

83-#596 - 11598

DU PONT OF CANADA EXPLORATION LIMITED

DIAMOND DRILLING REPORT

ON THE

CHAPPELLE CLAIMS

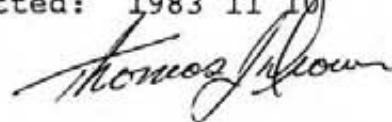
OMINECA MINING DIVISION

LAT. 57°17'N, LONG. 127°17'W

NTS: 94-E-6

Owner of Claims : Du Pont of Canada Exploration Limited
Operator of Claims: Du Pont of Canada Exploration Limited

Author : T.J. Drown
Date Submitted: 1983 11 10



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,598

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1.

INTRODUCTION

Location

The Chappelle claims are located at 57°17'N latitude and 127°07'W longitude between Thutade Lake and Toodoggone River, 80 km west of the Rocky Mountain Trench.

Access

The claims are best reached by fixed wing aircraft to the Sturdee Valley airstrip some 280 km due north of Smithers. From the Sturdee Valley airstrip access to the Chappelle claims' camp, Baker Mine is by a good 13 km all weather gravel road.

The area worked on in this report is accessed by rotary wing aircraft from the Baker Mine about 3 km to the south.

Claim Distribution

The Chappelle claims consist of 168 two post and fractional mineral claims. Exploration work during the 1983 season was conducted over mining lease No. 13 and Chappelle No. 62. Work discussed in this report was conducted within Chappelle No. 62 only.

Chappelle No. 62 has the following record data:

<u>Claim</u>	<u>Record No.</u>	<u>Tag No.</u>	<u>Record Date</u>
Chappelle 62	95483	196962M	November

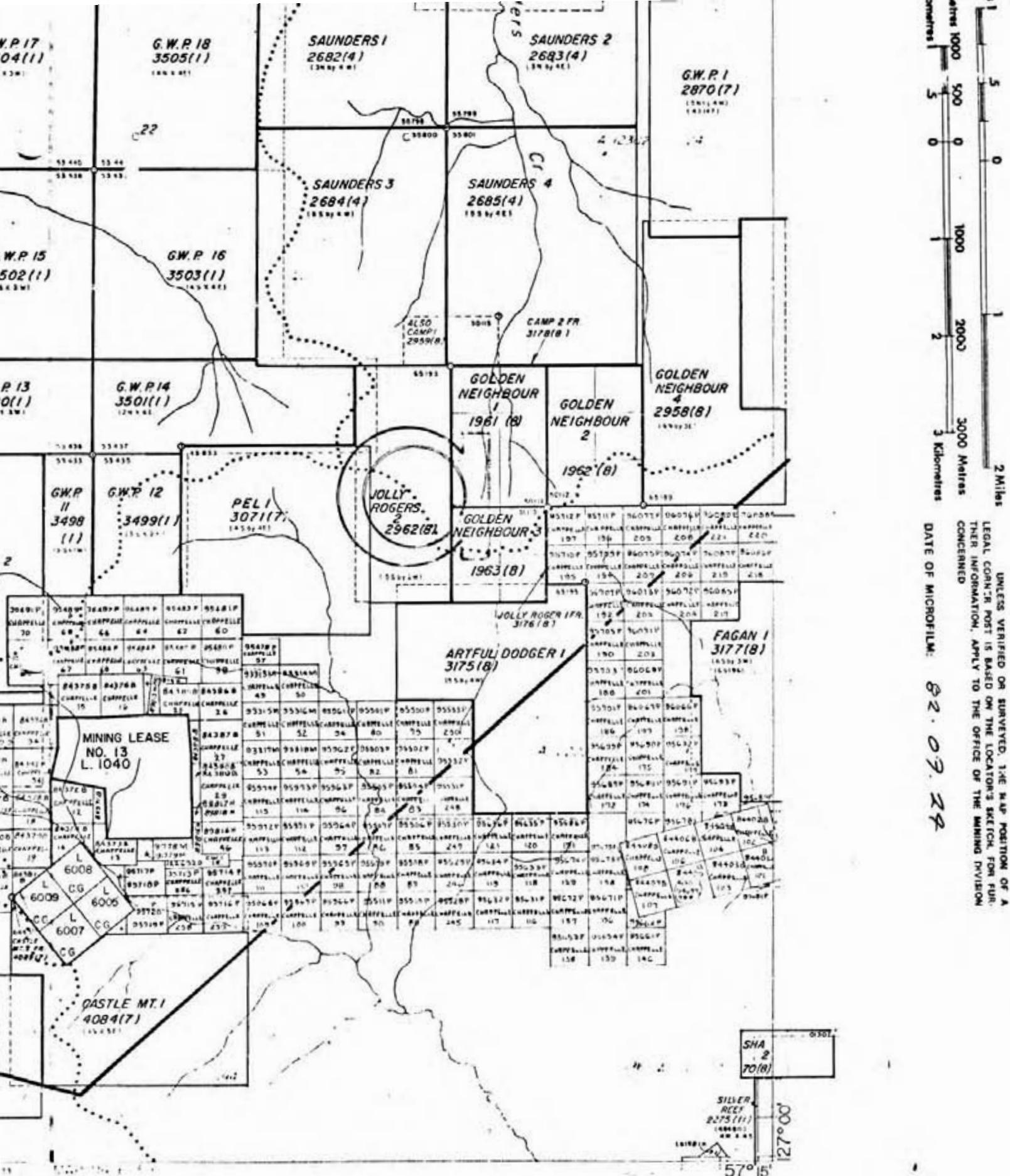
The current owner and operator of the claims is Du Pont of Canada Exploration Limited.

PROPERTY

History

The property was staked in 1968 by Kennco Exploration (Western) Limited as the result of a regional geochemical exploration program when quartz float containing high grade gold and silver were found by Gordon Davies. Subsequent work in the property during 1969, 1970, 1971 and 1972 exposed a 250 x 2 m quartz vein containing zones of high grade gold and silver.

Con West Exploration optioned the claims in late 1972 and paid the costs of building an airstrip at Black Lake, a road to the camp and about 123 m of drifting at the 5400' (1650 metre) elevation. They intersected the vein 50 metres below the surface in a barren section of quartz and subsequently dropped the option.



MINING AND PETROLEUM RESOURCES

This map is prepared only as a guide to the location
of mineral claims and Mining Leases.

Du Pont of Canada Exploration Limited optioned the property in 1974 and undertook a drilling program during the summers of 1974 and 1975 which led to the driving of two raises into the mineralized portions of the vein and the establishment of about 57,000 tons of ore-grade material.

In 1979, further diamond drilling was completed and a new adit at the 1690 metre elevation was driven with a view to sampling the mineralization and determining the characteristics of the deposit. Construction of a 100 ton per day mill commenced in 1980 and full scale production commenced in early 1981.

From 1981 to 1983 approximately 3478 m of surface diamond drilling and 832 m of underground diamond drilling was completed in 37 holes on and around mining lease No. 13.

During 1983 August approximately 139 m of surface diamond drilling was completed on Chappelle No. 62 approximately 3 km north of the Baker Mine. Drawing No. C 83-24 shows the location of drill holes relative to the Chappelle claims and Mining Lease No. 13.

Summary of Work Performed

In 1983, 139 m of surface diamond drilling was completed in 2 holes. Work was done to test the economic potential, down-dip of an intensely argillically altered zone outcropping at surface containing anomalous mercury and arsenic.

Drilling was completed by D.W. Coates Enterprises Ltd using a helicopter supported Longyear Super-38 drill. Core of NQ size was drilled and all core is stored in lided boxes at the Baker Mine site. Drilling was conducted from 1983 August 26 - 1983 September 1.

GEOLOGY

Reconnaissance geological mapping of the area around Chappelle No. 62 and the adjacent Pel claims indicate the area of drilling is underlain by a somewhat monotonous succession of Toodoggone Volcanic rocks cut by an intensely clay altered zone about 5 m wide.

Adjacent to the altered zone is a pyritic, sequence of feldspar porphyritic rocks probably of Toodoggone origin.

Weathering of these pyritic porphyries has caused the development of a significantly large gossan.

LITHOLOGYDacite Porphyry

This rock where fresh is a grey to dark green porphyritic rock with white feldspar phenocrysts imparting a spotted appearance. One to 3 mm euhedral and anhedral plagioclase and orthoclase phenocrysts are scattered throughout the rock in a grey-green felsic aphanitic groundmass. Minor tuffaceous sections occur in drill core over 30-60 cm intervals with lapilli clasts of material similar to the host although much finer grained. Overall the rock consists of 60% plagioclase, 15% orthoclase, 10% quartz, 10% chlorite, 1-2% pyrite, traces of white zeolite, calcite and very minor biotite and hornblende.

This rock is typically porphyritic but is locally variable with sections containing tuffaceous clasts, quartz eyes, massive flows and breccias.

Within gossanous outcrops the rock appears identical to that observed in drilling but with 3-5% disseminated pyrite and argillically altered feldspars.

ALTERATIONArgillic

Alteration of the dacite is restricted to a 5-8 m wide zone striking approximately north-northwest, dipping roughly 20° to the west, approximately paralleling bedding within the Toodoggone volcanics. Alteration is variable in intensity and consists of partial to total replacement of the feldspars and felsic groundmass to a fine mixture of kaolinite, alunite, dickite quartz and minor hematite. The altered zones encountered in both drill holes are typically light beige to white, very soft and frequently ribboned by reddish hematite staining. Relic porphyritic and/or tuffaceous textures are common with frequent quartz eyes ranging from 0.5-2 mm diameter.

Chloritic

Chloritic alteration is apparent within the footwall dacite porphyry in both drill holes. Here chlorite occurs as patches replacing mafics (hornblende and biotite) and on occasion as patches within the otherwise felsic groundmass. The chlorite appears related to the hydrothermally altered argillic zone in that it is distal to the argillic zone. This is typical of propyllitic alteration around hydrothermally altered zones elsewhere in Toodoggone Volcanics.

GEOCHEMISTRY

A 26 element I.C.P. analysis was undertaken on clay altered core samples by Min-En Laboratories. The results of this analysis are summarized on Drawing C83-25. Results are here compared between drill holes rather than with fresh unaltered rocks to determine whether a depth zoneation exists within the alteration zone itself. Metals that show a marked increase with depth in the altered zone are; As, Bi, Fe, Mn, Mo, Pb, U, V, Se and Hg.

Metals that show a significant decrease in values with depth are; Mg and Na. Other metals report near equivalent values or erratic values that cannot be correlated.

Gold values report a modest increase although still in the background range.

CONCLUSIONS AND RECOMMENDATIONS

Diamond drilling in the vicinity of a hydrothermal alteration zone composed of kaolinite, alunite, dickite, quartz and hematite has shown the zone to be continuous at depth although dipping at less than 30 degrees to the west. The zone does not contain significant precious metal values although several trace elements (Hg, Ba, As) report above average values and are often related to hydrothermally deposited precious metals.

Several trace elements show a modest increase in concentration with depth.

The absence of a significant increase in precious metal values and the gentle dip of the altered zone precludes further diamond drilling at this time. There is, however, a remote chance that precious metal concentrations may be found several hundreds of metres down dip of the zone.

COST STATEMENT

1. Diamond Drilling	\$ 9,533.50
2. Hole Stabilization	549.00
3. Testing (acid dip tests)	125.10
4. Materials consumed (drill wind, bits, core boxes, rods)	2,019.42
5. Mobilization/Demobilization (Contractor)	5,932.80
6. Mobilization/Demobilization (Company)	
- D-7 Cat Tractor 5 hrs @ \$85/hr	1,050.00
- Flat-Deck Truck 2 hrs @ \$85/hr	170.00
- Equipment Operator 7 hrs @ \$20/hr	140.00
	\$ 1,360.00
7. Full Consumed; Diamond drill & pumps - 210l/day x 2 days x \$0.63/l	264.60
8. Assaying Min-En Laboratories Ltd (Invoice No. 3150A) 11-rock geochem. - 26 element I.CP. @ \$7.50 ea	82.50
11-rock geochem. - Ag, Hg, Au @ \$11.25 ea	123.75
11-rock geochem. prep.	27.50
	\$ 233.75
9. Room and Board 4 drillers - Aug. 26 - Sept. 2 x \$35/day 1 geologist - Aug. 26 - Aug. 31 x \$35/day	1,120.00 210.00
	\$ 1,330.00
15. Rotary Aircraft Support ALC Airlift Corporation 14.9 hrs @ 425/hr + \$115/hr (fuel and oil)	8,046.00
16. Airfreight - C-GDOX (Twin Otter) 2000 lbs drill mud @ \$0.20/lb	400.00
17. Airfares - 5 persons, Smithers-Sturdee VAlley and return to Smithers @ \$80.00 ea.	560.00
- 3 persons, Vancouver-Smithers and return @ \$285.80	1,157.40
- 2 persons, Kamloops-Smithers and return @ \$412.60	825.20
	\$ 2,542.60

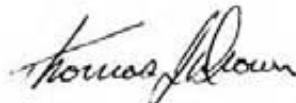
18. Report Preparation compilation/drafting/copying	800.00
GRAND TOTAL	<u>\$33,136.77</u>

A handwritten signature in black ink, appearing to read "Thomas P. Brown". The signature is fluid and cursive, with "Thomas" on top, "P." in the middle, and "Brown" on the bottom right.

QUALIFICATIONS

I, Thomas J. Drown, do hereby certify that:

1. I am a geologist residing at 407 Cardiff Way, Port Moody, British Columbia and employed by Du Pont of Canada Exploration Limited.
2. I am a graduate of the University of British Columbia with a B.Sc. degree in honours geology.
3. I have practised my profession in geology for approximately eight years in various jurisdictions in Canada.
4. Between 1982 December 1 and 1983 August 20, I supervised/directed a field program on the BILL claims on behalf of Du Pont of Canada Exploration Limited.


Thomas J. Drown
1983 November 3

APPENDIX A

DIAMOND DRILL LOGS

DIAMOND DRILL HOLE RECORD

DRILLED BY: D.W. Coates Enterprises Ltd

HOLE NUMBER: 583-26 LENGTH: 256'

LOCATION: Chappelle No. 61 DIP: -45° E Collar

LATITUDE: 131 + 00m (mine grid) DEPARTURE: 1 + 00e

ELEVATION: 5,800' AZIMUTH: 98° (mine grid)

HOLE STARTED: 1983 August 28 HOLE COMPLETED: 1983 August 30

ACID B/OR TRO-PARI TESTS					
FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
250'	-45°				

SHEET No. 1 OF 4

HOLE NUMBER: 583-26

PROPERTY: CHAPPELLE

ACCOUNT NO.: 714-00

CORE SIZE: NO

% CORE RECOVERY: 98%

LOGGED BY: T.J. Brown

FOOTAGE				DESCRIPTION	SAMPLE				ASSAYS			
FROM	TO	WIDTH	REVIEW		NUMBER	% SULFIDES	FOOTAGE	TO	WIDTH	REVIEW		
<i>C=Colour; T=Texture; M=Major minerals, % of total; m=minor minerals plus metallics/sulphides; A=Alteration; H=Hardness.</i>												
0.0	23.0	23.0	0.0	Casing to 23'.								
23.0	29.8	6.8	6.5	Feldspar Porphyry tuff; Kaolinized. C-beige to pink; T-porphyritic with tuffaceous clasts of massive kaolinite. M-kaolinite 80%, quartz 10-15% (mostly as eyes); m-hematite 3%. A-kaolinization; almost total except for occasional relic feldspar phenos and quartz eyes. H-4 1/2.	5015		23.0	29.8	6.8	6.5		
29.8	41.0	11.2	11.0	Welded tuff. C-maroon and white banding. T-banded and porphyritic; flow banding with welded (compressed appearance). Plagioclase to 2 mm, usually oriented parallel to banding. Banding (bedding) at 40° to C.A. M-kaolinite 60%, hematite 20%, quartz 10%; m-sericite? A-kaolinization (possibly other clays too) of groundmass and phenocrysts. H-4. Bedding at 40° to C.A.								

DIAMOND DRILL HOLE RECORD

HOLE NUMBER: 584-26

SHEET NUMBER 2 OF 4

FOOTAGE				DESCRIPTION	NUMBER	%	SAMPLE				ASSAYS			
FROM	TO	WIDTH	RECOVERY				FOOTAGE	FROM	TO	WIDTH	RECOVERY	Au	Ag	
41.0	52.0	11.0	9.8	Quartz-eye Dacite (intensely altered). C-white to light beige. T-tuffaceous angular and rounded clasts to 1" diameter. M-clays (kaolinite, alumite?) 90%, quartz 10%. A-intense clay altered. H-3 1/2. U/C at zone at 35° to C.A.; L/C @ 50° to C.A.	5016	Tr.	45.0	52.0	7.0	6.5				
52.0	66.5	14.5	14.5	Same as above 41-52' with less bleaching. C-grey and white mottled (80% grey). T-tuffaceous to brecciated. M-clays (as above); m-pyrite 2% as veinlets. A-intense clay alteration; grey where less altered. H-4 1/2.	5017	2%	52.0	59.0	7.0	7.0				
66.5	69.0	2.5	2.5	Massive clay rock. C-white. T-massive with occasional quartz eyes to 3 mm. No other textures. M-clay; (kaolinite?) quartz 10%. A-kaolinitization; total. H-3 1/2.	5018	-	66.5	69.0	3.5	3.5				
69.5	75.0	4.5	4.5	Kaolinitic fault gouge 50° to C.A. C-white with rusty patches. M-clays 95%; m-limonite and quartz, tr.										
75.0	101.0	26.0	25.5	Fault gouge. Intensely crushed greyish volcanic rock. Occasional relic plagioclase phenos visible. L/C at 50° to C.A.										
101.0	114.5	13.5	12.5	Dacite Porphyry. Clay altered. C-grey, white speckled by plagioclase relies. T-porphyritic; 1-3 mm euhedral plagioclase floating in grey aphanitic groundmass. M-plagioclase										

DIAMOND DRILL HOLE RECORD

HOLE NUMBER: 583-26

SHEET NUMBER 3 OF 4

FOOTAGE				DESCRIPTION	SAMPLE				ASSAYS				
FROM	TO	WIDTH	RCVRY		NUMBER	% SULFIDES	FOOTAGE						
							FROM	TO	WIDTH	RCVRY			
				relics 55%, mostly to kaolinite, quartz 10% (eyes and patches), groundmass 30%; m-biotite relics, chloritized now 3%, pyrite, Tr. A-all feldspars kaolinitized; biotite to chlorite groundmass clay altered. H-4.									
114.5	132.0	17.5	17.5	Same as above with <20% kaolinitic alteration; relatively fresh. C-dark grey-green. Occasional red zeolite and carbonate stringers at 45° to C.A.									
132.0	162.0	30.0	30.0	Dacite Porphyry tuff. C-dark green with white speckles from feldspars. T-mixed porphyritic and tuffaceous. Massive and porphyritic clasts of dacite-andesite floating in porphyry of same composition. Plagioclase phenos range from 1 mm to 3 mm long x 1-2 mm wide, mostly white, euhedral and randomly oriented. M-plagioclase 60%, quartz 10%, chlorite 10%; m-amphibole (largely chloritized 5-10%). Faulting at 141° @ 20° to C.A.; 1" chl. gouge. Faulting at 151.5° @ 70° to C.A. 2" chl. gouge. A-chloritization of mafics; weak clay alteration of feldspars. H-4 1/2.									
162.0	164.0	2.0	2.0	Dacitic-carbonaceous breccia. C-dark green; with black patches of carbonaceous matter, filling in the bx. matrix. T-brecciated; angular and subangular fragments of massive and porphyritic dacite porphyry in mixture of f.g. dacite									

DIAMOND DRILL HOLE RECORD

HOLE NUMBER: 583-26

SHEET NUMBER 4 OF 4

DIAMOND DRILL HOLE RECORD

PRINTED BY: D.W. Coates Enterprises Ltd

HOLE NUMBER: S83-27 LENGTH: 201'

LOCATION: Chappelle No. 61 DIP: -80°

LATITUDE : 131 + 00n (mine grid) DEPARTURE : ... 1 + 00e

EL E V A T I O N : .. 5,800' AZIMUTH:..... 98° (mine gr)

HOLE STARTED: 1983 August 30

HOLE COMPLETED: 1983 August 31

ACID B/OR TRO - PARI TESTS					
FOOTAGE	DIP	AZIMUTH	FOOTAGE	DIP	AZIMUTH
195'	-80°				

SHEET No. 1 OF 1

HOLE NUMBER: S83-27

PROPERTY: CHAPPELLE

ACCOUNT No. 714-00

CORE SIZE: NO _____

% CORE RECOVERY = 99%

LOGGED BY: ... T.J. DROWT

LOGGED BY: ... T.J. DICKINSON

LOGGED BY: ... T.J. Brown 

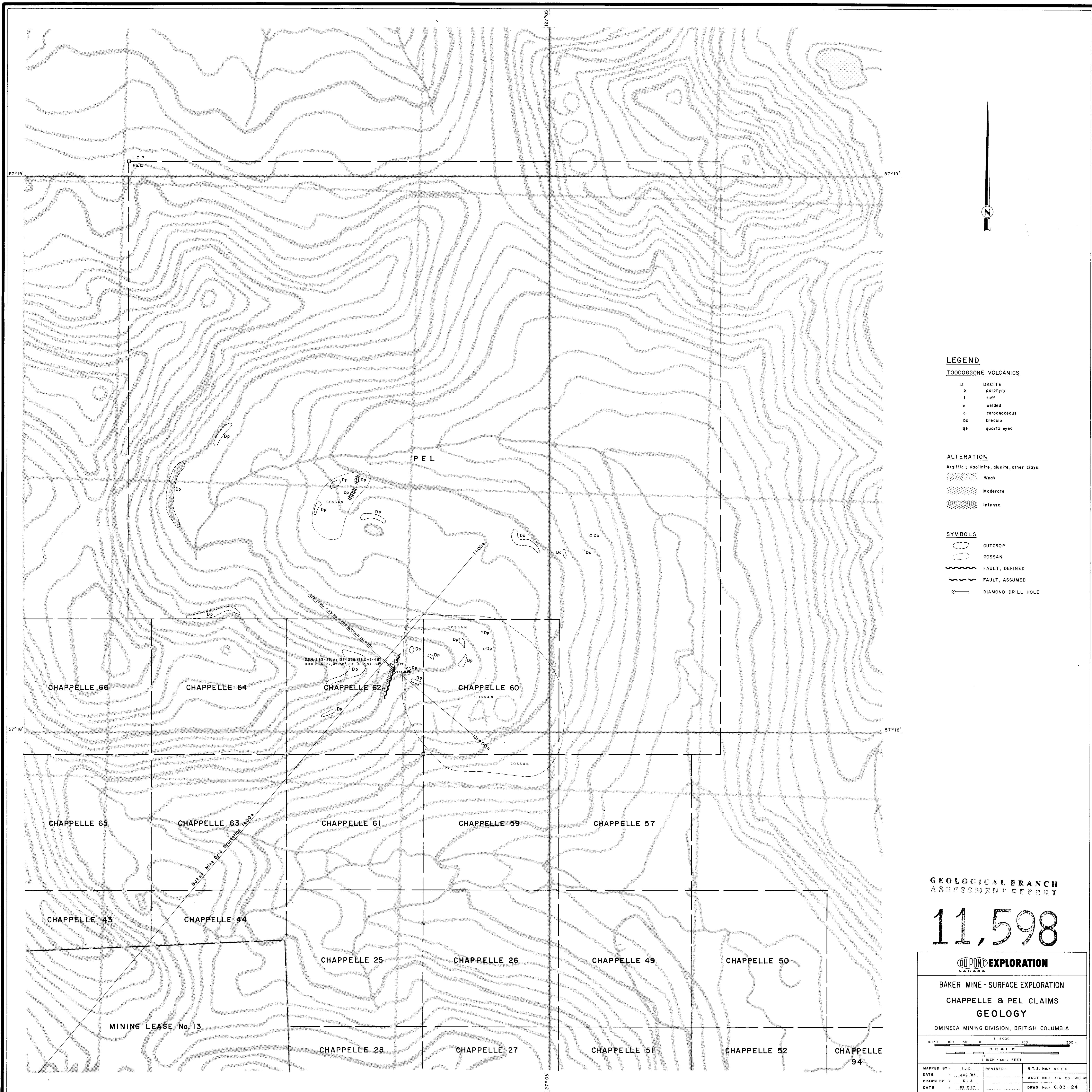
FOOTAGE				DESCRIPTION	SAMPLE				ASSAYS			
FROM	TO	WIDTH	RCVRY		NUMBER	% SULFIDES	FOOTAGE	FROM	TO	WIDTH	RCVRY	
				C-Colour; T-Texture; M-Major minerals, % of total; m-minor minerals and sulphides; A-Alteration; H-Hardness.								
0.0	10.0	10.0	0.0	Overburden. Casing to 10'.								
10.0	22.0	12.0	11.5	Dacite Porphyry. C-maroon. T-porphyritic; <1 to 2 mm euhedral plagioclase phenos in maroon hematitic aphanitic groundmass. M-plagioclase 55%, hematite 25%, kaolinite 10%; m-quartz 10%. A-hematization; intense colouring by reddish hematite clay (kaolinite) alteration of plagioclase. H-4 1/2-5. Faults at 15.8-16.2' @ 45° to C.A. 17.0' @ unknown attitude; 2" gouge. 20-21.5' @ 60° to C.A. much clay gouge.								
22.0	24.4	2.4	2.4	Clay fault gouge: yellow and purple @ 30° to C.A.								
24.4	39.5	15.1	15.1	Dacite porphyry tuff. C-maroon-pink. T-porphyritic to	5019		FOOTAGE	34.0	39.5	5.5	5.5	

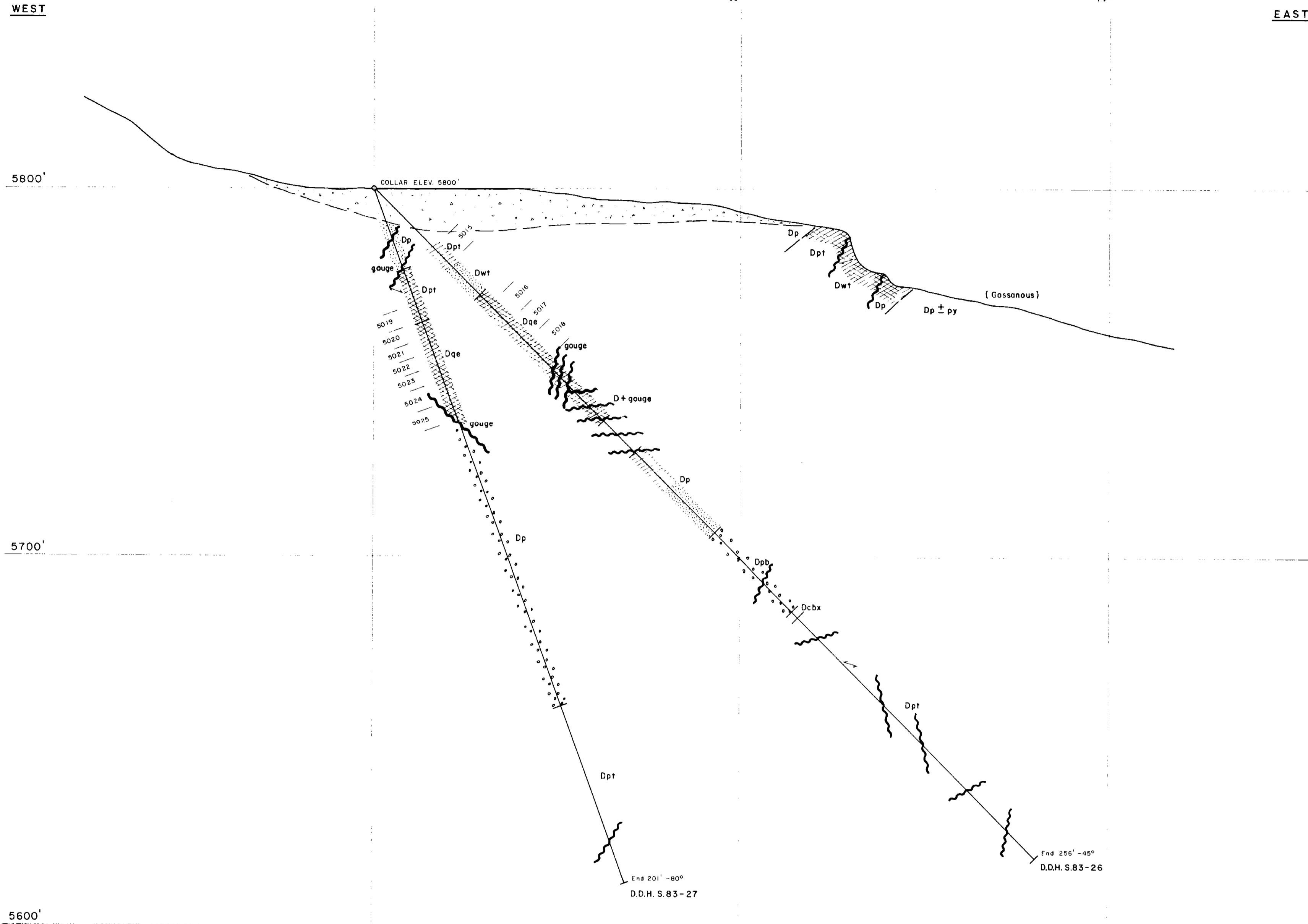
DIAMOND DRILL HOLE RECORD

WORK NUMBER: 583-27

SHEET NUMBER 3 OF 3

DIAMOND DRILL HOLE RECORD					HOLE NUMBER: 583-27	SHEET NUMBER 3 OF 3				
FOOTAGE		DESCRIPTION			SAMPLE				ASSAYS	
FROM	TO	WIDTH	REVR		NUMBER	% THICKNESS	FROM	TO	WIDTH	REVR
				M-plagioclase 60%, chlorite 15%, quartz 10-15%; m-pyrite trace, hornblende ± biotite trace, calcite 3-5%, zeolites 1%. Fracturing @ 35°, 80°, 45° & 60° to C.A. 138-145.2' - heavy limonite stained zones with 15-25% zeolite/calcite (shear zone?). Frequent 1/4-1/2" calcite-zeolite stringers along fractures. Occasional 1-2" calcite-gypsum veinlet at 50° to C.A.						
150.0	201.0	51.0	51.0	Dacite-Feldspar-Biotite Porphyry. C-dark grey-green, pink-white speckled. T-cl-4 mm anhedral and euhedral (40:60) plagioclase phenos and 1-3 mm biotite books in greenish-grey aphanitic felsic groundmass. M-plagioclase, white 20%, pink 45%, biotite 15%, chlorite 10%; m-calcite 5%, zeolites 3%, hematite (staining of plagioclase) trace. Gypsum trace as fractures coatings. A-clay alteration of feldspar; chlorite alteration of mafics, hematite staining of plagioclase. H-4-6 1/2. Rock is partially pyroclastic with segments up to 10" containing clasts 2-3" long x 2" wide. No faulting observed this section.						
				FOOT OF HOLE. 201'.						





COMPANY: DUPONT OF CANADA
PROJECT No: 714-00-300
ATTENTION: MIN-EN-LARS ICF REPORT
705 WEST 15th ST., NORTH VANCOUVER, B.C. V7H 1T2
(604) 980-5814 OR (604) 988-4524

(ACT: GEO7A+) PAGE 1 OF 3
FILE No: 3-946R
DATE: SEPTEMBER 30, 1983

(REPORT VALUES IN PPM)	Ag	Al	As	B	Pt	EA	Co	Co	Cu	Fe	K	Mg
5015	2.0	2590	0	0	0	201	0	2	2	3130	23	53
5016	2.2	5170	0	1	0	100	0	1	2	2230	18	12
5017	3.0	5670	0	2	0	82	0	5	13	870	3	13
5018	9.5	7500	0	5	0	197	0	1	2	9670	74	62
5019	2.5	5300	0	1	0	128	0	0	0	1040	8	7
5020	3.0	4900	0	3	0	131	0	2	0	11800	14	14
5021	1.0	4060	0	2	0	119	0	0	14	4610	4	8
5022	2.0	3260	0	1	0	179	0	1	14	7290	9	8
5023	3.8	4570	12	2	3	186	0	4	6	10400	13	13
5024	4.0	5000	21	3	8	176	.5	3	14	16800	14	20
5025	4.5	6790	0	4	2	198	0	2	6	16500	82	49

(REPORT VALUES IN PPM)	Mn	Mo	Na	Ni	P	Pb	Si	Si	Ti	U	V	Zn
5015	12	1	0	0	3	4	0	24	2	0	36.0	0
5016	3	2	10	2	75	0	0	112	0	1	24.9	0
5017	2	7	1	0	80	0	1	73	2	0	32.3	0
5018	2	5	32	0	322	15	3	53	1	7	39.3	0
5019	2	3	0	1	28	1	0	70	0	10	30.1	0
5020	1	3	0	1	18	1	4	63	0	14	75.1	0
5021	2	11	0	0	36	3	1	46	0	8	66.6	0
5022	3	11	0	1	60	5	0	44	0	0	58.5	0
5023	0	9	4	3	85	10	1	83	1	11	49.7	0
5024	0	11	5	2	216	7	7	62	4	17	48.5	0
5025	0	7	101	1	364	22	4	108	4	5	47.8	0

(REPORT VALUES IN PPM)	BA	SE	HS-PFB	AU-PFB
5015	2230	16	50	<5
5016	1070	19	1250	5
5017	1120	43	1500	5
5018	52	36	400	<5
5019	813	6	8000	25
5020	866	39	1450	10
5021	625	42	5350	5
5022	666	39	7000	10
5023	2910	43	5400	5
5024	1980	129	1890	5
5025	52	25	600	<5

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,598

LEGEND

TOODOGGONE VOLCANICS

- D DACTITE
- p porphyry
- t tuff
- w welded
- c carbonaceous
- bx breccia
- qe quartz eyed

ALTERATION

- Argillic ; Kaolinite, clunite, other clays.
- Weak
- Moderate
- Intense

Chlorite, replacing matrix & feldspars

- Weak

Bedding

Fault

DUPONT EXPLORATION	
BAKER MINE - SURFACE EXPLORATION	
CHAPPELLE & PEL CLAIMS	
SECTION 31+00N	
D.D.H.'s S.83-26 & 27	
OMINECA MINING DIVISION, BRITISH COLUMBIA	
SCALE 0 20 0 20 40 1 INCH = 20 FEET	
MAPPED BY: T.J.D.	REVISED: N.T.S. No: 94 E 6
DATE: 83.08.31	ACCT No: 714-00-300-40
DRAWN BY: K.L.J.	DRWG. No: C.83-25
DATE: 83.10.26	