862434

HARTLEY SILVER MINES LTD.

OTTER MOUNTAIN PROPERTY

SKEENA MINING DIVISION

British Columbia
56°00', 129°46'

NTS 104 A - 4W and 4E
103 P - 13 E

September 1984

by: R.H. JANES P.Eng.

CONTENTS

CERTIFICATE

I, Richard H. Janes of Vancouver, British Columbia, do hereby certify:

1. That I am an independent qualified geologist with an office at 907 - 675 West Hastings Street, Vancouver, B.C.

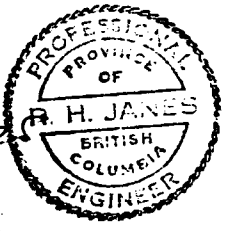
2. That I am a registered Professional Engineer in the Province of British Columbia.

3. That I have practiced my profession for 28 years.

4. That I have no direct, indirect or contingent interests in Hartley Silver Mines Ltd. or in the mineral claims described or in any mineral claim within sixteen kilometres of the boundaries of the mineral claims described.

5. That I visited the claims in September 1984.

R.H. Janes



R.H. JANES, P.Eng.

September 28, 1984

INTRODUCTION, LOCATION AND ENVIRONMENT

Mr. Westley Scott of Hartley Silver Mines Ltd. requested Janes to report on the geology and economic potential of the Montreal and Pam Mineral Claim groups located on Otter Mountain. Janes arrived on the claims at 1:45 pm September 6 and departed 5 pm September 7. Weather was good until early pm on the 7th. Stephen Fegan of Hartley Silver Mines Ltd. acted as guide.

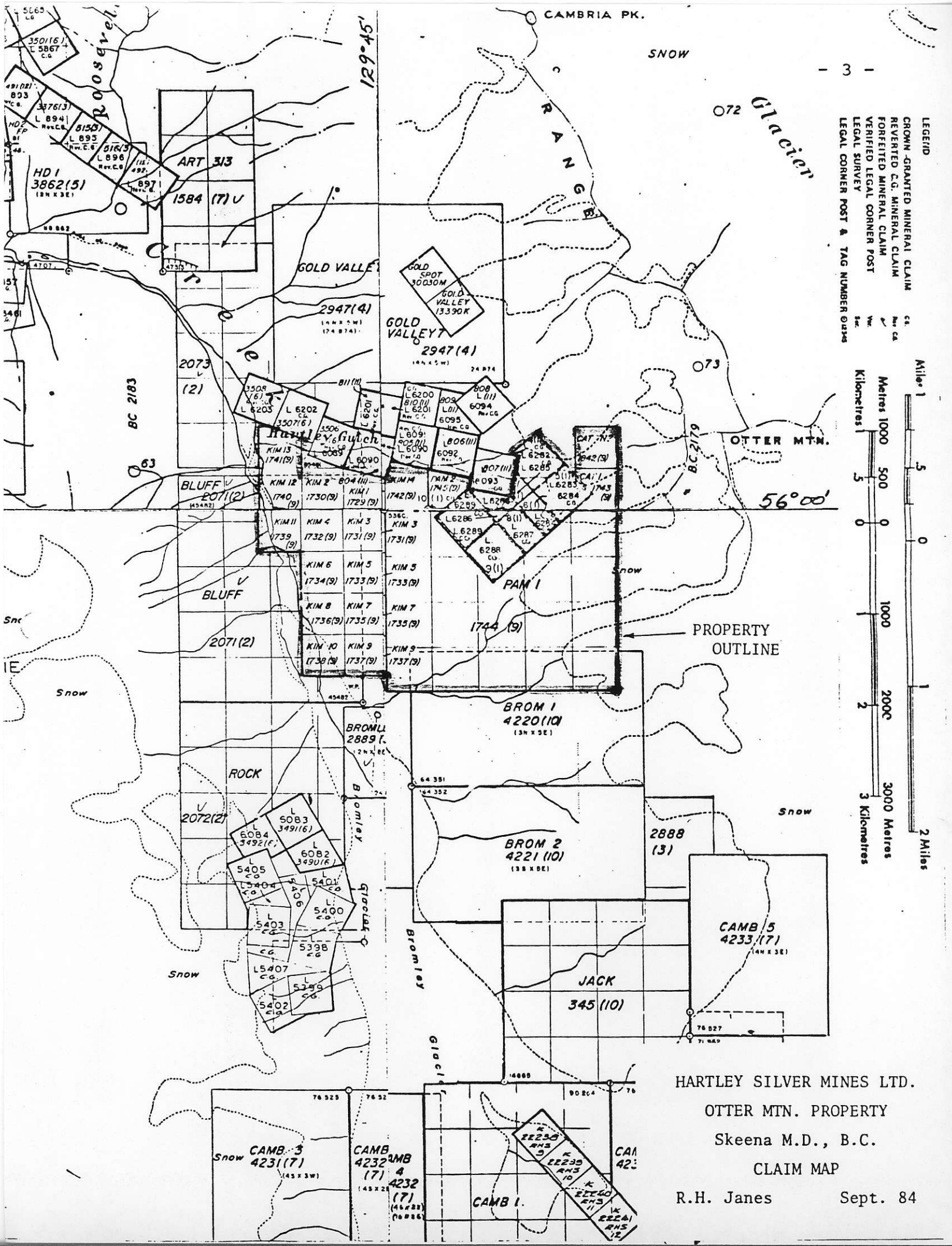
Seven reverted crown grants, fourteen two-post mineral claims and four mineral claims together composing twenty-three units comprise the property. A detailed description of these and other claims makes up Appendix I.

The property is located in the Cambria Range of the Coast Mountains. It straddles Hartley Guleh, situated on the western slope of Otter Mountain, and is between 16 and 19 kilometres east northeast of Stewart and between an elevation of 1100 and 6500 feet. Access is currently by helicopter from Stewart. A logging road in fair to poor condition branches off from highway 37A at Bitter Creek and follows this creek. It terminates at an elevation of about 1000 feet some three to four kilometres from the showings. Road distance from Stewart to road termination is approximately 22 kilometres.

Tree line at the property varies around 3300 feet, above this elevation vegetation is sparse. Snowfall is probably greater than 300 inches a year. Surrounding tongues of the Cambrai Glacier have a pronounced effect on the area.

Stewart is predominantly a mining town. Population has varied between 600 and 1000 people according to mining activity. It has the usual facilities and is serviced by road, sea and air.


SCALE 1 : 2 500 000
kilometres 20 0 20 40 60 80 100 120 140 160 180 200 kilometres
1 INCH EQUALS APPROXIMATELY 40 MILES
ELEVATIONS IN METRES ABOVE SEA LEVEL
HARTLEY SILVER MINES LTD.
OTTER MTN. PROPERTY
Skeena M.D., B.C.
LOCATION MAP
R.H. Janes Sept. 84



HARTLEY SILVER MINES LTD.

OTTER MTN. PROPERTY

Skeena M.D., B.C.

CLAIM MAP

R.H. Janes Sept. 84

CONCLUSIONS AND RECOMMENDATIONS

1. Narrow, less than 0.3m east-west striking shears are filled with variable amounts of quartz, carbonate, less sphalerite, galena and tetrahedrite, var. freibergite. The sulphide content of the shears examined is not believed to be of sufficient quantity to support tunnelling or 'high-grading' if helicopter transport is used.

2. Disseminated sulphide mineralization was observed in vein wall rocks at a few locations. It is recommended that where the shears carry sulphides both wall rocks and the vein be sampled separately. Short drill holes employing the drill rig left on the property would be adequate. Three or four of the larger veins of the Main Showing should be tested with at least one hole. Up to a metre of wall rock on either side of the vein should be tested so required hole length is at least 5m. assuming setups are on outcrop. Core size should be the maximum practical.

3. For the Trench Showing a vertical hole to test the number of parallel veins present and associated mineralisation is recommended. Collar in the trench at either sample location 1 or 3. Hole depth dependent on what is found and capability of equipment.

4. At Showing No. 3 surface prospecting to locate the postulated adjacent shear is recommended.

5. At the Glacier Showing continuous chip sampling across the 'ladder vein' system is recommended. A drill hole through the shear and ladder veins is desirable but possibly beyond the capability of the drill available.

6. The area suggested as the former location of the Old Chum Group is recommended for prospecting plus any other areas of the claims not recently prospected.

7. The Bon Accord Group cover showings which are believed to be similar to those on the subject claims and both areas may be part of a mineralizing system in which the precious and base metals are zoned, with gold and copper occurring below silver, lead and zinc. Precious metal mineralization on the Bon Accord Group, according to published reports, merits further assessment.

R. H. Janes

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
R. H. JANES

RECOMMENDED PROGRAM AND ESTIMATED COST

A program is recommended which might be enlarged if results so justify.

Drilling:

Main showing: 4 5m holes

Trench showing: 1 15m holes

Glacier showing: 1 30m holes

Above requires 5 days drilling, 4 days moving by hand, 9 hours helicopter time for long drill moves, 4 days for drill upgrading and maintenance. Total 16 days.

Other:

Prospecting and cutting trail to Bitter Creek road:	10 days
Travel	4 days
Weather and rest	6 days
	20 days
Program Total	**36 days**

Driller, 36 days @ $150/d. plus 15% for W.C. etc.	$ 6,210
Helper, 36 days @ $100/d. plus 15% for W.C. etc.	4,140
Food, camp supplies and helicopter servicing @ $55/day per man	3,960
Helicopter, 9 hours @ $600/hour	5,400
Drill parts and supplies	2,500
Crew travel to and from Vancouver	1,000
Assays 50 @ $15 each	750
Geologist to examine and sample cores, etc., 7 days @ $400/day plus report and expenses	3,500
Total	27,460
Plus 10%	2,746
	30,206
Say	**$30,000**

Should initial drill results be encouraging then the drill program might be expanded 4 holes per vein at the Main Showing and 2 holes at the Trench Showing. This uld extend the proogram 10 days and increase overall cost by approximately 000.

R. H. Janes

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA R. H. JANES

HISTORY AND WORK DONE

According to Minister of Mines, B.C., Annual Reports Hartley Gulch has been the scene of prospecting since at least 1910 when Messrs. Lydden, Lade and Harkley staked the L.L. & H. and Old Chum Groups. These were located at an elevation between 3000 and 4000 feet. Underground work on the L.L.& H. commenced in 1911 and continued intermittently until 1940. In that time some 900 feet or more of tunnels were driven on two levels. The L.L.& H. Group was restaked as the Bon Accord Group in October 1944. Tenajohn Mines Ltd. optioned the claims in 1982 and put in a drill hole.

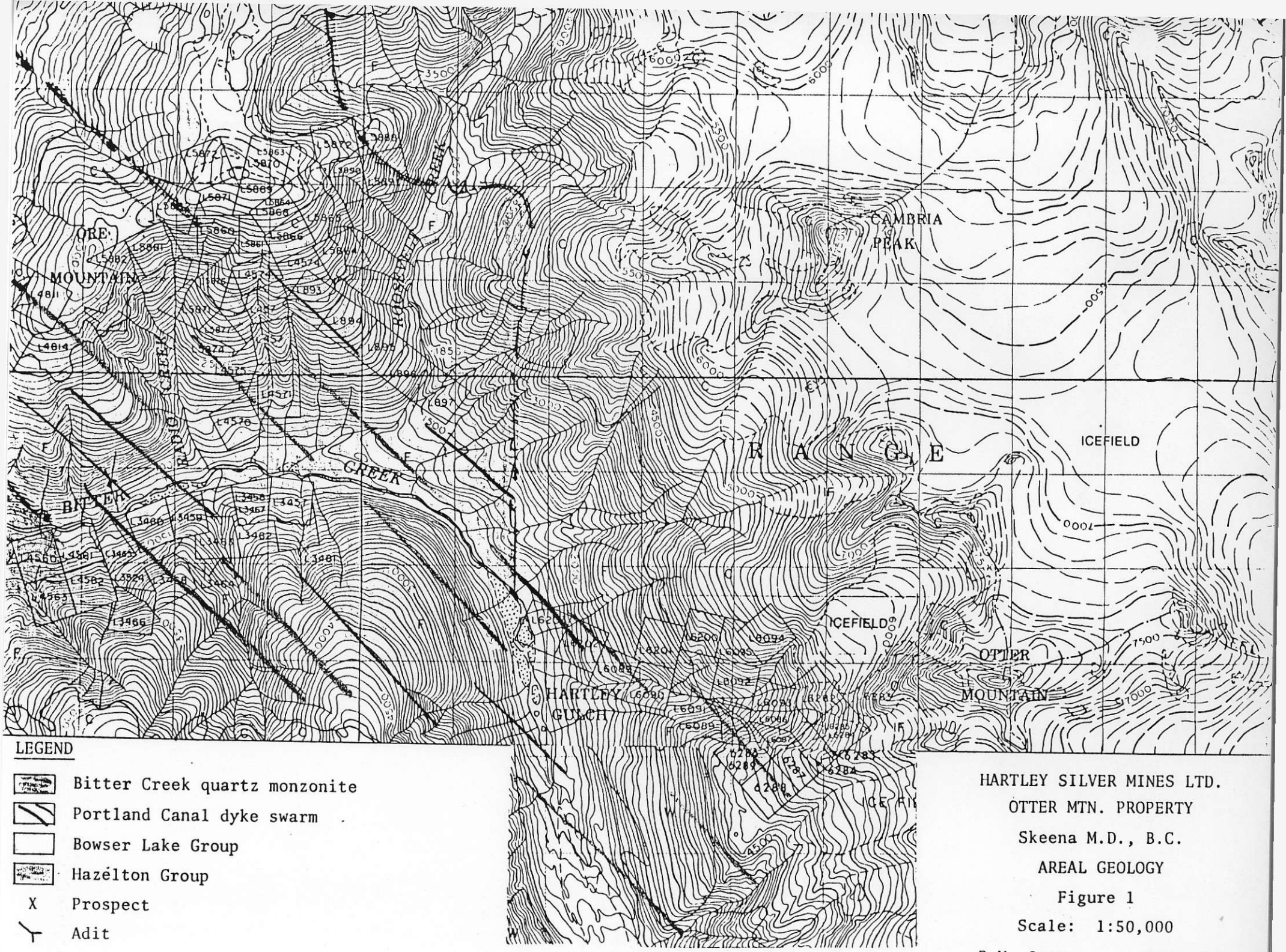
The Bon Accord claims adjoin the northern boundary of the Montreal claim group. The location of the Old Chum group is uncertain. The Montreal group which forms the core of the subject claims is mentioned only in the Minister of Mines, B.C., Annual Report, 1946. Trenching commenced in 1945 and the claims were surveyed in 1949. Messrs. Hepson and Fegan sent 4810 lbs of selected material from the property to Trail, B.C. in 1965. HSMl acquired the Montreal group in 1979. Since then Messrs. Fegan and Scott have prospected, trenched, drilled a few short holes using an X-ray drill and built a cabin near the north corner of Lot 6288 at elevation 5200 feet. J.T. Neelends, Du Pont of Canada Exploration Limited, examined and sampled the claims August 1982. Some of his results are quoted.

REGIONAL GEOLOGY

The region is underlain by a north-northwest trending belt of folded volcanic rocks, correlative with Hazelton Group of Lower to Middle Jurassic age. This contains a later sedimentary sequence, correlative with Bowser Lake Group of Middle to Upper Jurassic age. These rocks are intruded by stocks and extensive dyke swarms, both chiefly composed of granitic rock. To the west the volcanic rocks abut against the stocks and batholiths of the Coast Plutonic Complex.

The volcanic rocks are composed principally of dark green andesitic tuffs. The sedimentary rocks are composed of interbedded tuffs and epiclastic sediments.

Numerous mineral deposits occur. Three or four were or are of major importance. The Silbak Premier deposits are high grade probable epithermal precious metal veins hosted either in networks of reticulate quartz veinlets or in silica-flooded zones both spatially associated with the "Premier porphyry." The Big Missouri deposits consists of many small precious metal-rich bodies in andesitic tuffs. These bodies are interpreted to be stratabound syngenetic quartz-carbonate lenses which host semi-massive pyrite with gold-silver values. The Prosperity/Porter Idaho and Silverado deposits consist predominantly of parallel shear zones variably mineralized. The strongly mineralized sections of the shear structures carry a complex of massive sulphides and quartz up to two metres wide. Most commen sulphides are argentiferous galena and sphalerite, lesser quantities of various silver bearing minerals are present. Wall rock marginal to the massive sulphides is mineralized and may constitute ore for several metres either side of the vein.



LEGEND

- Bitter Creek quartz monzonite
- Portland Canal dyke swarm
- Bowser Lake Group
- Hazelton Group
- X Prospect
- Adit

HARTLEY SILVER MINES LTD.
OTTER MTN. PROPERTY
Skeena M.D., B.C.
AREAL GEOLOGY
Figure 1
Scale: 1:50,000
R.H. Janes Sept. 84

GEOLOGY AND MINERALIZATION IN AREA OF HARTLEY CREEK AND SUBJECT CLAIMS

The claims are underlain by andesitic volcanic rocks, chiefly tuffs, and volcanic epiclastics. Attitudes are northwesterly and northerly with easterly dips. These rocks may correlate with the Bowser Lake Group. A number of parallel granitic dykes, part of the Portland Canal dyke swarm, crop out on both sides of Bitter Creek (photo). Several of these dykes, a metre or less wide, traverse the claims. Attitudes tend to follow that of the host. Four showings were examined. These are Main or No. 1, Trench or No. 2, No. 3 and Glacier or No. 4. Approximate locations are shown (Fig.2). Notes on the Old Chum Group & Bon Accord claims are added.

Main Showing, Figure 3.

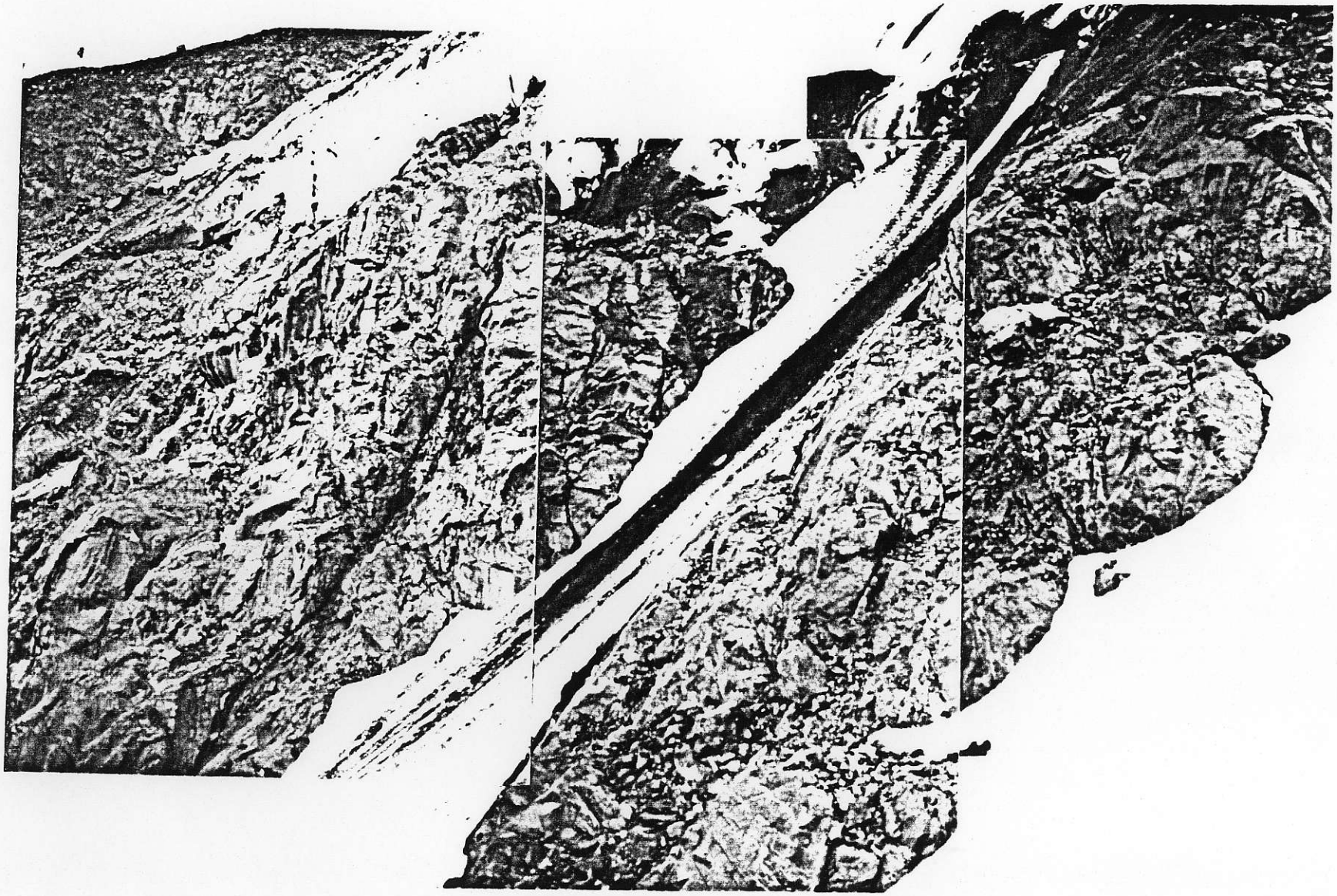
A number of variably mineralized shears occupy an east-west trending zone which traverses a prominent rock knob situated just below and south of an ice tongue from the adjacent Cambria Icefield. The zone is here well exposed and at the foot of the knob has an estimated width of 90 metres (photos). Host is dark green massive volcanic, probably an epiclastic. Rounded fragments up to cobble size occur in a matrix dominant rock. Matrix is fine to medium grained, some possible felspar phenocrysts and weak disseminations of pyrite were observed.

The shears are of variable attitude and width though the stronger shears tend to strike east-west and have steep dips. Subsidiary minor tension fractures are frequent. The shears are variably filled milky quartz, less carbonate and wall rock fragments, sometimes comminuted. Infrequent masses and disseminations of light brown sphalerite, argentiferous galena and less tetrahedrite are present. The largest mineralized shear as advised by S. Fegan occurs in the snow filed draw below the glacier and was not examined (photo).

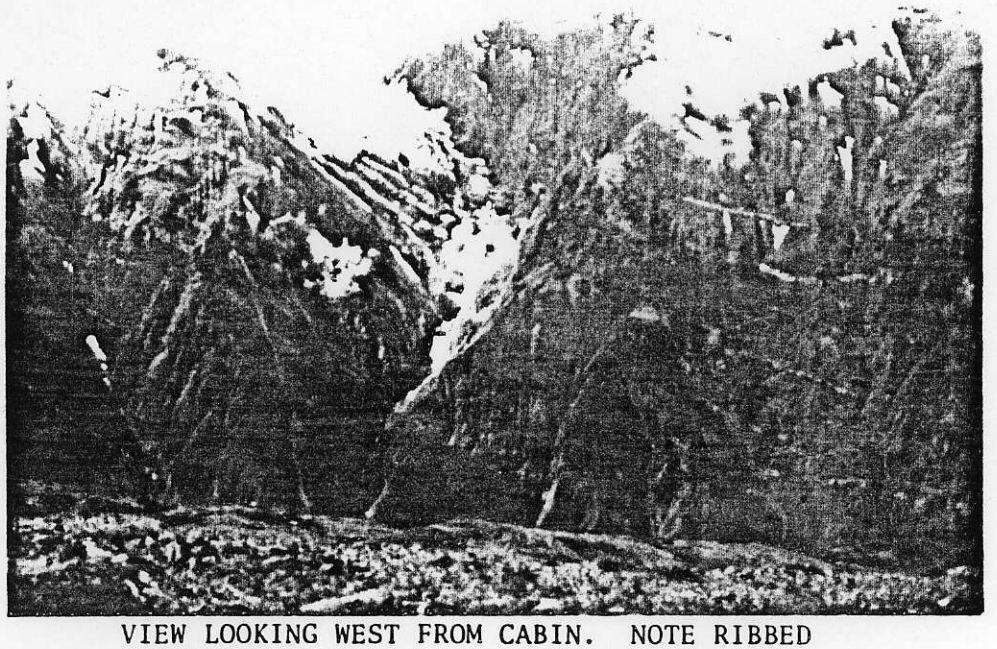
The wall rocks and zone generally have a noticeable orange tint due, it is believed, to weathering of carbonate alteration products. An orange brown oxidation product, presumably limonite, coats vein carbonate. Sphalerite and galena were not noticed in the wall rocks. Rough chip samples, in five metre sections, were taken across the zone (photo) and vein material avoided. All samples returned low values (Table 1).

Trench or No. 2 Showing, Figure 4

Two parallel mineralized shears are well exposed by an extensive "F" shaped trench (photo). Here the slope of the hillside conforms with the attitude of the shears. The shears are from 1.4 to 1.7 m apart, contained mineralization is similar to that at the Main Showing. Footwall of the lower shear shows strong carbonate alteration and carries disseminated tetrahedrite for some 30 cms. The hanging wall shows carbonate alteration for about 15 cms. above the shear. Subsidiary narrow (0-1 cm) quartz filled tension fractures occur.

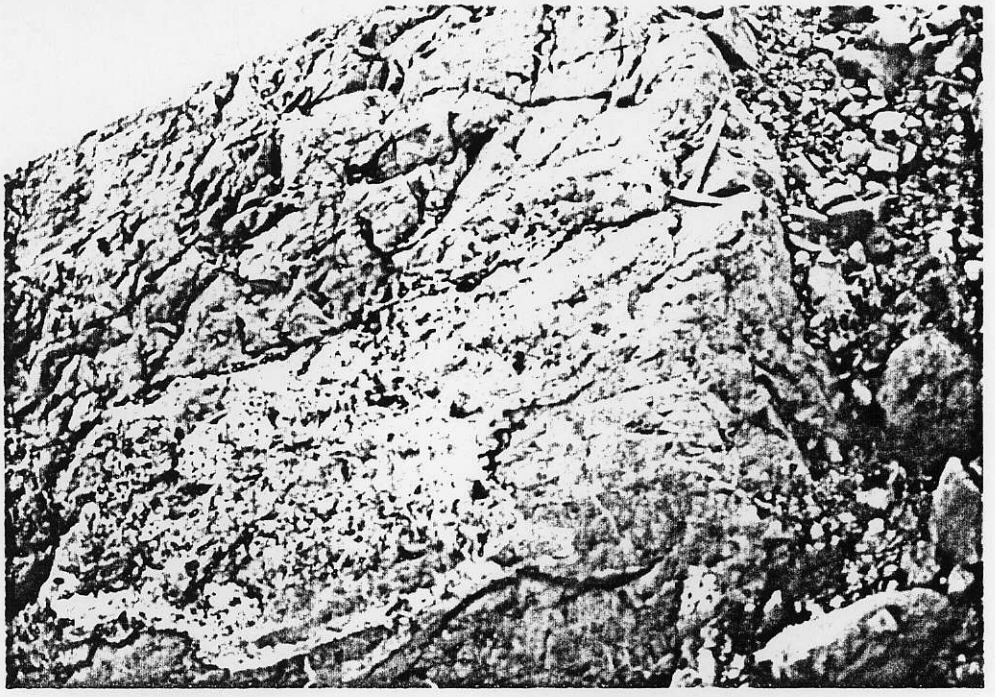


PART OF MAIN SHOWING LOOKING NORTHEAST. ONE OF THE LARGER VEINS CROPS OUT IN THE DRAW BUT IS NOW COVERED BY ICE AND SNOW. NOTE QUARTZ VEINS AND ORANGE DISCOLORATION DUE TO CARBONATE ALTERATION.

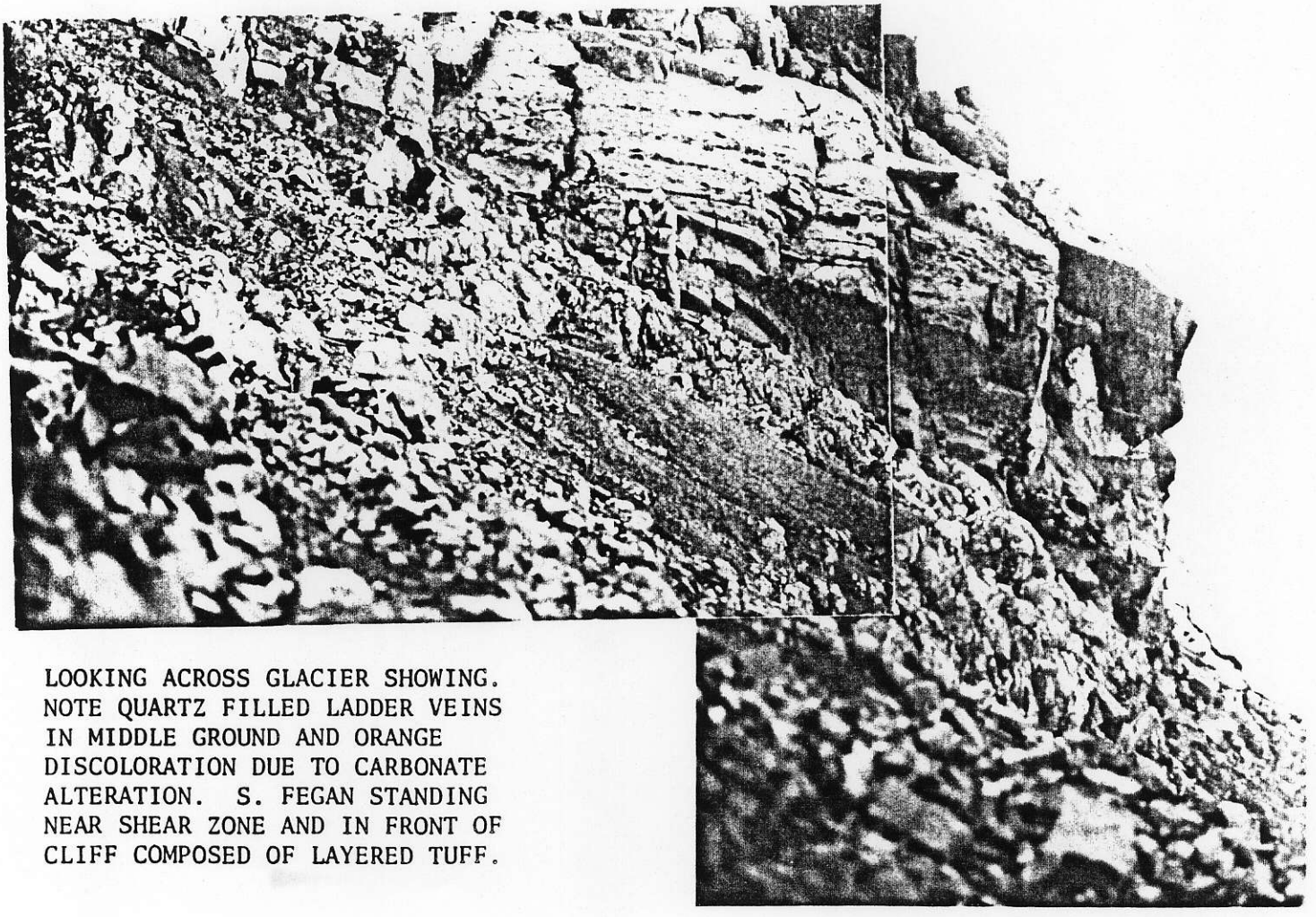


VIEW LOOKING WEST FROM CABIN. NOTE RIBBED APPEARANCE PRODUCED BY PARALLEL DYKES OF PORTLAND CANAL DYKE SWARM.

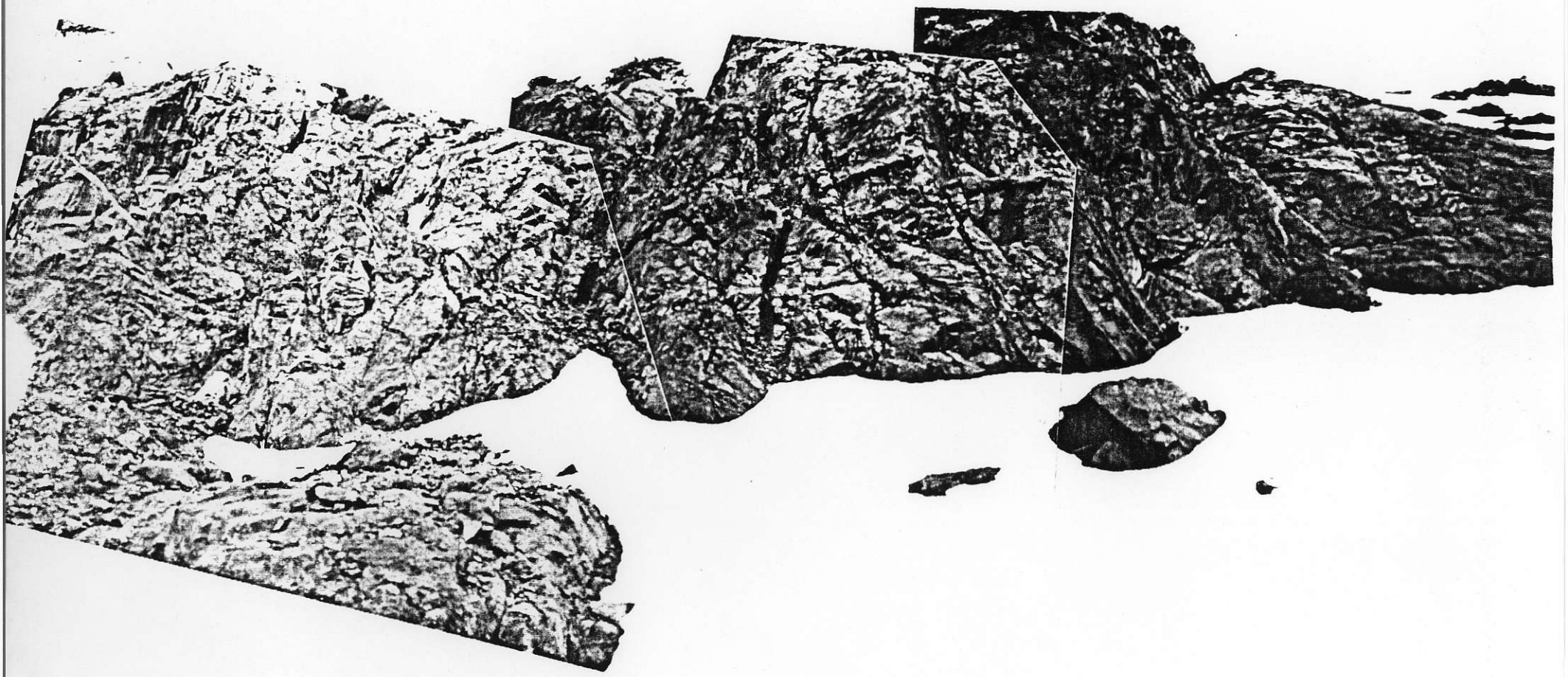
TRENCH SHOWING. MINERALISED SHEARS EXPOSED IN FLOOR OF TRENCH FOLLOW SLOPE OF HILLSIDE.



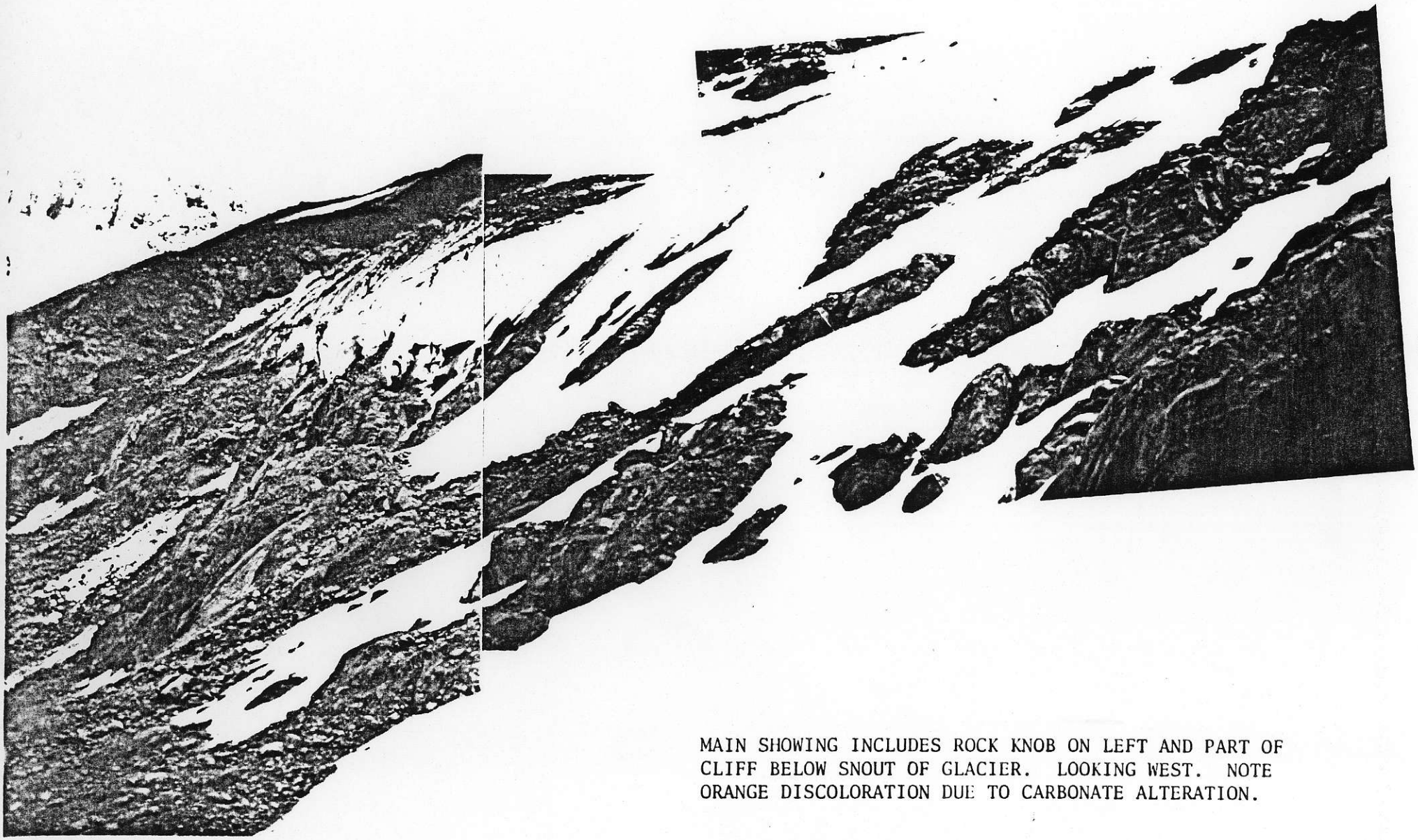
VEIN COMPOSED OF QUARTZ, WALL ROCK FRAGMENTS, CARBONATE AND TETRAHEDRITE. NOTE ORANGE OXIDATION ON VEIN CARBONATE. MAIN SHOWING.



LOOKING ACROSS GLACIER SHOWING. NOTE QUARTZ FILLED LADDER VEINS IN MIDDLE GROUND AND ORANGE DISCOLORATION DUE TO CARBONATE ALTERATION. S. FEGAN STANDING NEAR SHEAR ZONE AND IN FRONT OF CLIFF COMPOSED OF LAYERED TUFF.



NORTH-SOUTH PANORAMA ACROSS MAIN SHOWING. SECTION SAMPLED IN 5M SECTIONS. NOTE WHITE QUARTZ VEINS AND VERTICAL CUTS ALONG VEINS. NOTE ORANGE DISCOLORATION DUE TO CARBONATE ALTERATION. NORTH SIDE TO LEFT.



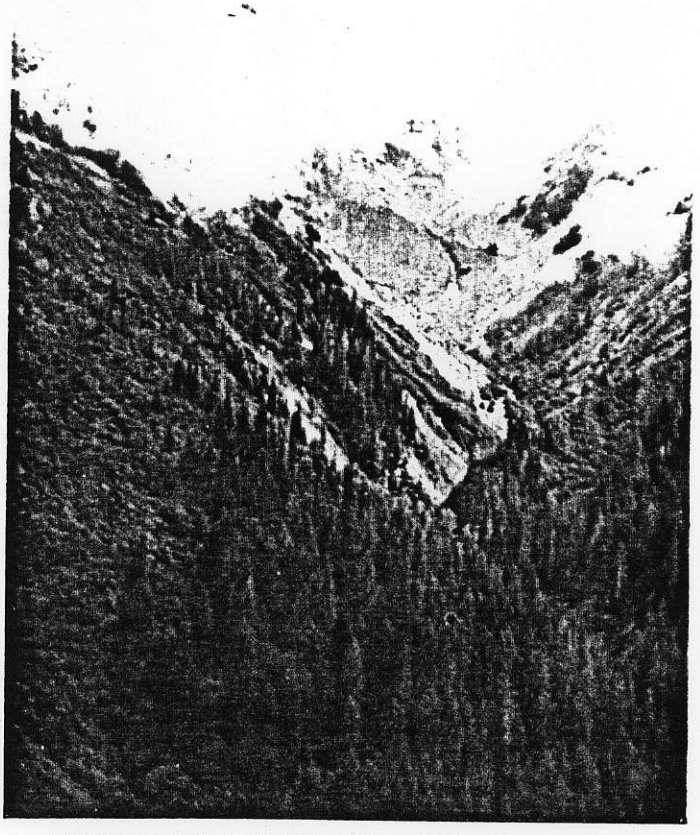
MAIN SHOWING INCLUDES ROCK KNOB ON LEFT AND PART OF CLIFF BELOW SNOUT OF GLACIER. LOOKING WEST. NOTE ORANGE DISCOLORATION DUE TO CARBONATE ALTERATION.

MID HARTLEY GULCH LOOKING SSE

LOWER HARTLEY GULCH LOOKING SE

LOWER HARTLEY GULCH LOOKING SOUTHEAST

TOP OF HARTLEY GULCH. MAIN SHOWING IS AT HEAD OF RIGHT HAND BRANCH. LOOKING EAST. BON ACCORD CLAIMS COVER GOSSAN ON LEFT OF CREEK.



UPPER HARTLEY GULCH. LOOKING EAST.

HARTLEY GULCH, 103 P/13 and 104A/4

FROM RECORDS AT SUB-RECORDER, VANCOUVER ON 18 SEP. 84

NAME	LOT	RECORD NO.	AREA	EXPIRY DATE	OWNERSHIP & COMMENT
SUBJECT CLAIMS					
Montreal 1	6282	4(1)	47.30 ac	27 Jan. 85	Hartley Silver Mines Ltd
Montreal 2	6283	5(1)	51.65 ac	27 Jan. 85	Hartley Silver Mines Ltd
Montreal 3	6284	6(1)	24.33 ac	27 Jan. 85	Hartley Silver Mines Ltd
Montreal 4 & 5	6285 & 6286	7(1)	28.64 ac	27 Jan. 85	Hartley Silver Mines Ltd
Montreal 6	6287	8(1)	31.62 ac	27 Jan. 85	Hartley Silver Mines Ltd
Montreal 7	6288	9(1)	51.65 ac	27 Jan. 85	Hartley Silver Mines Ltd
Montreal 8	6289	10(1)	51.65 ac	27 Jan. 85	Hartley Silver Mines Ltd
Kim 1 to 14	-	1729(9) to 1742(9)	50 ac each	26 Sept. 84	1 to 6 S. Fegan 7 to 14 W. Scott
Cat 1	-	1743(9)	50 ac	26 Sept. 84	S. Fegan
Cat 2	-	1842(9)	50 ac	26 Sept. 84	S. Fegan
Pam 1	-	1744(9)	20 units	26 Sept. 84	S. Fegan & W. Scott
Pam 2	-	1745(9)	50 ac	26 Sept. 84	S. Fegan & W. Scott

Grouping:

Pam Gp (37 units); Kim 1-14, Cat 1&2, Pam 1&2, 25 September 80
Montreal Gp (7 units); Montreal 1-8, 25 September 80
NOTE: Application for 2 years assessment work made on Pam Gp, 24 September 84.

BON ACCORD CLAIMS					
Bon Accord 1	6090	804(11)	49.37 ac	2 Nov. 84	Ian McLeod, Stewart
Bon Accord 2	6091	805(11)	49.38 ac	2 Nov. 84	Ian McLeod, Stewart
Bon Accord 3	6092	806(11)	51.65 ac	2 Nov. 84	Ian McLeod, Stewart
Bon Accord 4	6093	807(11)	51.65 ac	2 Nov. 84	Ian McLeod, Stewart
Bon Accord 5	6094	808(11)	51.65 ac	2 Nov. 84	Ian McLeod, Stewart
Bon Accord 6	6905	809(11)	35.43 ac	2 Nov. 84	Ian McLeod, Stewart
Bon Accord 7	6200	810(11)	43.53 ac	2 Nov. 84	Ian McLeod, Stewart
Bon Accord 8	6201	811(11)	51.61 ac	2 Nov. 84	Ian McLeod, Stewart
Bon Accord 9	6202	3507(6)	20.90 h	4 June? 84	Nor-con Exploration, survey pending
Bon Accord 10	6203	3508(6)	20.90 h	4 June? 84	NEL, S.P.
Bon Accord	6089	3506(6)	18.64 h	4 June? 84	NEL, S.P.

Grouping:

Bon Accord Gp (8 units); Bon Accord 1-8, 17 October 79.

APPENDIX I

MINERAL CLAIM DETAIL

REFERENCES

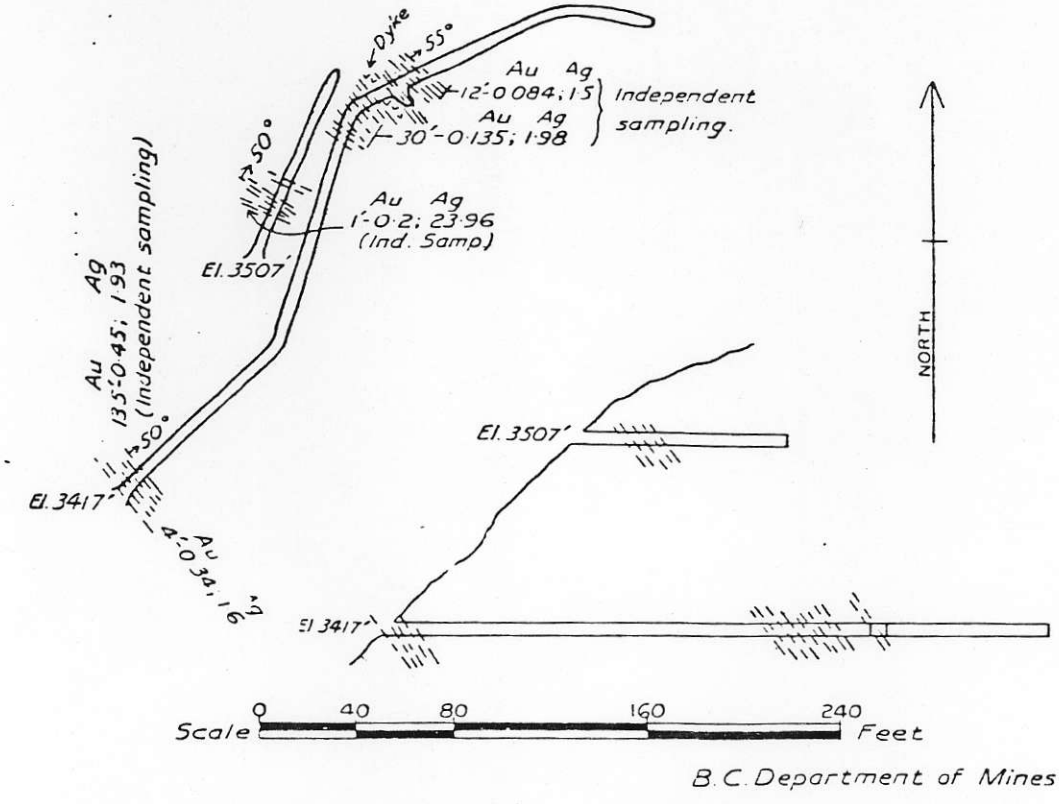
Alldrick, D.J. (1984). Geologic Setting of the Precious Metal Deposits in the Stewart Area. B.C. Ministry of Energy, Mines & Pet. Res., Geological Fieldwork, 1983, Paper 1984-1, pp. 149-195.

Alldrick, D.J. and Kenyon, J.M. (1984). The Prosperity/Porter Idaho Silver Deposits. B.C. Ministry of Energy, Mines & Pet. Res., Geological Fieldwork, 1983, Paper 1984-1, pp. 165-172.

Grove, E.W. (1971). Geology and Mineral Deposits of the Stewart Area, British Columbia, B.C. Mines and Pet. Res., Bull. No. 58.

Various Annual Reports by B.C. Minister of Mines.

GSC Map 217A, Bear River Sheet.



L.L. & H. Group (Playfair Gold Mines, Ltd.)—Plan and Vertical Projection of Workings.

Figure 6, from MMBC, Ann. Rept. 1934

Bon Accord Claims, Figure 6

This is believed to be a restaking of the L.L. & H. Group which was located on the north side of Hartley Gulch. Reference to Minister of Mines reports indicates the following:

a. (1912)

Three parallel veins (shears?) outcrop. On surface, No. 2 vein contained from 4 to 12 feet of vein filling mineralized with arsenopyrite carrying gold and silver values. A tunnel driven to intersect this vein hit water. Vein No. 3 is 12 feet wide in outcrop and carries galena and arsenopyrite.

b. (1921)

Above veins are hosted by argillite intruded by greenstone. These strike at about 70° and dip 60° northeast. In outcrop vein filling is quartz and fragmented wall rock mineralized with arsenopyrite and less galena and chalcopyrite. The upper vein, No. 3 where exposed by tunnelling, is 32 ins. wide; composed of 16 ins. of quartz and 16 ins. comminuted wall rock. The quartz carries pyrite, sphalerite, galena and values in gold and silver. Elevation of tunnel is 3700 feet. Veins 2 and 3 are 300 feet apart vertically.

c. (1928)

Argillites strike at 105 and dip 45 north. Bands of greenstone (dyke swarm?) are more or less conformable. The showings lie along silicified argillite - greenstone contacts. Surface work was done on same zone some 500 feet east of the tunnels. At one point a 12 foot wide zone returned values of $3 to $4 Au (0.145 to 0.194 oz/st. with gold at $20.676/oz.) A new(?) mineralised fault zone showing shearing over 6 feet was discovered. At three points over a distance of 700 feet the zone carries tetrahedrite with good silver values. The zone at surface is in a dangerous locaton (in a cliff?) so drift was started on the zone.

d. (1929)

Claims are underlain by argillite intruded by augite porphyry. Later pyritized syenite dykes cut the formations. The new mineralized fault found in 1928 is 2.5 feet wide and carries nodules of high grade galena and tetrahedrite. The tunnel on this fault was extended to about 100 feet. The two tunnels described previously are at elevation 3425 and 3500 feet. These are in a replacement shear zone in volcanics which carries galena, sphalerite, less pyrite and arsenopyrite. A sample in the upper tunnel, vein No. 3, across 3.7 feet in the face assayed: Au 0.12oz/st, Ag 7.5 oz.st, Pb 4.7% and Zn 9.8%. In the lower tunnel a 62-foot width of mineralization is present. A grab sample from a dyke outcrop carrying pyrite and arsenopyrite situated 60 feet east of the upper tunnel assayed: Au 0.44 oz/st and Ag 1.5 oz/st.

e. (1934)

Claims held by Playfair Gold Mines, Ltd. Underground workings were sampled by an independent engineer (Fig. 6).

f. (1941)

Four hundred and fifty feet of crosscut driven.

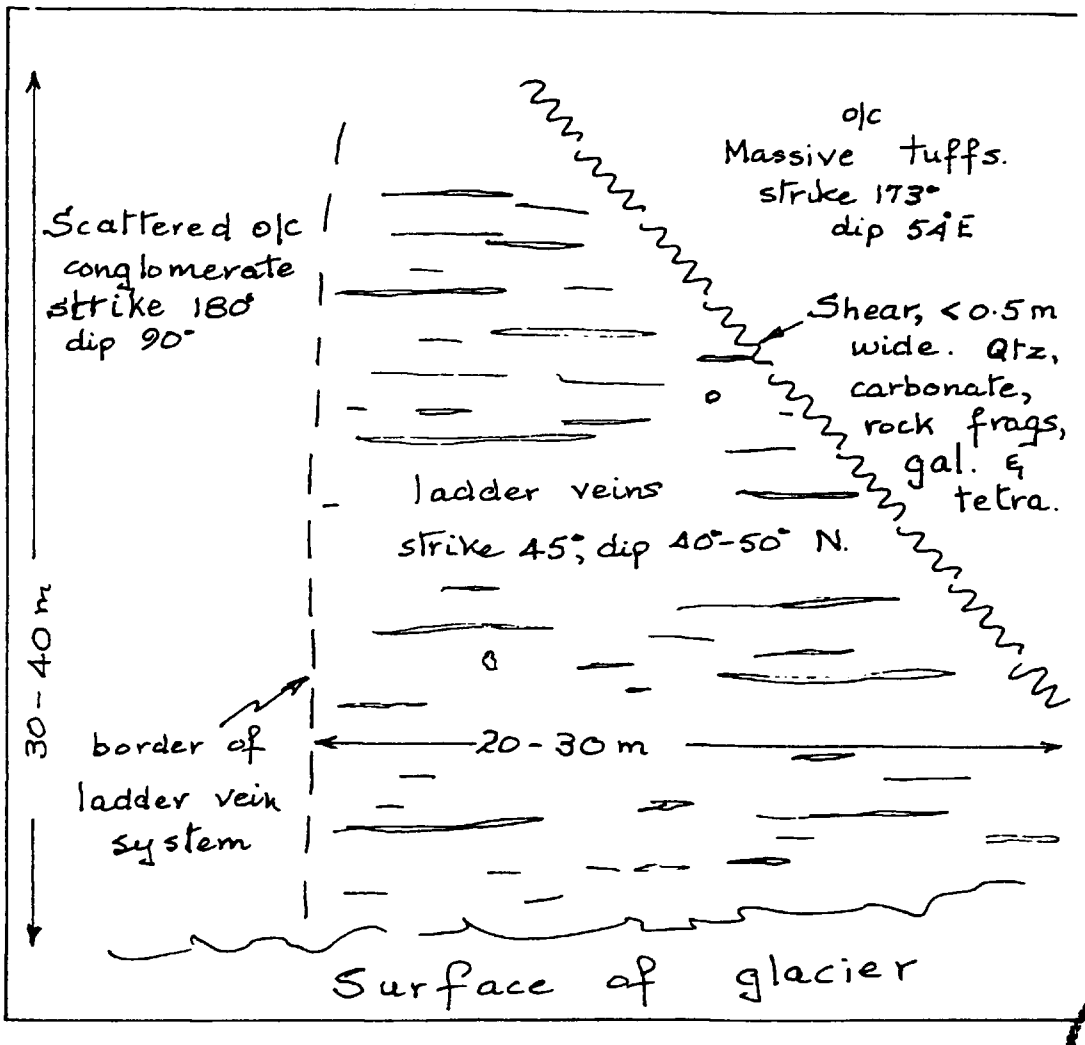
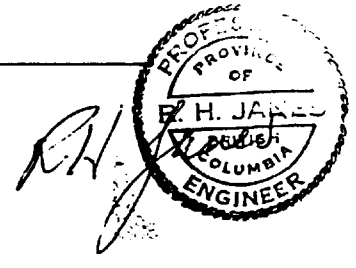


Figure 5. DIAGRAMATIC SKETCH OF GLACIER OR NO. 4 SHOWING. LOOKING NORTH.



No. 3 Showing

A set of "ladder veins" is exposed by a three metre long trench in a steep hillside some 400 feet above a glacier. The veins strike east-west and dip 25° to 30° north. Fifteen to twenty quartz veins are exposed over about 3m, one is 20 cms. wide, most are less than 1 cm. wide. No sulphide minerals were seen. The host is a pebble sized conglomerate of volcanic material, matrix is carbonatized. These "ladder veins" are interpreted as tension fractures and if so probably companion a major shear which may be mineralized.

Glacier or No. 4 Showing, Figure 5

This was examined but briefly due to time constraints and bad weather. Though not extensive the showing is impressive. Outcrop on a steep hillside over some 30 to 40 m along slope and about 20 m across slope exhibits a well developed "ladder vein system" abutting against a strong shear zone. (photos).

The shear contains milky quartz, wall rock fragments, carbonate and masses of argentiferous galena and less tetrahedrite. The "ladder veins" are tension fractures filled with milky quartz and less carbonate, sulphides are rare. Many are 2 to 3 cms. wide. Vein frequency may average around seven per metre. Irregular masses of quartz and carbonate also occur. Carbonate alteration of the host has produced a gossan and destroyed the conglomerate structure.

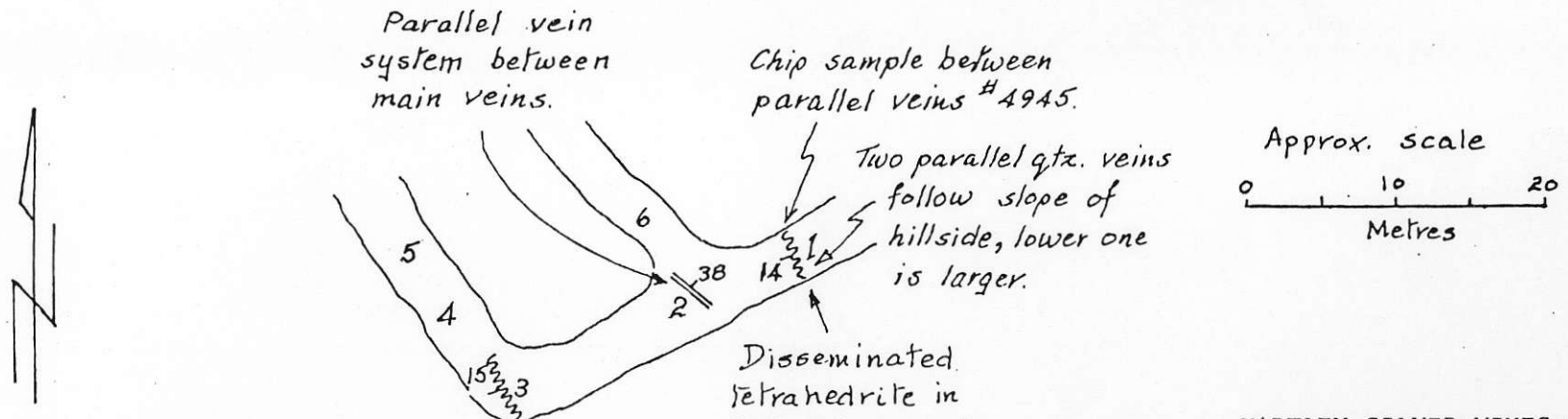
Old Chum Group

Location is uncertain. Minister of Mines, B.C. Ann. Rept., 1911 indicates that the group was located on the south side of Hartley Gulch and northwest of present Lot 6289. This location may be on claim Kim 14. This report also describes workings between 3300 and 3500 feet that exposed:

a. A shear zone containing a four foot quartz vein carryng arsenopyrite, galena and chalcopyrite. Sample across the vein assayed Au $1.00 (about 0.05 oz/st) and Ag 6.6 oz/st.

b. A higher shear zone 8 to 10 feet wide with similar mineralization but possibly containing more chalcopyrite and less galena. Values in gold and silver were obtained.

Loc	Approx. elev. (ft)	Mineralised shears in zone: strike	dip	width (cms)	zone width (m).	Grab samples: by	tag no.	Pb %	Zn %	Ag oz/st	Cu ppm	Au ppb	Pb ppm	Zn ppm
1	5600	160 *	14W	5-8	1.5+?	JN	5898E	1.21	3.6	0.89	50	5	–	–
		160	14W	2-4										
	Above two parallel veins exposed by trench'g.													
	Chip sample between veins: width 1.7 m					RJ	4945	–	–	0.09	91	–	32	118
2	5594	127	~38N	0-1	2?	–	–	–	–	–	–	–	–	–
3	5585	160	~15W	5-8	1.5?	JN	5894E	0.42	4.09	0.43	43	5	–	–
4	–	–	–	–	–	JN	5895E	0.11	0.75	0.15	24	5		
5	–	–	–	–	–	JN	5896E	13.55	19.9	7.3	76	90	–	–
6	–	–	–	–	–	JN	5897E	0.8	2.3	1.18	143	20	–	–



Sketch map based on sketch by T.T. Neelands.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA R. H. JANES

HARTLEY SILVER MINES LTD.

OTTER MTN. PROPERTY

Skeena M.D., B.C.

Figure 4

TRENCH or NO. 2 SHOWING GEOLOGY & SAMPLING

R.H. Janes Sept. 84

TABLE I

MAIN SHOWING - MINERALISED SHEAR & SAMPLE DETAIL

Loc.	Approx. Elev.* (ft.)	Mineralised Shears in Zone: Strike	Dip	Width (cms)	Zone Width (m)	By	GRAB SAMPLES: Tag No.	ASSAYS: Pb %	Zn %	Ag oz/st	Au oz/st	Au ppb	GEOCHEMICAL ANALYSES: Pb ppm	Zn ppm	Cu ppm	Sb ppm	As ppm	A pp
1.	4741	90	V	10±		RJ	4929	0.82	9.44	46.63	0.010	-	-	-	3,200	2,215	>2000	-
		140	36 SW	10±	~7.5	JN	H2	2.01	8.05	54.00	-	60	-	-	3,000	-	-	-
		180	V	1														
		- Plus Others -																
		Host volcanic adjacent main vein				RJ	4896	-	-	-	-	nd	-	-	117	nd	-	19
2.	4823	90	V	6±		JN	H3	0.06	0.14	0.82	-	5	-	-	83	-	-	-
		90	80 S	2.5														
		65	70 W	6±														
		13	~ 40 W	1	~7.5													
		80	80 S?	Covered														
		140	36 W	10±														
		90	~ 32 N	1														
3.	4833	90	35 W	0-6	Part of													
		140	36 SW	0-6	Zone													
4.	4898	90	55 N	0-6	Part of													
		90	52 S	0-6	Zone													
5.	4819	180	30 E	0-5	Part of	RJ	4931	.0.59	5.50	52.21	0.014	-	-	-	5,400	3,255	400	
		100	V	0-8	Zone	JN	H1	1.17	1.96	9.10	-	10	-	-	570	-	-	
6.	?	80	50 N	?		JN	5899E	23.4	15.40	83.00	-	270	-	-	3,600	-	-	
		Vein covered by snow September 1984																
7.	4961	136	52 SW	0-25	Part of	RJ	4930	4.10	33.50	183.97	0.023	-	-	-	17,300	13,350	1600	
		70	26 N	~1	Zone													
		Source of high grade shipment																
8.	5052	110	43 S	7-8	Part of Zone	RJ	4932	0.02	0.19	113.28	0.016	-	-	-	12,500	6,810	600	
9.	-	93	V	?	North Edge of Zone		- Not Visited -											
10.	Chip samples in 5m. lengths taken from north to south. Mineralised shears omitted.					RJ	4933	-	-	0.06	-	-	140	252	65	-	-	
							4934	-	-	0.12	-	-	135	500	70	-	-	
							4935	-	-	0.05	-	-	30	88	74	-	-	
							4936	-	-	0.04	-	-	34	133	66	-	-	
							4937	-	-	0.01	-	-	33	80	55	-	-	
							4938	-	-	0.02	-	-	27	65	82	-	-	
							4939	-	-	0.05	-	-	49	136	73	-	-	
							4940	-	-	0.01	-	-	22	48	75	-	-	
							4941	-	-	0.18	-	-	580	1090	74	-	-	
							4942	-	-	0.30	-	-	238	357	79	-	-	
							4943	-	-	0.01	-	-	25	63	195	-	-	
							4944	-	-	0.13	-	-	44	375	57	-	-	

nd Not detected.
* Related to orbitary datum of 5200 feet at cabin.

Legend.

mmm Mineralised shear showing strike & dip. Quartz & carbonate generally present with occassional pods of sphalerite, galena & tetrahedrite.

..... Zone containing system of mineralised shears. Carbonatisation of host rock has produced slight reddish brown coloration.

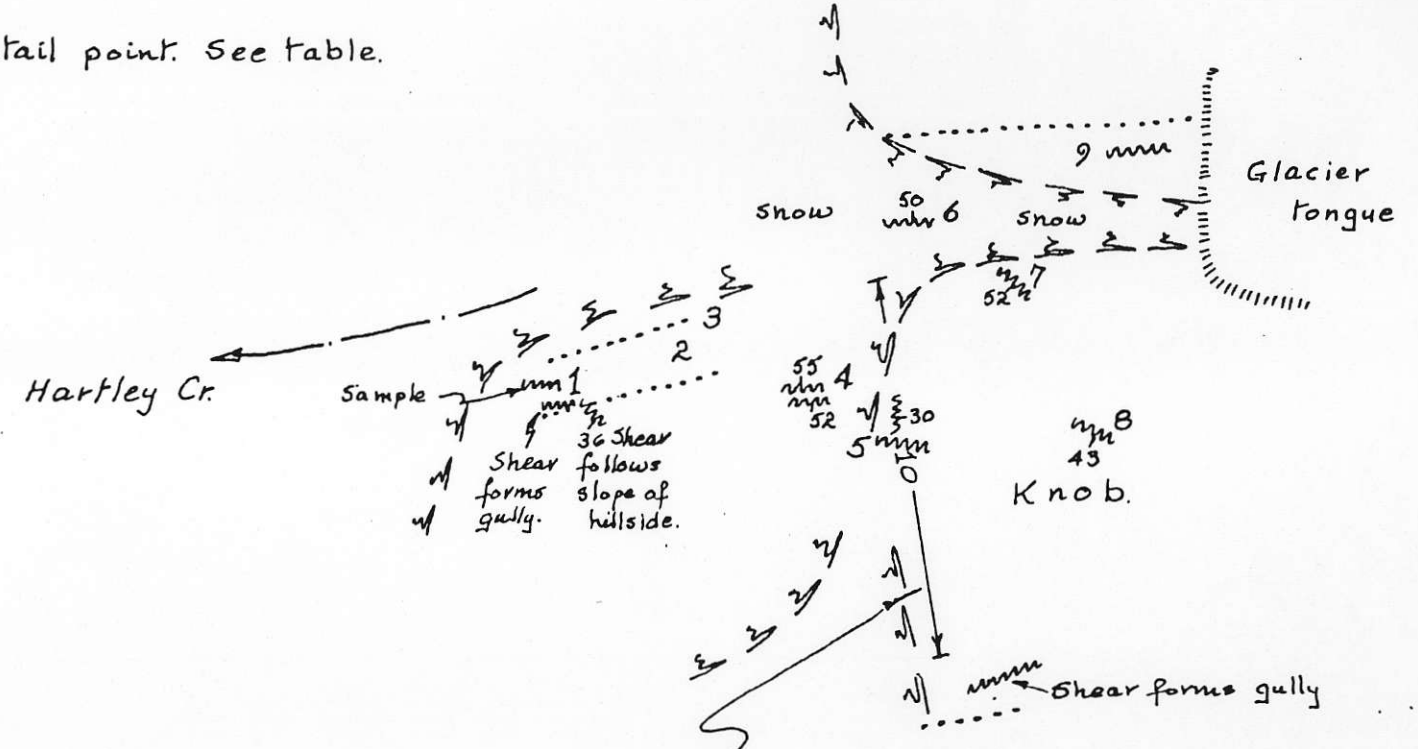
2 Sample or detail point. See table.

Cliff.

Approx. scale:

0 50 100

Metres



Overall width of zone containing mineralised shears estimated at 90-95 m. Sampled over width of 60 m., main veins omitted from samples.

R.H. Janes

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA R. H. JANES

HARTLEY SILVER MINES LTD.

OTTER MTN. PROPERTY

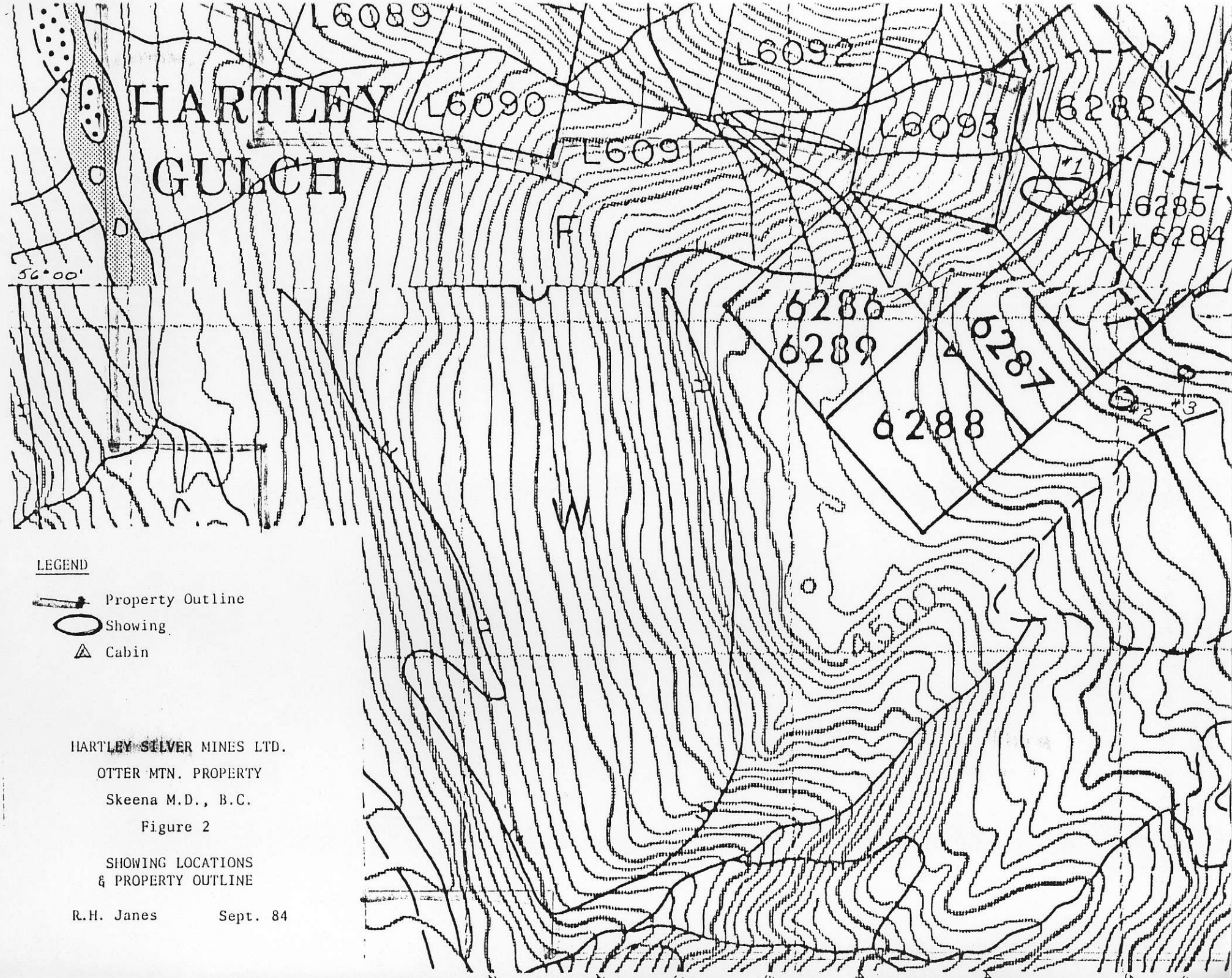
Skeena M.D., B.C.

Figure 3

MAIN or NO. 1 SHOWING GEOLOGY & SAMPLING

R.H. Janes Sept. 84

Sketch map based on sketch by J.T. Neelands.



LEGEND

Property Outline

Showing

Cabin

HARTLEY SILVER MINES LTD.

OTTER MTN. PROPERTY

Skeena M.D., B.C.

Figure 2

SHOWING LOCATIONS
& PROPERTY OUTLINE

R.H. Janes Sept. 84

MIN-EN LABORATORIES LTD.
700 WEST 15TH STREET, NORTH VANCOUVER, B.C. V7M 1T2
PHONE: (604) 980-5814 OR (604) 988-4524

Certificate of Assay

TO: DuPont of Canada Expl.,
102-1550 Alberni St.,
Vancouver, B.C.

300
PROJECT No. Otterpeak
DATE: Aug. 27/82.
File No. 2-561

SAMPLE No.	Pb %	Zn %	Ag oz/ton	Locations in report by Janes
5494 E	.42	4.09	.43	Trench Showing, loc #3
95	.11	.75	.15	" " loc #4
96	13.55	19.90	7.30	" " loc #5
97	.80	2.30	1.18	" " loc #6
98	1.21	3.60	.89	" " loc #1
5899 E	23.40	15.40	83.00	Main Showing, loc. #6
H 1	1.17	1.96	9.10	Main Showing, loc #5
2	2.01	8.05	54.00	" " loc #1
3	.06	.14	.82	" " loc #2
4	19.55	21.90	204.00	" " possibly loc. #8.
5	.20	.62	1.95	Glacier Showing,
6	17.95	.77	27.50	" " In shear
7	.99	.56	1.82	" "
8	.67	27.75	1.24	No. 8 Showing.
H 9	.07	.38	.26	Not visited.

MINE-EN Laboratories Ltd.

CERTIFIED BY:

VANGEOCHEM LAB LIMITED
1521 Pemberton Avenue
North Vancouver B.C. V7P 2S3
(604) 986-5211 Telex: 04-352578

PREPARED FOR: R. JANES & ASSOCIATES LTD.

NOTES: nd = none detected
: -- = not analysed
: is = insufficient sample

REPORT NUMBER: 84-01-094 JOB NUMBER: 84498

SAMPLE #	Cu ppm	Sb ppm	As ppm	Ag ppm	Au ppb
84929	3200	2215	>2000	--	--
84930	17300	13350	1600	--	--
84931	5400	3255	420	--	--
84932	12500	6810	600	--	--
84896	117	nd	--	19.2	nd
DETECTION LIMIT	1	1	2	0.1	5

VANGEOCHEM LAB LIMITED
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North Vancouver B.C. V7P 2S3
(604) 986-5211 Telex: 04-352578

PREPARED FOR: R. JANES & ASSOCIATES LTD.

NOTES: nd = none detected
: -- = not analysed
: is = insufficient sample

REPORT NUMBER: 84-01-083(A) JOB NUMBER: 84461

SAMPLE #	Ag oz/st
04933	.06
04934	.12
04935	.05
04936	.04
04937	.01
04938	.02
04939	.05
04940	.01
04941	.18
04942	.30
04943	.01
04944	.13
04945	.09

DETECTION LIMIT .01

1 Troy oz/short ton = 34.28 ppm 1 ppm = 0.0001% ppm = parts per million

signed: _____

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 Pemberton Ave.
North Vancouver B.C. V7P 2S3
(604)986-5211 Telex: 04-352578

BRANCH OFFICE
1630 Pandora St.
Vancouver B.C. V5L 1L6
(604)251-5656

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: R. JANES & ASSOCIATES LTD.
ADDRESS: #907 - 675 W. HASTINGS ST.
: VANCOUVER B.C.
: V6B 1N2

DATE: SEPT 28 1984
REPORT#: 84-01-094
JOB#: 84498

PROJECT#: --
SAMPLES ARRIVED: Sept 20 1984
REPORT COMPLETED: SEPT 28 1984
ANALYSED FOR: Cu Sb As Ag Au
SAMPLES FROM: R.H. JANES
COPY SENT TO: R. JANES & ASSOCIATES LTD.

INVOICE#: 8336
TOTAL SAMPLES: 5
SAMPLE TYPE: 5 ROCK
REJECTS: SAVED

PREPARED FOR: R.H. JANES

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED
1521 Pemberton Avenue
North Vancouver B.C. V7P 2S3
(604) 986-5211 Telex: 04-352578

PREPARED FOR: R. JANES & ASSOCIATES LTD.

NOTES: nd = none detected
: — = not analysed
: is = insufficient sample

REPORT NUMBER: 84-01-083 JOB NUMBER: 84461

SAMPLE #	Cu ppm	Pb ppm	Zn ppm
84933	65	140	252
84934	70	135	500
84935	74	30	88
84936	66	34	133
84937	55	33	80
84938	82	27	65
84939	73	49	136
84940	75	22	48
84941	74	580	1090
84942	79	238	357
84943	195	25	63
84944	57	44	375
84945	91	32	118
DETECTION LIMIT	1	2	1

VANGEOCHEM LAB LIMITED

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(604)986-5211 Telex: 04-352578

BRANCH OFFICE
1630 Pandora St.
Vancouver B.C. V5L 1L6
(604)251-5656

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: R. JANES & ASSOCIATES LTD.
ADDRESS: #907 - 675 W. HASTINGS ST.
: VANCOUVER B.C.
: V6B 1N2

DATE: SEPT 13 1984
REPORT#: 84-01-083
JOB#: 84461

PROJECT#: --
SAMPLES ARRIVED: SEPT 10 1984
REPORT COMPLETED: SEPT 13 1984
ANALYSED FOR: Cu Pb Zn
SAMPLES FROM: DICK JANES
COPY SENT TO: R. JANES & ASSOCIATES LTD.

INVOICE#: 8275
TOTAL SAMPLES: 13
SAMPLE TYPE: 13 ROCKS
REJECTS: SAVED

PREPARED FOR: R. JANES & ASSOCIATES LTD.

ANALYSED BY: VGC Staff

SIGNED: _____

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED
1521 Pemberton Avenue
North Vancouver B.C. V7P 2S3
(604) 986-5211 Telex: 04-352578

PREPARED FOR: R. JANES & ASSOCIATES LTD.
NOTES: nd = none detected
: -- = not analysed
: is = insufficient sample

REPORT NUMBER: 84-01-094(A) JOB NUMBER: 84498

SAMPLE #	Ag oz/st	Au oz/st	Pb %	Zn %
04929	46.63	.010	.82	9.44
04930	183.97	.023	4.10	33.50
04931	52.21	.014	.59	5.50
04932	113.28	.016	.02	.19
04896	--	--	--	--
DETECTION LIMIT	.01	.005	.01	.01

1 Troy oz/short ton = 34.28 ppm 1 ppm = 0.0001% ppm = parts per million

signed: _____

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 Pemberton Ave.
North Vancouver B.C. V7P 2S3
(604)986-5211 Telex: 04-352578

BRANCH OFFICE
1630 Pandora St.
Vancouver B.C. V5L 1L6
(604)251-5656

ASSAY ANALYTICAL REPORT

CLIENT: R. JANES & ASSOCIATES LTD.
ADDRESS: #907 - 675 W. HASTINGS ST.
: VANCOUVER B.C.
: V6B 1N2

DATE: SEPT 28 1984
REPORT#: 84-01-094(A)
JOB#: 84498

PROJECT#: --
SAMPLES ARRIVED: SEPT 20 1984
REPORT COMPLETED: SEPT 28 1984
ANALYSED FOR: Ag Au Pb Zn
SAMPLES FROM: R. H. JANES
COPY SENT TO: R. JANES & ASSOCIATES LTD.

INVOICE#: 8336
TOTAL SAMPLES: 5
REJECTS/PULPS: 90 DAYS/1 YR
SAMPLE TYPE: 5 ROCK

PREPARED FOR: R. H. JANES

ANALYSED BY: David Chiu

SIGNED: _____

Registered Provincial Assayer

GENERAL REMARK: None

VANGEOCHEM LAB LIMITED

MAIN OFFICE
1521 Pemberton Ave.
North Vancouver B.C. V7P 2S3
(604)986-5211 Telex: 04-352578

BRANCH OFFICE
1630 Pandora St.
Vancouver B.C. V5L 1L6
(604)251-5656

ASSAY ANALYTICAL REPORT

CLIENT: R. JANES & ASSOCIATES LTD.
ADDRESS: #907 - 675 W. HASTINGS ST.
: VANCOUVER B.C.
: V6B 1N2

DATE: SEPT 13 1984
REPORT#: 84-01-083(A)
JOB#: 84461

PROJECT#: --
SAMPLES ARRIVED: Sept 10 1984
REPORT COMPLETED: SEPT 13 1984

INVOICE#: 8275
TOTAL SAMPLES: 13
REJECTS/PULPS: SAVED 90 DAYS/

ANALYSED FOR: Ag
SAMPLES FROM: DICK JANES
COPY SENT TO: R. JANES & ASSOCIATES LTD.

SAMPLE TYPE: 13 ROCKS

PREPARED FOR: R. JANES & ASSOCIATES LTD.

ANALYSED BY: David Chiu

SIGNED: _____

Registered Provincial Assayer

GENERAL REMARK: None

APPENDIX II

ASSAY CERTIFICATES

&

LEAD SETTLEMENT STATEMENT FOR BULK SAMPLE (1966)

THE CONSOLIDATED MINING AND SMELTING COMPANY OF CANADA LIMITED

LEAD SETTLEMENT

— FINAL

OUR SERIAL NO. 2520-C

Trail, B.C., February 11, 1966

In Account With S. Fegan & J.J. Hepson,
1129 Barclay St.,
Vancouver, B. C.

Lot No. 1 Car No. C.P.M.S. Received Dec. 13/65

For Ore

Freight Value $ Freight Rate $

100.87 B

SCALE WEIGHT

Gross	Tare	Net
		4,870
lb.	lb.	lb.

WEIGHT OF SHIPMENT

Gross	No. Sacks	Wt. of Sacks	Net Wet Wt. Min..5	%H2O	Net Dry Wt.	Dry Tons
4,870	48	60	4,810	24	4,786	2.393
lb.		lb.	lb.	lb.	lb.	

ASSAYS

Gold	Silver	Wet Lead	Zinc	Sulphur	Silica	Iron	Lime	Cd xxxxx Arsenic	Antimony
.012	114.65	12.8	21.7	13.3	28.6	4.3	4.3	.44 .1	.5
oz. per dry ton	oz. per dry ton	%	%	%	%	%	%	%	%

AVERAGE QUOTATIONS

Month of January 1966

			Exchange			
GOLD	$			Less $1.25	Net $	oz.
SILVER	New York price $ 1.293		@ 7.46406	.02	Net $ 1.36951	oz.
LEAD	New York price 13.672	c. lb.		Less .6	Net 13.072	c. lb.
ZINC "P.W."	St. Louis price 14.193	c. lb.		Less 5.5	Net 8.693	c. lb.

CONTENTS AND VALUE

CONTENTS			CONTENTS PAID FOR		NET QUOTATION		VALUE
ozs. GOLD		%		ozs. @ $		oz.	$
2.36 ozs. SILVER	95	%	260.64	ozs. @ $	1.36951	oz.	356.95
613 lbs. LEAD	48	%	565	lbs. @	13.072	c. lb.	73.86
1,039 lbs. ZINC	479 @ 35	%	168	lbs. @	8.693	c. lb.	14.60

TOTAL GROSS VALUE $ 445.41

Less treatment @ $ Minimum Charge (Details below) 50.00

$ 395.41

Less: Trucking $

Switching

Freight 83.04

$ 312.37

$

Less % Royalty on $ to

$

$

ADVANCED- 230.00

BALANCE- $ 82.37

TREATMENT RATE

Base Charge		$ 15.00
Iron Zinc Penalty		
Arsenic Antimony	.1 @ 1.25	.13
Moisture		
Extra handling	Sacks	2.00
Lead credit/debit xxxx	17.2 @ .10	1.72
Silica Lime credit	32.9 @ .14	4.61 CR
TOTAL TREATMENT PER DRY TON		$14.24 not applicable

HHG: md

NCO. 210-5210
MOORE BUSINESS FORMS LTD.

cc: JTN
AUG 27 1982

MIN-EN Laboratories Ltd.

705 WEST 15th STREET,
NORTH VANCOUVER, B.C., CANADA V7M 1T2
TELEPHONE (604) 980-5814

ANALYTICAL REPORT

Project 300 Otterpeak Date of report Aug.27/82.

File No. 2-561 Date samples received Aug.23/82.

Samples submitted by: J.T. Neelands

Company: DuPont of Canada

Report on: 15 rock (assay prep) Geochem samples

15 Assay samples

Copies sent to:

1. DuPont of Canada, Vancouver, B.C.
2.
3.

Samples: Sieved to mesh Ground to mesh -100

Prepared samples stored ☒ discarded ☐

rejects stored ☒ discarded ☐

Methods of analysis: Assays Acid digestion-chemical analysis.
Geochem Cu-nitric,perchloric digestion.A.A., Au-Aqua regia.A.A.

Remarks:

COMPANY: DuPont of Canada

PROJECT NO.: 300 Otterpeak

ATTENTION: J.T. Neelands

GEOCHEMICAL ANALYSIS DATA SHEET

MIN-EN Laboratories Ltd.

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2

PHONE (604) 980-5814

FILE No. 2-561

DATE Aug. 27

1982.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
5,8,9,4, E		43										5
9,5		24										5
9,6		76										90
9,7		143										20
9,8		50										5
5,8,9,9, E		3600										270
H 1		570										10
2		3000										60
3		83										5
4		14300										475
5		190										5
6		930										200
7		225										5
8		205										5
H 9		34										5

*Some of these samples should have been requested for assay.