%	$2,129.52		
		Total Pre May 13		3,329.52
		Post May 13		3,679.53
			GRAND TOTAL	$7,009.05

These costs are referred to in Statements of Exploration and Development filed May 13, 1983 in Vancouver, B.C. and June 24, 1983 also in Vancouver.

STATEMENT OF QUALIFICATIONS

I, WILLIAM A. BOWELL, do hereby certify that:

1. I am a professional geologist working in British Columbia and residing at 10611 Ainsworth Crescent, Richmond, B.C. V7A 3V5

2. I am a graduate of the University of British Columbia, Bachelor of Science (Geology) 1971.

3. I have been employed in the mineral exploration industry since 1967 and have practiced my profession as a geologist since 1971.

4. I am a member of the Geological Association of Canada.

5. This report is based on my personal knowledge of the district and the mapping and sampling done on the property.

W. A. Bowell

W. A. Bowell, B.Sc.

JMT SERVICES CORP.

TENAS CREEK PROPERTY

HORSES ASS CLAIMS

LILLOOET MINING DIVISION NTS 92 J/7,10

GEOCHEMISTRY MAP

Pb, Zn, Ag, As, & Au

SCALE 1:2500

0 25 50 75 100 125

METERS

FIG. 3

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,399

14 E | 15 E | 16 E | 17 E | 18 E | 19 E | 20 E | 21 E | 22 E | 23 E | 24 E | 25 E

33N | 32 N | 31N | 30N | 29N | 28N | 27N | 26N | 25 N | 24 N | 23 N | 22 N | 21 N | 20 N | 19 N | 18 N | 17 N | 16 N | 15 N | 14 N

LEGEND

- Soil sample site
- Silt sample site
- Rock sample site
- Geological contact — Defined, assumed
- (F) Float
- Rock outcropping
- Blast pit or trench or tailings
- 60° Bedding
- Claim post
- Claim boundary
- Adit
- 30 Shear or fault attitude
- B 445 1,85,1,7,32 Sample location number and assay results Pb, Zn, Ag, As, Au ppm, ppb.

N

Approximate limit of significant overburden

Approximate western limit of significant overburden

Old OS cut line

Old SS line

Old 25 S line

Old 35 S line

Old Blue Flag line

Old cut line

Old O+OC cut line

TENAS CREEK

gravel hills

Old Grid 5 S 4 W

Old C.P. OWL 6

LCP 1339 (5) LCP

LCP 1340 (5) LCP

LCP 1337 (5) LCP

LCP 1338 (5) LCP