82-293-10361

ARCHER, CATHRO
& ASSOCIATES LIMITED
CONSULTING GEOLOGICAL ENGINEERS

VANCOUVER, B.C. (604) 688-2568

BOX 4127, WHITEHORSE, Y.T. Y1A 3S9 (403) 667-4415

1016 - 510 WEST HASTINGS STREET
VANCOUVER, B.C. V6B 1L8

REPORT ON DIAMOND DRILLING

on the

BOB 1, BOB 2, BOB 3, BOB 4, BOB 7, HAWK and HAT CLAIMS

LIARD MINING DIVISION

NTS 94K/4W

Latitude: 58°01'N

Longitude: 125°50'W

by

R.J. Cathro

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

for

GETTY CANADIAN METALS, LIMITED (Owner)

and

GATAGA JOINT VENTURE (Operator)

Submitted January 7, 1982

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LIST OF CLAIMS

Claim	Record Number	Number of Units	Record Date
Bob 1	289	12	April 28, 1977
Bob 2	290	20	April 28, 1977
Bob 3	291	20	April 28, 1977
Bob 4	292	16	April 28, 1977
Bob 7	295	6	April 28, 1977
Hawk	285	12	April 20, 1977
Hat	976	18	September 17, 1979

REPORT ON DIAMOND DRILLING
on the
BOB 1, BOB 2, BOB 3, BOB 4, BOB 7, HAWK and HAT CLAIMS

Introduction

The Bob 1-4, Bob 7 and Hawk claims were staked in 1977 by Gataga Joint Venture in the name of Welcome North Mines Ltd. to cover a possible strike extension of stratiform lead-zinc mineralization on the nearby Driftpile Creek property (P, D, and Goof claims). The Hat claims were added in 1979. Gataga Joint Venture (GJV), formed in 1977 to explore for lead-zinc in northeast British Columbia, is a syndicate composed of Aquitaine Company of Canada Ltd., Chevron Canada Limited, Getty Mines Limited, Welcome North Mines Ltd. and Castlemaine Exploration Ltd. The Bob 1-4, Bob 7, Hawk and Hat claims are part of a larger group whose ownership was transferred to Getty Canadian Metals, Limited. The program was managed by Archer, Cathro & Associates (1981) Limited and was directed in the field for the fifth successive season by R.C. Carne.

Diamond drilling in four holes (81M-1 to 81M-4) was carried out between July 1 and July 21, 1981. Diamond drill core resulting from the program is stored in permanent core racks located 7 km to the northwest of the property on the D, P and Goof claims at Driftpile Creek.

Location and Access

The Bob 1-4, Bob 7, Hawk and Hat claim group is located about 12 km northwest of Gataga Lakes on NTS map sheet 94K/4W (Figure 1). The centre of the group is located at latitude 58°01'N and longitude 125°50'W.

Access is by float-equipped, fixed-wing aircraft from Watson Lake, Yukon Territory, about 310 km to the northwest, to Mayfield Lake and by helicopter from

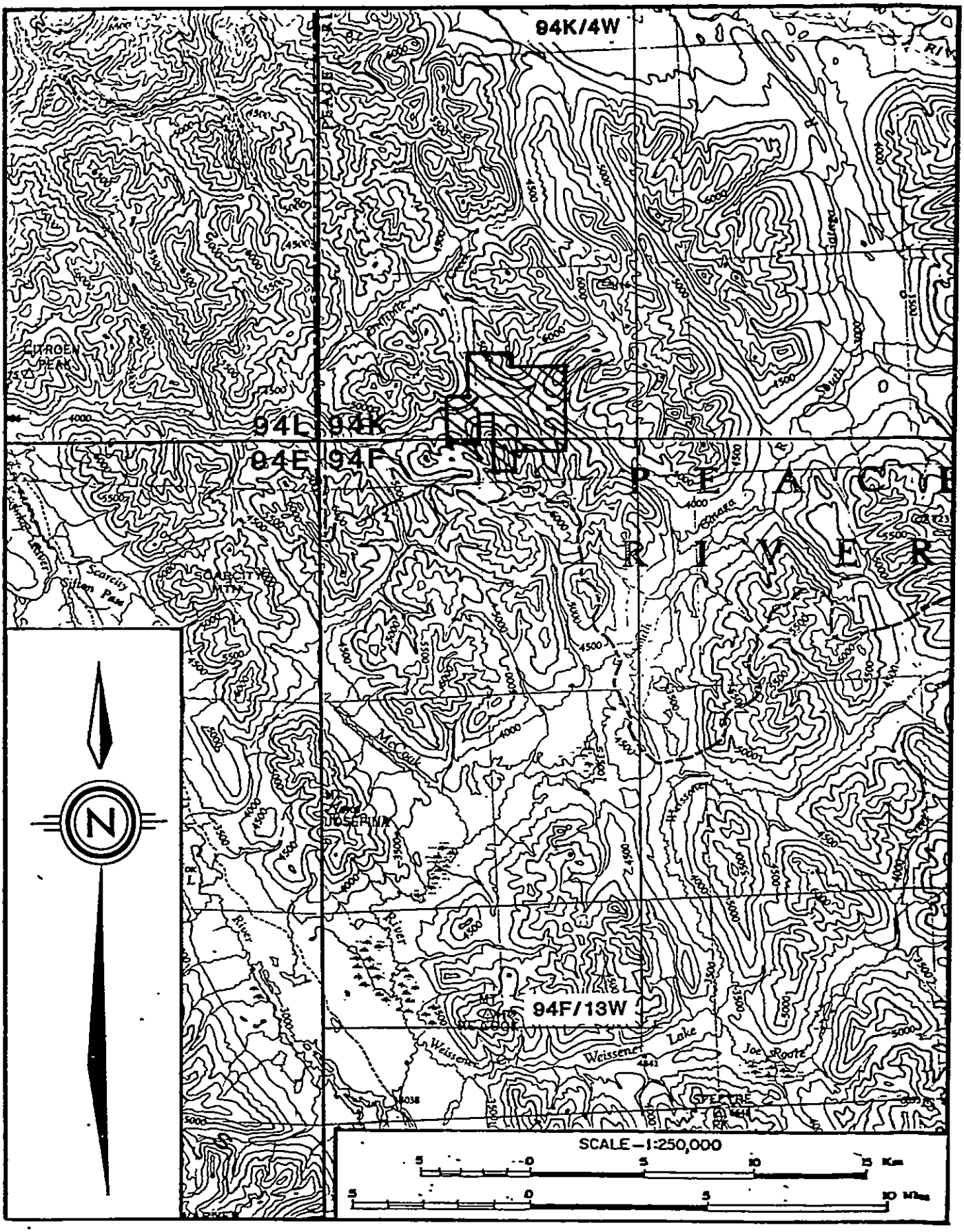


Figure 1: Location of Bob 1-4, Bob 7, Hawk and Hat claim group.

that point to the property. Fuel and camp supplies used for the 1981 program were trucked 300 km from Watson Lake to Muncho Lake (km 747 on the Alaska Highway) and ferried 100 km during mid-April, 1981 by ski-equipped, single Otter aircraft to a winter airstrip located about 15 km north of the claim group. Field work was conducted with a helicopter supported program based at a permanent field camp located on Driftpile Creek, about 7 km to the northwest.

Stratigraphy

The Gataga Lakes area lies within Kechika Trough, a southeasterly extension of the much larger Selwyn Basin. Sedimentary rocks range in age from Cambrian to lower Mississippian. Prior to upper Devonian, easterly derived clastic sedimentary assemblages reflect normal sedimentation patterns while the westerly derivation of upper Devonian to Mississippian sedimentary rocks resulted from block faulting and uplift along the continental margin. Regional stratigraphic relationships are summarized on Figure 3. Geology of the area is shown on Figure 4.

Upper Devonian siliceous and pyritic black shales are host to numerous stratiform barite and barite-lead-zinc deposits in the area, notably those at Driftpile Creek some 7 km along strike to the northwest and at the GJV Bear claim, located about 2 km southeast.

Diamond Drilling

Diamond drilling on the GJV Bob claims was undertaken during the 1981 field season to evaluate a moderately intense lead-silver soil geochemical anomaly that is 1.5 km long and elongated in a northwesterly trend. The soil anomaly, in turn, coincides with a linear vegetation anomaly consisting of a grassy, treeless meadow within the predominantly forested area. Four holes drilled

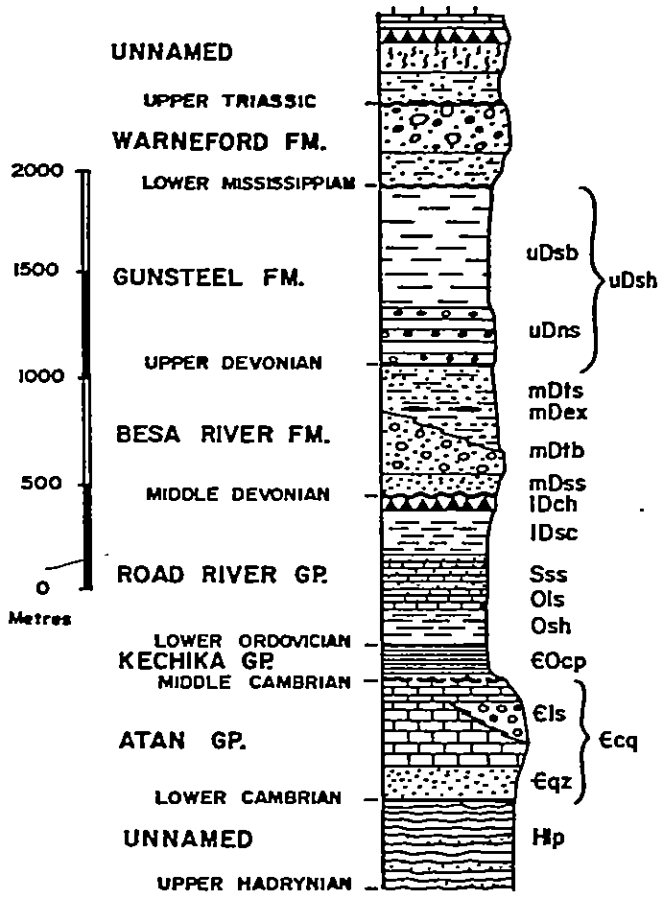


Figure 2: Generalized stratigraphy, Gataga Lakes area.

into the central one kilometre of the zone failed to discover significant mineralization. Locations of the drill holes are shown on Figure 4, while drill logs with assays are given in Appendix III. Diamond drill cross-sections are shown in Figures 5 to 8. A summary of the drilling is given below in Table II:

TABLE II - SUMMARY OF DIAMOND DRILLING

HOLE	AZIMUTH	INCLINATION	ELEVATION	SIZE	DEPTH
81M-1	065°	-65°	1406 m	NQ	152.0
81M-2	065°	-65°	1421 m	NQ	154.2
81M-3	065°	-58°	1444 m	NQ	158.5
81M-4	065°	-63°	1480 m	NQ	140.2

Drill holes 81M-1 to 81M-4 intersected an elongate horizon of very siliceous shale and pyritic cherty black argillite correlated with Map Unit uDch. Thickness variation of uDch suggests a localized development of the unit within the limits of the geochemical anomaly. A maximum stratigraphic thickness of 45 m was encountered in Hole 81M-3 while Hole 81M-1, located 685 m northwest along strike, intersected a 12 m true thickness of uDch. Hole 81M-3 cut a 5.0 m thick zone of bedded pyrite, blebby barite and cherty argillite immediately below uDch. This zone, correlated with Horizon TH, returned only trace values of lead and zinc. The interval from 139.3 m to 141.7 m assayed 45 ppm Pb, 10 ppm Zn and 0.7 g/t Ag. A central massive pyrite zone, intersected between 141.7 m and 143. 9 m, returned values of 45 ppm Pb, 0.38% Zn and 5.4 g/t Ag. The underlying baritic interval to 148.1 m assayed 80 ppm Pb, 0.33% Zn and 0.6 g/t Ag. Similar mineralization is not present in adjoining areas of drilling, suggesting a very limited size potential for TH.

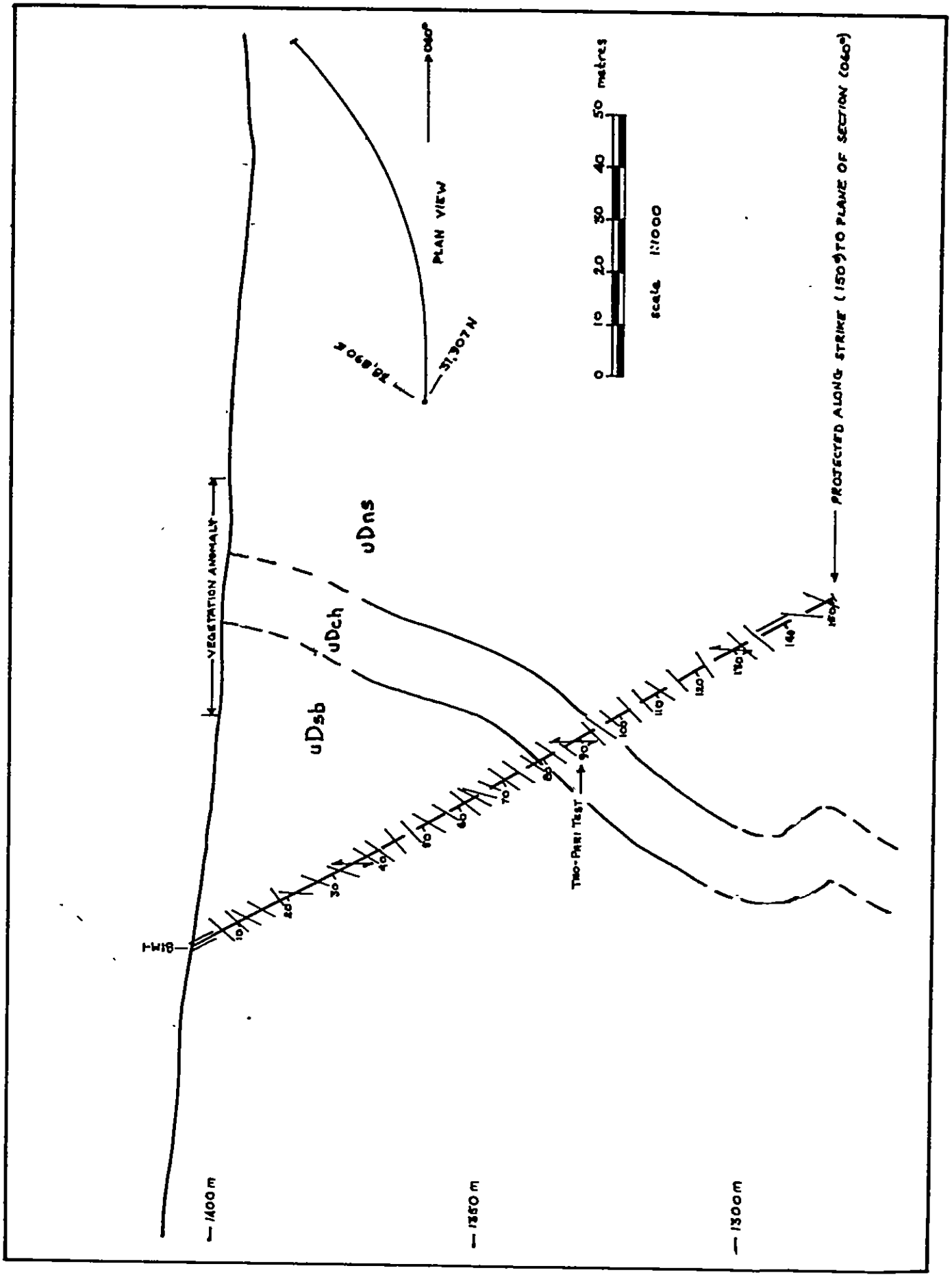


Figure 5: Cross-section, Hole 81M-1

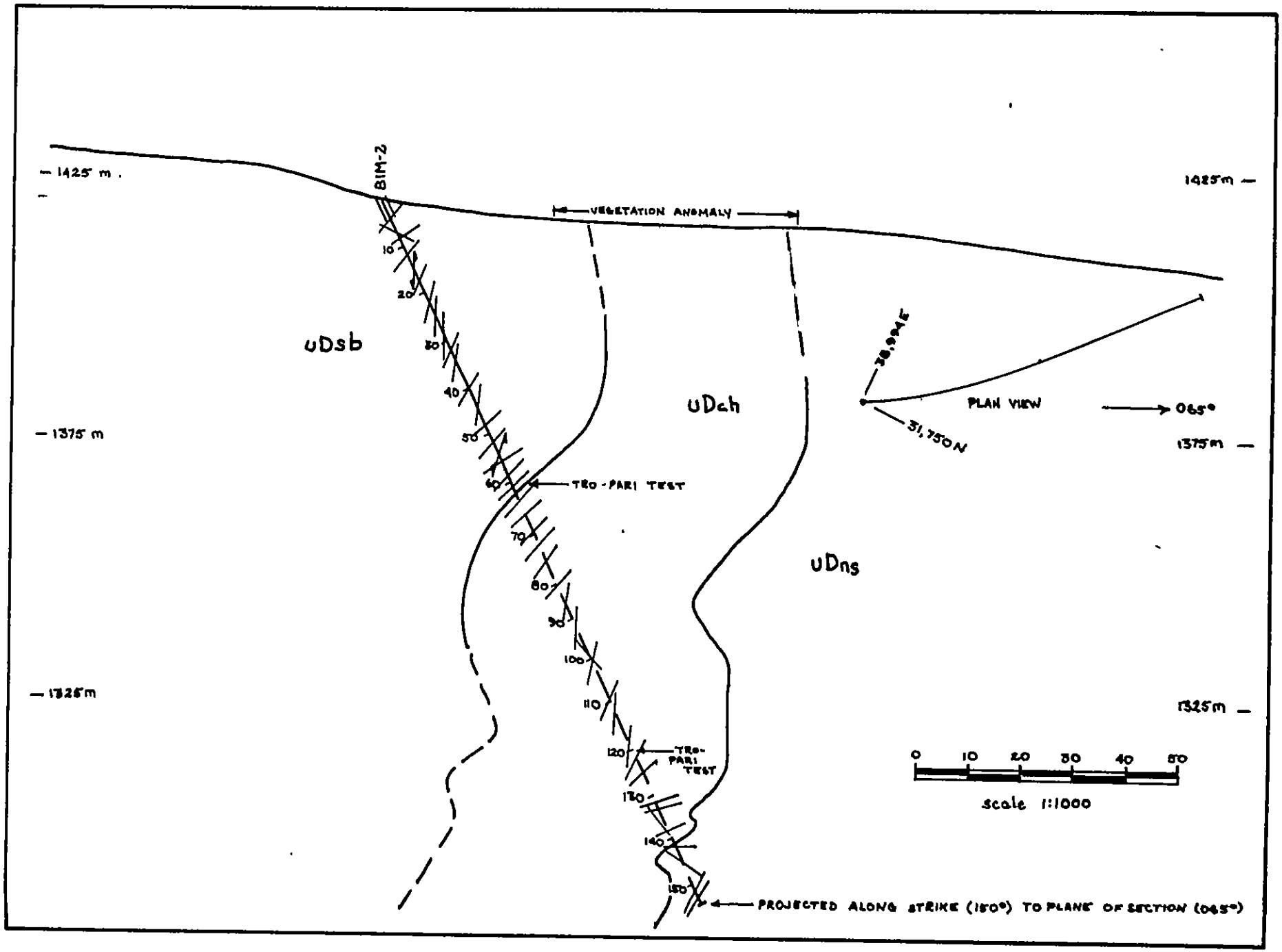


Figure 6: Cross-section, Hole 81M-2

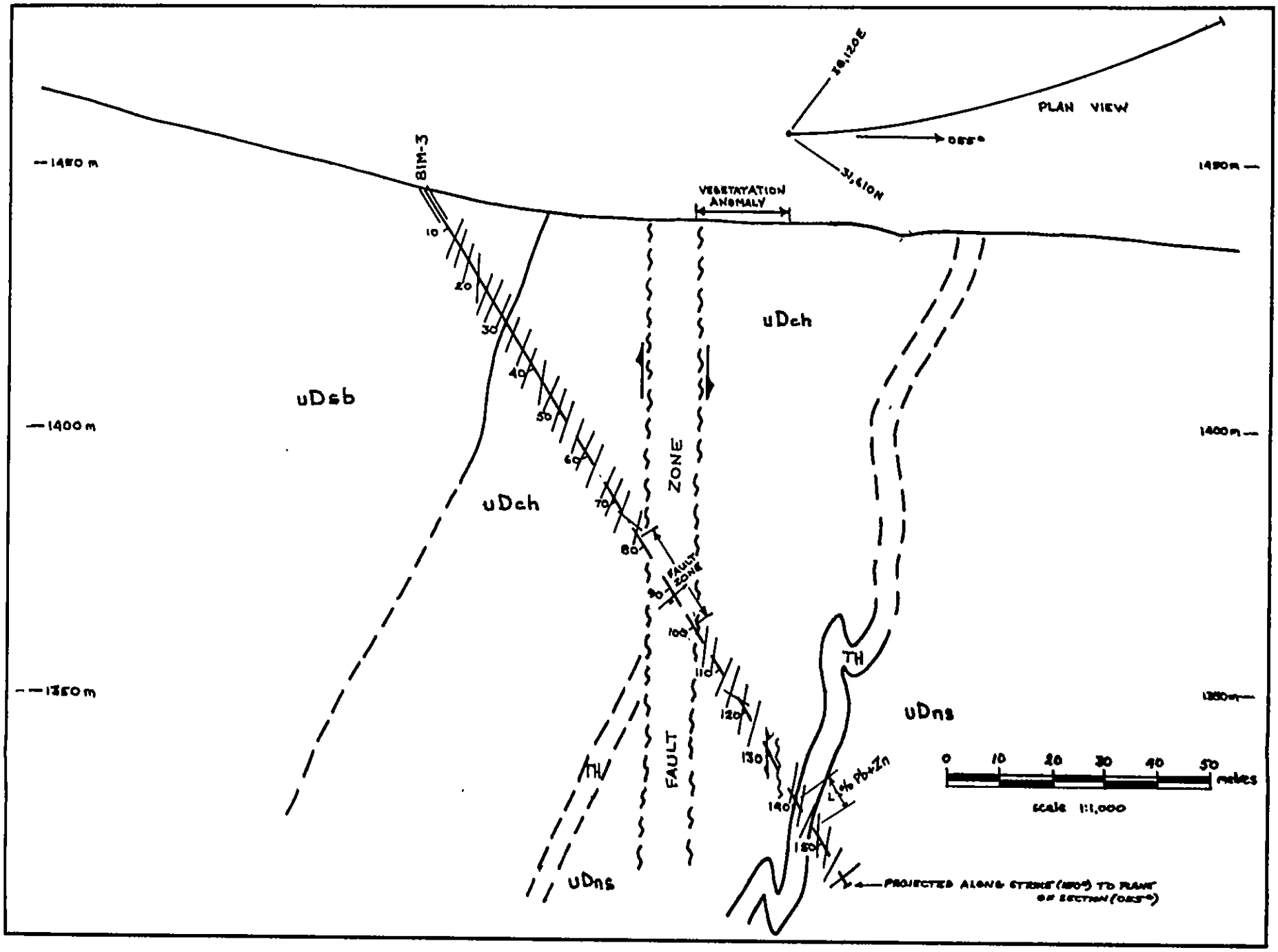


Figure 7: Cross-section, Hole 81M-3

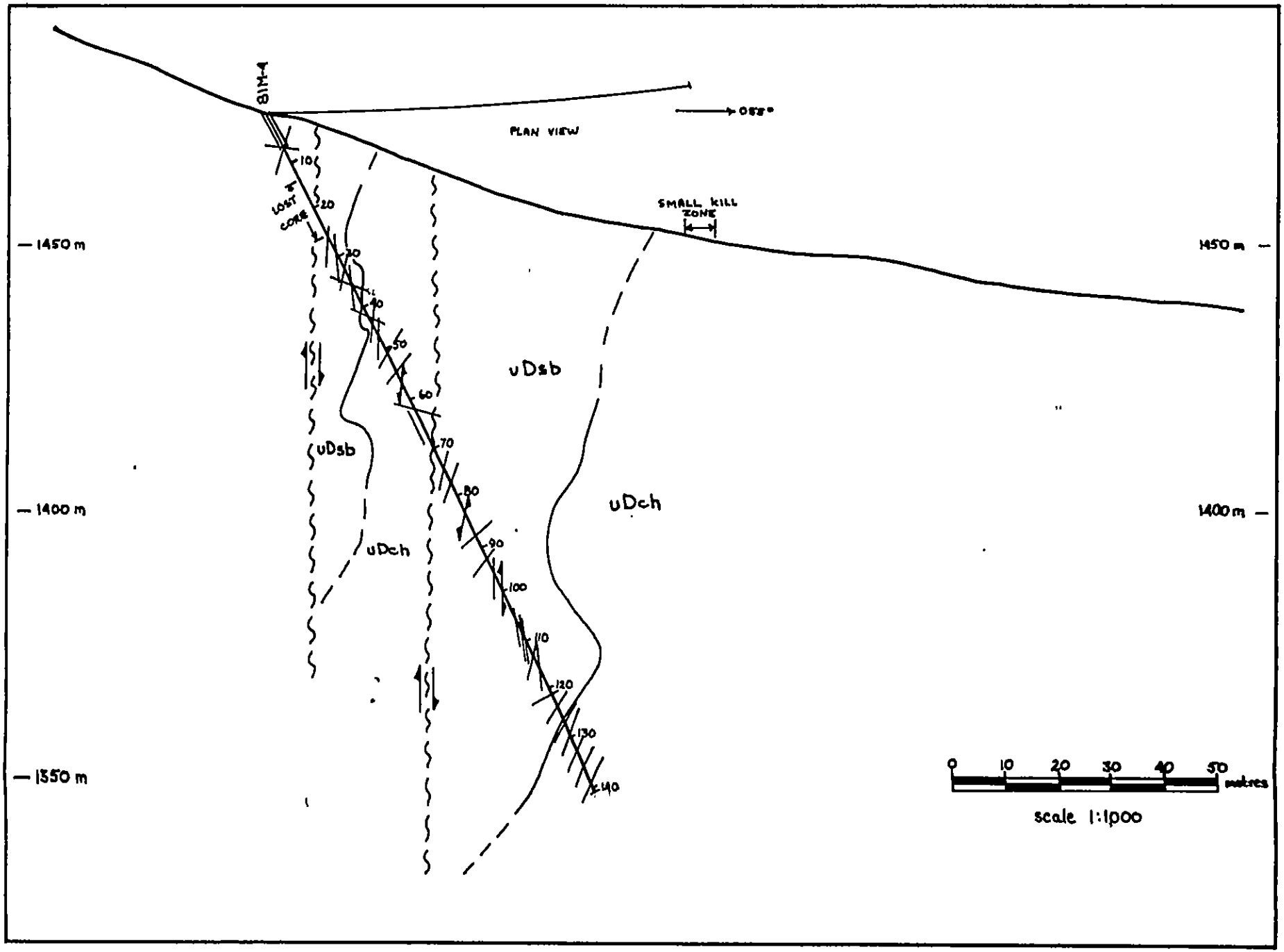


Figure 8: Cross-section, Hole 81M-4

Conclusions and Recommendations

Diamond drilling on the Bob claims was undertaken in 1981 to determine the source of high lead soil values in the area. A 5.0 m thick zone of weakly mineralized baritic and pyritic rock was encountered in one hole only.

The source of the lead soil anomaly is not explained by the pyritic mineralization. Overlying cherty rocks are commonly galena-bearing on the nearby Bear claim and the D, P and Goof claims. In view of the extremely poor core recovery from this unit in Holes 81M-1 to 81M-4 (less than 60%), it is probable that minor amounts of lead and silver mineralization were present but not recovered by the drill program. No further work is recommended at the present time.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED,

R.J. Cathro

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
R. J. CATHRO

/jm

APPENDIX I

STATEMENT OF QUALIFICATIONS

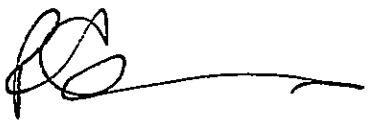
I, Robert C. Carne, geologist, with business and residential addresses in Vancouver, British Columbia, hereby certify that:

1) I graduated from the University of British Columbia in 1974 with a B.Sc. and in 1979 with an M.Sc. majoring in Geological Sciences.

2) I am a member of the Geological Association of Canada.

3) From 1974 to the present, I have been actively engaged as a geologist in mineral exploration in British Columbia and Yukon Territory.

4) I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.



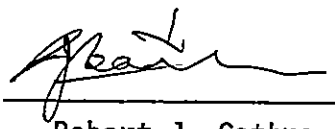
Robert C. Carne

APPENDIX I

STATEMENT OF QUALIFICATIONS

I, Robert J. Cathro, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia, and residential address in West Vancouver, British Columbia, do hereby declare:

1. I am a 1959 graduate of the University of British Columbia in geological engineering.
2. I have been engaged in geological engineering for over twenty years, the past fifteen of which have been as a consultant.
3. I am a registered professional engineer in British Columbia and in Yukon Territory.
4. I have supervised the work described in this report.



Robert J. Cathro

APPENDIX II

SUMMARY OF COSTS

on work performed on the

BOB 1, BOB 2, BOB 3, BOB 4, BOB 7, HAWK and HAT CLAIMS

Salaries and Wages

R.C. Carne (Geologist)			
Supervision and core logging	July 5, 15-17, 19-21 7 days @ $230/day	$1,610.00	
M.P. Phillips (Geologist)			
Supervision and core logging	July 6-9 4 days @ $230/day	920.00	
			$ 2,530.00

Camp Maintenance

Includes fixed-wing and helicopter costs	101 mandays @ $50/day	5,050.00

Diamond Drilling

D.J. Drilling Co. Ltd., Surrey, B.C.

Direct Costs	604.9 m NQ @ $75.13/m	$45,446.14	
Indirect Costs (extra wages, drilling mud, consumable drill supplies and fuel)	604.9 m NQ @ $60.00/m (est.)	36,294.00	
			$ 81,740.14

Bulldozer (includes fuel costs on site)

John Deere 450C (leased from D.J. Drilling Co. Ltd.)	61.0 hrs @ $65/hr	3,965.00

Helicopter (includes fuel costs on site)

Northern Mountain Helicopters Ltd., Prince George, B.C.

Bell 206B	39.7 hrs @ $450/hr	$17,865.00

Helicopter (cont'd.)

Shirley Helicopters Ltd., Edmonton, Alberta			
Bell 204	2.5 hrs @ $1200/hr	$ 3,000.00	
Frontier Helicopters Ltd., Abbotsford, B.C.			
Bell 205	2.2 hrs @ $1400/hr	3,080.00	
			$ 23,945.00
			$117,230.14
Report Preparation and Administration (@ 10%)			11,723.01
			$128,953.15

APPENDIX III

DIAMOND DRILL LOGS

HOLES 81M-1 to 81M-3

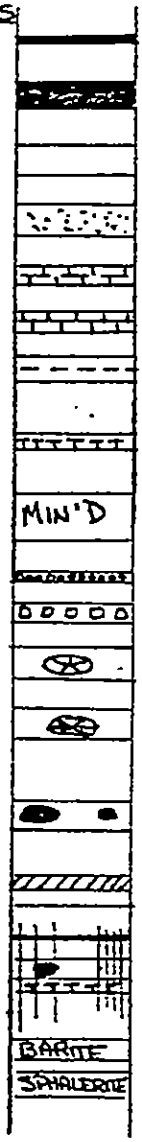
Project	NTS	Scale	Page of	Traverse
Sampler	Location, Target (words)		Sample Nos	
Date	photo no.		Cert. Nos	

GJV
DRIFTPILE PROJECT
DIAMOND DRILL CORE
VISUAL LOG KEY
JULY 19, 1979

STRUCTURES

- MODERATE SHEARING
- STRONG SHEARING, FAULT GOUGE
- BRECCIATED
- BRECCIA HEALED WITH QZ-CO_3 VEINS
- VERY CONTORTED ROCK
- QZ-CO_3 VEIN SWARMS
- QZ-CO_3 VEIN INTERSECTION

LITHOLOGIES



- THIN (<2CM) RADIOLARIAN CHERT OR CHERTY ARGILLITE BEDS
- THICK (>2CM) CHERTY ARGILLITE BEDS
- LOW-VERY SILICEOUS BLK SHALE
- SLIGHTLY GRITTY BLACK SHALE
- CALCAREOUS BLACK SHALE
- BLACK LIMESTONE BEDS
- BLACK SHALE WITH IRREGULAR PYRITE-CARBONATE-HYDROCARBON MASSES OR "SWEATS"
- "TUFF" OR "TUFFACEOUS" SILTSTONE, OFTEN CALCAREOUS
- MASSIVE SULPHIDE OR BARITIC MINERALIZATION
- NODULAR OR "BLEBBY" BARITIC SHALE
- BARITE-SILICA CONCRETIONS OR "BEADS"
- BARITE-BARIUM(?) CARBONATE-CALCITE SEPTARIAN NODULES
- UNIDENTIFIED CARBONATE MINERAL (PROBABLY $CaCO_3$) SEPTARIAN NODULES
- $CaCO_3$ NODULES (BOUDINED BEDS?): LARGE (>4CM), SMALL (<4CM)
- "BANDED", BLACK AND DARK GREY SHALE
- THIN PYRITE LAMINAE (CONFORMABLE TO BEDDING); ~EVERY 3-6 MM, ~EVERY 1-3 MM
- THIN MINERALIZED BEDS IN OTHERWISE BARREN SECTIONS.

GEOCHEM: Cu Mo Pb Zn Ag ASSAY

DON'T FORGET CONTOURS, DRAINAGE, NORTH ARROW, LAT/LONG, SAMPLE SITES, WORKINGS, TRAILS, GOSSANS, OBSERVED GEOLOGY: DEFINED —— INFERRED - - - ASSUMED.....
SPECIMEN SITE A,B,...; DO NOT WRITE ON OTHER SIDE OR USE COLOURS
ATTITUDES (<100 M)
SANDSTONE SILTSTONE
CONGLOMERATE
VOLCANIC
CHERT
SHALE
WATER O
PAN △
ROCK ■
SOIL ●
SILT X
LIMESTONE DOLOMITE
INTRUSIVE
GOSSAN, MINERALS

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M1

COORD. 31,907 N 30,890 E DIP -60° AZIM. 660° ELEV. 1406m SIZE NQ STARTED 01/07/81 COMPLETED 05/07/81 LOGGED BY M.P PHILLIPS

VISUAL LOG	FOOTAGE Intersection	FOOTAGE True Depth (Metres)	PRIMARY LITHOLOGY	SECONDARY INTERBEDS	%	CORE ANGLE (°) Bedding W	CORE ANGLE (°) Bedding E	CORE ANGLE (°) Structure W	CORE ANGLE (°) Structure E	PYRITE Lam. / Thickness	%	PYRITE Diss. / Size	%	BARITE Bed. / Thickness	%	BARITE Bleb. / Size	%	CO_3 Type / Size	%	OTHER Description	%	ANALYSES % Pb ppm	% Zn ppm	% Cu ppm	oz. Ag ppm	% Ba ppm
			CASING																							
	12	3.7	BLACK, CARB V SIL, MASSIVE NON-CALC BLK SHALE							LAM TR. <1mm.		DISS 0.5 <0.5mm		—	—	BLEB TR.										
	20	6.1	S.O.S.			26/W. 26/W		60°E BEDS DROP WEST		LAM TR. 3mm.		DISS 0.5		—	—	—	—	LAM 0.5								
	40	12.2	SOS.			35/W. 35/W		65°W 65°E. 60°E		BAND 1 15mm DISS BANDS		DISS TR. <0.5mm		—	—	40.5 PINHEAD 2 DISS/ LAM PY!		—								
	60	18.3	SOS	QZ-CARBONATE VEINING AND SILICIFICATION STARTS AT 61FT	3	10/W 10/W.		65/W. 65/W		LAM 1. 10mm		DISS <1 <0.5mm		—	—	—	—	—	—							
	80	24.4	SOS 91-100: BLACK MOD SOFT SHALE WEAK SILICIOUS NON CALC	MINOR 20mm. LMST; AT 81. INCREASING BANDS MOD SOFT BLACK SHALE 2 PY. LAM.	3	60°/W. 65°/W 45°/W		65°/W. 65°/W. 65°/E		LAM 1 2mm		DISS <1 <0.5mm		—	—	—	—	BAND 1 20mm 2 PY		STRONG CLY.						
103 106	100	30.5	BLACK SOFT/MOD SOFT, NON CALC. NON-WEAKLY SILICIOUS PASSIVE SHALE	BANDS TO 4ET OF MOD-STRONG SILICIOUS	4	45°/W.		45°/W. ERR SW.		LAM 3. <1mm.		NOD 0.5 10mm.		—	—	—	—	BANDS 5 100mm W 5mm.								
129.0 130.0	120	36.6	SOS.	NARROW MOD. SILICIOUS BDS	2	35°/W 25°/W.		65°/W. 75°/W		LAM 1 <1mm		DISS 0.5 0.5mm		—	—	—	—	BAND 1. 20mm								
	140	42.7	SOS	SOS.	2	15°/W 15°/W		75°/W 75°W.		LAM 0.5 <0.5mm		DISS <0.5 <0.5mm		—	—	—	—	BAND 3 TO 120mm								
169.0 172.0	160' -CB	188	SOS. WEAK-MOD SILICIOUS, GRADING INTO SOFT BLACK SHALE MASSIVE.	QZ-CB-SEC.	2	30°/W 30°/W		65°W 65°W.		LAM <0.5 <0.6 DISCONTIN		DISS <0.5 <0.5mm		—	—	—	—	—								
	180	54.9	MOD SILICIOUS MASSIVE, NON CALC BLACK SHALE	QZ-CB VEINS SOFT BLK SHALE =5%	2.	20°/W 40°/W.		45°NW, 55°W.		LAM <0.5 <0.5mm DISCON		DISS <.5 <0.5mm		—	—	—	—	—								
203 207	200	61	SOS.	SOFT BLK SHALE	5	20°/W. 30°/W. 45°/W		55°/E. 55°/E		LAM. <0.5 <0.5mm DISC.		DIS 1 <0.5mm		—	—	—	—	—	5							
	220	67.1																								

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81 M/1

COORD. _____ DIP ____ AZIM. ____ ELEV. ____ SIZE ____ STARTED _____ COMPLETED _____ LOGGED BY _____

VISUAL LOG	FOOTAGE Intersection	FOOTAGE True Depth	PRIMARY LITHOLOGY	SECONDARY INTERBEDS	%	CORE ANGLE (CA) Bedding W E	CORE ANGLE (CA) Structure W E	PYRITE Lam. Thickness	PYRITE %	PYRITE Diss. Size	BARITE Bed. Thickness	BARITE %	BARITE Bleb. Size	CO_3 Type Size	CO_3 %	OTHER Description	OTHER %	ANALYSES %	ppm Pb	%	ppm Zn	%	ppm Cu	oz.	ppm Ag	%	ppm Ba
		METERS	S.O.S.	SOFT-WEAKLY SILICIOUS	20	40°/W. 20°/W. 25°/W.	50°/E. 65°E	DISC LAM <0.5 <0.5MM		DISS FE <0.5MM	—	—	—	—	—												
	240	73.2	S.O.S. MOD-STRONG SIL. BLACK MASSIVE NON-CALC SHALE	QZ-CARBONATE FRACTURES-CAVINGS	<1	15°W 25°/W.	60°/E 55°E	DIS LAM <0.5 <0.5MM		DISS <0.5 <0.5MM																	
251 GOUGY STRONG CW	260	79.3	S.O.S. STRONG SIL-CHERTY BED IN PLACES	SOFT WEAK SILICIOUS	3	25°/W. 25°/W.	70°/W. 70°/W. BEDS POWDERY	DIS LAM <0.5 <0.5MM		DISS <0.5 <0.5MM	—	—	—	—	—												
	280	85.3	S.O.S.	SOFT BLACK SHALE AT 286 START POOR LMSN. BEDS.	3	20°/W. 30°/W	60°/E 55°E	DIS LAM 2 <0.5MM		DISS 1 2MM	—	—	—	BED 20 TO 120MM													
	295	90	S.O.S. AZ-CB. 'CONTORTED'	CHERTY SHALE.	16			LAM 5 3MM		DISS <0.5 <0.5MM	BED 10	—	—	BED 40 0.3 FT.													
	295.3	90	BLACK, NON-CALC STRONG-TENDING TO CHERTY SHALE	CHERTY SHALE BANDS	5	15°/W.	65°E	DIS LAM 1 · ·		DISS <0.5 <0.5MM	—	—	—	—	—												
	298.7	91.1	QUARTZ-CARBONATE SEGREGATION ~50% 11 BEDS	SILICIOUS SHALE	50	40°/W.		LAM 1 2MM.		DISS <0.5 <0.5MM.	—	—	—	SEG 10 5MM.		POSSIBLE MYLONITE? FAULT ZONE											
	305	93	BLACK, STRONG SILICIOUS, NON-CALC MASSIVE SHALE	CHERTY BEDS SOFT SHALE	5 5	25°/W	75°/W.	LAM <1 2MM.		DISS <0.5 <0.5MM	—	—	—	—	—												
	320	97.6	S.O.S. AT 336 START LMSN & SOFT SHALE	BLACK SOFT SHALE	15	20°/W. 25°/W 15°/W.	65°/E	LAM <1 MM 1MM.		DISS <0.5 <0.5MM	—	—	—	BED 10 TO 60MM AV 30MM													
	340	103.6	BLACK, MOD-STRONG SILICIOUS. NON-CALC SHALE, MASSIVE	BLACK SOFT SHALE - AV. 1-10CM. CALC SHALE	5 2	10°W 10°/W. 15°/W.	45°/W. 50°/W	DIS LAM <1 <0.5MM		DISS <0.5 <0.5MM	—	/	—	BEDS 2 10MM CALC SHALE													
	360	110	S.O.S.	BLACK SOFT SHALE AND PARTLY OCC. LIMY SHALE BEDS.	3	25°/W. 15°/W.	50°/W. 50°W.	DISC LAM <1 <0.5MM		DISS <0.5 <0.5MM	—	—	—	BEDS 2 10MM.													
	380.	115.8	S.O.S STRONG SILICIOUS	WEAK-MOD SILICIOUS	2	15/W.		DISC LAM <1 <0.5MM		DISS <0.5 <0.5MM	—	—	—	BEDS 1. 3-5MM													
	400.	122.																									

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M/1

COORD. _____ DIP ____ AZIM. ____ ELEV. ____ SIZE ____ STARTED _____ COMPLETED _____ LOGGED BY L.

VISUAL LOG	FOOTAGE Intersection	FOOTAGE True Depth	PRIMARY LITHOLOGY	SECONDARY INTERBEDS	%	CORE ANGLE Bedding W E	CORE ANGLE Structure W E	PYRITE Lam. Thickness	%	PYRITE Diss. Size	%	BARITE Bed. Thickness	%	BARITE Bleb. Size	%	CO_3 Type Size	%	OTHER Description	%	ANALYSES % Pb	ppm	% Zn	ppm	% Cu	ppm	oz. Ag	ppm	% Ba	ppm
uDch ~407~			5.05 ~407.0~	CHERT BANDS TO 10MM.	2	40°/W.	55°/E	PIN STRIP 1'		DISS <0.5		—	—	—	—	BAND	5	BLACK CHERT 10MM	1										
			BLACK, MASSIVE CARBONACEOUS WEAK TO MOD SILICEOUS SHALE	BLK CALC MUD. LIGHT GRAY CALC SHALE	5			<0.5MM		<0.5MM						240MM · W 10MM.													
	420	128	MOD-STRONG SILIC BLACK, CARBONACEOUS MASSIVE SHALE	SOFT BLK SHALE	10	5°/W.	60°/E	PIN STRIP 2'		DISS <0.5		—	—	—	—	BAND NOD	3												
uDns.				BLACK AND MOD GRAY NOD & BDS (10MM) LMSN		5°/W	60°/W	<0.5MM		<0.5MM						10MM AV													
	440	134.1	BLACK, MASSIVE CARB. NON CALC SOFT SHALE.	SILICEOUS SHALE 458.5-0.5 FT WHITE QUARTZ SEC	5	15°W 10°/W	60°/W. 60°/W	PIN STRIP 1-2		DISS 0.5		—	—	—	—	—	—												
								<0.5MM		<0.5MM 492-80MM NODULE																		
461 HYLONITE 465 85°	460	140.2	BLACK MASSIVE, U CARB, NON CALC SOFT-WEAKLY SILIC SHALE	WEAK-MOD SILICEOUS SHALE 471-473-QZ BRX	3.	≈ ⊥CA	≈ ⊥CA	PIN STRIP 1		DISS 0.5		—	—	—	—	NOD	<0.5												
								<0.5MM		<0.5MM						CHERT-(BAND) QUARTZ 3MM.												
485 HYLONITE 492	480	146.3	~~ENT 480~~ BLACK, MASSIVE MOD-STRONG SILICEOUS MASSIVE SHALE NON CALC	DECREY CHERT (LAV 10MM) SOFT BLACK SHALE ~5%	2.	60°/W 45°/W 45°/W.	60°W. 45°/W 65°/W	PIN STRIP 1		DISS <0.5		—	—	—	—	NOD	<0.5												
								<0.5MM		<0.5MM						5MM.												
END	499	152.1																											

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-2

COORD. 31,750N 38,994E DIP -65° AZIM. 065° ELEV. 1421m SIZE NQ STARTED 06/07/81 COMPLETED 10/07/81 LOGGED BY RC Carne

VISUAL LOG	FOOTAGE Inter-section	FOOTAGE True Depth	PRIMARY LITHOLOGY	SECONDARY INTERBEDS	%	CORE ANGLE Bedding W	CORE ANGLE Bedding E	CORE ANGLE Structure W	CORE ANGLE Structure E	PYRITE Lam. Thickness	PYRITE %	PYRITE Diss. Size	PYRITE %	BARITE Bed. Thickness	BARITE %	BARITE Bleb. Size	BARITE %	CO_3^- Type	CO_3^- %	OTHER Description	OTHER %	ANALYSES %	Pb ppm	Zn %	ppm	Cu %	ppm	Ag oz.	ppm	Ba %	ppm
	0.0	0.0	CASING																												
	12.0	3.7	CHERTY BLK ARGL 2-3 cm	RADIOLARIAN CHERTY ARGL	5	25/w	E 52	63/		BED	Tr							SEG	Tr	70% CORE REC											
										<1cm scattered								Py-lydC													
	22.0	6.7	MOD-V.SIL. BLK SHAL	CHERTY BLK ARGL <3cm	5	10/w				LAM	Tr									5% CORE REC											
										scattered																					
	40.0	12.2	MOD-V.SIL BLK SHAL	SOS <1cm	Tr	25/w		55/		Lam faint every 2-3mm	Tr									50% CORE REC											
	60.0	18.3	VARIABLY LOW-V.SIL, VFG, CALC. BLK SHAL SIO, dec d/s	RADIOLARIAN CHERTY ARGL <1cm	10	42/w 29/w				LAM every 1-5mm	Tr							BED	Tr	<3cm scattered											
	80.0	24.4	NON-SIL TO MOD SIL (MINOR), V. CARB, CALC BLK SHAL			58/w 60/w		50/		LAM "	Tr																				
	100.0	30.5	SOS minor non-calc sections			42/sw 55/w		64/		LAM " now 2mm "fuzzy"	Tr							NOD	Tr	<5cm scattered											
	120.0	36.6	SOS "			37/w 34/w		60/		LAM now thin, every 4-6mm	Tr																				
	137.0	41.8	SOS "			25/w				LAM "	Tr							BED	10	<4mm											
	143.0	43.6	SOS "			43/w 35/w 25/w				LAM "	Tr							BED	Tr	<2mm scattered											
	160.0	48.8	SOS "			10/w 25/w		63/		LAM dec d/s scattered	Tr							BED	Tr	<2cm scattered											
	181.0	55.2																													

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-2

COORD. _____ DIP ____ AZIM. ____ ELEV. _____ SIZE ____ STARTED _____ COMPLETED _____ LOGGED BY _____

VISUAL LOG	FOOTAGE Inter-section	FOOTAGE True Depth	PRIMARY LITHOLOGY	SECONDARY INTERBEDS	%	CORE ANGLE Bedding W E	CORE ANGLE Structure W E	PYRITE Lam. / Thickness	%	Diss. Size	%	BARITE Bed. Thickness	%	Bleb. Size	%	CO_3 Type / Size	%	OTHER Description	%	ANALYSES % Pb	ppm	% Zn	ppm	% Cu	ppm	oz. Ag	ppm	% Ba	ppm
uDsb			MOD. SIL., SLIGHTLY GRITTY, MOD. CARB. BLK SHAL., V. MINOR CALC. BEDS	Minor v.sil interbeds	5	10/w 20/w	48/	LAM Tr every 2-3 mm scattered								BED 1 15cm @ 196°													
	204.0	62.2	CHERTY BLK ARGL, VFG, V. CARB	slightly gritty, slightly calc intervals	25	17/w	48/	LAM Tr "								BED Tr <1cm scattered													
	212.0	64.6	gritty grey massive LSTN, lam. text.			25/w		BED Tr <4mm nr. centre								BED 100													
uDch	215.0	65.5	cherty, vfg to slightly gritty blk ARGL	slightly gritty v. sil. BLK SHAL < 3cm	05	20/w 18/w		LAM Tr every 3-4mm disseminations																					
	230.0	70.1	SOS	SOS	05	20/w 25/w	55/	LAM Tr "																					
	246.5	75.1	SOS becoming calc d/s	slightly gritty mod calc. intervals <5cm	10	23/w 34/w		LAM Tr "								BED 05 <2cm scattered		95% CORE REC											
	260.0	79.2	SOS non-calc @ base	SOS	40	25/w 23/w	51/	LAM Tr "								BED 05 "													
	280.0	85.3	SOS non-calc.	SOS > 10 cm	50	00/w 35/w		LAM Tr " both units								BED Tr " <3cm													
	300.0	91.4	SOS "	SOS "	50	37/w		LAM Tr "										60% C.R. IN SHEAR ZONE											
	320.0	97.5	SOS "	SOS "	70	63/VERT 80/E (70°)		LAM Tr in calc SHAL								BED Tr " <2cm		50% C.R. BROKEN, NOT SHEARED											
	340.0	103.6	SOS "	SOS " calc. content dec d/s	30	54/w		LAM Tr " as above										70% CORE REC. IN SHEAR											
	360.0	109.7	SOS "	SOS slightly calc	10	40/w 62/VERT		LAM Tr in both																					
	380.0	115.8																											

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-2

COORD._____ DIP_____ AZIM._____ ELEV._____ SIZE_____ STARTED_____ COMPLETED_____ LOGGED BY_____

VISUAL LOG	FOOTAGE Inter-section	FOOTAGE True Depth	PRIMARY LITHOLOGY	SECONDARY INTERBEDS	%	CORE ANGLE Bedding W E	CORE ANGLE Structure W E	PYRITE Lam. % Thickness	PYRITE Diss. % Size	BARITE Bed. % Thickness	BARITE Bleb. % Size	CO_3 Type % Size	OTHER % Description	ANALYSES % ppm Pb	% ppm Zn	% ppm Cu	oz. ppm Ag	% ppm Ba
			cherty blk ARGL 7-10cm intervals	mod-v.sil, variably calc blk SHAL, slightly gritty	10	63/VERT 40/W		LAM Tr every 34mm both units										
	400.0	121.9	SOS	SOS dec d/s	5	21/W 05/W	55	LAM Tr "					LOST CORE 417'-426', 50% CR 407-417'					
	420.0	128.0	SOS	SOS	25	" " 10/10 FLAT	55	LAM Tr "					LOST CORE 432'-438'					
	440.0	134.1	variably non-sil locherty non-calc to v.calc, v.fg, carb blk SHALE	cherty blk ARGL <4cm	05	12/W " E/80 CA 00/W		LAM Tr "				BED 01 457.2-457.6	LOST CORE 451'-455'					
uDch	461.5	140.7	grey, v.fg, v.siliceous LISN									BDS 100						
uDas	463.2	141.2	variably non to v.sil, calcareous, v.carb. blk SHALE calc dec d/s			24/W (broad) E/61 CA		LAM Tr every 1-3 mm			Bleb Tr v. scattered	BED Tr < 3cm zone						
	480.0	146.3	SOS thick bdd. now non-sil			E/80 " E/55 "		LAM Tr "			Bleb Tr "							
	492.0	150.0	Grey, v.fg, v.sil. LISN	v.sil, slightly gritty, mod calc blk SHALE 498'-500'	20							BED 80						
	502.0	153.0		SOS	100	37/W		LAM Tr "										
	506.0	154.2	END															

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-3

COORD. 31,428 N 39,135 E DIP -63° AZIM. 055° ELEV. 1444 m SIZE NQ STARTED 12/07/81 COMPLETED 16/07/81 LOGGED BY R.C. Carne

Visual Log	Footage Inter-section	Footage metres	Primary Lithology	Secondary Interbeds	%	Core Angle Bedding W E	Core Angle Structure W E	Pyrite Lam. Thickness	%	Pyrite Diss. Size	%	Barite Bed. Thickness	%	Barite Bleb. Size	%	CO_3^- Type Size	%	Other Description	%	Pb % ppm	Zn % ppm	Cu % ppm	Ag oz. ppm	Ba % ppm
	0.0	0.0	CASING																					
	22.0	6.7	Low-mod. sil, vfg to slightly gritty, non-calc blk SHAL	cherty blk ARGL < 3cm	Tr	35/w		LAM fuzzy, curvy 2-3mm	Tr									< 5% CORE REC						
uDsb	40.0	12.2	SOS	SOS < 10cm	Tr	38/w 40/w	55	LAM sharp	Tr									50% CORE REC						
	60.0	18.3	SOS	SOS	10	38/w		LAM "	Tr															
	80.0	24.4	SOS	SOS	10	34/sw 37/nw		LAM "	Tr															
	93.0	28.3	CHERTY BLK ARGL, med. bdd vfg	v.sil., slightly gritty blk SHAL / < 1cm rad. cherty ARGL	10 / 5	40/w 32/w		LAM irreg., fuzzy	Tr							BED 1cm-10cm scattered	5							
uDch	110.0	33.5	SOS	< 1cm rad cherty ARGL	Tr	37/w	65	LAM " & BED < 4 mm	Tr							BED < 1cm	Tr	30% CR 113'-123'						
	130.0	39.6	SOS	SOS	Tr	38/w 50/w		LAM " & BED "	Tr							BED "	Tr							
	150.0	45.7	SOS DEC D/S	v. sil to mod sil, slightly gritty, low-mod calc blk SHAL	20	35/w 41/w		LAM " "	Tr							BED < 10cm nr base	10							
	170.0	51.8	v.sil to mod. sil, slightly gritty blk SHAL non-calc minor calc SHAL	cherty sections Dec D/S.	05	38/w 38/w		LAM " "	Tr							BED scattered < 10cm	10							
	190.0	57.9	SOS			33/w		LAM " "	Tr							BED " < 2cm	05							
	198.0	60.4																						

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-3

COORD. _____ DIP ____ AZIM. ____ ELEV. ____ SIZE ____ STARTED _____ COMPLETED _____ LOGGED BY _____

VISUAL LOG	FOOTAGE Inter-section	FOOTAGE metres	PRIMARY LITHOLOGY	SECONDARY INTERBEDS %	CORE ANGLE Bedding W E	CORE ANGLE Structure W E	PYRITE Lam. % Thickness	PYRITE Diss. % Size	BARITE Bed. % Thickness	BARITE Bleb. % Size	CO_3^- Type % Size	OTHER % Description	ANALYSES % ppm Pb	% ppm Zn	% ppm Cu	oz. ppm Ag	% ppm Ba
			cherty blk ARGL med. Bdd, v. carb ufg	slightly gritty, non-calc to mod calc blk SHAL <4cm 05	38/SW 35/W		LAM Tr scattered BED Tr <2mm				BED Tr <2cm scattered						
	220.0	67.0															
			SOS	SOS 05	35/W 34/W		LAM Tr " BED EE "				BED Tr <1cm v. minor						
	239.0	72.8	slightly gritty, mod sil, non-calc blk SHAL. ufg sections		37/W 72/ECCA 47/NW	62	LAM Tr " BED EE "				BED 05 <1cm scattered						
FAULT GOUGE	256.0	78.0	SHEARED SHALE & FAULT GOUGE									25% CORE REC					
	264.0	80.5	Broken sheared core poor recovery.									5% CORE REC					
LOST CORE	271.0	82.6										0% CORE REC					
	279.0	85.0	cherty blk ARGL	slightly gritty 40			LAM Tr scattered ARGL					10% CORE REC					
FAULT GOUGE	287.0	87.5	poor recovery									5% CORE REC					
	297.0	90.5	V. carb, non-calc non-sil. blk SHAL. slightly gritty				LAM Tr every 3-4mm					40% CORE REC					
	301.0	91.7	SOS				LAM Tr "					40% CORE REC					
LOST CORE	322.0	98.1	LOST CORE									0% CORE REC					
	324.0	98.7	v. carb, non-sil slightly gritty blk SHAL			70/SSE	LAM Tr "										
	327.0	99.7															

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-3

COORD. ______ DIP ______ AZIM. ______ ELEV. ______ SIZE ______ STARTED ______ COMPLETED ______ LOGGED BY ______

Visual Log	Footage Intersection	Footage metres	Primary Lithology	Secondary Interbeds	%	Core Angle Bedding W E	Core Angle Structure W E	Pyrite Lam. / Thickness	%	Pyrite Diss. / Size	%	Barite Bed. / Thickness	%	Barite Bleb. / Size	%	CO_3 Type / Size	%	Other Description	%	Pb	Zn	Cu	Ag	Assay #
FAULT GOUGE	340.0	103.6	SHEARED SHAL & FAULT GOUGE				25			VEN 1.2 cm @ 330'	Tr							55% CORE REC						
	360.0	109.7	v. carb, slightly gritty, non-sil, calc. blk SHAL			50/w 43/w		LAM curvy 3-4 mm	Tr							BED <2 cm scattered	5	90% CORE REC						
	380.0	115.8	SOS	minor non-calc, v. carb, non-sil blk SHAL	01	37/w 41/w		LAM "	Tr							BED <10 cm scattered	5	80% CORE REC						
	400.0	121.9	v. carb, slightly gritty, non-sil, non-calc blk SHAL			50/w E 70 (7 cm) 50/w	60	LAM coarse scattered	Tr							Bed <1 cm scattered	Tr							
	416.0	126.8	SOS			50/w 45/w		LAM SOS	Tr							Bed <4 cm scattered	Tr							
FLT GG	431.0	131.4	SOS			00/w		LAM "	Tr							Bed " SOS	Tr	50% CORE REC						
LOST CORE	433.0	132.0	LOST CORE															0% CORE REC						
	446.0	135.9	BADLY BROKEN & SHEARED															25% CORE REC						
	457.0	139.3	SOS cherty															<8% CORE REC						
	465.1	141.7	cherty Blk ARGL, med bdd, non. calc			48/w		LAM BED <5 mm	Tr Tr			BED w LISN beds.	Tr			Bed <2 cm grey	5	60% CORE REC		ppm X 45	ppm X 10	ppm X 26	ppm X 0.7	1953
MIN'D	472.0	143.9	minor sl @ 469'	slightly calc cherty Blk ARGL <10 cm, scattered	25	47/w 37/w		BED <20 cm sections	50					BLEB <1 cm conc. nr. top	Tr	NOD w Py bounded beds.	25			ppm X 45	ppm X 3850	ppm X 55	ppm X 5.4	1954
	486.0	148.1	v. sil. to cherty Blk ARGL dec d/s. (40)	mod. sil gritty blk SHAL inc d/s	30	43/w 58/w		BED <6 mm scattered	05			BED <4 cm @ Base	Tr	BLEB <1 cm conc	05	NOD "	20			ppm X 80	ppm X 3300	ppm X [illegible]	ppm X 26	1955

Margin notes: uDch (at 380.0–400.0); Flt?~ (at 416.0); ~ (at 433.0–446.0); TH (at 465.1–472.0)

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-3

COORD. ______ DIP ______ AZIM. ______ ELEV. ______ SIZE ______ STARTED ______ COMPLETED ______ LOGGED BY ______

uDns

VISUAL LOG	FOOTAGE Inter-section	FOOTAGE metres	PRIMARY LITHOLOGY	SECONDARY INTERBEDS	%	CORE ANGLE CH Bedding W–E	CORE ANGLE Structure W–E	PYRITE Lam. Thickness	%	PYRITE Diss. Size	%	BARITE Bed. Thickness	%	BARITE Bleb. Size	%	CO_3 Type Size	%	OTHER Description	%	ANALYSES Pb	Zn	Cu	Ag	Ba
			non-sil. to mod sil, mod. carb, slightly gritty blk SILTST	v. sil. intervals; SLSN < 1cm scattered	10; 5	55/W								BLND scattered	Tr	SEPT < 3cm scattered	05							
	500.0	152A																						
			SOS	SLSN < 1cm scattered	02	30/W 05/W								BLEB; BEAD scattered	Tr; Tr	SEPT < 1cm	Tr							
	520.0	1585																						
			END																					

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-4

COORD. _____ DIP -63° AZIM. 066° ELEV. 1480 m SIZE NQ STARTED 16/07/81 COMPLETED 20/07/81 LOGGED BY R.C. Carne.

VISUAL LOG	FOOTAGE Inter-section	FOOTAGE metres	PRIMARY LITHOLOGY	SECONDARY INTERBEDS	%	CORE ANGLE (°) Bedding W E	CORE ANGLE (°) Structure W E	PYRITE Lam. Thickness	PYRITE %	PYRITE Diss. Size	%	BARITE Bed. Thickness	BARITE %	BARITE Bleb. Size	%	CO_3^- Type	CO_3^- % Size	OTHER % Description	ANALYSES % ppm Pb	% ppm Zn	% ppm Cu	oz. ppm Ag	% ppm Ba
	0.0	0.0	CASING BROKEN SHALE																				
ulSb?	22.0	6.7	mod-v.sil, non-calc. slightly gritty blk SHALE	SLSN < 1cm scattered	Tr	E\35°(ca) 44/w		BED Tr thin scattered		DISS Tr in silicous zones				Bleb Tr scattered				80% CORE REC					
	30.0	9.1	SOS badly broken, med. sheared	SLSN "	Tr			Bed Tr "		Diss Tr				Bleb Tr "				5% CORE REC					
~?~	47.0	14.3	LOST CORE															0% CORE REC					
uDsb(?)	87.0	26.5	mod.sil, v. calc, slightly gritty, non-graphitic blk SHALE			60/w E\71°(ca)		LAM Tr prev 1-2-3 <3mm										60% CORE REC					
	100.0	30.5	SOS	minor cherty ARGL < 3cm	Tr	55/w E\54		LAM Tr "										40% CORE REC					
	120.0	36.6	SOS	SOS	05	E\70°(70°) 11 ca		LAM Tr "										90% CORE REC					
uDsb(?) Lisp MARKER	132.4	40.4	Thin bdd to lam'd massive grey LIMS			E\50				Diss Tr scattered													
	134.7	41.1	mod. v. sil blk SHALE	Cherty Blk ARGL	40			LAM Tr v. minor scattered										45% CORE REC not sleaved					
	150.0	45.7	Cherty blk, mod calc ARGL	mod. v. sil. blk SHALE, thin (<5cm) & mod cherty ARGL	20	46/w 54/w 62/w		LAM Tr "								Bed Tr <4cm nr top		40% CORE REC not sleaved					
	170.0	51.8	SOS	SOS mod cherty ARGL inc	10	36/w 25/w	51/	LAM Tr "								Bed Tr <4cm scattered							
	190.0	57.9																					

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-4

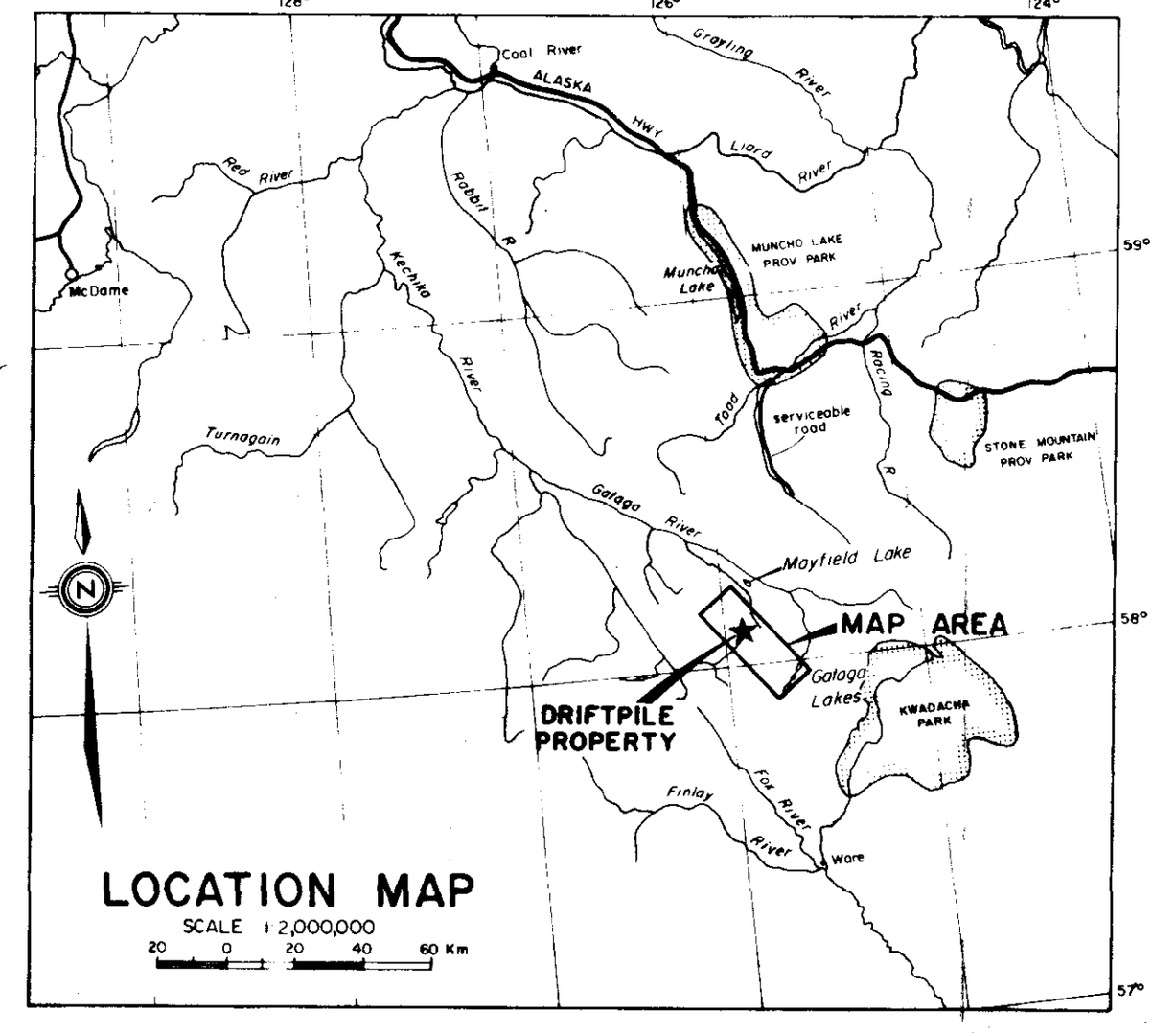
COORD. ______ DIP ______ AZIM. ______ ELEV. ______ SIZE ______ STARTED ______ COMPLETED ______ LOGGED BY ______

Margin	Visual Log	Footage (Intersection)	Footage (m)	Primary Lithology	Secondary Interbeds	%	Core Angle Bedding (W–E)	Core Angle Structure (W–E)	Pyrite Lam. / Thickness	%	Pyrite Diss. / Size	%	Barite Bed. / Thickness	%	Barite Bleb. / Size	%	CO_3 Type / Size	%	Other Description	%	Pb (%/ppm)	Zn (%/ppm)	Cu (%/ppm)	Ag (oz./ppm)	Ba (%/ppm)
uDsh		– 210.0	– 64.0	cherty blk ARGL med–thin bdd	v. sil slightly gritty blk SHAL 0.2–1/2 cm; rad. cherty ARGL	20 / 10	L\V26(<cm) E\4d(<cm)		LAM scattered thin	Tr							Bed Lam scattered	05	50% CORE REC						
		210.0 – 222.0	64.0 – 67.7	SOS	SOS	10 / 10	∥ ca		LAM "	Tr									40% CORE REC						
	LOST CORE	222.0 – 227.0	67.7 – 69.2	LOST CORE															0% CORE REC						
~	FAULT GOUGE	227.0 – 238.0	69.2 – 72.5	FAULT GOUGE															10% CORE REC						
uDsb(?)		238.0 – 268.0	72.5 – 81.7	med–v. sil blk SHAL non-calc med. carb.			50/W 45/W		LAM every 2–3 mm	Tr									50% CORE REC						
—		268.0 – 280.0	81.7 – 85.3	cherty blk ARGL med–thin bdd					LAM "	Tr									20% CORE REC						
uDsh		280.0 – 300.0	85.3 – 91.4	slightly gritty, non-sil, non-calc mod.–v. carb blk SHAL			15/W	55 ↗	LAM scattered	Tr									50% CORE REC						
		300.0 – 320.0	91.4 – 97.5	cherty blk ARGL, med bdd	slightly gritty, non-calc, mod. sil blk SHAL, decdls	30	25/W		LAM "	Tr									25% CORE REC						
		320.0 – 340.0	97.5 – 103.6	QZ-CA VEIN SWARMS	cherty blk ARGL	20	65/W		Bed scattered	Tr									50% CORE REC						
		340.0 – 360.0	103.6 – 109.7	SOS	SOS	10			Bed "	Tr	Diss scattered zones	Tr							60% CORE REC						
		360.0 – 376.0	109.7 – 114.6	SOS	SOS	10																			
~		376.0 – 390.0	114.6 – 118.9	med–v. sil, v/g to slightly gritty, v. carb blk SHAL	minor cherty intervals	05	E\8d(>cm) E\75(<cm) 65 | VERT	63 ↗	LAM every 3–4 mm scattered	Tr															

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 81M-4

COORD. ______ DIP ______ AZIM. ______ ELEV. ______ SIZE ______ STARTED ______ COMPLETED ______ LOGGED BY ______

VISUAL LOG	FOOTAGE Inter-section	FOOTAGE	PRIMARY LITHOLOGY	SECONDARY INTERBEDS	%	CORE ANGLE Bedding W E	CORE ANGLE Structure W E	PYRITE Lam. Thickness	%	PYRITE Diss. Size	%	BARITE Bed. Thickness	%	BARITE Bleb. Size	%	CO_3 Type Size	%	OTHER Description	%	ANALYSES Pb	Zn	Cu	Ag	Ba
uDsb	410.0	125.0	slightly gritty, mod sil to non sil, non-calc blk SHAL	minor cherty intervals <3 cm	Tr	55/W SE/71 (7cm) E/72 (")	45/	LAM every 3-4 mm spaced	Tr									80% CORE REC						
	430.0	131.1	SOS vfg sections	SOS <4 CM	Tr	05/W 45/W		LAM " BEDS	Tr									90% CORE REC						
	443.4	135.1	SOS now mostly vfg			30/W 28/W		LAM every 0.5 mm	Tr									90% CORE REC						
uDch LISN MARKER	446.2	136.0	massive, grey, siliceous LISN gradational lower CNT	overturned? baritic?		31/W										BED	100							
	460.0	140.2	vfg, non-sil. blk SHAL, mod.v.carb.			33/W 44/W		LAM every 4-5 discont.	Tr							BED <2 cm @ 459.5	Tr							
			END																					



COMPILED FROM AERIAL PHOTOGRAPHY
TAKEN AUGUST 15, 1979 AT A SCALE OF 1:24,000

FIGURE 2

ARCHER, CATHRO & ASSOCIATES (1981) LTD.

LOCATION PLAN

BOB 1–4, BOB 7, HAWK AND HAT CLAIMS

GATAGA JOINT VENTURE

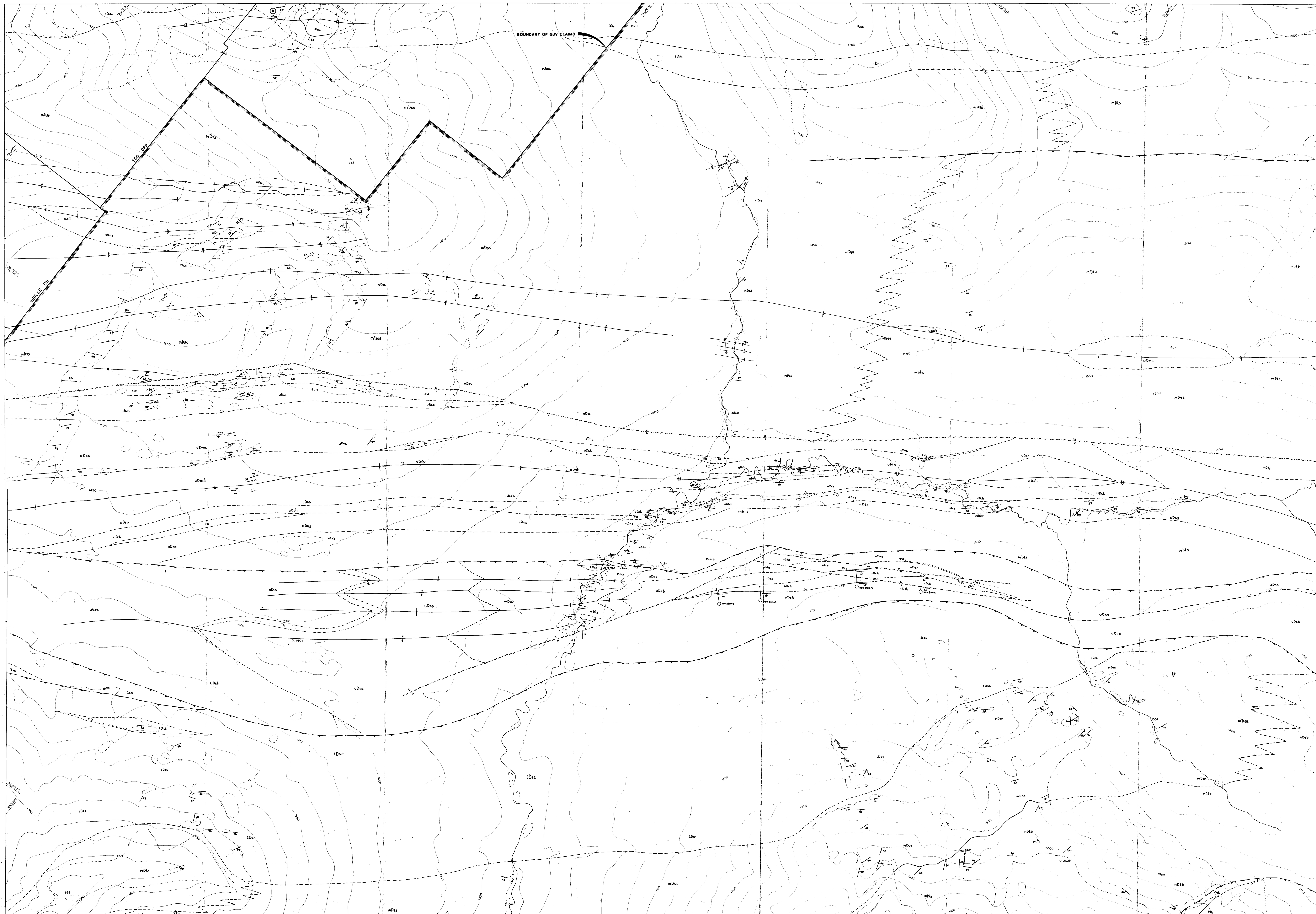
SCALE 1:20,000

500 0 200 400 600 800 1000 2000 Metres

1/2 0 1/2 1 1 ½ Miles

To accompany report dated Jan. 7, 1982

MAP GJV 20,000-1



COMPILED FROM AERIAL PHOTOGRAPHY
TAKEN AUGUST 15, 1979 AT A SCALE OF 1:24,000

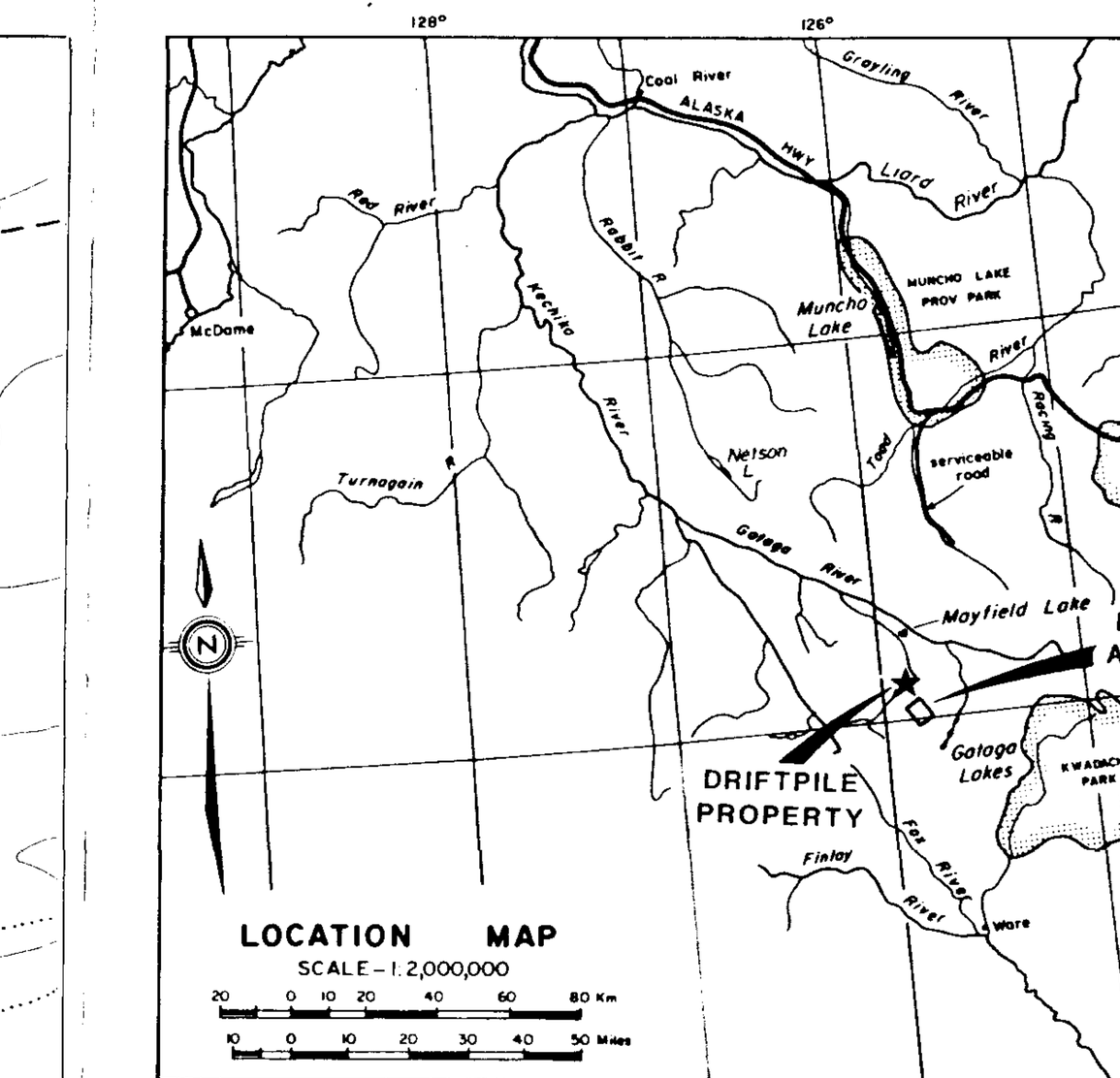


TABLE OF FORMATIONS

UPPER DEVONIAN

Gunsteel Fm.

uDsb	medium to thick bedded, siliceous and non-siliceous, carbonaceous black shale
uDch	very carbonaceous interbedded siliceous black shale and cherty argillite; locally present only
TH: TH_2	exhalite horizon; cherty black argillite, bedded and blebby barite, pyrite, chert, galena and sphalerite; locally present only
TH: uDdb	exhalite-clastic horizon; banded, thin to medium beddded dark grey and black shale and siltstone; minor blebby barite, cherty argillite, sphalerite and galena; locally present only
TH: TH_1	exhalite horizon; cherty black argillite, bedded and blebby barite, pyrite, chert, galena and sphalerite; locally present only
uDns	non-siliceous, thick bedded gritty black shale, calcareous sections; minor thin siltstone beds; conspicuous small (< 1 cm) barite concretions or nodules ("beads") and large (3-6 cm) barite-quartz-carbonate septarian nodules scattered throughout
NH	exhalite horizon; medium bedded siliceous black shale and cherty black argillite, blebby and bedded barite, manganiferous pink chert, minor sphalerite and galena; locally present only
uDca	interbedded cherty argillite, carbonaceous black chert, siliceous black shale, calcareous black shale and carbonate nodules, minor blebby barite; locally present only
UH	exhalite horizon; cherty black argillite, bedded and blebby barite, pyrite, chert, galena and sphalerite; locally present only

Gunsteel Fm. (western belt)

uDsb	medium to thick bedded, siliceous and non-siliceous, carbonaceous black shale
WH	exhalite horizon; cherty black argillite, bedded and blebby barite, pyrite and chert; locally present only
uDcc	medium to thick bedded, very carbonaceous black chert, minor carbonaceous shale interbeds, locally present only

MIDDLE DEVONIAN

Besa River Fm.

mDts	medium to thick bedded, intermediate facies turbidites (silty black shale with siltstone and conglomerate intervals)
mDtb	thick bedded to massive proximal facies turbidites and debris flows (chert pebble conglomerate and chert granule grit)
mDss	medium to thick bedded distal turbidites and levee fan deposits (calcareous, silty black shale with siltstone intervals)
uDex	exhalite horizon; thin bedded and nodular grey to black siliceous shale, very minor pyrite; thin and locally present only; stratigraphic position variable

MIDDLE ORDOVICIAN TO LOWER DEVONIAN

Road River Gp.

Lower Devonian

lDch	black and bluish black, thin to medium-bedded chert with minor carbonaceous shale intervals
lDsc	interbedded carbonaceous black shale and cherty black argillite, minor black chert

Silurian

Sss	orange-brown weathering dolomitic and ankeritic bioturbated siltstone, minor silty dolomite and cryptalgal laminated grey limestone; graptolitic

Ordovician

Osh	medium to thick bedded, calcareous black mudstone and shale, graptolitic
Ols	grey and white limestone with black and green chert lenses; western belt only

UPPER CAMBRIAN TO LOWER ORDOVICIAN

Kechika Gp.

[illegible]	wavy-banded silty limestone

SYMBOLS

- extent of outcrop
- geologic contact (known, assumed)
- bedding (inclined, vertical, overturned)
- cleavage (inclined, vertical)
- fault (unknown displacement)
- fault (displacement known; known, assumed)
- thrust fault (known, assumed)
- anticline (upright, overturned)
- syncline (upright, overturned)
- plunge of fold axis
- paleocurrent direction
- fossil locality (graptolite, trilobite, receptaculites coral, nautiloid, woody plant remains)
- quartz vein stockwork
- ferricrete deposit
- kill zone or gossan
- diamond drill hole
- hand or backhoe trench

Geology by R.C. Carne and T.J. Bremner (1980);
R.C. Carne and R.R. Parrish (1981)

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NO.

Fig. 4

ARCHER, CATHRO & ASSOCIATES (1981) LTD.

R.J. CATHRO
BRITISH COLUMBIA
ENGINEER
Jan/82

GEOLOGY

BOB 1–4, BOB 7, HAWK AND HAT CLAIMS

GATAGA JOINT VENTURE

SCALE — 1:5,000

100 50 0 50 100 200 300 400 Metres

100 50 0 50 100 200 300 400 Yards

To accompany report dated Jan. 7, 1982