83-#376-#11331

REPORT ON GEOLOGY AND GEOCHEMISTRY OF THE HOODOO CLAIM GROUP

LIARD MINING DIVISION

104 B/14W

56° 48' N 131° 18' E

OWNED BY

KERR ADDISON MINES LTD.

OPERATED BY

KERR ADDISON MINES LTD.

REPORT BY

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November, 1982

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A. INTRODUCTION

1. Claims; Ownership Location and Access

The Hoodoo group staked for Kerr Addison Mines Ltd. consists of 61 units in five claims as summarized in table 1. The claims are situated immediately north of Hoodoo mountain on a spur of land between Hoodoo and Twin glaciers. The area lies within the Liard Mining Division and is covered by N.T.S. mapsheet 104 B 14/W. The Iskut River is located 10 km to the south of the property area and joins the Stikine River 25 km to the west. See figure 1.

Access is provided by helicopter, either from the port of Stewart, 130 km to the southeast, or from the B.C. Hydro camp at Bob Quinn Lake, 65 km to the east on the Stewart-Cassiar Highway. Both of these locations are served by fixed wing aircraft of Transprovincial Airways Ltd., from Prince Rupert and Terrace, respectively. Alternatively, the claims can be accessed by helicopter from Wrangell, Alaska, 55 km to the southwest. Wrangell is served by daily jet flights from Seattle, Washington.

Table 1. Hoodoo Group Claim Data

CLAIM NAME	OWNER	UNITS	DATE LOCATED	DATE RECORDED	NO.
Hoodoo 1	Kerr Addison	10	August 15, 1982	September 8, 1982	2447
" 2	" "	15	"	"	2448
" 3	" "	15	"	"	2449
" 4	" "	20	"	"	2450
" 5	" "	1	"	"	2451

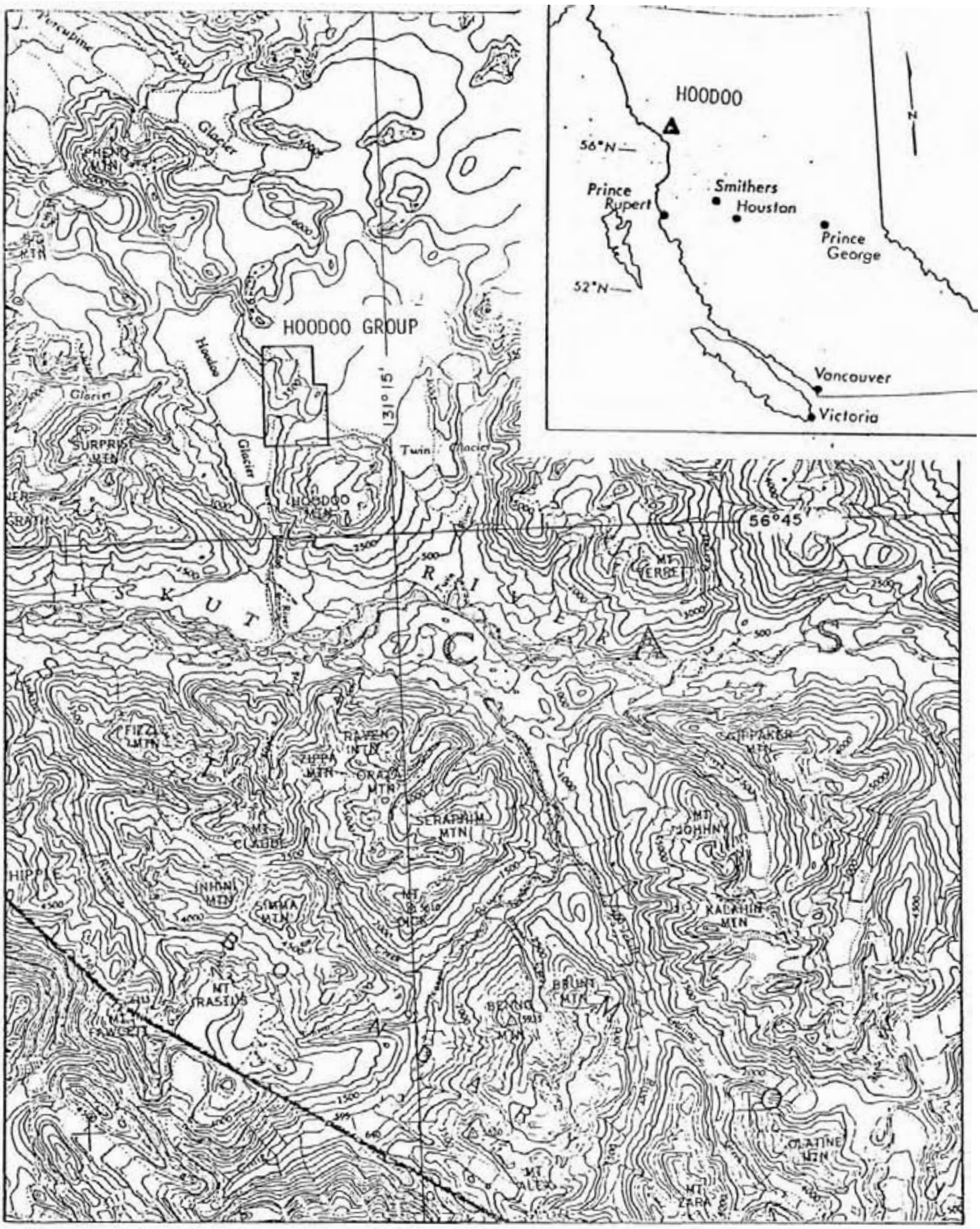

Figure 1. Hoodoo Group Location Map, Iskut River Area, Northwest B.C.

Scale 1:250,000; NTS 104 B

2. Physiography

Located on a northerly trending ridge of land, on the southern margin of a large icefield, the property is virtually surrounded by ice. Elevations range from 700 to 1,400 m and, with the exception of a few relatively mature stands of timber, the vegetation is alpine. Recent glacial retreat provides good bedrock exposure over much of the area.

Topography is very much controlled by bedrock. Steep foliation and extensive faulting in competent volcanics on the north end of the property has resulted in extremely hummocky terrain. Basalt flows on the south end of the claims form numerous cliffs and erosion of poorly consolidated young volcanics has produced deep canyons in stream beds.

3. Work Done

Three days were spent prospecting and sampling on the property. The work was done after locating claims but prior to recording them. In addition to limited geological mapping, 22 stream sediment and soil samples and 30 rock chip samples were collected and analyzed for Au, Ag, Sb, As and Hg. Selected samples were also analyzed for Tl and Ba. Ag values above accurate geochemical limits were re-analyzed using assay techniques. Geochemical and/or assay results are given in table 2 and the sample type and descriptions are given in table 3. The sample locations and geology are shown on maps 1 and 2 and the values are shown on maps 3 and 4.

Stream sediments and soil samples were collected in standard kraft paper bags. Rock samples were collected as chips in 20 x 25 cm plastic bags. All analyses were performed using standard techniques by Bondar Clegg and Co. Ltd. A description of analytical techniques is included as appendix III.

B. GEOLOGY

1. Regional Geology

Government geological maps for the Hoodoo Mountain area are limited to F.A. Kerr's (1935) 1:250,000 scale regional map of the Iskut River area and other, smaller scale compilation maps.

The claim area is located in the southwestern part of the Stikine Arch; a wedge shaped, allochthonous terraine of Paleozoic and Triassic volcanics and sediments cutting across the predominantly Juro-Cretaceous coast crystalline and intermontane belts. Throughout the Arch are a number of late Tertiary to Recent alkaline and peralkaline volcanic centers. Hoodoo Mountain is a highly differentiated volcano forming one of these centers. Hoodoo volcanics rest unconformably upon Paleozoic volcanics and sediments of the Stikine Assemblage.

2. Property Geology

a. Stikine Assemblage

Kerr (1935) mapped the rocks basal to Hoodoo volcanics as Triassic. However, based upon lithological and structural similarities to better known stratigraphy to the north, these rocks are thought to be part of the Stikine Assemblage. Pale green to grey foliated tuffs and breccias of intermediate composition with minor cherts and chlorite phyllites underlie most of the property. Argillites and andesite flows outcrop to the northwest. Foliation is consistent; striking east-west with steep northerly dips. Extensive folding is most easily seen in well banded cherts. Metamorphism is lower greenschist facies, and most original rock textures can still be seen, except where obscured by strong foliation.

Extensive faulting has produced a mosaic of fault blocks. Most faults have pronounced topographic expression even though movement is generally minor. A study of air photo lineations suggests that faults could be radial and concentric fractures (see map 1) related to partial collapse over a magma chamber following eruption of Hoodoo volcanics. Faults host both small intrusive gabbro stocks and mineralization.

b. Hoodoo Volcanics

Hoodoo volcanics consist of Pliocene to Recent basalts, trachytes, ash and debris flows which form a highly differentiated peralkaline volcano (Souther, 1982, pers. comm). Three pulses of volcanic activity can be envisaged during formation of the volcano. The first pulse is identified by a sequence of alternating "silver dollar", coarse trachytic plagioclase porphyries and debris flows, resting on Paleozoic basement. Debris flows contain numerous unsorted rounded pebbles and cobbles of foliated volcanic material in a medium grained, black gritty matrix. The second pulse of activity is defined by large volumes of columnar jointed basalts which appear to have interacted with enclosing ice sheets. Extrusion of very fluid yellow olivine basalts, which form an unconformable coating over earlier phases, and smaller flows and domes of obsidian and scoria mark the third and final phase. Vent areas from the latest basalt eruptions can still be seen on the northern flank of Hoodoo Mountain.

3. Mineralization

Mineralization on the Hoodoo claims is found within fault related, lenticular zones of silicification and brecciation accompanied by variable development of pyrite and sericite. Three of these zones are clearly defined but only the northern two contain significant silver values. Mineralogy was determined for three samples (R82-H030,31 and 37) using the scanning electron microscope with an energy dispersive system (SEM/EDS) at the University of British Columbia. Mineralization consists of hairline fracture fillings of acanthite (argentite - Ag_2S)

with lesser amounts of cinnabar (HgS) and pyrargyrite-proustite ($Ag_3 Sb_{.7} As_{.3} S_3$). Barite commonly encloses the silver minerals. Frequent, but minute (<15μ) evenly disseminated grains of galena were observed in two of the sections. In one specimen a very small grain of coloradoite (Hg Te) was also observed.

C. GEOCHEMISTRY

1. General Statement

Geochemical samples were collected during mapping/prospecting traverses from selected locations. Samples were taken to evaluate geochemical trends within various types of rock, soil and mineralization. The non-randomness and limited number of samples from a wide range of parent populations precludes any statistical evaluation, however, some preliminary conclusions may be made. The results and sample descriptions are given in tables 2 and 3 and are plotted on maps 2, 3 and 4.

2. Discussion of Results

The most conspicuous feature of the geochemistry is the positive correlation between all elements tested. Enrichment of the volatile metals As, Sb, Hg and Tl is a common feature of epithermal deposits. The high concentrations of Hg and Tl suggest very shallow and/or low temperature deposition (White, 1980; Ewers and Keays, 1977; Boyle, 1979). Anomalous concentrations of Au are notably absent whereas silver is enriched.

Mineralogy, as determined by SEM/EDS correlates well with geochemistry. There is a significant variation in As:Sb between samples. Generally only a single ruby silver composition, compatible with ambient As:Sb, occurs within an ore shoot or deposit (Boyle, 1968). Gold:silver ratios tend to be larger higher in the vein system where erosion has not been significant, (Buchanan, 1981). Variation in geochemical ratios could indicate successive phases of mineralization within a changing hydrothermal system.

Areas of carbonate alteration seldom exhibited anomalous geochemistry, even when sulphide mineralization was present. It is unlikely that these zones are related to silver mineralization. A possible exception is sample R82 - H035 where carbonate alteration and weak epithermal mineralization occur together.

No anomalous samples were collected from areas overlain by Hoodoo volcanics. The latest volcanic flows appear to post-date mineralized structures. Since it is improbable that mercury mineralization would survive the temperature increase during eruption of the main mass of Hoodoo volcanics, mineralization likely took place during the waning phase of acid volcanism and prior to final basalt eruption.

D. SUMMARY AND CONCLUSIONS

Basalts, trachytes, ash and debris flows of Hoodoo Mountain were erupted onto Paleozoic pyroclastics and sediments during late Tertiary time. Evacuation of a medium depth magma chamber caused partial collapse and extensive fracturing of surrounding country rocks. These fractures provided channels for ascending hydrothermal fluids. Following mineralization was a multi-vent eruption, covering the area in a thin veneer of basalt. Glacial erosion has exposed at least three areas of mineralization

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GEOCHEMICAL AND ASSAY RESULTS, HÓODOO CLAIMS

Table 2

	Type Rock Dirt Silt	Ag ppm	Ag oz/t	As ppm	Hg ppb	Hg %	Au ppb	Sb ppm	Cu ppm	Pb ppm	Zn ppm	Tl ppm	Ba ppm	As/Sb x:1	Au:Ag 1:x	Te ppm
77866	R	11.5		162	4800			13	5	27	78			12.5:		
77867	R	0.2		8	70			2	5	32	12			4.0:		
77868	R	>71.5	4.38	1472	46000			293	15	2	265			5.0:		
77869	D	>50.0	8.70	>1000	>5000		70								:4255	
C20	R	N.A.														
C21	R	N.A.														
C22	R	N.A.														
C22A	R	0.3		6	15		<5	3						2.0:	:60	
C22B	R	0.2		5	30		<5	3						1.6:	:40	
C23	R	0.4		7	50		<5	8						0.9:	:80	
C23A	R	N.A.														
C24	R	31.0		>1000	>5000		220	110				100.0	3170	9.0:	:140	
C25	R	N.A.														
C26	R	N.A.														
C27	R	N.A.														
C28	R	0.4		200	170		<5	5						40.0:		
C29	R	0.5		15	190		<5	5						3.0:		
C30	R	0.2		5	45		<5	12						.4:		
C31	R	0.2		7	50		<5	13				<0.5	1400	0.5:	:80	
C32	R	0.8		22	50		10	<2						11.0:		
C33	R	N.A.														
C34	R	37.0		240	>5000		<5	160*				45	12.0%	1.5:	:7400	
C35	R	>50.0	5.55	>1000	>5000		15	280*				100.0	25.0%	3.6:	:12670	
C36	R	19.0		240	4100		<5	50*				24.0	6.1%	4.8:	:3800	
C37	R	15.0		190	5000		<5	55				31.0	20000	3.5:	:3000	

GEOCHEMICAL AND ASSAY RESULTS, HOODOO CLAIMS

Table 2

	Type Rock Dirt Silt	Ag ppm	Ag oz/t	As ppm	Hg ppb	Hg %	Au ppb	Sb ppm	Cu ppm	Pb ppm	Zn ppm	Tl ppm	Ba ppm	As/Sb x:1	Au:Ag 1:x	Te ppm
S82-H01	S	0.4		6	80		<5	<2						3.0:		
D82-H01	D	0.5		7	55		<5	<2						3.5:		
S82-H02	S	0.3		6	20		<5	5						1.2:		
D82-H03	D	0.2		10	40		<5	<2						5.0:		
S82-H04	S	0.2		3	10		<5	<2						1.5:		
D82-H05	D	0.2		11	15		<5	<2						5.5:		
S82-H06	S	0.2		5	10		<5	3						1.7:		
S82-H07	S	0.3		5	5		5	<2						2.5:		
S82-H08	S	0.3		5	10		<5	<2						2.5:		
R82-H09	R	0.8		11	60		15	<2*				<.5	6.4%	5.5:	:53	
R82-H010	R	2.3		32	50		30	<2						16.0:	:76	
D82-H011	D	0.4		5	15		<5	<2						2.5:		
R82-H012	R	N.A.														
R82-H013	R	N.A.														
R82-H014	R	N.A.														
D82-H015	D	13.0		700	>5000		160	215						3.3:	:80	
R82-H015	R	21.0		73	315		190	10*				2.0	9.2%	73.0:	:110	
S82-H016	S	0.5		15	75		5	<2						7.5:	:100	
S82-H017	S	0.2		13	35		<5	<2						6.5:		
S82-H018	S	0.3		10	30		<5	<2						5.0:		
D82H019	D	0.4		22	190		<5	<2						11.0:		
D82-H020	D	0.3		18	55		<5	9						2.0:		
S82-H021	S	0.2		6	20		5	<2						3.0:		
D82-H022	D	0.3		>1000	1450		<5	46						21.7:		
D82-H023	D	0.3		17	85		<5	13						1.3:		
R82-H024	R	0.5		8	50		5	<2						4.0:		
D82-H025	D	0.2		16	80		<5	5						3.2:		

GEOCHEMICAL AND ASSAY RESULTS, HOODOO CLAIMS

Table 2

	Type Rock Dirt Silt	Ag ppm	Ag oz/t	As ppm	Hg ppb	Hg %	Au ppb	Sb ppm	Cu ppm	Pb ppm	Zn ppm	Tl ppm	Ba ppm	As/Sb x:1	Au:Ag 1:x	Te ppm
R82H026	R	0.4		11	360		<5	<2						5.5:		
R82H027A	R	1.8		15	270		40	17						.9:	:45	
R82H027B	R	1.1		17	120		20	3						5.7:	:55	
R82H027C	R	2.2		40	220		15	15						2.7:	:145	
R82H028	R	13.0		105	3000		<5	50*				29.0	7.4%	2.1:	:2600	
R82H029	R	23.0		82	>5000	<.001	<5	62				27.0	3.5%	1.3:	:4600	
R82H030	R	>50.0	29.60	78	>5000	.003	<5	585				22.0	17770	.13:	$:2x10^5$	
R82H031	R	>50.0	41.30	160	>5000	.005	<5	1050						.15:	$:3x10^5$	<0.2
R82H032	R	14.0		600	>5000	<.001	<5	96						6.3:	:2800	
R82H033	R	8.8		170	>5000		<5	43						3.9:	:1760	
R82H034	R	2.9		120	3400		<5	31						3.9:	:580	
S82H034	S	0.4		6	50		<5	5						1.2:	:80	
D82H035	D	0.5		36	290		<5	<2						18.0:	:100	
R82H036	R	1.2		13	190		<5	11						1.2:	:240	
R82H037	R	0.9		18	210		<5	<2						9.0:	:180	<0.2

NOTES:- * indicates high baium interference on Antimony analysis
- The sample descriptions are given in table 3
- The sample locations are plotted on map 1 and the results on maps 3 and 4.

SAMPLE TYPE AND DESCRIPTION - HOODOO CLAIMS

77866 Rock, Upper zone, grab, includes 77868, 100 meter thick unit, altimeter 4000 ft., see C34, yellow stained rusty weathering rhyolite, clv. 045/80/N.

77867 Rock, Lower zone, grab, see also C31, yellow stained rusty weathering (pyr) rhyolite, 400 m. S.E. 77866.

77868 Rock, Veins, 4 inch grab, see also C35, pyrite & clear qtz. veins in rhyolite, up to 50% pyr, vertical, cross-cutting

77869 Soil, northend, soil from altered rhyolite.

C20 Rock, B.L. 500 meters N, i.e. 1N OE.W., altim. 3675 ft; med. gray green Andesite flow, 15% 3 mm rounded mafics & frags., slight silic. flood., very minor tr. pyr.

C21 Rock, BL 1000N, i.e. 2N OE.W., altim. 3890 ft; chloritic andesite tuff, 2 mm rounded frags., fault 120/80/W, 4 cm x 2 m Qtz boudin no sulphide //fault.

C22 Rock, BL 1170N, altim. 4100 ft; silicified qtz-andesite breccia zone 70/70/N, 1m thick, + 80 m long in waterlain andesitic volcano-sed. package.

C22A Rock, 0-40 m NE of C22. Chips of 0.5 m to 2 m thick quartz breccia.

C22B Rock, 0-36 m SW of C22. Chips of .8 to 15 meter thick quartz breccia.

C23 Rock, BL 1465 N to 1480 N, massive andesite tuff north of 1450 to 1465 090/? fault zone; east of Hematite stain O/C.

C23A Rock, BL 1265m N. altim. 4050 ft., east end of hematite stained andesite? which is west of 22B.

C24 Rock, BL 1860 N Rusty surface weathering of Acid (Rhyolite?) tuff; vuggy sinter?; partially covered by Morraine, Chips 4x4 meters.

C25 Rock, Line 000 i.e. ON OS claim line, station 1190E i.e. 1190 meters east of legal corner post; light green amygdaloidal vesicular basalt porph.

C26 Rock, 380 m. @ 300^{0} from C25, altim. 3725 ft; porphyritic amygdaloidal basalt, recently uncovered by ice.

C27 Rock, 500 m. @ 290^{0} from C25, altim. 3575 ft; fissile/foliated light grey acid ash tuff, foliation 290/75N.

C28 Rock, 800 m @ 280^{0} from C25, 15 m west of ice, in creek, altim. 3425 ft., 40/80/S Grab of .2 to .5 m Rhyolite "dyke" 15% sulphides in 2 mm veins, blebs to 1 cm.

C29 Rock, 10 m across creek from C28, 3 kg. of chips from 8x5 meter area, Rhyolite slightly quartz flooded 2% pyrite.

C30 Rock, 90 m. N.W. of C29, altim. 3460 ft. Dacite to Rhyodacite tuff, slightly siliceous, 1 to 2% pyrite, like C29.

C31 Rock, 300 m. W. of C29, altim. 3500 ft; rusty siliceous Rhyolite 2-3% pyrite, locally minor qtz. filled 1x5 cm micro frac. chips across 100 m; O/C 77867 of July.

C32 Rock, 20 m. W of C30, altim. 3445 ft., 40 m. chips; black shale 10% pyrite in .25 to 1 cm 115/85/S irreg. stringers. Contact between blk shale & Rhyodacite tuff.

C33 Rock, 200 m @ 250° from C22A-B (BL 1160N), 0-100 W Andesite tuffs 100-130 Snow, 130-145 Hematite stain Andesite, at 200 m Hem. And. as at BL1265N.

C34 Rock, Ochre discovery zone, altim. 4000 ft., see also 77866; 280 W 850N, 1 meter chip across .5 m. of high Ag/pyrite 90/85N Vein & .5 m. Qtz. 15% sulphide boudin!

C35 Rock, included in C34 sample; 10 cm. of sulphide boudin; see also 77868, 1 meter long boudin, 5 cm thick at ends and .5 m. thick at center.

C36 Rock, 4 meters west and 2m above, (on strike) from C35, 2.5 meter chip across 2 cm. wide shear in siliceous rhyolite.

C37 Rock, 15 to 165 m. E of C35, chips along face of "gossan" cliff silicic rhyolite tuff 1-2 mm. frags on West, 1-4 mm. frags. on East; V.V.V. fine sulphide in fractures.

S82H01 Silt, from main creek, BL ▲365 m. S., O/C foliated tuffs, slightly silicified in canyon.

D82H01 Soil, BL ▲365S; from south rusty bank above falls.

S82H02 Silt, "Canyon Creek" cut into young lithic tuff debris flows underlain by PE vertical tuff schists with qtz-carbonate alteration.

S82H03 Soil, BL ▲1500S, B+C horizon of recent Hoodoo Volcanics.

S82H04 Silt, BL ▲1600 to 1700S - O/C recent Volcanics.

D82H05 Soil, Small gulley below Lava arch, rusty B horizon.

S82H06 Silt, from W. creek draining cliff glacier immediately south of "ice lake" Hoodoo.

S82H07 Silt, from center creek as H06.

S82H08 Silt, from East creek as H06.

R82H09 Rock, West of ice lake, north of canyon creek, small silicified pyritized fracture, small bleb 60% pyr., 30% qtz.

R82H010 Rock, as H09, 10 m. West H09, 20 cm. E-W vein, up to 40% pyrite, 40% qtz., discontinuous.

D82H011 Soil, 100 m. N of H010, rusty knobbly fresh volcanic.

R82H012 Rock, LCP to ON 1W, (00 500W) - pale grey foliated tuffs.

R82H013A Rock West of upper rusty zone; gabbro?

R82H013B Rock West of upper rusty zone; chert in contact with 13A

R82H013C Rock West of upper rusty zone; spot 20% pyrite in tuff

R82H013D Rock West of upper rusty zone; no pyrite in 13C tuff

R82H014 Rock North Cirque - E-W trending band of laminated chert or quartz vein.

D82H015 Soil, Talus fines, of R82H015

R82H015 Rock, small gulley-sub crop rusty 14% pyrite in fine-grained blue volcano-clastic 100 meter float train

S82H016 Silt, from cirque in fault zone

S82H017 Silt, from cirque, glacial stream

S82H018 Silt, from cirque, in fault zone, carbonate alteration.

D82H019 Soil Talus fines in Gulleys and dry stream beds below rusty (carbonate?) outcrop.

D82H020 Soil as D82H019

S82H021 Silt, NW corner Hoodoo 4. O/C rusty purple tuffs, some qtz-carb. veins, "not exciting"

D82H022 Soil, small saddle NW cirque ridge, rusty soil, bedrock is silicified and rusty volcanics.

D82H023 Soil, center Hoodoo 4 claim

R82H024 Rock, grabs from creek bottom; major stream south of cirque. Creek is fault in rusty frac. volcs; 20 cm. vein qtz.-carbonate multiple stage.

D82H025 Soil, from small rusty fault gully.

R82H026 Rock, Just east of "upper gossan zone" 10 cm wide pyritized green mafic volcanic tuff; 2 N.-S. fractures pyrite to 30% in 1 m. zone.

R82H027A Rock Upper gossan zone; 20 cm. zone in moss covered gulley.

R82H027B Rock Upper gossan zone, 8 m. chip samples

R82H027C Rock, Upper gossan zone, 10 cm. high grade pocket in 27B

R82H028 Rock, Upper gossan zone, west end; 2 m. chip sample.

R82H029 Rock, Upper gossan zone, west end, 2 m. chip sample

R82H030 Rock, Upper gossan zone, west end, 3 m. chip sample, medium grey siliceous matrix with thin glassy band qtz. breccia

R82H031 Rock, Upper gossan; included in #30, high grade Ag/Hg; glassy bands contain tiny pockets silver coloured mineral and cinnabar?

R82H032 Rock, East Central, 5 m. chips of pyritized (25%) schist and silicified and pyritized schist.

R82H033 Rock, central area, 1 m. wide, very schistose fragmental unit, extensively pyritized.

R82H034 Rock, 250 meters SE of L.C.P., just across main creek; quartz Fe-carbonate (Ankerite?) in micro fractures.

S82H034 Silt, Sample of creek draining quartz-ankerite fault? zone.

D82H035 Soil, Sample beside creek, below R82H036.

R82H036 Rock, from rusty creek S.E. of L.C.P.; grey-green felsic tuffs, rusty rocks are schistose, bleached tuffs, locally silicified + 30% pyrite.

R82H037 Rock, 30 m. N. of toe of Glacier, small N-S trending ½ m. vertical gulley in carbonate altered volcanics filled with a poorly cemented fault breccia with pyrite and arsonopyrite.

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Buchanan, L.J., 1981, Precious Metal Deposits Associated with Volcanic Environments in the Southwest, in Arizona Geological Society Digest Volume XIV, pp. 237-262.

Appendix I

ITEMIZED COST STATEMENT

1. Prospecting and Sampling - August 16 - 18

P. Holbek Geologist 3 days @ $150.00/Day	$ 450.00
A. Clendenan Geologist 3 days @ $200.00/Day	600.00
Transportation: Truck From Smithers To Bob Quinn Lake and Return	
3/4 of 1½ days wages at $350/Day	350.00
Truck Rental Incl. Mileage and Fuel	320.00
Helicopter: Vernon Helicopter's Bell 206BIII	
3/4 of 2.0 Hrs. @ $550.00 Hr. incl. Fuel	825.00
Food 8 Man Days at $25.00/Day	200.00
Radio and Equipment Rental	165.00
	$2,910.00

cont'd...

2. Geochemistry and Mineralogy

Analyses of 56 Samples:

Silver A.A.	56 x $1.90	$ 106.40
Silver F.A.A.A.	5 x $9.00	45.00
Gold F.A.A.A.	55 x $6.00	330.00
Arsenic	56 X $3.25	182.00
Mercury ppm	56 x $4.00	224.00
Mercury %	4 x $9.50	38.00
Antimony	56 x $4.00	224.00
Copper	3 x $0.90	2.70
Lead	3 x $0.90	2.70
Zinc	3 x $0.90	2.70
Thallium	11 x $5.25	57.75
Barium ppm	11 x $4.00	44.00
Barium %	7 x $4.00	28.00
Tellurium	2 x $5.25	10.50
Sample Preparation and Storage		142.90
Shipping Charges		28.95
4 Polished Sections @ $20 each		80.00
2 hours Scanning Electron Microprobe, Energy Dispersive System (SEM/EDS) $120/hr.		240.00
		$1,789.60

3. Drafting, Printing, Report Preparation $1,675.00

TOTAL: $6,374.60

A.D. Clendenan

GEOLOGICAL ASSOCIATION OF CANADA · FELLOW · A. D. CLENDENAN

Appendix II

STATEMENT OF QUALIFICATIONS

I, Peter Holbek, with a business address of 703-1112 West Pender Street, Vancouver, B.C.

Hereby certify that:

1. I graduated from the University of B.C. in 1980 with a B.Sc. (Hons) Degree in Geological Sciences.

2. I have completed two years of post graduate research at the University of B.C.

3. I have worked as a Geologist or Assistant in B.C. for the past eight field seasons.

4. The work described herein is based on field work carried out between August 16 and 18, 1982.

Peter Holbek, B.Sc.

CERTIFICATE

I, Arthur David Clendenan, with a business address of 703-1112 West Pender Street, Vancouver, B.C., V6E 2S1, do hereby certify that:

1. I am a Professional Geologist, registered with the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 1975.

2. I am a Fellow of the Geological Association of Canada (1981) and a member of the Canadian Institute of Mining and Metallurgy (1981).

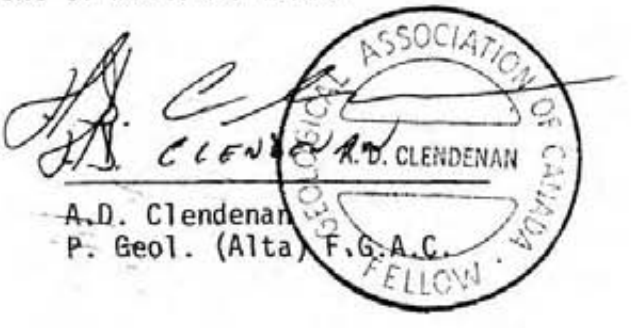
3. I am a graduate of the University of Alberta with a B.Sc. degree in Geology (1973).

4. I have been engaged in mineral exploration in Western Canada and South America since 1970.

5. This report is based on personal examination and supervision of field work carried out August 16, 17, and 18, 1982.

6. I am employed by Kerr Addison Mines Limited as a Project Geologist, based in Vancouver.

7. Written permission is required to use this report or any part of it in a prospectus or other statement of material facts.



A.D. CLENDENAN

A.D. Clendenan
P. Geol. (Alta) F.G.A.C.

Vancouver, B.C.
November, 1982

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Telex: 04-352667

BONDAR-CLEGG

Geochemical Lab Report

Appendix III

REPORT: 322-2719 PROJECT: BC-5-12 Hoodoo | GEOCHEMICAL TECHNIQUES

FROM: KERR ADDISON MINES LTD SUBMITTED BY: A-CLENDENAN
DATE: 17-NOV-82 PROJECT: NONE GIVEN

ELEMENT	LOWER DETECTION LIMIT	EXTRACTION	METHOD	SIZE FRACTION	SAMPLE TYPE	SAMPLE PREPARATIONS
Ag	.1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-80	PREPARED PULP	AS RECEIVED, NO SP
As	2 PPM	NITRIC PERCHLOR DIG	Colourimetric	-80		
~~Hg~~	~~5 PPB~~	~~CONTROLLED AQ, REGIA~~	~~Cold Vapour AA~~	~~80~~		
Au	5 PPB	AQUA REGIA	Fire Assay AA	-80		
Sb	2 PPM		X-RAY Fluorescence	-80		

ELEMENT	LOWER DETECTION LIMIT	EXTRACTION	METHOD	SIZE FRACTION	SAMPLE TYPE	SAMPLE PREPARATIONS
Au	.002 OPT			-100	ROCKS	CRUSH,PULVERIZE -100
As	.02 OPT					

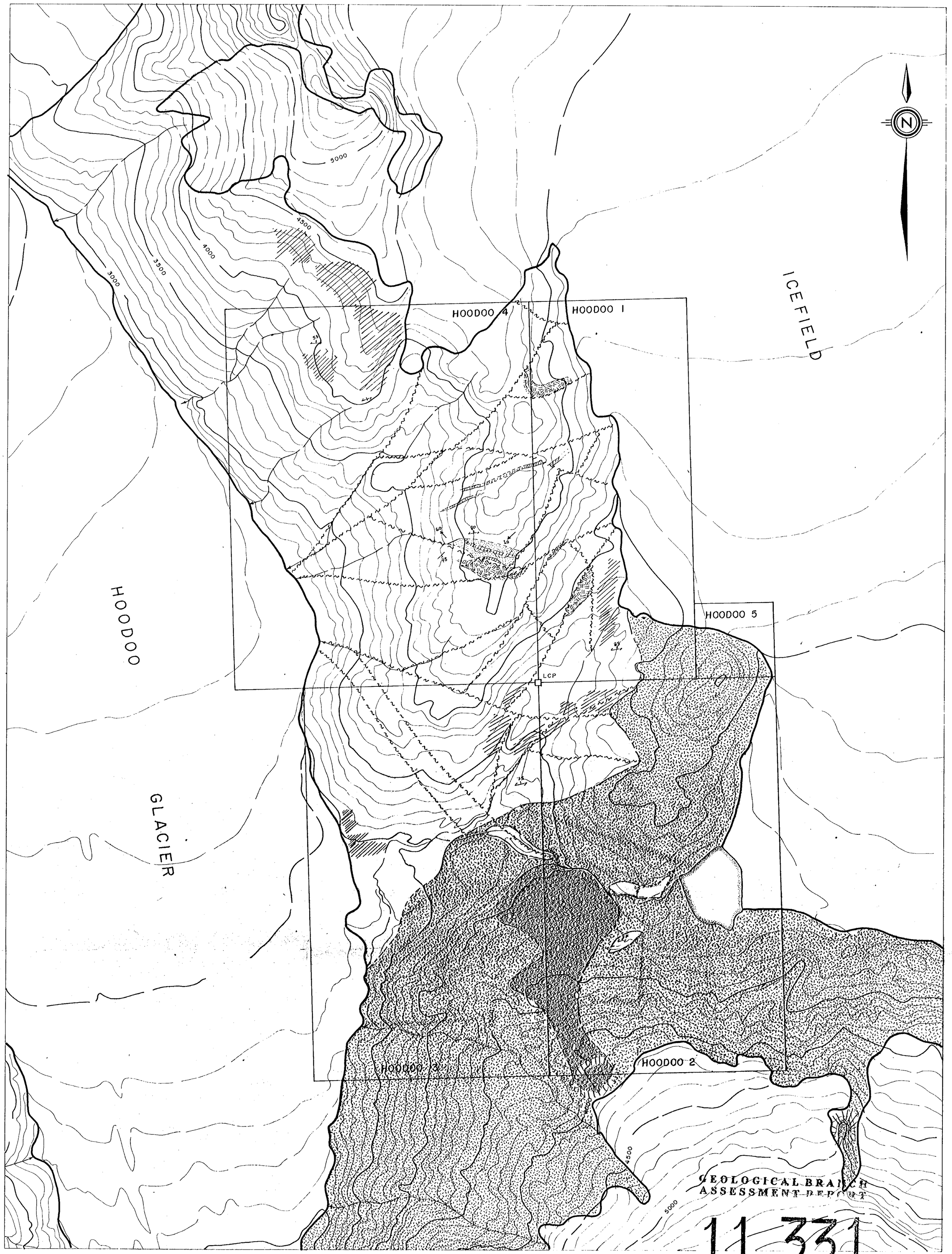
REPORT COPIES TO: MR. A. DUJARDIN INVOICE TO: MR. A. DUJARDIN

ELEMENT	LOWER DETECTION LIMIT	EXTRACTION	METHOD	SIZE FRACTION	SAMPLE TYPE	SAMPLE PREPARATION
Hg	.001 PCT			-100	PREPARED PULP	AS RECEIVED, NO SP

ELEMENT	LOWER DETECTION LIMIT	EXTRACTION	METHOD	SIZE FRACTION	SAMPLE TYPE	SAMPLE PREPARATION
Pb	2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-100	OTHER	CRUSH,PULVERIZE -
Zn	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-100		RETENTION OF REJE

ELEMENT	LOWER DETECTION LIMIT	EXTRACTION	METHOD	SIZE FRACTION	SAMPLE TYPE	SAMPLE PREPARATION
Tl	.5 PPM	MULT ACID TOT DIG	Colourimetric	-100	PREPARED PULP	AS RECEIVED, NO SP
Ba	20 PPM		X-RAY Fluorescence	-100		

Registered Assayer, Province of British Colu



LEGEND

Pliocene & Younger.

- HOODOO VOLCANICS – "AH-AH" flow, yellow olivine basalt
- HOODOO VOLCANICS UNDIFFERENTIATED – Columnar basalt, coarse trachytic feldspar porphyry; debris flows, ash, obsidian and scoria.
- MINERALIZED ZONES – Argentiferous, pyritiferous, siliclous breccias
- INTRUSIVE GABBRO

Triassic & Older.

- CHERT; LAMINATED CHERT, BRECCIATED CHERT
- STIKINE ASSEMBLAGE – Foliated Tuffs, Breccia's flows and minor sediments

- Contact – Defined, assumed.
- Fault – Defined & probable
- Bedding
- Foliation
- Fold axes
- Iron carbonate alteration
- Volcanic vent area

0 100 200 300 400 500 600 700 800
METRES

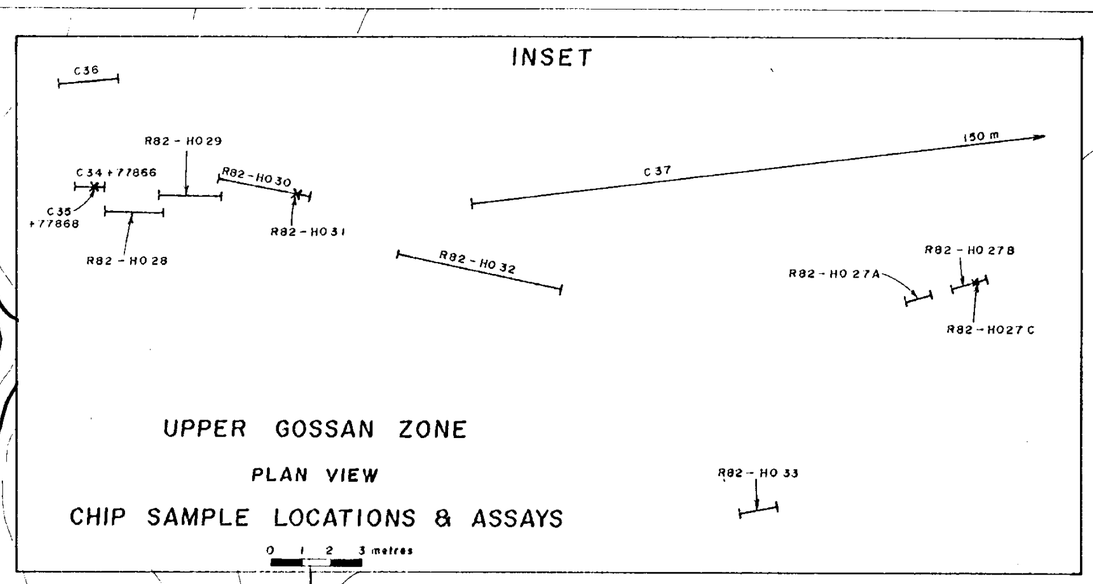
KERR ADDISON MINES LTD

HOODOO CLAIM GROUP

GEOLOGY

SCALE – 1 : 12,500	DATE – Nov. 82 – Feb. 83
DRAWN BY – P. HOLBEK	DATA – P. Holbek, A. Clendenan
NTS – 104 B 14W	MAP No. 1

INSET



UPPER GOSSAN ZONE

PLAN VIEW

CHIP SAMPLE LOCATIONS & ASSAYS

N

ICEFIELD

HOODOO 4

HOODOO 1

HOODOO 5

HOODOO

INSET

LCP

82 Camp

ICE LAKE

HOODOO 3

HOODOO 2

GLACIER

5000
4500
4000
3500
3000
2500

LEGEND

- ▲ STREAM SEDIMENT
- ■ SOIL SAMPLE
- × ROCK "

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,331

PART 1 OF 2

0 100 200 300 400 500 600 700 800
METRES

KERR ADDISON MINES LTD	
HOODOO CLAIM GROUP	
CLAIMS & SAMPLE LOCATIONS	
SCALE - 1 : 12,500	DATE - NOV 82, FEB 83
DRAWN BY - P. HAILLOT	DATA - A. Clendenan, P. Holbek
NTS - 104 B 14W	MAP No. 2

INSET

UPPER GOSSAN ZONE

PLAN VIEW

CHIP SAMPLE LOCATIONS & ASSAYS

0 1 2 3 metres

HOODOO 4

HOODOO 1

HOODOO 5

HOODOO 3

HOODOO 2

HOODOO GLACIER

ICEFIELD

ICE LAKE

5000

4500

4000

3500

3000

2500

N

LEGEND

▲ STREAM SEDIMENT
■ SOIL SAMPLE.
X ROCK "

5 Sb ppm
Hg ppb 75 15 Au ppb
X
As ppm 16 1.2 Ag ppm

N.A. Not Assayed.

0 100 200 300 400 500 600 700 800
METRES

KERR ADDISON MINES LTD.	
HOODOO CLAIM GROUP	
CLAIMS & GEOCHEMISTRY Hg, As, Au, Ag, Sb	
SCALE - 1 : 12,500	DATE - NOV. 87
DRAWN BY - P. HAILLOT	DATA - As of Oct. 87
NTS - 104 B 14 W	MAP No. 3

INSET

C36 - 24.0, 6.1 %

45.0, 12.0 %

R82 - H029 - 27.0, 3.5 %

C34 + 77868

R82 - H030 - 22.0, 17 770

100.0, 25.0 %

C35 + 77868

R82 - H031

R82 - H028 - 29.0, 7.4 %

C37 - 31.0, 20000 - 150 m

R82 - H032

R82 - H027A

R82 - H027B

R82 - H027C

R82 - H033

UPPER GOSSAN ZONE

PLAN VIEW

CHIP SAMPLE LOCATIONS & ASSAYS

0 1 2 3 metres

N

ICEFIELD

HOODOO

GLACIER

HOODOO 4

HOODOO 1

HOODOO 5

HOODOO 3

HOODOO 2

INSET

ICE LAKE

LCP

82 Camp

R82 - H021

D82 - H020

D82 - H019

S82 - H017

S82 - H016

S82 - H018

D82 - H022

D82 - H023

R82 - H015 - 2.0, 9.2 %

D82 - H015

R82 - H024

R82 - H014

R82 - H013

R82 - H012

C24 - 100.0, 3170

C23

C23a

C22A

C22B

C33

C21

77869

R82 - H026

C31 - 0.5, 1400

C30

R82 - H037

77867

C29

C28

C32

C27

C26

C25

D82 - H025

R82 - H036

S82 - H034

D82 - H035

R82 - H034

S82 - H01

D82 - H01

S82 - H02

D82 - H011

R82 - H010

R82 - H09 - 0.5, 6.4 %

S82 - H03

D82 - H09

S82 - H06

S82 - H04

S82 - H07

S82 - H08

2500

3000

3500

4000

4500

5000

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,33

PART 1 OF 2

LEGEND

- ▲ STREAM SEDIMENT
- ■ SOIL SAMPLE
- × ROCK "

R82 - H030 - 22.0, 17 770 SAMPLE NUMBER - THALLIUM (ppm), BARITE (ppm or %)

0 100 200 300 400 500 600 700 800

METRES

KERR ADDISON MINES LTD	
HOODOO CLAIM GROUP	
CLAIMS & GEOCHEMISTRY Thallium , Barite	
SCALE - 1 : 12,500	DATE - NOV 82 , FEB 83
DRAWN BY - P. HAILLOT	DATA - A. Clendenan, P. Holbek
NTS - 104 B 14W	MAP No. 4