

CHRIS GROUP

93L 10

Omineca Mining Division

British Columbia

FILMED

DIAMOND DRILLING REPORT

54° 43'
126° 33' 30"

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,910

Anthony L'Orsa, F.G.A.C.

Smithers, B.C.

10 July 1989

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INTRODUCTION

A diamond drill hole (C89-1), 152.4 metres (500 ft) in length, was drilled on the Chris claim to explore copper-bearing felsic volcanic rocks, and the contact zone between those rocks and adjacent sediments. The contractor was J.T.Thomas Diamond Drilling Ltd of Smithers, B.C. The drill used was a JT 600-2, and the core size is BQ. The core is stored in Smithers by Teeshin Resources Ltd. Geochemical analyses were made by Min-En Laboratories of North Vancouver, B.C.

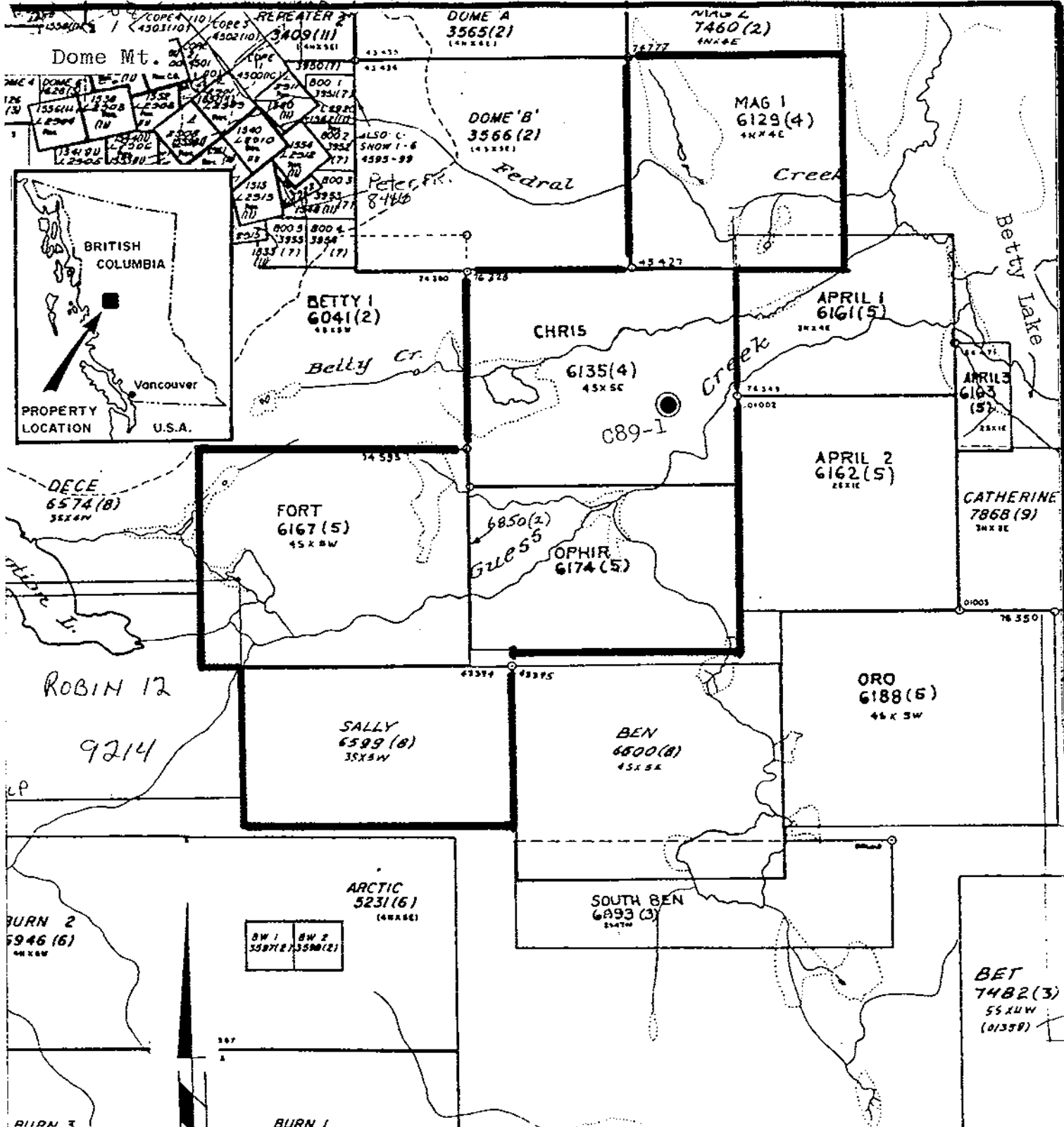
LOCATION AND ACCESS

The drill hole is 40 km east-southeast of Smithers, at about $54^{\circ} 43'$ north latitude and $126^{\circ} 33' 30''$ west longitude, map 93L/10. The Chapman Lake Forest Road provides excellent access all year, from either Smithers or Houston, to the 1 km long dry-weather-only branch road that leads to the hole from immediately north of the Guess Creek bridge.

The area is generally free of snow from May until late October.

PHYSIOGRAPHY

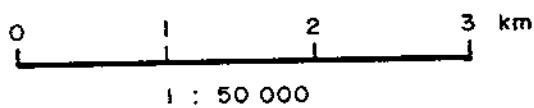
The immediate area is one of low relief, cut by the shallow valley of Guess Creek, which is a major northeasterly-flowing stream that provided water for the drill. The drill hole is at about 1050 m above sea level, on a low hill in a large clear cut logging block.



LOCATION MAP

CHRIS GROUP
Dome Mt. Area, B.C.

10 July 1989 DRAWN BY: FIG. 1



CLAIMS AND OWNERSHIP

The Chris group comprises the following mineral claims:

<u>Claim</u>	<u>Units</u>	<u>Title No.</u>
Chris	20	6135
Fort	20	6167
Mag	16	6129
Ophir	15	6174
Sally	15	6599

The Chris and Sally claims are owned by Lorne Warren and A.L'Orsa, both of Smithers, B.C. The Mag claim is owned by Lorne Warren, and the Fort and Ophir claims are owned by A.L'Orsa. The claims are all held under option by Freemont Gold Corp., 300 - 1497 Marine Drive, West Vancouver, B.C.

PREVIOUS WORK

Mineral exploration work on the Chris group includes limited prospecting, soil and silt sampling, line cutting, trenching and diamond drilling (L'Orsa, 1984 and 1985; Price, 1987), and both aerial and ground geophysical surveys (Sheldrake, 1985).

GEOLOGY

The claims lie on the Skeena Arch, near the southern edge of the Bowser Basin. The area has been mapped by Tipper (1976) who assigned the rocks in the area to the Lower Jurassic formations of the Hazelton Group. Tipper shows a plate of Telkwa Formation volcanic rocks thrust from the southwest over sediments of the Nilkitkwa Formation, with a contact between these two units extrapolated near drill hole C89-1. MacIntyre, et al, (1987) have mapped in part of the western area of the claims and present a variant interpretation of the geology. No published maps show outcrops on the Chris claim.

Chalcopyrite is found in local fracture fillings in felsic volcanic rocks outcropping near the drill site. A grab sample from this locality assayed 11.3% copper, trace gold and 3.4 g/tonne (0.1 opt) silver (L'Orsa, 1984). A subangular felsic volcanic boulder with bands of massive sulphides was also found here. A sample from the boulder assayed 0.8 g/tonne (0.023 opt) gold and 0.31% copper (Price, 1987).

DISCUSSION

The hole was collared in reddish to grey felsic tuffs and ended in blackish siltstones with minor interbedded volcanoclastic sandstones and fine pebble conglomerate. The sandstones and conglomerate do not contain clasts of reddish volcanic rocks as were noted in volcanoclastic sandstone found in outcrop about 900 m south of the hole (L'Orsa, 1985). The contact between the volcanic and sedimentary rocks is occupied by a dyke. For a petrographic description of a reddish tuff, see appendix 2.

The sediments are generally sheared and include some extensive fault zones. Graphite is common on slickensides, and the electrical resistivity of some sections of the core is low. In places the rock is so broken that core recovery was down to 15%.

CONCLUSIONS

The hole was drilled through a section of an overthrust plate of Telkwa Formation felsic volcanic rocks into sedimentary rocks. Mainly because of the occurrence of Early Jurassic ammonites (Arietoceras and Leptaleoceras; H.W.Tipper, 1983, written comm.) in volcanoclastic sandstones about 3800 m northwest of the hole, I conclude that the sedimentary rocks in the hole belong to the Nilkitkwa Formation.

The sediments in the hole are dominantly blackish, graphitic

siltstones, locally very thin-bedded and generally sheared. Major fault zones are present. Some of the siltstones and fine sandstones exhibit crossbedding.

No economic concentrations of metals were found, but very small amounts of native copper were noted in the tuffs.

CORE STORED AT J.T. THOMAS WAREHOUSE SMITHERS

REFERENCES

L'Orsa, A., 1984, April, Chris and West Dome claims: Report for Freemont Gold Corp., 9 p.

_____ 1985, Ophir mineral claim, prospecting report: Assessment Report 85-260-13638, Victoria, B.C.

MacIntyre, D., Brown, D., Desjardins, P., and Mallett, P., 1987, Geology of the Dome Mountain area: Ministry of Energy, Mines and Petroleum Resources, British Columbia, O.F. Map 1987/1.

Price, B., 1987, Dome Mountain gold property (April, Chris, Mag, Fort, Ophir, Sally, Ben, West Dome claims): Report for Freemont Gold Corp., 25 p.


Sheldrake, R. F., 1985, Report on a Helicopter borne multi-frequency electromagnetic, and magnetometer survey in the Dome Mountain area, British Columbia: Report for Freemont Gold Corp., and Assessment Report 85-230-13707, Victoria, B.C., 41 p.

Tipper, H. W., 1976, Smithers map area, British Columbia: Geol. Survey of Canada, O.F. 351.

Tipper, H. W., and Richards, T. A., 1976, Jurassic stratigraphy and history of north-central British Columbia: Geol. Survey of Canada, Bull. 270, 73 p.

STATEMENT OF COSTS

DIAMOND DRILLING:	152.4 m @ \$77.76/m	\$11,850.00
TRACTOR:	4 hrs @ \$50/hr	200.00
GEOLOGIST:	Core logging, supervision & report. A. L'Orsa, 29 hrs @ \$50/hr	1,450.00
ANALYSES:	6 rock samples @ \$27.25/sample	163.50
PETROGRAPHIC WORK:	1 thin section, report, rock slices and shipping	79.00
TRANSPORTATION:	Truck 1½ days @ \$50/day	75.00
		<hr/>
		\$13,817.50

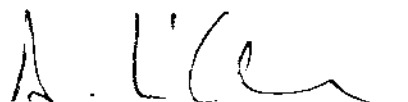


Anthony L'Orsa, Geologist

CERTIFICATE

I, Anthony T. L'Orsa, of Smithers, British Columbia, hereby certify that:

1. I am a geologist with business address at Box 23, R.R. 2, Adams Road, Smithers, B.C. V0J 2N0.
2. I am a graduate of Tulane University, New Orleans, La., U.S.A. with the degrees of B.Sc. (1961) and M.Sc. (1964) in geology.
3. I have practised my profession in mineral exploration since 1962 in western Canada, Australia and Mexico.
4. I am a Fellow in good standing of the Geological Association of Canada and a member of the Society for Geology Applied to Mineral Deposits.



Anthony L'Orsa, Geologist

APPENDIX 1

Diamond Drill Logs

DIAMOND DRILL HOLE LOG - CHRIS PROJECT

Date Colored		Date Completed		Core Size		DIP TESTS				PROPERTY		PROJECT No.		N.T.S. No.							
7 Apr 89		9 Apr 89		BQ		FIELD CO-ORDINATES		DEPTH		BEARING		ANGLE		SURVEYED CO-ORDINATES							
Lol		Elev		Dip		RECORDED		CORRECTED		RECORDED		CORRECTED		Lol		Elev		Dip		HOLE No.	
Dep		Length		Bearing										Dep		Length		Bearing		C89-1	
From metres	To metres	% Recovery	Description			Structure	% Sulph.	Est. Grade	SAMPLE No.	Width	ASSAYS										
											Au ppb	Ag ppm	Cu ppm	Zn ppm							
0	2.7m		CASING																		
2.7	28.35	100	PYROCLASTIC Rocks Felsic. Lapilli tuffs f/or coarse tuffs plus lapilli fragments. Dusky red to grey, in many shades.				Py 20.5														
			Hematitic. Minor local magnetite fracture fillings. Common quartz, calcite & chlorite veinlets.																		
			Basal shear is chloritic with minor pyrite. At least two directions of slickensides.			Shear at base @ 40°-55°															
			Pyrite, minor, locally disseminated on shear surfaces & along fractures. Generally < 0.5%.																		
			Thin section #89 from 27.13m (appended) Minor amounts of native copper																		
			Geochemical Analysis																		
			Reddish tuff at dyke contact 28.35m. A small amount of pyrite present						25514	5cm		4	0.3	38	154						
28.35	28.96		DYKE Medium greenish grey Fine-grained (± 0.2mm) Sheared. Minor disseminated pyrite on slickensides																		

DRILL LOG - 81

Date April 1989 Logged By A. L'ORSA

DIAMOND DRILL HOLE LOG - CHRIS PROJECT

Date Collared		Date Completed		Core Size	DIP TESTS				PROPERTY	PROJECT No.	N.T.S. No.		
7 Apr 89		9 Apr 89		BQ	DEPTH	BEARING		ANGLE		SURVEYED CO-ORDINATES			
FIELD CO-ORDINATES				RECORDED		CORRECTED	RECORDED	CORRECTED	Lot	Elev.	Dip	Sheet 2 of 3	
Lot		Elev.		Dip		Length		Bearing		HOLE No.			
		1050 m		- 45°		152.4 m		045°		C89-1			
From	To	% Recovery	Description		Structure	% Sulph.	Est. Grade	SAMPLE No.	Width	ASSAYS			
										Au ppb	Ag ppm	Cu ppm	Zn ppm
28.96	51.21	62	SILTSTONE Greyish black to black. Interbedded dark to med. grey lithic SS ± 10%. SS is very fine to medium-grained, f graphitic. Very thin to thin bedded. Beds @ ± 85° to 15°		Graphitic Shears								
			Geochemical Analyses					25515	7 cm	2	0.2	63	127
			25516 @ 29.36 m: Graphitic white quartz vein. Ni. py										
			25516 @ 34.14 m: siltstone + 2cm wide band of 20 ⁺ py					25516	7 cm	20	0.8	148	151
51.21	51.5		DYKE Greenish grey. Contains chlorite & sericite. Fine-grained (± 0.2 mm). Calcite veinlets Pyrite ± 1% in disseminations & veinlets		Sheared	Py	≤ 1%	25517	7 cm	1	0.5	42	107
51.5	57.6	87	SANDSTONE f Cg Dark to medium grey Fine-grained lithic SS top grades downward into coarse SS f pebble conglomerate (fine). clasts: subangular to rounded. False volcanic source. clast colours range from very light grey to greyish black. No red clasts. Graphitic. white quartz veinlets.		All these rocks generally show signs of shearing								
57.6	97.54	63	SILTSTONE ± 1% interbedded sandstone. Black. Graphitic. Locally very thin bedded. Sections of very low resistivity. Core recovery only 15% in some 3m sections		Highly Sheared Main @ 60°?								
97.45	101.5	100	SANDSTONE Medium grey to med. dark grey. Fine to coarse-grained Angular to rounded lithic clasts										
101.5	112.5	100	SILTSTONE Medium light grey. white calcite veinlets common. Locally very thin-bedded.		Beds @ ± 25°								

DRILL LOG - 81

Date April 1989 Logged By A. LORSA

DIAMOND DRILL HOLE LOG - CHRIS PROJECT

Date Collared		Date Completed		Core Size		DIP TESTS				PROPERTY		PROJECT No.		N.T.S No.			
7 Apr 89		9 Apr 89		BQ		FIELD CO-ORDINATES		DEPTH		BEARING		ANGLE		SURVEYED CO-ORDINATES		Sheet 3 of 3	
Lat	Elev.	Dip	RECORDED	CORRECTED	RECORDED	CORRECTED			Lat.	Elev.	Dip	HOLE No.					
Dep	Length	Bearing							Dep.	Length	Bearing	C89-1					
From	To	% Recovery	Description			Structure	% Sulph.	Est. Grade	SAMPLE No.	Width	ASSAYS						
112.5	118.9	100	SANDSTONE coarse to fine-grained. Lithic, with $\leq 3\%$ clear quartz grains. Minor siltstone. Thin crossbeds in siltstone & fine ss @ 113.5			Crossbedding											
			Generally medium grey. Graphitic. More angular than rounded clasts.														
118.9	152.4	97	SILTSTONE & SAND. Interbedded. Siltstone most abundant by far. Dark grey to greyish black. Generally thin bedded.			Beds at 40°-60° to core											
			Quartz & calcite veinlets. Sandstones fine to coarse-grained. Lithic. Red. grey to med. dark grey. Graphitic. General evidence of shearing.			Stickensides at 10°-90°											
			Geochemical Analyses						25518	30 cm	4	0.4	49	141			
			25518 @ 145.7 m. White to grey quartz in graphitic fault. R ₁ < 0.1%.						25519	30 cm	20	0.4	135	147			
			25519 @ 150.3 m. — " — local vugs														
			152.4 m End of hole.														

DRILL LOG - 81

Date April 1989 Logged By A. LORSA

APPENDIX 2

Petrographic Reports

C 89-1-89

Felsic, hematitic, polymictic, lithic tuff (breccia)

Lithic hematitic tuff and lesser hematitic flow fragments, generally <1 cm, purplish red and purplish grey colours, in a felsic hematitic tuff matrix.

Crackle fractures filled by chlorite and carbonate and carbonate and quartz.

Note: as well as the usual drill steel smears, traces of native copper were noted smeared on the core surface and with pyrite in fracture-slip surfaces.

Petrography

Polymictic lithic clasts; estimated to 60% of the rock, generally <<1 cm. Shows a variety of volcanic rock textures and relative mineral content. Include a range of volcanic flow and pyroclastic fragments.

Flow rocks include feldspar-rich, hematitic, radiating felted and trachytic flow aligned plagioclase crystals showing grain-size variations between lithic fragments. Most contain clusters of chlorite grains of altered mafics(?).

Pyroclastic hematitic lithic fragments are distinguished from the tuffaceous matrix with difficulty because they are texturally and mineralogically similar. In core they are visible because of slight colour differences, mainly reflecting hematite content, and presence of broken quartz and feldspar crystals in some fragments.

Tuffaceous matrix, estimated 40% of rock.

Feldspar; 70%, minute granules, (<0.01 to 0.02 mm)

Quartz; 15% (?), minute granules, (<.01 to 0.02 mm)

Chlorite; <<5%, anhedral grains, (<.01 mm) bright green, low birefringence.

Hematite; 10%, aggregates of minute granules, local concentrations.

Note: Traces of native copper were observed smeared on core and two minute flecks were noted with pyrite on fracture-slip surfaces.

C 89-1-89 (Continued)

Alteration:

Carbonate spots <1%, not related to fractures, anhedral
(<.01 to .02 mm), clusters of grains.

Chlorite clusters; not obviously related to fractures may
represent alteration of mafic grains.

Veinlets

Crackle network filling, chlorite-carbonate; lesser
carbonate-quartz.

APPENDIX 3

Analyses



**MIN
• EN
LABORATORIES**

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 888-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate 9/S/0029/R/G/001

Company: **MPD CONSULTANTS**
Project: **FREEMONT**
Attn: **T.L'ORSA/S.JENNER/B.DUELLETTE**

Date: **MAY-12-89**
Copy 1. **MPD CONSULTANTS, VANCOUVER, B.C.**
2. **FREEMONT GOLD, WEST VANCOUVER, B.C.**
3. **A.L'ORSA, SMITHERS, B.C.**

We hereby certify the following Geochemical Analysis of 14 ROCK samples submitted MAY-08-89 by A.L'ORSA.

Sample Number	AU-FIRE PPB	TE PPM	TL PPB
25 514	4	.10	<20
25 515	2	.09	<20
5 516	20	.14	<20
25 517	1	.01	<20
25 518	4	.01	<20
25 519	20	.01	<20

Certified by 
MIN-EN LABORATORIES

COMPANY: MPD CONS./FREEMONT GOLD

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 1 OF 3

PROJECT NO: FREEMONT

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

FILE NO: 9/V/0029/R/J/001

ATTENTION: T.L'ORSA/S.JENNER/B.OUELLETTE

(604)980-5814 OR (604)988-4524

* TYPE ROCK GEOCHEM * DATE: 05-12-1989

(VALUES IN PPM)	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE
25514	.3	20300	13	1	120	1.5	5	28050	.1	25	38	55420
25515	.2	32140	24	1	210	1.5	2	11080	.1	28	63	55910
25516	.8	32210	36	1	155	1.4	2	26970	.1	41	148	98620
25517	.5	44770	22	1	112	1.5	5	26970	.1	36	42	69300
25518	.4	26010	22	1	124	1.2	2	20000	.1	21	49	39190
25519	.4	33290	31	1	100	1.3	2	16680	.1	34	135	62000

COMPANY: MPD CONS./FREEMONT GOLD

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 2 OF 3

PROJECT NO: FREEMONT

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

FILE NO: 9/9/0029/R/1/001

ATTENTION: T.L. ORSA/S. JENNER/B. DUELLETTE

(604)980-5814 OR (604)988-4524

* TYPE ROCK GEOCHEM * DATE: 05-12-1989

(VALUES IN PPM)	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH
25514	3350	7	17220	3350	4	310	12	1200	45	7	20	1
25515	2260	26	13490	1584	5	620	79	890	45	6	22	1
25516	1310	15	10390	2141	4	730	50	6890	66	10	34	1
25517	1320	28	27250	1384	6	810	48	1420	56	7	39	1
25518	1340	16	11140	1690	5	930	79	650	42	4	42	1
25519	1150	18	12880	1254	4	760	74	2030	49	5	50	1

COMPANY: MPD CONS./FREEMONT GOLD

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 3 OF 3

PROJECT NO: FREEMONT

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

FILE NO: 9/V/0029/R/J/001

ATTENTION: T.L'DRSA/S.JENNER/B.OUELLETTE

(604)980-5814 OR (604)988-4524

* TYPE ROCK BEDCHEM * DATE: 05-12-1989

(VALUES IN PPM) U V ZN BA SN W CR

25514	1	145.0	154	3	1	1	62
25515	1	70.7	127	5	1	1	126
25516	1	62.8	151	5	1	1	103
25517	1	133.7	107	6	1	1	70
25518	3	48.1	141	4	1	1	125
25519	1	66.4	147	5	1	1	157