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REPORT ON DIAMOND DRILLING

on the

BEAR and SI CLAIM GROUP

OMINECA AND LIARD MINING DIVISION

NTS 94F/13W

Latitude: 57°58'N

Longitude: 125°48'W

by

R.C. Carne

ARCHER, CATHRO & ASSOCIATES LTD.

for

WELCOME NORTH MINES LTD. (Owner)

and

GATAGA JOINT VENTURE (Operator)

Submitted November 3, 1980

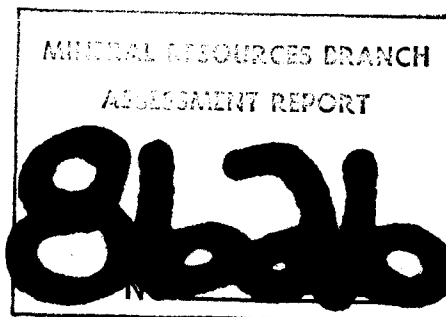


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- Appendix II Summary of Costs
- Appendix III Diamond Drill Logs with Assay Values

LIST OF CLAIMS

<u>Claim</u>	<u>Mining Division</u>	<u>Record Number</u>	<u>Number of Units</u>	<u>Record Date</u>
Bear	Omineca	666	20	July 11, 1977
Si	Liard	1154	18	December 10, 1979

REPORT ON DIAMOND DRILLING

on the

BEAR AND SI CLAIM GROUP

Introduction

The Bear and Si claims were staked in 1977 and 1979, respectively, by Welcome North Mines Ltd. on behalf of Gataga Joint Venture. The claims cover part of a northwest-trending belt of upper Devonian black shales which host lead-zinc mineralization in the nearby Driftpile Creek area on the P, D and Goof claims. Gataga Joint Venture (GJV) was formed in 1977 to explore for lead-zinc in northeast British Columbia, and 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 program was managed by Archer, Cathro & Associates Limited and was directed in the field for the fourth successive season by R.C. Carne.

The claims were geologically mapped at a scale of 1:5000 during to provide a basis for diamond drilling. Topographic control for the survey was established with the aid of a contoured 1:20000 scale orthophoto map produced from aerial photography flown by GJV in 1979. The drilling program was carried out between June 30, 1980 and July 24, 1980.

Previous work consisted of geological mapping, stream sediment and grid soil sampling, and limited hand trenching in 1977, and more mapping and geochem soil sampling in 1980. The surface sampling indicated moderately intense anomalies in silver, lead and zinc but three hand trenches gave poor results and poor exposure has prevented a better assessment of the potential of this prospect.

Diamond drill core is stored in log core racks located at a permanent camp located about 15 km northwest of the property on Driftpile Creek.

Location and Access

The Bear and Si claims are located 6 km northwest of Gataga Lakes on NTS map sheet 94F/13W. The centre of the group is located at latitude 57°58'N and 125°48'W. Access is by float-equipped, fixed-wing aircraft from Watson Lake, Yukon Territory, about 290 km to the northwest, to Mayfield Lake, located about 25 km northeast of the property. Access to the claims from the lake is by helicopter. The nearest large town, 210 km to the east, is Fort Nelson which does not have a float plane base. Fuel and camp supplies used for the 1980 program were trucked 300 km from Watson Lake to Muncho Lake (km 747 on the Alaska Highway) and ferried 100 km during mid-April, 1980, by ski-equipped, single Otter aircraft to Mayfield Lake. Field work was conducted with a helicopter supported program based from a permanent field camp located on Driftpile Creek, about 15 km to the northwest (Figure 1).

Regional Geology

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.

Structural geology of the area is dominated by northwesterly-trending, easterly directed thrust faults. Pelitic sedimentary rocks within thrust sheets

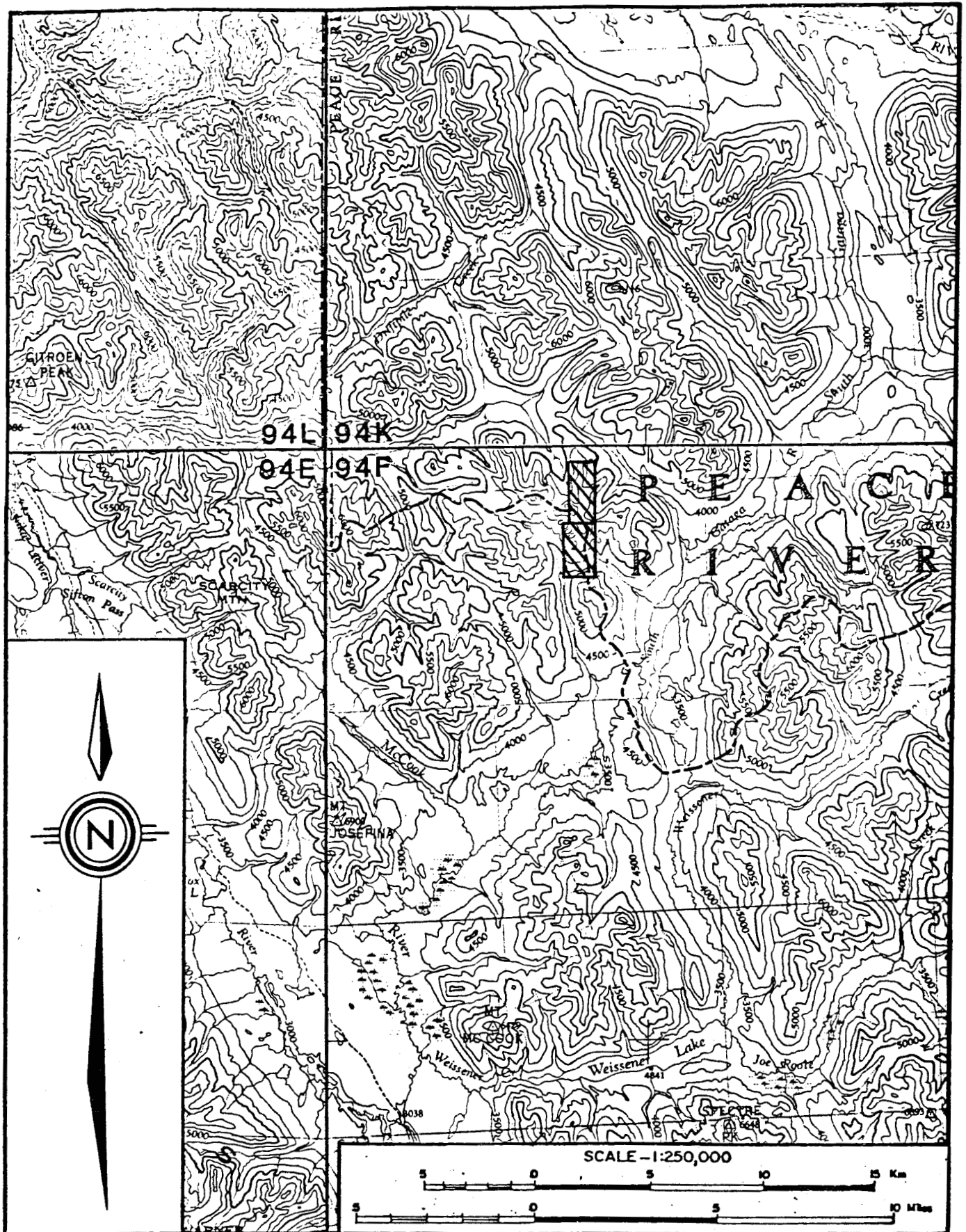


Figure 1: Location of the Bear and Si claim group

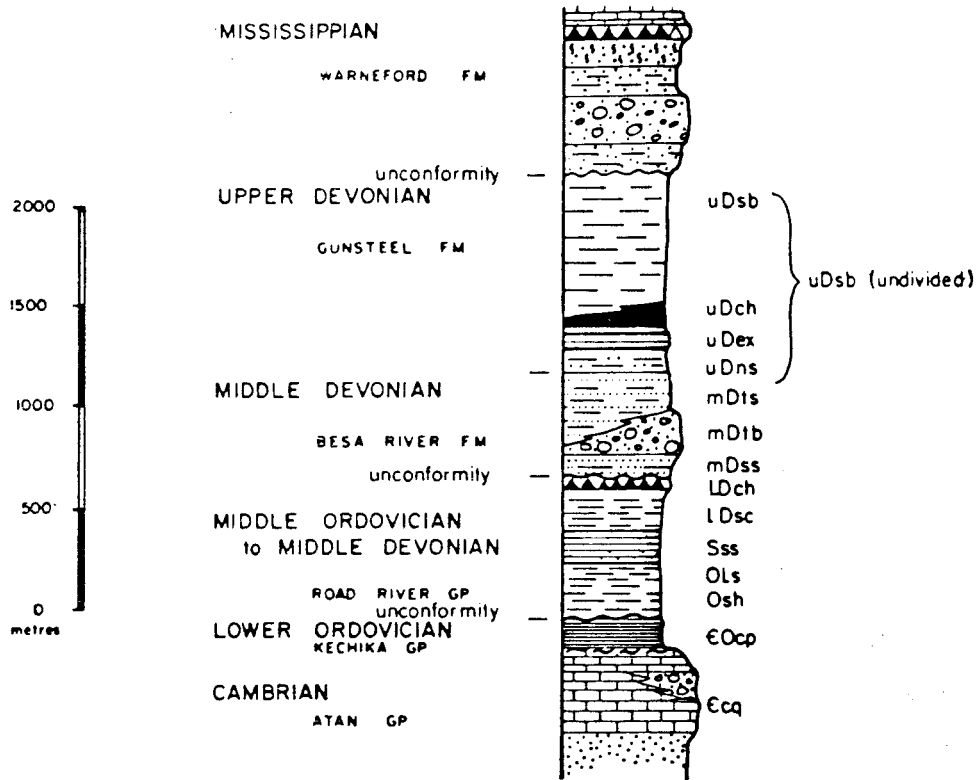


FIGURE 3

ARCHER, CATHRO & ASSOCIATES LTD

STRATIGRAPHY
GATAGA LAKES AREA
GATAGA JOINT VENTURE

are complexly deformed into upright to slightly overturned isoclinal folds cut by numerous near-vertical shear zones. A penetrative axial plane foliation is commonly well developed. Structural geology is complicated by deformation initiated prior to deposition of middle Devonian clastic rocks above a pronounced unconformity.

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 15 km to the northwest and at Cyprus Anvil's Cirque claims, located about 110 km southeast of the area.

Property Geology

Geology of the Bear and Si claims and surrounding area is shown at 1:5000 scale on Figure 4.

Oldest lithologies exposed in the area are Ordovician to lower Devonian pelitic rocks of the Road River Group (Map Units Osh, Sss, 1Dsc and 1Dch). Medium to thick bedded calcareous black shale and mudstone of Map Unit Osh forms the basal part of the Road River section. An Ordovician age is assigned on the basis of poorly defined graptolite assemblages.

Orange-brown weathering, relatively resistant lithologies of Map Unit Sss form a distinctive marker horizon in the area. The Silurian age stratigraphic package is dominantly composed of dolomitic and ankeritic siltstone and silty mudstone with minor silty dolomite and cryptalgal laminated grey silty limestone.

Lower Devonian Map Unit LDsc occurs throughout the area although its thickness is extremely variable. The unit is primarily composed of carbonaceous, calcareous and non-siliceous black shale with lesser intervals of cherty black argillite with

minor black chert successions.

Road River group is intermittently capped by a thin siliceous unit consisting of black and bluish black, thin to medium bedded chert with minor carbonaceous shale intervals (unit LDch).

Middle Devonian lithologies of Besa River Formation (unit mDtb and mDss) unconformably overlie older rocks. Unit mDtb consists primarily of massive to thick bedded, very resistant chert pebble conglomerate and chert granule grit deposited as debris flows and proximal turbidites. Morphologies of channel deposits and paleocurrent indicators define an easterly direction of transport for the sediment. Coarse-grained proximal turbidites grade laterally very rapidly to thick bedded, gritty black mudstone and muddy siltstone (Map Unit mDss) probably deposited as terrace or levee deposits. Distal equivalents of proximal and lateral facies are represented by Map Unit mDts. Brown weathering, thick-bedded, gritty and fine grained mudstone and shale with thin interbeds of pyritic siltstone characterize the unit. Coarse, medium bedded intervals are scattered throughout the section.

Generally pyritic and fine grained, siliceous black shale of upper Devonian Gunsteel Formation conformably overlies coarser grained lithologies of Besa River Formation. Unlike older sedimentary units, facies changes within the formation are abrupt and bear no apparent relationship to regional trends. In simplest terms, the formation can be broken down into two members, Map Units uDns and uDsb, whose distribution is probably related to their physical environment of deposition. Discontinuous and irregular distribution of units uDch and uDex probably reflects their deposition as chemical sediments.

Medium bedded, non-siliceous, slightly gritty black shale of Map Unit uDns forms the basal part of Gunsteel Formation throughout the Gataga District. A

diagnostic feature of the member is the presence of 2 mm to 1 cm diameter, spheroidal nodules composed of silica, calcite and clay materials. Cross-bedded laminae or thin beds of a similar composition are sometimes associated with the nodules. Origin of these features is, at present, unknown but their mineralogy suggests possible derivation from water-lain tuffs in the north part of the district. Thickness of unit uDns varies from areas where it appears to be absent to over 200 m on the Bear claims.

Bulk of the Gunsteel Formation consists of medium to thick-bedded, siliceous and non-siliceous, carbonaceous black shale (unit uDsb). Stratigraphy within this member is very poorly defined because of the absence of identifiable marker horizons coupled with its generally recessive nature.

Distinctive lithologies of Map Units uDch and uDex always appear in close proximity to each other but relative ages of the two appear to vary within the district. Unit uDch consists of cherty argillite and black chert with siliceous shale partings. Thin beds of galena and sphalerite were also observed in drill core from this unit. Map Unit uDex consists of bedded barite and interbedded chert, cherty argillite, pyrite and nodular or blebby barite. Massive, pyritic sulphide deposits occur within this unit on the D,P and Goof claims at Driftpile Creek and on the GJV Bear claims. Silica, iron and barium content of uDex and uDch is thought to be derived from submarine hot-spring or exhalite activity during early deposition of the upper Devonian Gunsteel Formation.

Diamond Drilling

Diamond drilling on the Bear and Si claim group was carried out between June 30, 1980 and July 24, 1980. Four hundred and eighty - nine (489) metres of drilling in three and a half holes were completed of the 817 m five hole total before the July 11 anniversary date of the Bear claim. Results of the entire program are

reported here although assessment credit is claimed for only that part of the program completed before July 12, 1980.

TABLE I

SUMMARY OF DIAMOND DRILLING

Hole	Depth	Size	Azimuth	Inclination	Elevation	Dip Tests	Date Collared	Date Completed
80B-1	128.5m	BQ	060°	-56.0°	1625m	-56.0°@119m	30/06/80	04/07/80
80B-2	152.5m	NQ	060°	-73.0°	1625m	-73.0°@122m	04/07/80	07/07/80
80B-3	130.8m	NQ	056°	-53.5°	1596m	-54.5°@129m	07/07/80	09/07/80
80B-4	212.9m	NQ	056°	-77.5°	1596m	-80.0°@152m	10/07/80	15/07/80
80B-5	197.9m	NQ	057°	-62.5°	1549m	-----	16/07/80	24/07/80

Detailed stratigraphy and descriptions of mineralized intersections with accompanying assays are given in the diamond drill logs (Appendix III). This information is summarized in diamond drill cross-sections shown on Figures 5,6 and 7 on the following pages.

The main sulphide zone intersected in DDH 80B-1 and 80B-2 consists of an upper and lower body separated by an essentially barren two metre black shale interval. The upper part of the horizon consists of finely crystalline, bedded barite with interstitial sphalerite and galena overlying non-baritic massive bedded pyrite. This zone contains the best silver values (34.3 g/t over a 6.9 m true thickness) while combined lead and zinc grades average between two and four per cent. Silver-lead ratios average about 1:1, an unusually high ratios for shale-hosted lead-zinc deposits. Silver values in the sulphide mineralization decrease rapidly down-section while overall lead and zinc grades do not show appreciable change. True thickness of the mineralized interval decreases down dip from 35m at a vertical depth of 60m in DDH 80B-1 to 25m at a vertical depth of 100m in DDH 80B-2.

LEGEND FOR BEAR DIAMOND DRILL SECTIONS (DDH 80B-1 to 80B-4)

- 1 cherty argillite mineralization: discrete beds of galena and sphalerite in chert and cherty argillite; galena, sphalerite and barite veins
- 2 baritic mineralization: bedded barite, galena, sphalerite and pyrite in DDH 80B-1 and 80B-2; baritic breccia in DDH 80B-3 and 80B-4
- 3 pyritic mineralization: finely laminated, greater than 50 per cent pyrite
- 4 pyritic mineralization: pyrite (<30%) interbeds in black shale (DDH 80B-1 and 80B-2 only)

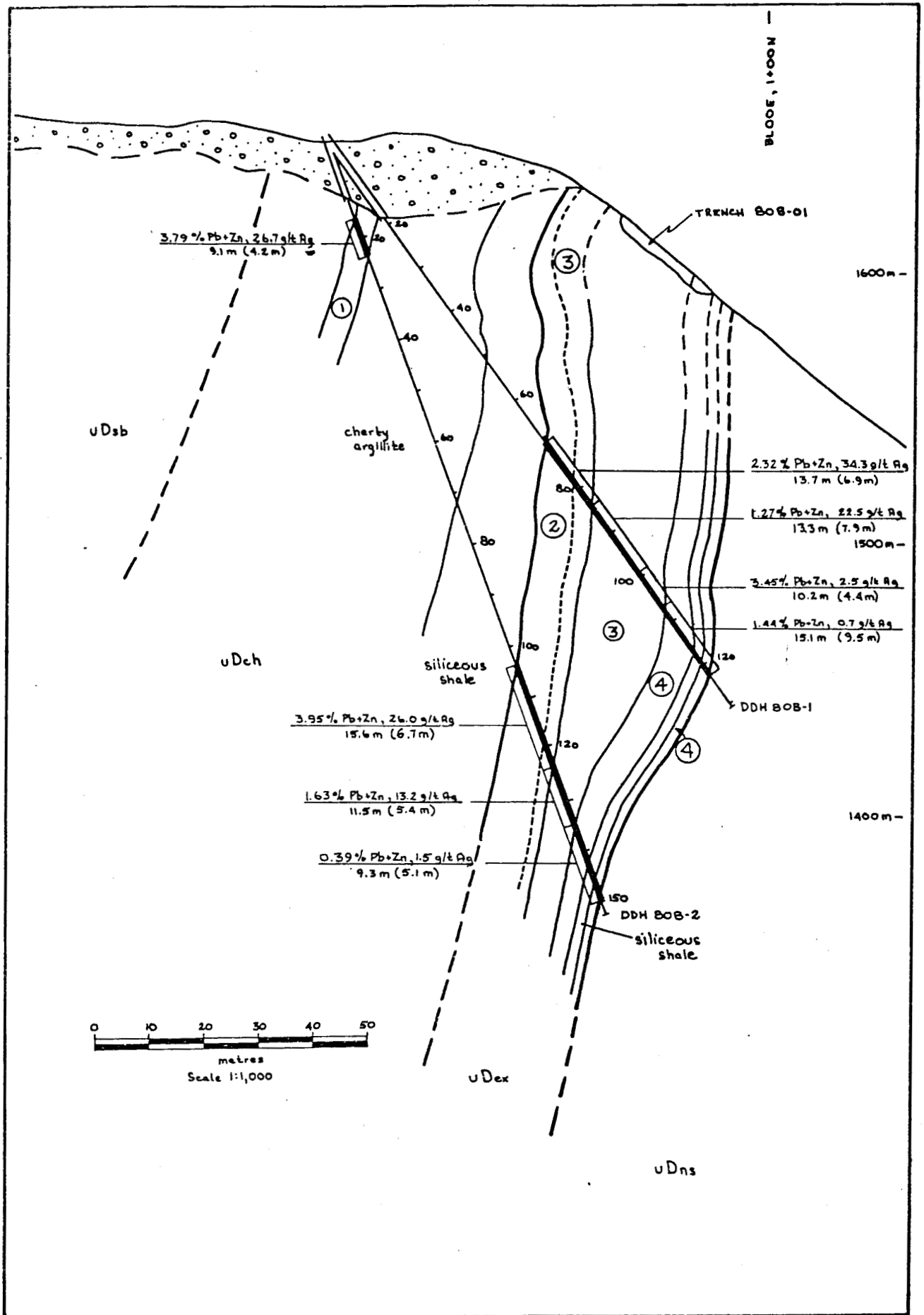


Figure 5: Cross-section of DDH 80B-1 and 80B-2

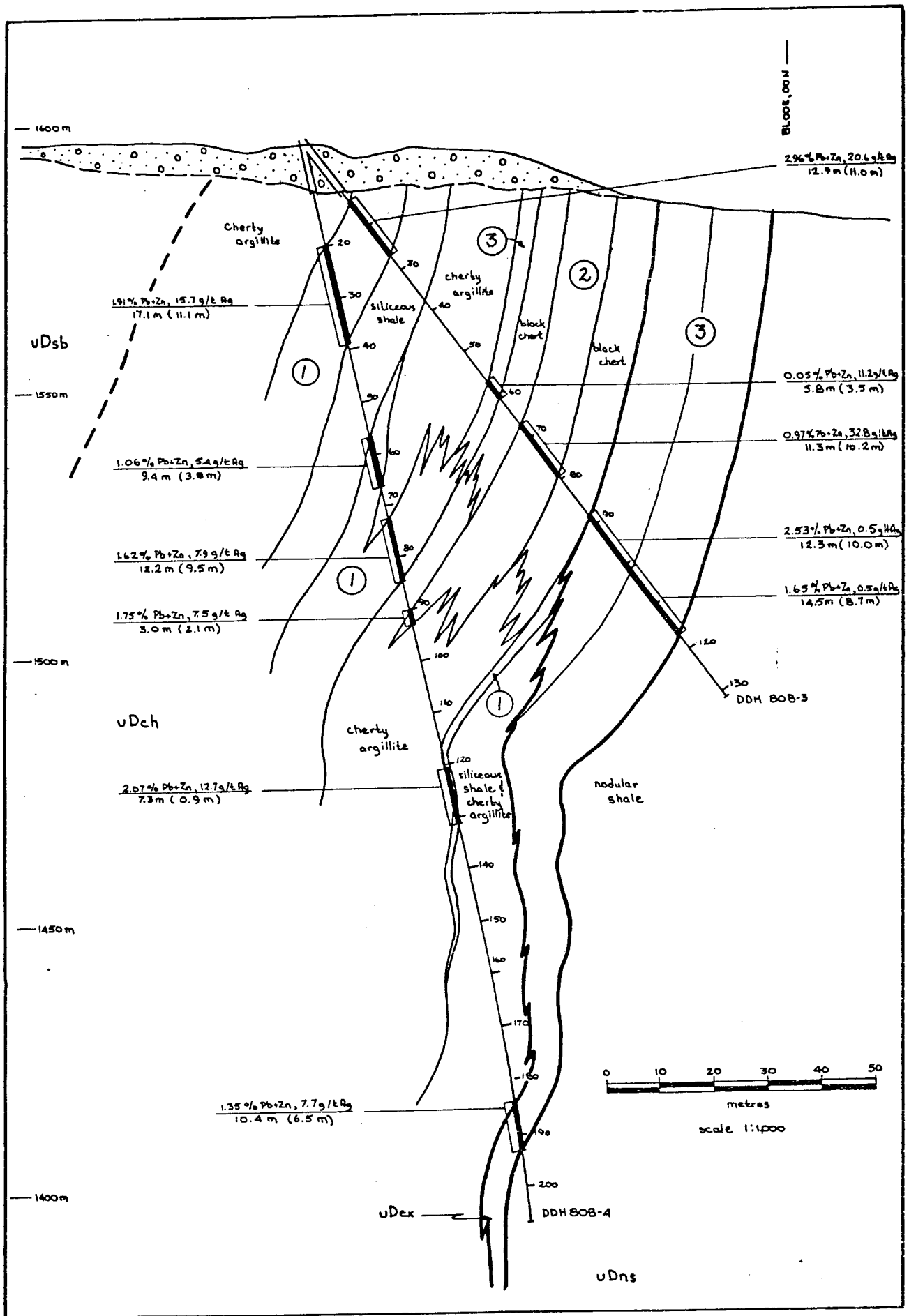


Figure 6: Cross-section of DDH 80B-3 and 80B-4

Diamond drill holes 80B-3 and 80B-4 were drilled to intersect the mineralized horizon along strike 100m southeast of the first two holes. The only baritic mineralization encountered at this location is a tabular-shaped, mega-breccia body with deformed bedded barite and pyrite clasts in a very fine grained barite, pyrite and chert matrix. Textures in the drill core suggest that the breccia was derived as a slump body, probably from a northerly direction where bedded barite was encountered in DDH 80B-1 and 80B-2. Baritic mineralization thins down dip from a 10 m thickness grading about 1% Pb + Zn and 7.5 grams/tonne Ag. Pyritic mineralization encountered in DDH 80B-1 and 80B-2 is present here, separated from the baritic mineralization by an 8 m thickness of barren black chert. Again, two distinct mineralized bodies are recognized, separated by a barren shale interval. The upper part of the pyritic mineralization grades 2.5% Pb + Zn and 0.5 grams/tonne Ag over a 10 m thickness at a vertical depth of 65 m, and decreases rapidly down dip to a 0.9 m thickness at a vertical depth of 115 m that grades 2% Pb + Zn and 12.7 grams/tonne Ag. The lower interbedded pyrite and shale horizon averages 1.7% Pb + Zn and 0.5 grams/tonne Ag over 12.7 m in DDH 80B-3, thinning down dip to 6.5 m grading 1.4% Pb + Zn and 7.7 grams/tonne Ag in DDH 80B-4. Copper values are uniformly low (less than 50 ppm) for all types of mineralization.

An unexpected result of the Bear drilling was the discovery of lead-zinc-silver mineralization in the hanging wall of the massive sulphide horizon, in very carbonaceous black chert and cherty argillite of map unit uDch. This is probably a lateral and temporal facies equivalent of the underlying and adjacent massive sulphide horizon, with high silica content of the rock resulting from continued exhalite activity. Mineralization here is non-pyritic and consists of sporadic 1-2 cm interbeds and veins of galena, barite and sphalerite. Assay results are variable, ranging from 1.06% Pb + Zn and 5.4 g/t Ag over a 3.8 m true thickness to 3.79% Pb + Zn and 26.7 g/t Ag over 4.2 m true thickness. Evaluation of this type of mineralization is difficult because core recoveries are generally less than 60% due to an extremely high fracture density in the rock.

Conclusions and Recommendations

The Gunsteel Formation which hosts potentially economic stratiform lead-zinc occurrences on the nearby D, P and Goof claims (Driftpile Creek property) is exposed as a broad westerly dipping belt across the central part of the Bear and Si claim group. Numerous limonitic gossans are located along the 2 km long mapped extent of baritic, pyritic and cherty sedimentary rocks which occur within the unit. Diamond drilling during the 1980 field season has revealed the presence of potentially economic baritic massive sulphide mineralization on the property. High silver values taken in conjunction with rapid changes in thickness and style of mineralization suggest that the potential for a relatively high grade, high temperature style of mineralization is good. Facies relationships indicate that this potential is probably highest to the northwest of the 1980 intersections. Further diamond drilling should be carried out to evaluate this conclusion as well as to test potential of the mineralized horizon along strike to the southeast.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to be 'R.C. Carne', with a long horizontal flourish extending to the right.

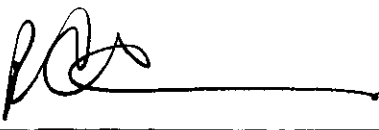
R.C. Carne

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.

A handwritten signature in black ink, appearing to be 'RC', is written above a horizontal line.

Robert C. Carne

APPENDIX II

SUMMARY OF COSTS

on work performed on the

BEAR AND SI CLAIMS

between June 30 and July 24 , 1980

Salaries and Wages

R.C. Carne (Geologist)				
Drill site preparation	June 11	1 day @ \$177/day		\$ 177.00
Logging drill core	July 3-7,10, & 11	7 days @ \$177/day		1239.00
R. Gish (Sr. Assistant)				
Drill site preparation	June 8,12,13 15 & 20	5 days @ \$109/day		545.00
D. Hamilton (Assistant)				
Drill site preparation	June 12	1 day @ \$ 77/day		77.00
K. Kauppi (Assistant)				
Drill site preparation	June 14,15,19, 21,23,29 & 30 July 4	8 days @ \$ 71/day		568.00
Core rack construction	July 5	1 day @ \$ 71/day		71.00
J. Forrest (Assistant)				
Drill site preparation	June 22,23,24, 29 & 30	5 days @ \$ 71/day		355.00
Core rack construction	June 9	1 day @ \$ 71/day		71.00
Assay sample preparation	July 3,9	2 days @ \$ 71/day		142.00
T. Paulson (Assistant)				
Core rack construction	June 9	1 day @ \$ 62/day		62.00
Assay sample preparation	July 3-5,9-11	6 days @ \$ 62/day		<u>372.00</u>
				\$ 3,679.00

Camp Maintenance

Includes fixed-wing aircraft costs	38 mandays @ \$ 35/day		1,330.00
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Analytical Costs (of core drilled before July 12)

Geochemical	71 Cu	@ \$3.25	230.75
	44 Cu, Ag	@ \$3.90	171.60
Assay	71 Pb, Zn, Ag	@ \$15.50	1100.50
	44 Pb Zn	@ \$11.00	<u>484.00</u>

1,986.85

Diamond Drilling

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

Direct costs	128.5 m BQ @ \$48.00/m	6,168.00
	360.4 m NQ @ \$52.00/m	18,740.80

Indirect costs (extra wages, drilling mud, camp support for drill crew, consumable drill supplies)	488.9 m @ \$70.00/m(est)	<u>34,223.00</u>
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\$59,131.80

Helicopter (includes fuel costs on site)

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

Bell Jet Ranger 206B	@ \$406/hr x 33.6 hrs	13,641.60
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Shirley Helicopters Ltd., Edmonton, Alberta

Bell 204	@ \$1050/hr x 10.5 hrs	<u>11,025.00</u>
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24,666.60

\$90,794.25

Report Preparation and Administration @ 10%

9,079.43

TOTAL EXPENDITURES

\$99,873.68

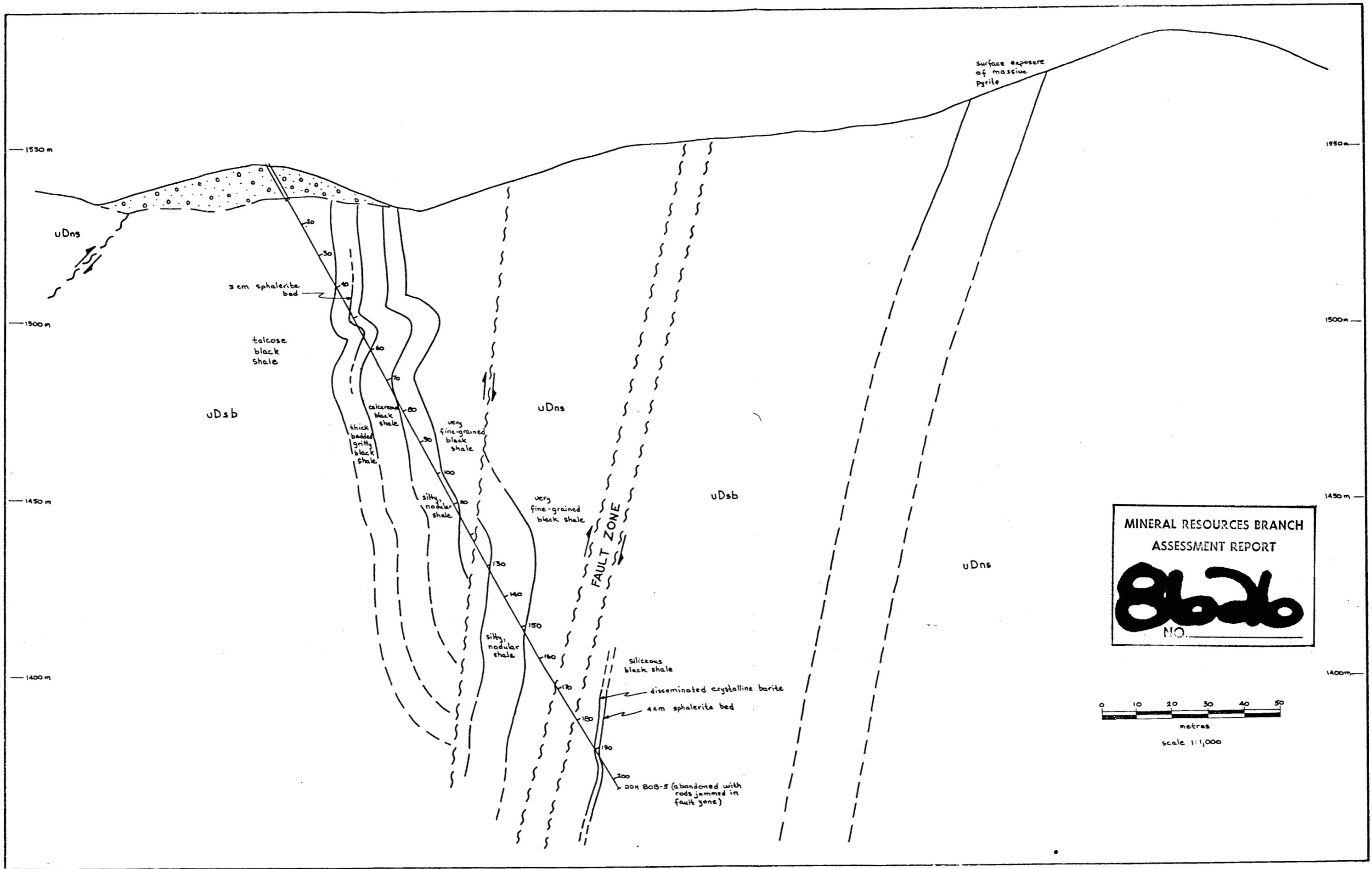
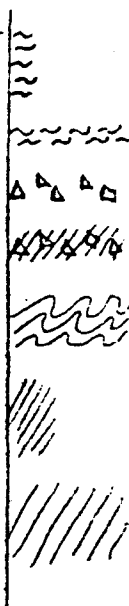


Figure 7: Cross-section of DDH 80B-5

APPENDIX III
DIAMOND DRILL LOGS
WITH ASSAYS

STRUCTURES



- MODERATE SHEARING
- STRONG SHEARING, FAULT GOUGE
- BRECCIATED
- BRECCIA HEALED WITH QZ-CO₂ VEINS
- VERY CONTORTED ROCK
- QZ-CO₂ VEIN SWARMS
- QZ-CO₂ VEIN INTERSECTION

GJV
DRIFTPILE PROJECT
DIAMOND DRILL CORE
VISUAL LOG KEY

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
- MIN'D 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 CaCO₃) SEPTARIAN NODULES
- CaCO₃ NODULES (BOLDINED BEDS?): LARGE (> 4CM), SMALL (< 4CM)
- "BANDIED", BLACK AND DARK GREY SHALE
- THIN PYRITE LAMINAE (CONFORMABLE TO BEDDING); ~ EVERY 3-6 MM, ~ EVERY 1-3 MM
- BARITE THIN MINERALIZED BEDS IN OTHERWISE BARREN SECTIONS.
- SPHALERITE

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 80B-1

COORD. H00N, 0+90W DIP -56° AZIM. 060° ELEV. 1625M SIZE BQ STARTED June 30/80 COMPLETED July 4/80 LOGGED BY R.C. Carne

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	CORE ANGLE α			PYRITE		BARITE		CO ₃		OTHER	ANALYSES					
	Inter-section	metres			Bedding W	Structure E	E	Lam. % Thickness	Diss. % Size	Bed. % Thickness	Bleb. % Size	Type	% Size		% Description	% Pb	% Zn	% Cu	ppm Ag	ppm Ba
	0.0	0.0																		
	60.0	18.3	CASING JOB																	
	70.0	21.4	RAD. CHERTS BLK ARGL < 3CM; V. CARB BRECCIATED.	INTERBEDS OF MOD. SIL. TO MUD. SIL. BLK SHALE, SLIGHTLY GRITTY; < 2CM	30	35/W	48/												~ 90% CORE REC.	
	80.0	24.4	SOS AS ABOVE	SOS AS ABOVE	20	39/W	42/FLAT												~ 95% CORE REC.	
	80.0	24.4	SOS AS ABOVE SHEARING INC DS.	SOS AS ABOVE	25	55/VERT	11 C/A													
	90.0	27.5	SOS SHEARING ALONG BDF	SOS	40	E 65	5/VERT													
	100.0	30.5	SOS	SOS	25	E 65	55/VERT													
	110.0	33.6	SOS	SOS	45	40/W	50												10% CORE REC. 117' TO 120.5'	
	120.0	36.6	SLIGHTLY GRITTY, MOD. SIL. BLK SHALE	RAD. CHERTY ARGL < 0.5 CM	25	43/W													60% CORE REC	
	130.0	39.7	SOS	SOS	30															
	140.0	42.7	SOS TRACE SL IN QZ VEINS	QZ VEIN 134'-136'	20	E 78	11 C/A												40% CORE REC 146'-150'	
	150.0	45.8	SOS	SOS	15	55/VERT														
	160.0	48.8	NOW QZ-CO ₃ VEINS	SOS		E 65														

GS_{5B}

SL

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 803-1

COORD. _____ DIP _____ AZIM. _____ ELEV. _____ SIZE _____ STARTED _____ COMPLETED _____ LOGGED BY R. C. Carne

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE	CORE ANGLE			PYRITE		BARITE		CO ₃	OTHER	ANALYSES						
	Inter-section	metres				Bedding	Structure	Lam. %	Diss. %	Bed. %	Bleb. %	Type %			Description	% ppm	% ppm	% ppm	oz. ppm	% ppm	
						W	E	E	Thickness	Size	Thickness	Size	Size		Pb	Zn	Cu	Ag	Ba		
[Handwritten Stripes]			VERY CARB., MOD SIL. BLK SHAL, LAMINATED, SLIGHTLY GRITTY	RADIOLARIAN? CHERTY ARGIL. BEDS < 1CM; STRONG SHEARING	15		55/VERT														
[Handwritten Stripes]	170.5	52.0	LOST CORE																		
[Handwritten Stripes]	185.0	56.4	SOS, NOW EXTREMELY CARBONACEOUS	BLACK CHERT VERY CARB., < 1.5 CM	10		18/60		BED TR	DISS TR				50%							
[Handwritten Stripes]	200.0	61.0	SOS	SOS MINDER RAD. CHRT	10		75/11 CIA			DISS TR				60%							
[Handwritten Stripes]	210.0	64.1	NOW VERY CARB, NON-SIL., LAM BLK SHALE	BLK CHRT, < 2CM; INC DIS SL IN GR VEINS	20		55/VERT			DISS TR				60%							
[Handwritten Stripes]	226.0	68.9	U. SL. U. CARB BLK SHALE				61/72 55/VERT		BED 05	DISS TR	BED 30	XTAL 05	DISS TR								
[Handwritten Stripes]	231.0	70.5							INC DIS	U. FINE IN BLK SHALE	< 3 CM INC DIS	FTTL BED? DEC DIS	IN BEDD BART								

MIND NGWL



GJV-DRIFTPILE CREEK PROJECT: LOG DDH 80B-1

COORD. _____ DIP: _____ AZIM. _____ ELEV. _____ SIZE _____ STARTED _____ COMPLETED _____ LOGGED BY R.C. Carne

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	CORE ANGLE	PYRITE		BARITE		CO ₃		OTHER	ANALYSES						
	Inter-section	metres				Bedding W	Structure EW	Lam. Thickness	% Diss. Size	Bed. Thickness	% Bleb. Size		Type	%	%	%	ppm	ppm	Sample No.
MIN'D					VERT / 56		LAM 90			DISS 10									
	290.0	88.5			VERT / 56		MASSIVE LAM'D			SMALL NOD			0.15	2.26	5	28.5	961		
MIN'D					VERT / 54		LAM 70			BED 30									
	295.0	90.0			VERT / 54		2-5MM INTERBEDS			2-3MM DISS.			0.10	1.37	5	19.5	962		
MIN'D				CALC. CHERTY ARGL @ 4CM; 4CM @ BASE	OS VERT / 53		LAM 55			BED 40									
	300.5	91.7			E / 65		"			3-5MM DISS.			0.10	0.51	5	20.0	963		
MIN'D					VERT / 52		LAM 30			BED 20									
	305.0	93.0			VERT / 52		"			INC DLK			0.17	0.19	5	28.5	964		
MIN'D				CHERTY BLK ARGL @ 1CM	TR VERT / 55		LAM 70			BED 30									
	310.0	94.9			VERT / 56		"			2 NOD 1CM			0.06	0.01	5	16.0	965		
MIN'D				"	TR VERT / 55		LAM 65			BED 35									
	316.0	96.4			VERT / 56		"			"			0.14	0.35	5	22.5	966		
MIN'D			OVERTURNED BDC	3 CM CHERTY ARGL @ TOP AND BASE	TR E / 61		LAM 60			BED 40									
	322.0	98.2			VERT / 55		"			"			0.61	2.09	5	21.0	967		
MIN'D			"		VERT / 54		LAM 65			BED 35									
	327.0	99.7			E / 61		"			"			0.55	2.50	5	11.0	968		
MIN'D			"	2 CM CHERTY CALC ARGL BEDS SCATTERED	TR E / 66		LAM 65			BED 35									
	330.0	100.7			E / 68		"			1 CM			1.25	3.84	5	2.5	969		
MIN'D			OVERTURNED BDC	1 CM CHERTY ARGL BED @ TOP, SCATTERED KH	OS E / 70	69	LAM 60			NOD 35									
	337.0	102.9	"		E / 70		"			2.5CM			0.30	1.64	50	1.0	970		
MIN'D			"	6 CM CHERTY ARGL BED @ BASE	OS E / 73		LAM 75			NOD 20									
	342.0	104.3			E / 79		"			"			0.81	2.70	40	1.0	971		
MIN'D			"		E / 76		LAM 80			NOD 20									
	348.0	106.1			VERT / 53		"			INC 3/5			0.66	4.04	50	1.0	972		

GSB

GJV-DRIFTPILE CREEK PROJECT: LOG DDH803-2

COORD. 1+00N, 0+90W DIP _____ AZIM. 050° ELEV. 1625M SIZE NG STARTED July 4/80 COMPLETED July 7/80 LOGGED BY R.C. Carne

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE	CORE ANGLE CH			PYRITE		BARITE		CO ₃		OTHER	ANALYSES				
	Inter-section	metres				Bedding W	Structure EW	E	Lam. % Thickness	Diss. % Size	Bed. % Thickness	Bleb. % Size	Type % Size	Description		% Pb	% Zn	% Cu	ppm Ag	ppm Sample No.
OUB	0.0	0.0	CASING OUB																	
	40.0	12.2	CHERTY BLK ARGL 0.5CM - 3CM	V. CARB, SILICEOUS BLK ARGL INTERBEDS <1CM	25	E 80 C/A			BED 05						30% CORE REC					
MIN'D	50.0	15.25	SOS	SOS	10	79/VERT			BED 10						35% CORE REC.					
	60.0	18.3	SOS	SOS	10	58/W			SL. GL 2-0.3CM							0.46	1.22	40	15.4	983
MIN'D	70.0	21.35	SOS	SOS	10	65/W			BED 15						40% CORE REC					
	70.0	21.35	V. CHERTY GL SL BEDS	AS ABOVE					AS ABOVE							0.23	2.13	50	19.9	984
MIN'D	80.0	24.4	SOS	SOS	10	63/W			BED 20						25% CORE REC					
	80.0	24.4	AS ABOVE	"					"							3.20	4.26	40	45.0	985
LOST CORE																				
	100.0	30.5	CHERTY BLK ARGL, 2-6CM; MINOR RAD. CHRT <1CM	MOD-V. SIL BLK SHALE 1-3 CM, SCATTERED	30	48/W			LAM TF						60% CORE REC					
	110.0	33.6	SOS	SOS	25	79/VERT			THIN IN CHERTY ARGL											
	120.0	36.6	SOS	SOS	15	70/VERT			"						60% CORE REC.					
	130.0	39.6	SOS	SOS	15	68/VERT			LAM TF						80% CORE REC					
	140.0	42.7	SOS	SOS	10	" C/A			"											
	150.0	45.7	SOS	SOS	10	" C/A			"											

QSEH

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 803-2

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE	PYRITE			BARITE		CO ₃	OTHER	ANALYSES							
	inter-section	metres				Bedding W	Structure EW	Lam. % Thickness	Diss. % Size	Bed. % Thickness			Bleb. % Size	Type %	Description %	Pb % ppt	Zn % ppt	Cu % ppt	Ag oz. ppt	Ba % ppt
[Hand-drawn lithology column]			CHERTY BLK ARGL. 2-10CM MINOR SL IN VEINS	MINOR V. SIL BLK SHALE < 3CM	10	N/A							40% CORE REC.							
[Hand-drawn lithology column]	160.0	48.8	SOS POOR RECOVERY	SOS	05	N/A							20% CORE REC.							
[Hand-drawn lithology column]	170.0	51.8	"	"	10	N/A							10% CORE REC.							
[Hand-drawn lithology column]	180.0	54.9	"	"	05	N/A							20% CORE REC.							
[Hand-drawn lithology column]	188.0	57.3																		
[Hand-drawn lithology column]	191.0	58.3	CHERTY BLK ARGL MINOR SL IN QZ-CO ₂ VEINS	MINOR V. SIL, BLK SHALE < 3CM	10	N/A							40% CORE REC.							
[Hand-drawn lithology column]	197.0	60.1																		
[Hand-drawn lithology column]	207.0	63.1	SOS "	SOS "	05	N/A					NO BS < 4CM		30% CORE REC.							
[Hand-drawn lithology column]	220.0	67.1	SOS MINOR SL IN QZ-(CO ₂) VEINS	SOS "	05	N/A							30% CORE REC.							
[Hand-drawn lithology column]	236.0	72.0	VARIABLY SILICEOUS LAMINATED MOD. SIL. TO CHERTY BLK SHALE	RADIOLARIAN CHERTY ARGL BEDS < 1CM	10	68/VERT														
[Hand-drawn lithology column]	240.0	73.2	SOS "	SOS "	10	52/W 34/W														
[Hand-drawn lithology column]	250.0	76.3	MOD-V. SIL BLK SHALE, SLIGHTLY ARGL IN PLACES MINOR SL IN VEINS	SOS DET " D/S 4CM	05															
[Hand-drawn lithology column]	260.0	79.3																		

GS 5B

GS 5B

GJV-DRIFTPILE CREEK PROJECT: LOG DDH803-2

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE	PYRITE		BARITE		CO ₃		OTHER	ANALYSES						
	Inter-section	metres				Bedding W	Structure EW	Lam. Thickness	% Diss. Size	Bed. Thickness	% Bleb. Size		Type	% Description	% Pb	% Zn	% Cu	oz. Ag	% Ba
			MOD. - V. SIL. BLK SHALE, MINOR SLIGHTLY CALC. INTERALS MINOR SLIN QZ	MINOR CHERY RADOLARIAN BEDS L1CM, SCATTERED	05	15/W													
	270.0	82.3				20/W													
			SOS	SOS	05	E/SB E/50	70/	LAM	TF										
	280.0	85.4				E/55	70/	LAM	TF										
			SOS ~10% SLIGHTLY CALC	SOS V. MINOR	TF	E/75 E/75	70/	LAM	TF										
	290.0	88.4				70/VERT		LAM	TF	CLOT	TF								
			SOS AS ABOVE			47/W				<0.5CM									
	300.0	91.5				42/W		LAM	TF										
			SOS NOW NON-CALC	SOS L1CM	05	60/W													
	310.0	94.5				52/W		LAM	TF										
			V. SIL. TO CHERY BLK ARGIL 0.5-2CM	RAD. CHERY ARGIL L1CM	10	87/W 11 C/A		LAM	TF	SCATTERED									
	320.0	97.6				70/VERT		LAM	TF										
			SOS, NOW MOD-V. SIL.	SOS	05	73/VERT				<2MM									
	330.0	100.6				80/W E/64		LAM	TF										
			SOS	SOS	05					<1MM									
	338.0	103.1				50/W		LAM	TF										
			V. CARB. MOD. SIL TO CHERY BLK ARGIL			50/W		LAM	TF	21MM EVERY 2-3.1MM									
	349.0	106.4																	

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GJV-DRIFTPILE CREEK PROJECT: LOG DDH 80B-2

COORD. _____		DIP _____	AZIM. _____	ELEV. _____	SIZE _____	STARTED _____	COMPLETED _____	LOGGED BY _____																		
VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE	CORE ANGLE		PYRITE		BARITE		CO ₃		OTHER	ANALYSES											
	Inter-section	metres				Bedding W	Structure E	Lam. Thickness	% Diss. Size	Bed. Thickness	% Bleb. Size	Type	%		Description	% Pb	% Zn	% Cu	ppm Ag	Sample No.						
	349.0	106.4	GL IN BART	MOD.-V. SIL BLK SHALE 0.2CM-3CM.	35			LAM 10		BED 55																
MW'D								60/w		<0.2CM		<2CM XTALLINE						0.46	0.41	50	6.5	986				
	352.5	107.5	SLUMPED ?	" < 0.2 CM	05			11 C/A		LAM 60		BED 40														
MIN'D								70/VERT		0.5-2.0CM		<3CM						5.73	0.06	60	52.5	987				
	360.0	109.8	"	"	TR			60/w		LAM 40		BED 60														
MIN'D								70/VERT		MASSIVE		"						1.57	1.00	50	24.3	988				
	370.0	112.9	SLUMP BRKY @ BASE					60/w		LAM 45		BED 55														
MIN'D								11 C/A		<3CM		"						0.61	6.62	30	29.5	989				
	375.0	114.4	CONTOURED, SLUMPED					60/w		LAM 40		BED 60														
MIN'D										<4CM		<3CM						0.57	10.7	10	37.0	990				
	382.0	116.5	SLUMP @ BASE	MOD. SIL. BLK SHALE LAMM 2CM BED @ TOP	05			70/VERT		LAM 90		BED 05														
MIN'D								10/w		MASSIVE LAMM		<3MM						0.20	2.43	10	27.4	991				
	387.5	118.2	"	"	TR			11 C/A		LAM 60																
MIN'D								65/w		MAX. LAMM								0.10	0.68	10	20.6	992				
	391.5	119.4	"	U. SILICEOUS TO CHERTY ARGL < 5CM	55			11/w		LAM 10		NOD 05														
MIN'D								11/w		<1CM BEDS		REXT BEDS						0.53	0.04	10	5.5	993				
	403.8	123.2	SLUMP @ 409.2 AND @ BASE	SOS 4CM @ 405.6 3CM @ BASE	10			11 C/A		LAM 65		DISS 05														
MIN'D								45/w		INC DIS MASSIVE		REXT LAM ?						0.10	0.08	10	15.4	994				
	411.0	125.4	"	MOD. SIL. TO CHERTY ARGL <2CM SCATTERED	05			43/w		LAM 75		DISS 05														
MIN'D								70/VERT		"		"						0.12	0.68	10	18.5	995				
	415.5	126.7	"	"	05			55/w		LAM 85		DISS 05														
MIN'D								68/w		"		"						0.15	0.96	10	20.9	996				
	420.0	128.1	"	"						"		INC DIS														

GSEX

GSEX

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 80B-2

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE	CORE ANGLE CH			PYRITE		BARITE		CO ₃	OTHER	ANALYSES													
	Inter-section	metres				Bedding W	Structure EW	E	Lam. Thickness	% Diss. Size	Bed. % Thickness	Bleb. % Size	Type % Size		Description	% Pb	% Zn	% Cu	ppm Ag	ppm Sample No.								
MIN'D				MOD. SIL. TO CHERT ARGL < 2 CM SCATTERED	05	55/W			LAM 75		DSS 05		NOD 10															
	425.0	129.6				54/W			THIN LAM MASSIVE		REXT BEDS		& DIX INCLDS				0.18	0.48	5	21.6							997	
MIN'D				SOS	05	58/W			LAM 65		DSS 10		NOD 15															
	430.0	131.2		"		57/W			DEE DK		INC DS		"				0.48	1.39	10	14.4							998	
MIN'D				"	TR	63/W			LAM 70		DSS 05		NOD 25															
	439.7	133.8		3.0 CM @ BASE		66/W			"		DEE DLS		"				0.48	3.15	10	3.1							999	
MIN'D			SLUMPED @ BASE			E 76			LAM 80				NOD 20															
	441.5	134.7				E 77			THIN LAM MASSIVE				< 1 CM DISS.				0.10	2.18	20	1.0							1000	
MIN'D FTWL				CHERTY BLK ARGL < 3 CM.	30	70/VERT			BED 30				NOD 40				0.15	0.40	20	1.0							1001	
	450.0	137.3				11/4A			< 3 MM				< 3 CM & DISS.															
MIN'D FTWL				MOD. SIL. TO CHERT BLK ARGL < 3 CM	30	45/W			BED 30				NOD 40				0.10	0.41	20	1.0							1002	
	460.0	140.3		"	30	53/W			"				"															
MIN'D FTWL				< 4 CM		58/W			"				"				0.04	0.14	30	3.0							1003	
	470.0	143.4																										
MIN'D FTWL				MOD-U. SIL. BLK SHALE, CHERT ARGL < 3 CM	80						NOD TR		NOD TR		NOD 15													
	480.0	146.4							< 1 CM		OR WEIN?		< 3 CM				0.07	0.19	50	1.5							1004	
MIN'D FTWL				SOS		55/W			BED 05				NOD 15															
	487.6	148.7				55/W			486-487				< 3 CM															
MIN'D FTWL				MOD-U. SIL BLK SHALE, SLIGHTLY CAL. IN PART	10	65/W			LAM TR				NOD 10															
	500.0	152.5		CHERTY BLK ARGL < 3 CM					"FUZZY" SCATTERED				< 4 CM SCATTERED															
				ABANDONED IN BAD GROUND																								

70% CORE REC

CONS

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 803-3

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE	CORE ANGLE		PYRITE		BARITE		CO ₃		OTHER Description	ANALYSES				
	Inter-section	metres				Bedding W	Structure E	Lam. Thickness	% Diss. Size	Bed. Thickness	% Bleb. Size	Type Size	% Type		% Pb	% Zn	% Cu	ppm Ag	
																			W
LOST CORE	163.0	49.7	V. SIL. TO CHERT BLK ARGL MINOR SL W PY	MINOR RAD CRT <1CM SCATTERED BETW. SCATTERED	05	50/w		LAM TF <1MM SCATTERED											
			NO SHEARING CAVE?																
MIN'D	174.0	53.1	BANDED CHERT BLK ARGL			45/w	60/												
	182.5	55.7	SL IN QZ-BARTVEINS & TENSION FR																
MIN'D	187.3	57.1	CHERT BANDED ARGL			45/w		BED 15 REXT <1CM		BED 15 REXT		DISS TF W BARITE			0.04	0.03	120	6	1009
	201.5	61.5	SOS REXT SED REXT 1873-1878	MOD. V. SIL. BLK SHALE <2CM, INC DIS	10	54/w		BED 20 DEC DIS		BED 25 " DEC DIS		DISS OS			0.05	0.03	100	13	1010
MIN'D	210.0	64.0	BANDED CHERT BLK ARGL	MINOR MOD. V. SIL. BLK SHALE, <2CM	10	40/w		LAM TF <1MM SCATTERED		BED TF REXT <2CM SCATTERED		NOD CS <4CM SCATTERED							
	218.2	66.5	SOS	SOS	10	54/w				DISS TF									
MIN'D	221.5	67.6	BANDED CHERT BLK ARGL	MINOR MOD. V. SIL. BLK SHALE <3CM	15	50/w		BED 10 IRREG <4MM		NOD TF <1CM					0.17	0.06	40	6	1011
	232.0	70.8	CHERT BLK ARGL, ESP 227-232. MINOR V. SIL. BLK SHALE		55	29/w		LAM 40 MASSIVE REXT	DISS TF	BED 05 MICROXT OF GL			80% CORE REC		2.50	0.33	75	33	1012
MIN'D	244.0	74.4	MINOR OXIDATION	SOS BARITE-CHRT SOFT SED BRKY	50	25/w	60/	LAM 40 MASSIVE REXT DEC DIS	DISS TF	BRKY 05 15CM & 237		NOD OS OF PY <0.5CM		0.10	0.34	30	44	1013	
	252.0	76.9	BRKY FRAGS ROUNDED.	CHERT BLK ARGL FRAGS	20			LAM 25 CHARTED BRKY FRAG	DISS 10 IN BART FRAGS	FRAG 30 BRKY FRAG	MATX 10 BRKY MATRIX MICROXT	DISS OS IN BART		0.07	0.01	15	22	1014	
MIN'D	258.5	78.8		SOS NOW BLOCK & 0.4M	55			LAM 20 " IN CHRT	DISS 10	FRAG 05 " "	MATX 05 " "	DISS OS " "		0.04	0.01	30	25	1015	

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GJV-DRIFTPILE CREEK PROJECT: LOG DDH 80B-3

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE	CORE ANGLE CH	PYRITE				BARITE		CO ₃		OTHER		ANALYSES								
	Inter-section	metres					Bedding W	Structure E	Lam. Thickness	% Diss. Size	% Bed. Thickness	% Bleb. Size	Type	% Description	% Pb	% Zn	% Cu	ppm Ag	ppm Sample No.						
																				W	E	W	E	W	E
			BLK CHRT MASSIVE TO THICK BDD.						LAM 10	DISS 10			VEIN TR												
	272.1	82.4							< 2MM	IN CHRT			< 1CM TO SL					0.06	0.05	45	13			1016	
MIN'D			BLK. CHERY ARGL.	MINOR V. SIL BLK SHAL < 4 CM	05	15/W			LAM 10	DSS 05			VEIN TR												
	281.5	85.9				33/W			< 3MM DEC D/S				< 0.3CM					0.10	0.01	60	48			1017	
MIN'D				CHERTY BLK ARGL < 2 CM	05	40/W			LAM 75					NOD 20											
	283.5	86.5							MASSIVE				< 1CM					0.04	0.01	30	0.5			1018	
MIN'D			CHERTY BLK ARGL TO CHRT	V. SIL, V. CARB BLK SHAL < 4 CM	10	40/W			BED TR					NOD 05											
	293.0	89.4				37/W			< 3MM									0.03	0.02	25	4			1019	
MIN'D				V. SIL TO CHERTY BLK ARGL < 10 CM	60	35/W			LAM 15				BED 05		NOD 20										
	296.3	90.4							< 0.5CM BEDS				< 4MM W PY					0.03	0.01	20	6.5			1020	
MIN'D			SL AS INTERBEDS @ BASE	SCATTERED CHERTY ARGL @ 20CM, 20.6, 21.3, 3CM-8CM	15	34/W			LAM 65				BED 10		DISS 10										
	305.0	93.0				33/W			MASSIVE @ BASE				W PY DEC D/S		W BART DEC D/S			0.11	2.87	10	0.5			1021	
MIN'D				CHERTY ARGL 0.5-2CM EVERY 10-20CM, < 0.5CM COMMON	25	17/W			LAM 55				BED 10		BED 10										
	312.0	95.2							MINOR SECTION				W PY < 3MM		SCATTERED < 1CM			0.49	2.50	10	0.5			1022	
MIN'D				SOS 17CM @ BASE SLIGHTLY CALC	20	37/W			LAM 60				BED TR		LAM 20										
	320.3	97.7							"				"		F BED DISS, PY			0.07	2.70	10	0.5			1023	
MIN'D				THICK BEDD (10-25 CM) V. SIL TO CHERTY ARGL SLIGHTLY CALC.	50	33/W			LAM 30				BED 10		LAM 10										
	325.0	99.1				34/W			"				< 3MM INC D/S		DEC D/S			0.06	1.02	15	0.5			1024	
MIN'D				SOS < 10CM SCATTERED	35	33/W			LAM 45				LAM 10		LAM 10										
	331.5	101.1				41/W			"				< 3MM DEC D/S		< 3MM INC D/S			0.06	3.36	20	0.5			1025	
MIN'D				SOS 40CM BED @ TOP	40	44/W			LAM 35				LAM 15	DSS 05	DSS 05										
	335.2	102.2							"				INC D/S	< 1MM W PY	INC PY			0.06	0.85	20	0.5			2526	
			CARBON BED SLIGHTLY CALC.																						
	336.5	102.6																0.10	0.96	5	0.5			2527	

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 203-A

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	CORE ANGLE			PYRITE		BARITE		CO ₃	OTHER	ANALYSES					
	Inter-section	metres			Bedding W	Structure EW	E	Lam. %	Diss. %	Bed. %	Bleb. %	Type %	Description	%	%	%	ppm	ppm	Sample No.
								Thickness	Size	Thickness	Size	Size							
			MDD-U. SIL. BLK SHALE, SLIGHTLY GRITTY	CHERTY BLK ARGL < 4 CM	OS	60/w													
	135.0	41.2			OS	60/w													
			SOS	"	OS	55/w	67/1	LAM TR EVERY 2-3 MM										0.28 0.49 60 9.0 2543	
	145.0	44.2			10	70/w		LAM TR										0.06 0.33 50 5.0 2544	
			SOS	"	10	70/w		LAM TR					50% CORE REC.					0.05 0.13 50 4.5 2545	
	155.0	47.3			10	E/95 75/w		LAM TR										0.10 0.29 60 5.5 2546	
			SOS	SOS	10	68/w		LAM TR										0.16 0.04 50 4.0 2547	
	165.0	50.3			10	68/w		LAM TR										0.30 0.04 50 4.0 2548	
			SOS	SOS INC DIS	20	67/w		LAM TR										0.30 0.04 50 4.0 2548	
	189.0	57.6			10	55/w		LAM TR										0.43 0.26 60 8.0 2549	
			CHERTY BLK ARGL, FX'D	MDD-U. SIL. BLK SHALE S. BY 12 BEDS & 1 CM P. BLK FRAGS	10	55/w		LAM TR										0.43 0.26 60 8.0 2549	
	201.0	61.3			15	78/VERT		LAM TR										0.75 0.13 30 3.0 2550	
			SOS	SOS MINOR GL & SL IN QZ VEINS & TRACERY CRYS	15	78/VERT		LAM TR										0.75 0.13 30 3.0 2550	
	210.0	64.0			20	68/w		LAM TR										1.22 0.48 30 4.5 2576	
			SOS	SOS SCATTERED INTERVALS OF 2-3 MM GL & SL LAM IN VENS	20	68/w		LAM TR										1.22 0.48 30 4.5 2576	
	220.0	67.1			OS	68/w		LAM TR										0.30 0.26 45 3.0 2577	
			SOS	SOS	OS	68/w		LAM TR										0.30 0.26 45 3.0 2577	
	230.0	70.1			OS	67/w		LAM TR										0.52 0.59 30 5.5 2578	
			CHERTY BLK ARGL, FX'D	MDD-U. SIL. BLK SHALE, SLIGHTLY GRITTY	OS	67/w		LAM TR					410% CORE REC. 233'-243'					0.52 0.59 30 5.5 2578	
	240.0	73.2			TR	25/w		LAM TR										1.62 0.92 55 9.0 2579	
			SOS	SOS SCATTERED 2-3 MM GL & SL LAM	TR	25/w		LAM TR										1.62 0.92 55 9.0 2579	
	250.0	76.2						LAM TR											

GSB

1

MINID

MINID

MINID

MINID

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 80B-4

Page 3 of 6

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE	PYRITE		BARITE		CO ₃	OTHER	ANALYSES								
	Inter-section	metres				Bedding W E W E	Structure	Lam. % Thickness	Diss. % Size			Bed. % Thickness	Bleb. % Size	Type %	Description	% Pb	% Zn	% Cu	% Ag	Sample No.
MIN'D			CHERTY BLK ARGL, BRECCIATED	2-2 CM BEDS MOD. V. SIL. BLK SHALE, SCATT'D MINOR GL-SL LAM	05	35/w						~50% CORE REC	1.17	0.66	90	9.0	2580			
	260.0	79.3	SOS	SOS	05	37/w	LAM TR	DES TR				~60% CORE REC	0.43	0.39	40	8.0	2581			
MIN'D			SOS	SCATTERED CONC THIN BEDS GL-SL	05	42/w	"	SCATTERED												
	270.0	82.3	SOS	SOS	05	53/w	LAM TR	DISS TR												
MIN'D			SOS	SCATTERED CONC SL & MINOR CL	05	55/w	"	"					0.16	0.27	40	5.5	2582			
	280.0	85.4	SOS	SOS	05	54/w	LAM TR					~60% CORE REC.	0.23	0.14	50	7.5	2583			
	290.0	88.4	SOS	SOS	10	50/w	LAM TR					~40% CORE REC	1.57	0.18	60	7.5	2584			
	300.0	91.5	SOS	SOS	10	42/w	LAM TR					~20% CORE REC	0.12	0.27	30	5.5	2585			
	310.0	94.5	U. SIL. BLK SHALE, V. CARB, SHARPENED BRKY'D	CHERTY BLK ARGL	25		BED TR					~80% CORE REC	0.07	0.25	30	4.0	2586			
	320.0	97.6	CHERTY BLK, V. CARB, BRKY'D SHALRED.	V. CARB, V. SIL. BLK SHALE	10	30/w	√76	BED TR	NOD TR			70% CORE REC	0.45	0.63	40	4.0	2587			
	330.0	100.6	SOS	"	05	70/w	"	DISCONT.	2-0.3CM SCATTERED			~50% CORE REC	0.42	0.67	50	4.5	2588			
	340.0	103.7	SOS	NO GL-SL SEEN	15	(65/w)	LAM TR					~40% CORE REC	0.40	0.85	40	6.5	2589			
	350.0	106.7	SOS	SOS	20	(60/w)	LAM TR					~20% CORE REC	0.22	0.48	60	9.5	2590			
	360.0	109.8	SOS	SOS	20	(55/w)	LAM TR					~30% CORE REC	0.17	0.48	40	3.0	2591			
	374.0	114.1	EXTREME BRKY W																	

GSB

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 803-A

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	CORE ANGLE α			PYRITE		BARITE		CO ₃		OTHER	ANALYSES					
	Inter-section	metres			Bedding W	Structure E	Lam. %	Diss. %	Bed. %	Bleb. %	Type %	Description	%		%	%	ppm	ppm	Sample No.	
																				W
MIN'D			BROWN-GAYED SLIGHTLY CALC MUD TO SOFT SHALE, RELICT BDX	ALT'D (?) OXIDIZED (?)											0.02	0.06	30	1.0	2616	
	632.0	192.8																		
MIN'D				MOD-U.SIL, V. CARB BLK SHALE < 2CM	25	64/W		LAM TO < 2MM MASSIVE				DISS 05 IN 75	2% EST		0.13	3.72	30	3.0	2617	
	634.5	193.5																		
			LOW-MOD. SIL, V. CARB BLK SHALE, MASSIVE TO THICK BDD.			11 C/A	75/1								0.01	0.03	30	<1.0	2618	
	650.0	198.2																		
			SOS	"TUFF" LAM & NODULES < 0.5 CM.	10	80/W		NOD 7r < 0.4CM SCATTERED							<0.01	0.01	40	<1.0	2619	
	670.0	204.3																		
			SOS	SOS, GRADED FX-BDD	10	68/W									<0.01	0.01	40	<1.0	2620	
	690.0	210.4																		
			SOS												<0.01	0.13	50	<1.0	2621	
	698.0	212.9																		
			-END-																	

CSXs

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 80B-5

COORD. $1+00S, 2+30W$ DIP 62.5 AZIM. 057° ELEV. $1537.5m$ SIZE NQ STARTED July 16/80 COMPLETED July 24/80 LOGGED BY R.C. Carne

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE α			PYRITE		BARITE		CO ₃	OTHER	ANALYSES					
	Inter-section	metres			Bedding W	Structure EW	E	Lam. % Thickness	Diss. % Size	Bed. % Thickness	Bleb. % Size	Type % Size		Description	%	% ppm Pb	% ppm Zn	% ppm Cu	oz. ppm Ag
	0.0	0.0	CASING																
	40.0	12.2	LOW-MOD. SIL, MOD. CARB., THICK BDD. DK GRAY MDSN (TALCOSE?)		N/A	75/													
~ D/D	50.0	15.2	SOS	< 4MM V. SIL. BLK SHALE BEDS	TR	63/W													
	60.0	18.3	SOS ORANGE-BRN WK CLW SPL			N/A													
	70.0	21.3	SOS			N/A													
	80.0	24.4	SOS			70/W													
	90.0	27.4	SOS			N/A													
TR D/D	100.0	30.5	SOS BROKEN			N/A													40% CORE REC
TR D/D	110.0	33.5	SOS BROKEN			N/A													30% CORE REC
TR D/D	120.0	36.6	SOS			N/A													60% CORE REC
TR D/D	130.0	39.6	MASSIVE BDD, NON-SIL. SLIGHTLY GRITTY BLK SHALE	< 4MM "TUFE"? MOD.	TR	70/SW	66/												
	140.0	42.7																	

GS 157

TR
D/D
D/D
D/D
D/D

1

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 803-5

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE	PYRITE		BARITE		CO ₃	OTHER	ANALYSES								
	Inter-section	metres				Bedding W	Structure E	Lam. Thickness	% Diss. Size			Bed. Thickness	Bleb. Size	Type	Description	% Pb	% ppm Zn	% ppm Cu	oz. ppm Ag	% ppm Ba
			NON-SIL TO LOW SIL, VFG TO SLIGHTLY GRITTY MOD. CARB BLK SHALE		N/A	63/														
	150.0	45.7	SOS		30/w	67/														
	160.0	48.8	SOS	SCATTERED <4MM TUFF (?) MOD F BEDS.	60/w	11 c/A														
	170.0	51.3	SOS	"	52/w															
	180.0	54.9	SOS																	
MIN'D	190.1	58.0		MASSIVE SC 189.2-190.1	10/w															
	197.5	60.2	NON-LOW SIL; U. CARB, VFG TO SLIGHTLY GRITTY BLK SHALE		25/w															
	210.0	64.0	VARIABLY NON-SIL TO MOD SIL VFG TO SLIGHTLY GRITTY BLK SHALE	SLIGHTLY CALC. INTERVALS	43/w	60/	BED <4MM	NOD <3MM BEDDED												
	220.0	67.1	SOS	NOW NON-CALC	55/w															
	230.0	70.1	SOS	NOW MOD. U. CALC INTERVALS	61/VERT		BED <3MM	NOD "												
	240.0	73.2	SOS	U. MINOR CALC INTERVALS	61/VERT															
	250.0	76.2	SOS	NOW NON-CALC	57/79 (c/A)															
	257.0	78.4	SOS		N/A															

CS?

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 803-5

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE	PYRITE		BARITE		CO ₃	OTHER	ANALYSES					
	Inter-section	metres				Bedding W	Structure EW	Lam. % Thickness	Diss. % Size			Bed. % Thickness	Bleb. % Size	Type % Size	Description	%	% ppt
			V. CARB. V. SOFT BLK, NON-CALC SHALE	LIGN 267.0-268.3 (HEAVY = WITHERITE?)	11 c/A					BED 15 IN CO ₃							
	270.0	82.3	SOS		E/81 (11)												
	280.0	85.4	SOS		E/80 (11)												
	286.0	87.2	VARIABLELY LOW-MOD SIL. BLK SHALE, SLIGHTLY GRITTY	SLIGHTLY CALC. INTERVALS SCATTERED	E/70 (11)		BED TR										
	300.0	91.5	SOS	SOS. MINOR "TUFF" (?) BEDS & MOD.	E/7A (11)		< 3MM MINOR IN SCATTERED INTERVALS										
	310.0	94.5	SOS		11 c/A		BED TR V. MINOR										
	320.0	97.6	SOS	SOS AS ABOVE	E/73 (7C/A)												
	330.0	97.6	SOS		64 VERT												
	333.5	101.7	SOS		58/W												
	340.0	103.7	NON-SIL. EXTREMELY CARB. V. SOFT V.F. TALCOG (?) BLK SHALE	PEARLY "LUSTRE" ON CORE SPEC LIGN 4 LMC 338'	11 c/A					BED TR 4CM C 338'							
	354.0	108.0	SOS		55/W												
	360.0	109.8	VARIABLELY LOW-MOD SIL, SLIGHTLY GRITTY BLK SHALE	MINOR "TUFF" BEDS & MOD	E/70 (7C/A)												
	370.0	113.8	SOS	SCATTERED "TUFF" BEDS < 0.5 CM	66 VERT												
	373.0	113.8	LOW-MOD SIL, V.F. BLK SHALE, MASSIVE	LOW-MOD CALC GREY CRT MOD < 15CM SCATTERED	65 VERT												60% CORE REC.
	383.0	116.8			55/W		BED TR V. FINE, IN CRT MOD.										

CRONS?

GJV-DRIFTPILE CREEK PROJECT: LOG DDH 8013-5

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	% CORE ANGLE	PYRITE		BARITE		CO ₃		OTHER Description	ANALYSES							
	Inter-section	metres				Bedding W	Structure E	Lam. Thickness	% Diss. Size	Bed. Thickness	Bleb. Size		Type	% Size	% Description	% Pb	% ppm Zn	% ppm Cu	oz. ppm Ag	% ppm Ba
			LOW-MOD SIL, MED GRND BLK SHALE	MINOR "TUFF" NOD	TR	E/52	64													
	389.0	118.6	NON-SIL, U.CARB, VEG BLK, MASSIVE BDD, TALCOSE(?) BLK SHALE	"PEARLY" SEC ON CORE		N/A														
	401.5	122.5	LOW-MOD SIL, SLIGHTLY GRITTY BLK SHALE																	
	416.0	126.9	NON-SIL TO MOD SIL VEG TO SLIGHTLY GRITTY BLK SHALE, MINOR CALC.	"TALCOSE" MASSIVE, "PEARLY" BLK SHALE, VEG	3D	E/72 (7 CA)		BED TR	NOD TR											
	430.0	131.1	VEG TO MED GRD BLK SHALE, LOW-MOD SIL, EDG 2CM - 15CM	SCATTERED < 1CM "TUFF" BEDS, MINOR	TR	59/WERT		BED TR												
	440.0	134.2	SOS	SOS	TR	57/W														
	450.0	137.2	SOS	SOS	TR	55/W	63	BED TR												
	458.0	139.7	MASSIVE, MED. BDD. "TUFF"			55/W														
	460.0	140.3	MED BDD, MOD SIL SLIGHTLY GRITTY BLK SHALE	MINOR "TALCOSE" SHA																
	464.0	141.5	LOW SIL, VEG, U.CARB, "TALCOSE" BLK SHALE	MOD. SIL, SLIGHTLY GRITTY BLK SHALE, < 10CM MINOR "TUFF" 4CM	10	54/W	Parting (1 CA)	BED TR												
	480.0	146.4	SOS	SOS	50			BED TR												
	490.0	149.4	SOS	SOS	20	54/W														
	500.0	152.5	SOS	SOS		60/W														

??

GS?

40% CORE REC

BED TR < 3MM MINOR

BED DS 5CM @ 460'

BED TR 1CM

BED TR

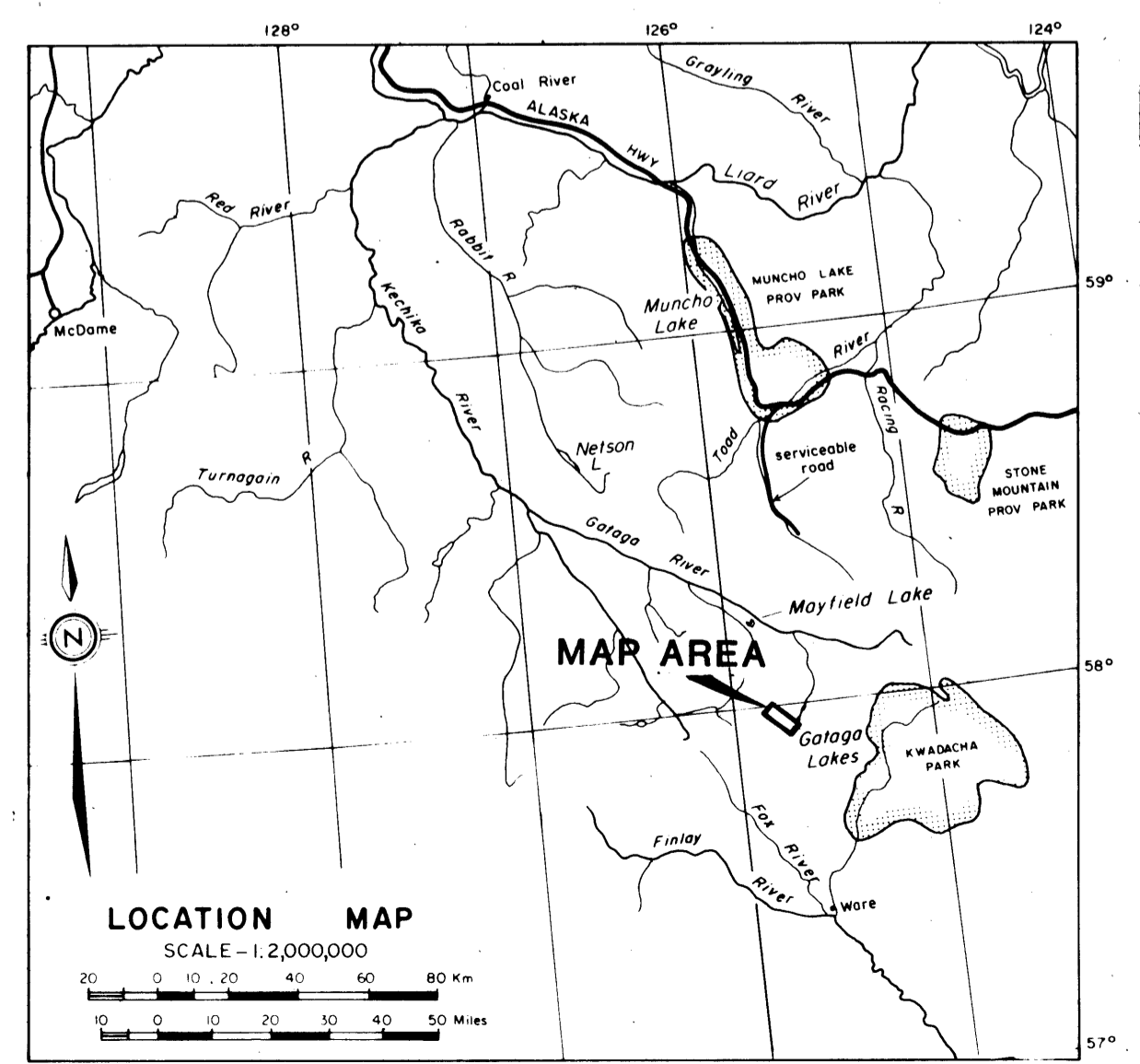
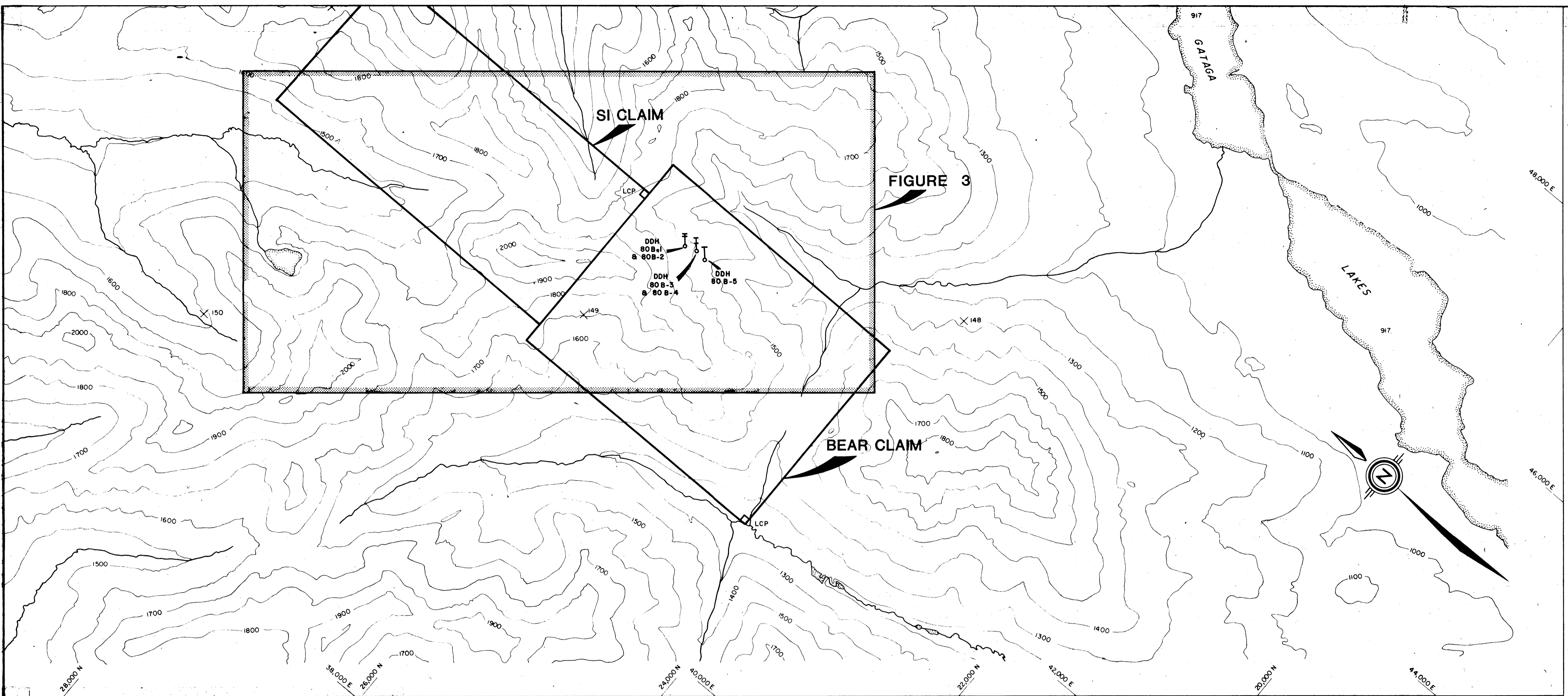
GJV-DRIFTPILE CREEK PROJECT: LOG DDH 80B-5

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

VISUAL LOG	FOOTAGE		PRIMARY LITHOLOGY	SECONDARY INTERBEDS	CORE ANGLE			PYRITE		BARITE		CO ₃	OTHER Description	ANALYSES					
	Inter-section	metres			Bedding W	Structure EW	E	Lam. Thickness	% Diss. Size	Bed. % Thickness	Bleb. % Size	Type %		% Description	% Pb	% Zn	% Cu	oz. Ag	% Ba
			LOW-MOD. SIL., SLIGHTLY GRITTY TO UFG, MOD. CARB BLK SHALE	"TUFF" LAM & NOD, SCATTERED	66/w	66		BED TR											
	510.0	155.6	SOS	SOS V. MINOR	66/w			BED TR											
	521.0	158.9	UFG TO V. SLIGHTLY GRITTY NON-SIL, V. CARB BLK SHALE	MINOR SL IN VEINS	50/w			BED TR											
	530.0	161.7	SOS	MINOR, U. THIN "TUFF" LAM & NOD	50/w			BED TR											
	543.0	165.6	MOD. SIL, GRITTY BLK SHALE	< 2cm INTERBEDS UFG, V. SIL BLK SHALE EST @ TOP	55/w														
	550.0	167.8	SOS	MINOR "TUFF" BEDS														~60% CORE REC	
	560.0	170.8	UFG, V. CARB, NON-SIL BLK SHALE		64/w			BED TR										~70% CORE REC	
	570.0	173.8	SOS					BED TR										~60% CORE REC	
	580.0	176.9	FAULT ZONE ~20% FAULT GROUND															~80% CORE REC	
	590.0	179.9	SOS															~80% CORE REC	
	600.0	183.0	FAULT ZONE GREATLY ONLY CHERTY BLK ARGIL	MINOR V. SIL BLK SHALE INTERBEDS															
	612.0	186.7	V. CARB NON-SIL TO LOW SIL, UFG BLK SHALE					LAM TR										15% CORE REC TO 618'	
	620.0	189.1			53/w			SCATTERED											

GS 200?

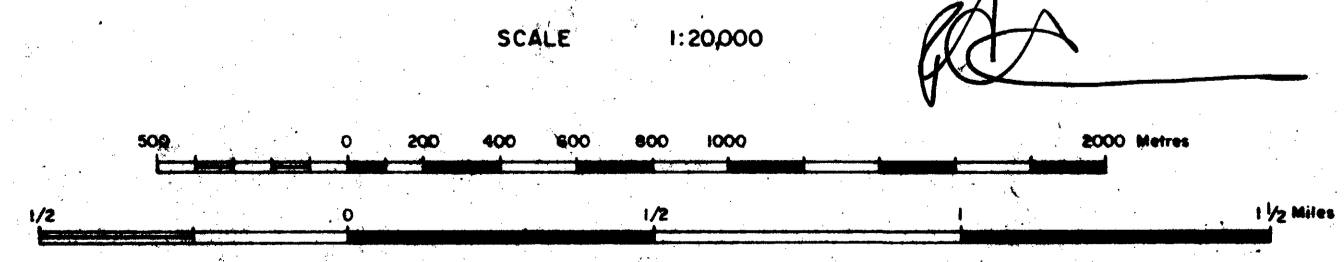
GS 200



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

MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
 NO. **826**
 M.P. - Legal Corner Posts were located in the field with the aid of a 1:5,000 scale orthophoto

FIGURE 2
 ARCHER, CATHRO & ASSOCIATES LTD
LOCATION PLAN
BEAR AND SI CLAIMS
GATAGA JOINT VENTURE



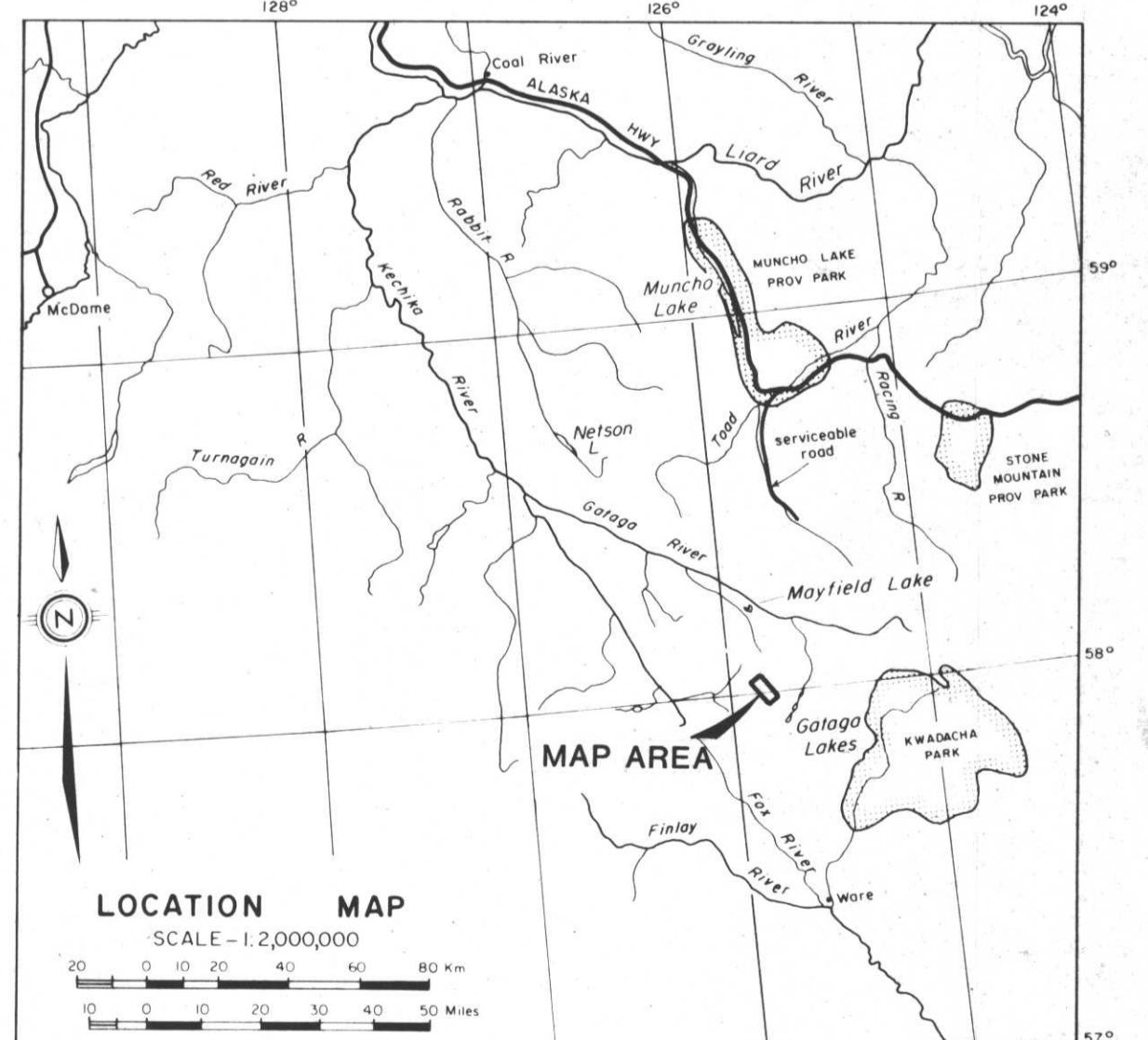
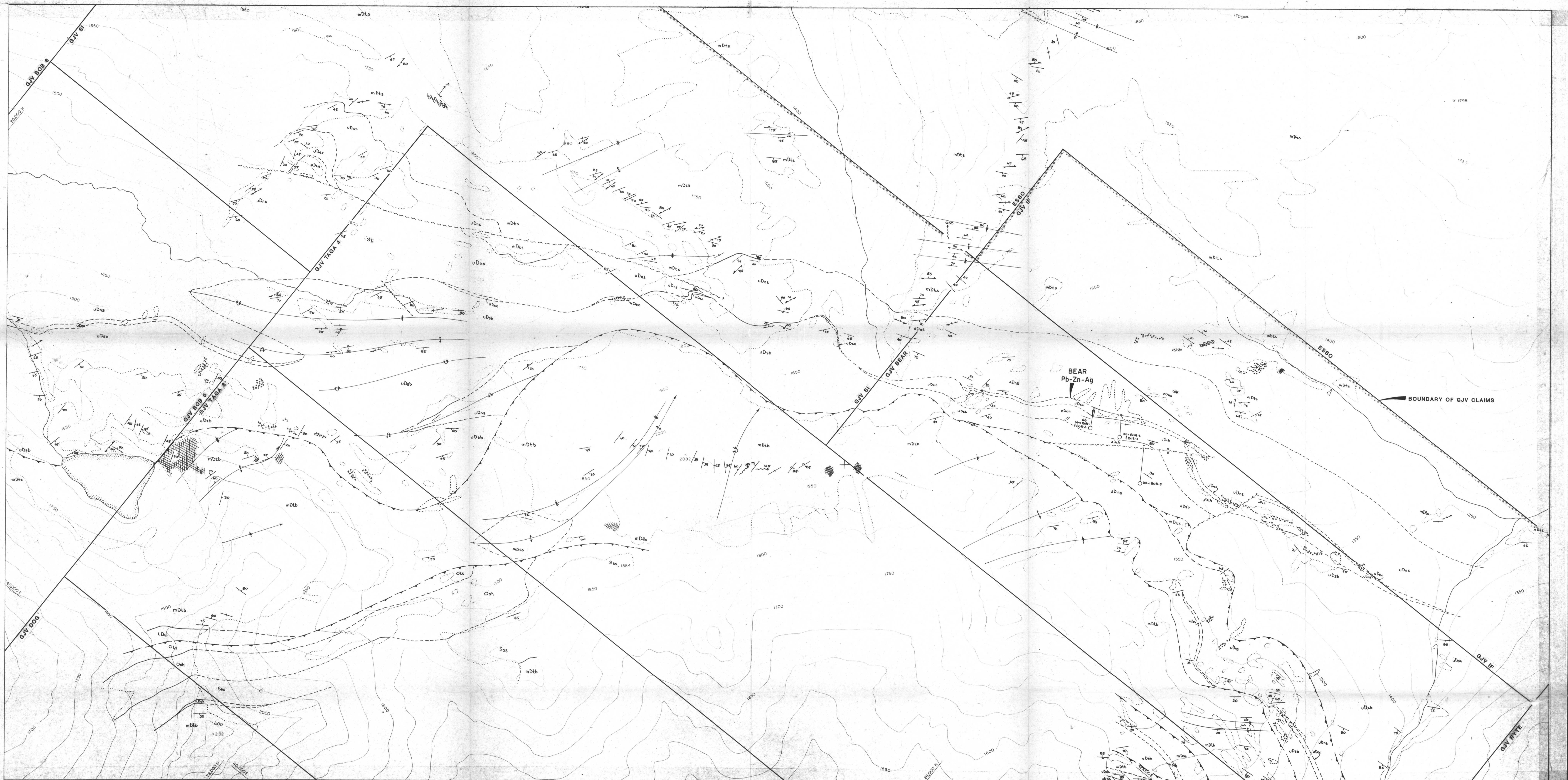


TABLE OF FORMATIONS

UPPER DEVONIAN
Gunsteel Formation

uDb	medium to thick bedded, siliceous and non-siliceous, carbonaceous black shale	undivided Gunsteel Formation
uDs	medium bedded, non-siliceous, slightly gritty, nodular black shale (may be locally absent)	
uDe	bedded barite, interbedded chert, pyrite and blebby barite, massive pyrite galena, sphalerite and barite deposits	
uDb	cherty argillite and black chert, minor silver-bearing galena-sphalerite beds on Bear claims (may be locally absent)	
uDb	thin bedded and nodular grey to black barite and siliceous shale, very minor pyrite	

MIDDLE DEVONIAN
Besa River Formation

mDts	thick bedded distal turbidites (dominately black shale with minor siltstone intervals)
mDss	medium to thick bedded intermediate turbidites (silty black shale with conglomerate and siltstone intervals)
mDtb	thick bedded to massive proximal turbidites and debris flows (chert pebble conglomerate and chert granule grit)
mDe	thin bedded and nodular grey to black barite and siliceous shale, very minor pyrite

MIDDLE ORDOVICIAN TO LOWER DEVONIAN
Road River Group

LOWER DEVONIAN

LDch	black and bluish black, thin to medium bedded chert with minor carbonaceous shale intervals
LDcs	interbedded carbonaceous black shale and cherty black argillite, minor black chert successions

SILURIAN

Sss	orange weathering dolomite and ankeritic siltstone, minor silty dolomite and crystalgal laminated grey limestone
-----	--

ORDOVICIAN

Ordh	medium to thick bedded calcareous black shale and mudstone	Ordls	grey and white limestone with black and green chert lenses
------	--	-------	--

UPPER CAMBRIAN TO LOWER ORDOVICIAN
Kechika Group

EOcp	brown weathering calcareous phyllite and "wavy-banded" silty limestone
------	--

MIDDLE CAMBRIAN
Atan Group

EOa	massive to thick bedded grey limestone and calcareous quartzite, minor green calcareous phyllite
-----	--

SYMBOLS

- extent of outcrop
- - - geologic contact (known, assumed)
- bedding (inclined, vertical, overturned)
- cleavage (inclined, vertical)
- normal or strike slip fault
- thrust fault (known, assumed)
- anticline (upright, overturned)
- syncline upright, overturned)
- plunge of fold axis
- paleocurrent direction
- fossil locality (graptolite)
- quartz vein stockwork
- ferricrete deposit
- kill zone or gossan

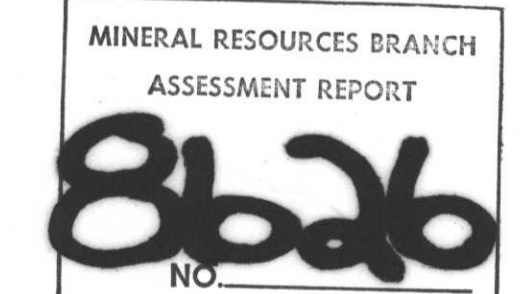
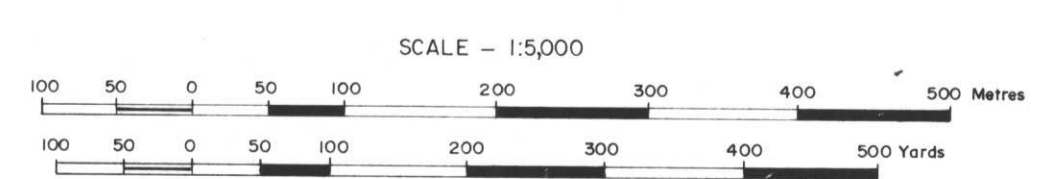


FIGURE 4
ARCHER, CATHRO & ASSOCIATES LTD
GEOLOGY
BEAR AND SI CLAIMS
GATAGA JOINT VENTURE



to accompany report dated November 3, 1980