

DRILLING REPORT

Dusty Mac - 85 Group

Osoyoos Mining Division, B.C.

82 E/5E

Lat: 49° 21' Long: 119° ~~39.5'~~Owned by: ~~XXXXXXXXXXXXXXXXXXXX~~

↓
Operated by: ESSO MINERALS CANADA
for
ESSO RESOURCES CANADA LIMITED

FILMED

Walter Melnyk
Esso Resources Canada Limited
1600-409 Granville Street,
Vancouver, B.C. V6C 1T2

December 6, 1985

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

0894B

14,357

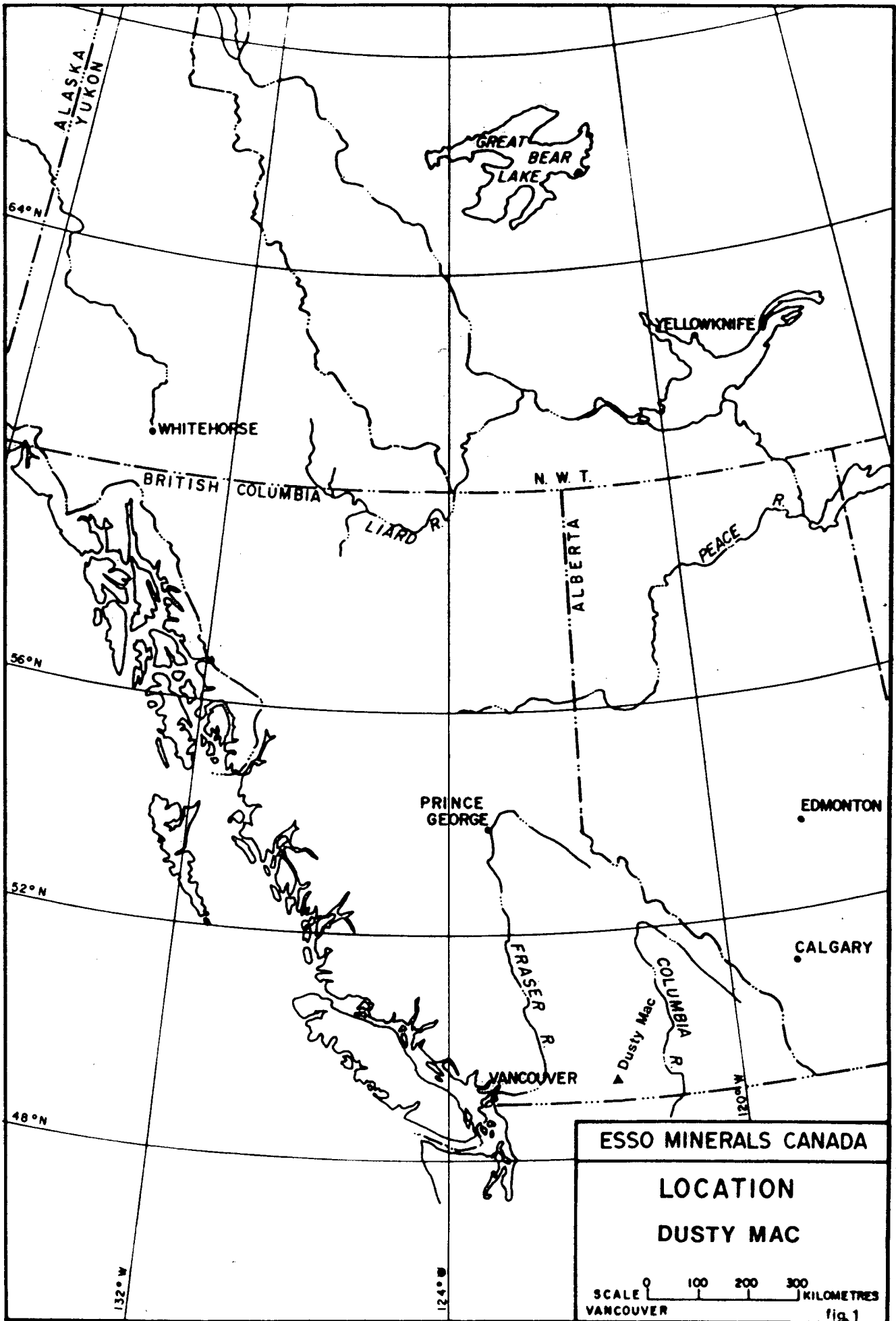
TABLE OF CONTENTS

INTRODUCTION	Page 1
LOCATION AND ACCESS	1
HISTORY AND PAST PRODUCTION	1
CLAIM STATUS	4
GEOLOGY AND ECONOMIC ASSESSMENT	6
DRILLING	9
COST STATEMENT	12
STATEMENT OF QUALIFICATIONS	13

APPENDIX A Detailed Drill Logs

MAPS

Drill Hole Location Map 1:4,000 2197-26



INTRODUCTION

A drilling program, extending from November 1 to November 15, 1985, was conducted by Esso Minerals Canada on the Dusty Mac gold-silver property near Okanagan Falls, south of Penticton. The drill program consisted of two diamond drill holes designed to test the lateral and down-dip precious metal potential of altered zones discovered during the April, 1985 percussion drill program conducted by Esso Minerals Canada.

LOCATION AND ACCESS

The Dusty Mac property is located in the Okanagan Valley approximately 250 km east of Vancouver. The property is situated 19 km south of Penticton at the southern end of Skaha Lake and 1.5 km east of Okanagan Falls. The co-ordinates of the property are longitude 119° 32', and latitude 49° 20'.

The open pit and waste dumps are situated behind a large bluff locally referred to as Peach Cliff.

The village of Okanagan Falls is situated on Provincial Highway 97, approximately 5 km south of Highway 3A - 97 junction.

A paved two lane road, parallels Shuttleworth Creek east of Okanagan Falls, circles Peach Cliff to a point within 500 meters from the open pit.

Penticton is a modern community and principal supply center where all services are available including air, road, and rail.

HISTORY AND PAST PRODUCTION

The exploration history of the Dusty Mac property probably dates back to the turn of the century as witnessed by the four short adits and several open cuts at the western end of the property overlooking Okanagan Falls. The adits were driven on quartz veins which are sparsely mineralized in chalcopyrite and pyrite.

Interest in the area was revived in 1966 when native silver was discovered in quartz veins on the Dusty Mac property. The first recent claims were staked the same year and Dusty Mac Mines Ltd. acquired the property in 1968.

An exploration program was conducted by Cannon Engineering Ltd., and later by Cannon-Hicks Associates Ltd. in late 1968 and 1969 under the direction of Dusty Mac Mines Ltd. The work included surface trenching, geological mapping, diamond and percussion drilling, and a limited underground program. The program outlined 61,485 tonnes grading 7.88 gm/Tonne Au, and 170.4 gm/Tonne Ag.

In 1970, the property was optioned to Noranda Exploration Ltd. which carried out a diamond drilling program. The program failed to add significant tonnage to the known reserves, and the property option was dropped.

In 1973 Dusty Mac Mines Ltd. carried out a percussion drilling program of 1635.5m.

Ore reserves based on 3319m of diamond drilling in 76 holes and 4642m in 221 percussion holes estimated in October, 1974 at 120,280 tonnes grading 7.06 gm/tonne Au and 123.4 gm/tonne Ag, plus 21,521 Tonnes indicated grading 4.59 gm/Tonne Au and 57.59 gm/Tonne Ag.

In April, 1975 an agreement was reached for custom milling ore at the Dankoe mill. Production started August 1, 1975 and ceased in June, 1976. The ore-body was mined by open pit at 318 tonnes per day. Total ore milled was 93,653 tonnes grading 6.89 gm/Tonne Au and 146.59 gm/Tonne Ag. Total production was 581,551 gms Au, 10,180.367 gms Ag, 2,880 kg copper, and 1,527 kg Pb.

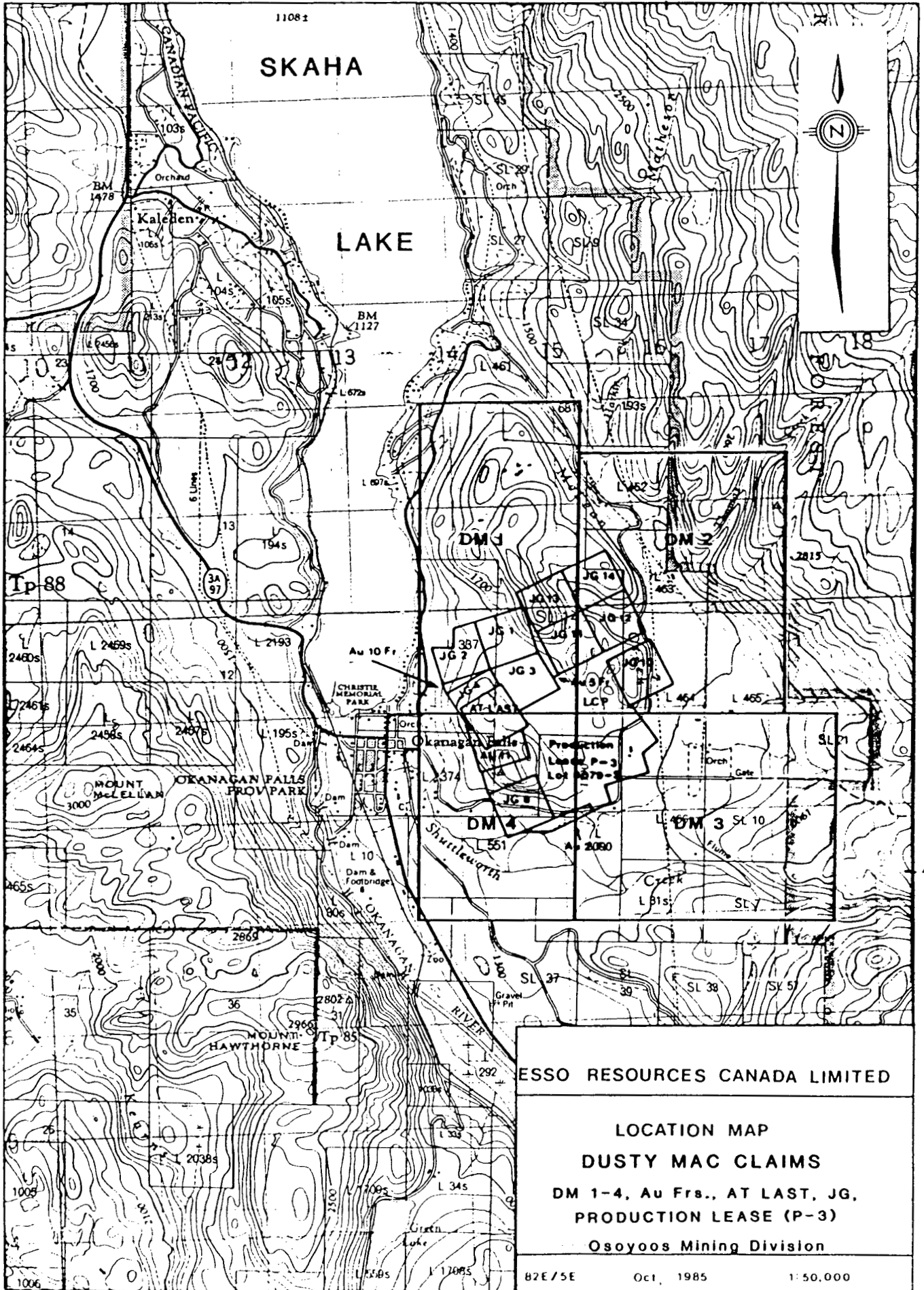
Milling was completed June 9, 1976 and reclamation of the mine area was finished on September 21, 1976.

Further property exploration was carried out in 1976 by Amadeus Consultants Ltd. The program consisted of geochemical soil sampling and percussion drilling over favourable structures. A total of 153 percussion holes were drilled for an aggregate of 5981m. No significant zones of mineralization were discovered.

Canex Placer Ltd. conducted 1.5 line miles of I.P. in June, 1976 under a data sharing arrangement with Dusty Mac. The results were not encouraging.

Scintrex Pty Ltd. conducted a Rapid Reconnaissance Magnetic Induced Polarization survey (RRMIP) in October, 1981. Results were inconclusive.

The Dusty Mac property remained idle until 1984 when Esso Minerals Canada conducted a surface sampling and mapping program in the vicinity of the open pit and to the northwest encompassing previously known mineralized areas.



ESSO RESOURCES CANADA LIMITED

LOCATION MAP

DUSTY MAC CLAIMS

DM 1-4, Au Frs., AT LAST, JG,
PRODUCTION LEASE (P-3)

Osoyoos Mining Division

B2E/5E

Oct, 1985

1:50,000

CLAIM STATUS

Prior to EMC's involvement with Dusty Mac Mines Ltd., the Dusty Mac property consisted of 11 full size two-post claims, seven fractions, and a production lease as follows:

<u>CLAIM NAME</u>	<u>RECORD #</u>	<u>EXPIRY DATE</u>
Au 2 Fr.	24347	97/01/17
Au 5 Fr.	24349	97/01/17
Au 6 Fr.	24350	97/01/17
Au 7 Fr.	24351	97/01/17
Au 9 Fr.	24353	97/01/17
Au 10 Fr.	24354	97/01/17
Au 11 Fr.	24355	97/01/17
At Last	19501	97/04/13
JG 1	21688	97/01/25
JG 2	21689	97/01/25
JG 3	21690	97/01/25
JG 4	21691	97/01/25
JG 8	21695	97/01/25
JG 10	21697	97/01/25
JG 11	21698	97/01/25
JG 12	21699	97/01/25
JG 13	22403	95/06/28
JG 14	22425	95/07/03
Prod. Lease	Lot 4079-S	86/04/09

The Production Lease P-3 (Lot 4079-S) consists of the following claims:

Au 1 Fr	24346
Au 3 Fr	24348
J Gus 1	22468
J Gus 3	22532
JG 5	21692
JG 7	21694
JG 9	21696
JOE 1	22689
HUNT 7 Fr	24289
HUNT 22 Fr	24305
CLAIRE 1 Fr	30580

A Bill of Sale dated June 23rd, 1984 transfers ownership of the above listed claims from Dusty Mac Mines Ltd. to Esso Minerals Canada in trust. Similarly a Bill of Sale dated June 27, 1984 transfers ownership of Production Lease P-3 (Lot 4079-S) from Dusty Mac Mines Ltd. to EMC. The Production Lease expires April 9, 1986.

On April 4, 1984 EMC staked 4 claims, DM 1-4, blanketing the above Dusty Mac Mines Ltd. claims and Production Lease. The DM 1-4 claims comprise 70 contiguous units.

<u>CLAIM NAME</u>	<u>UNITS</u>	<u>RECORD #</u>	<u>EXPIRY DATE*</u>
DM-1	18	2013	93/05/04
DM-2	20	2014	93/05/04
DM-3	20	2015	93/05/04
DM-4	12	2016	93/05/04

Dusty Mac - 85 Group consists of the following claims: DM 1-4, Au 2 Fr., Au 5-7 Fr., Au 9-11 Fr., AT LAST, JG 1-4, JG 8, JG 10-14, and Production Lease P-3 (Lot 4079-S).

* New expiry dates based on the acceptance of this report for assessment purposes.

GEOLOGY AND ECONOMIC ASSESSMENT

The Dusty Mac property occurs within a fault bounded block of Eocene terrain near the eastern margin of the White Lake Basin near Okanagan Falls. The White Lake basin was mapped by N.B. Church during the period 1963-1965 and provides the source of information for the regional geology in the area.

Rocks found on the Dusty Mac property belong to the Marama and younger White Lake formations. Structurally the rocks are arranged in a homoclinal sequence striking northwesterly and dipping 30-50° northeast.

The Dusty Mac orebody occurs in the White Lake formation and consists of a gently dipping quartz breccia lens whose basic configuration was lens-like striking northwesterly and dipping northeast. Mineralization consists of very fine-grained, disseminated native silver and gold with minor disseminated chalcopyrite, sphalerite and galena. Both precious and base metals occur within the matrix of the quartz breccia.

Estimated ore reserves in 1974 were 120,280 tonnes grading 7.06 g/t Au and 123.4 g/t Ag. During the period Aug 1, 1975 to June 9, 1976 a total of 93,653 tonnes of ore was milled grading 6.89 g/t Au and 146.6 g/t Ag.

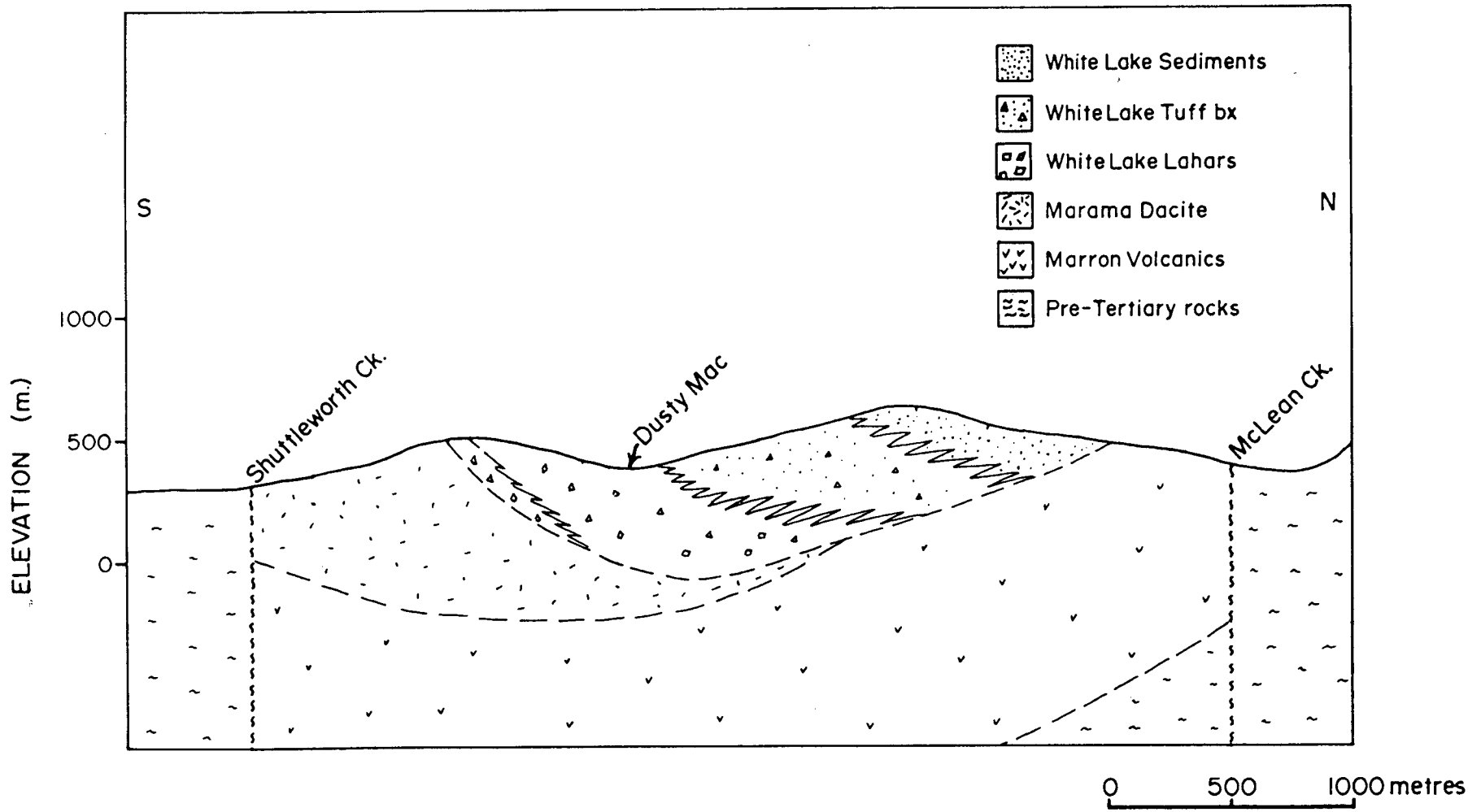
At least three additional zones of precious metal mineralization are known on the property. The Western zone is located 200 metres southwest of the Dusty Mac pit and is poorly defined by five Dusty Mac drill holes. Gold values encountered were generally less than 1 gram per tonne over three to six metres.

The 'A' zone is located 700 metres west northwest of the pit and consists of a brecciated quartz vein vertically dipping, measuring 1 metre wide and 4 metres long. One sample collected across the vein ran 8.59 g/t Au and 1924 g/t Ag. Several Dusty Mac drill holes in the vicinity did not determine the source of the mineralization.

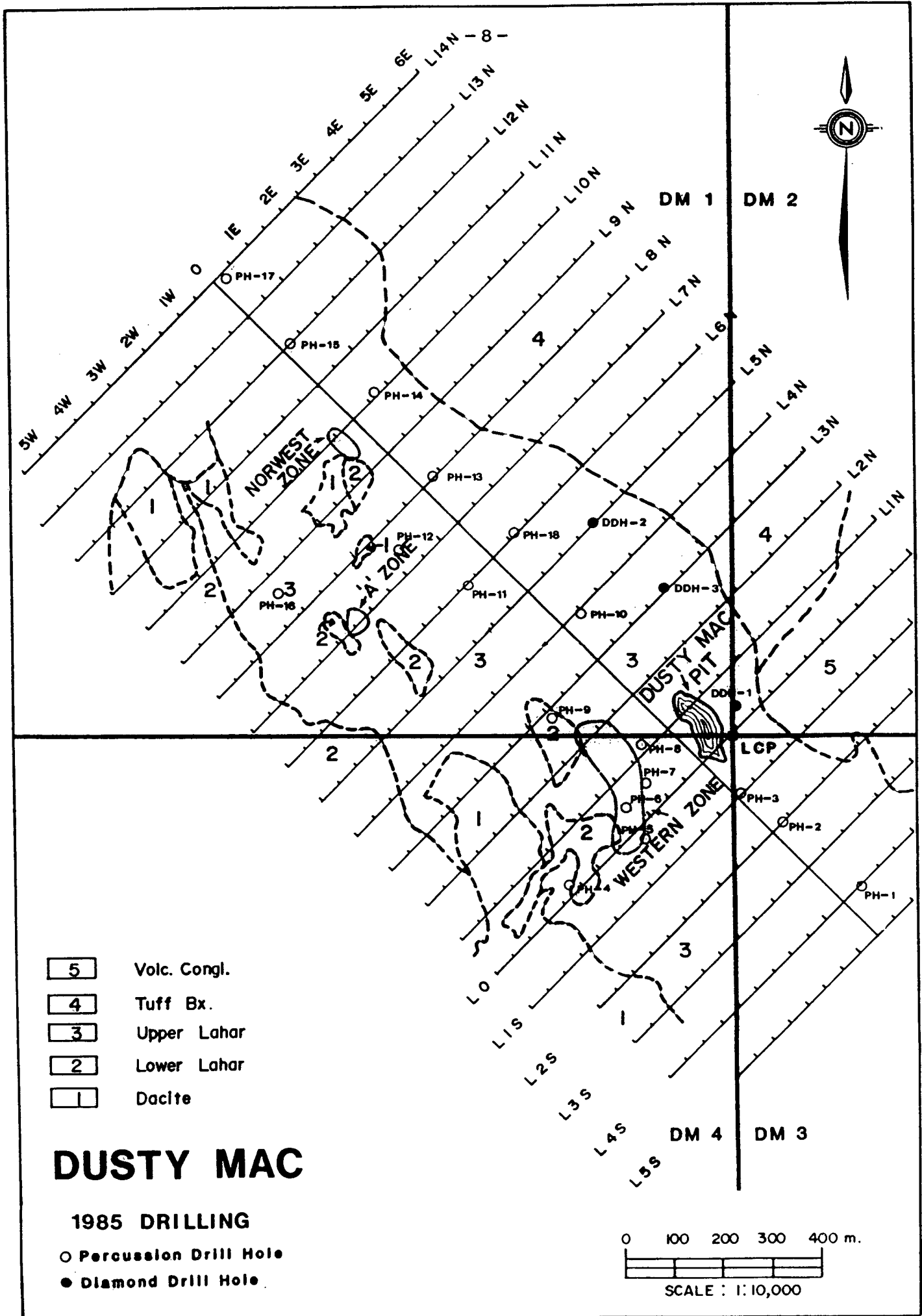
The Norwest Zone is located 900 m northwest from the pit. This zone consists of an intensely altered breccia extending over an area 70 x 20 m. Three Dusty Mac drill holes detected only traces of precious metals.

Extensive lithogeochemical, geochemical and geological surveys were conducted in 1984 in an attempt to discover near-surface, gently dipping mineralized zones similar to Dusty Mac.

The drill program conducted by EMC in April, 1985, failed to discover near-surface Dusty Mac-style mineralization. The program did however identify alteration zones consisting of quartz, sericite, and pyrite which are coincident with porous members of the White Lake Formation, including arkosic sandstone and conglomerate. In the vicinity of percussion holes PH-12 and PH-18, geochemically anomalous gold and silver values, 0.5 - 1.1 g/t and 1.0 to 5.7 g/t respectively, coincide with the altered zones. The November drill program was designed to test the down dip potential of the altered zones.



SECTION THROUGH
 DUSTY MAC
 LOOKING WEST NORTHWEST



DRILLING

A second phase drilling program was conducted by Esso Minerals Canada on the Dusty Mac property in November, 1985. Two inclined diamond drill holes were drilled, size NQ, totalling 400.5 m (1314 feet). The drill hole collars are plotted on map 2197-26.

Drill core is stored on the property near drill hole DDH 85-2.

DDH 85-2 Summary

Overburden:	48.8 m	Azimuth:	225°
Depth:	196.9 m	Dip:	-65°
Coordinates:	L5N, 1+93 E		

0	-	48.8	Overburden
48.4	-	64.7	Arkosic Sandstone
64.7	-	92.9	Conglomerate
92.9	-	98.7	Tuffaceous sediment, altered
98.7	-	108.3	Mafic flows
108.3	-	114.6	Tuffaceous conglomerate - altered
114.6	-	127.1	Tuffaceous conglomerate - altered
127.1	-	129.6	Mafic flow
129.6	-	134.3	Conglomerate - altered
134.3	-	136.3	Mafic flow
136.3	-	150.2	Conglomerate - altered
150.2	-	154.8	Mafic flow
154.8	-	163.0	Agglomerate
163.0	-	173.4	Marama Conglomerate (Lower Lahar)
173.4	-	101.3	Agglomerate
101.3	-	196.9	Marama Dacite

DDH 85-2 Assays

<u>Interval</u>	<u>Width</u>	<u>Au (g/t)</u>	<u>Ag (g/t)</u>
83.20 - 86.00	2.80	0.02	2.0
86.00 - 89.00	3.00	0.06	2.2
89.00 - 92.87	3.87	0.05	1.9
92.87 - 95.00	2.13	0.25	1.5
95.00 - 98.00	3.00	0.05	1.2
98.00 - 101.30	3.30	0.02	1.2
106.00 - 108.30	2.30	0.20	1.0
108.30 - 111.00	2.70	0.16	0.6
111.00 - 114.61	3.61	0.18	1.5
114.61 - 118.00	3.39	0.02	1.6
118.00 - 121.00	3.00	0.15	0.5
121.00 - 122.60	1.60	0.02	0.6
122.60 - 124.60	2.00	0.01	1.2
124.60 - 127.12	2.52	0.15	2.0
127.12 - 129.60	2.48	0.03	1.0
129.60 - 131.60	2.00	0.03	1.0
131.60 - 134.34	2.74	0.06	0.8
134.34 - 136.28	1.94	1.99	2.4
136.28 - 137.40	1.12	0.22	1.6

DDH 85-3 Summary

Overburden 28.04 m
 Depth 203.61 m
 Coordinates L3N 2+03E
 Azimuth 225°
 Dip -65°

0	-	28.0	Overburden
28.0	-	38.3	Agglomerate
38.3	-	44.0	Arkosic sandstone
44.0	-	50.0	Conglomerate
50.0	-	60.1	Arkosic sandstone
60.1	-	74.3	Agglomerate
74.3	-	80.2	Arkosic sandstone
80.2	-	88.4	Agglomerate
88.4	-	91.4	Arkosic sandstone
91.4	-	92.4	Conglomerate
92.4		106.1	Mafic flows
106.1	-	108.2	Conglomerate
108.2	-	137.5	Mafic flows
137.5	-	144.7	Agglomerate
144.7	-	154.3	Arkosic sandstone
154.3	-	156.7	Conglomerate
156.7	-	161.0	Arkosic sandstone
161.0	-	163.7	Agglomerate
163.7	-	167.0	Arkosic sandstone
167.0	-	196.5	Agglomerate
196.5	-	203.6	Mafic flows

DDH 85-3 Assays

<u>Interval</u>	<u>Width</u>	<u>Au (g/t)</u>	<u>Ag (g/t)</u>
133.74 - 135.50	1.76	0.01	0.4
135.50 - 137.50	2.00	0.01	0.2
137.50 - 138.01	0.51	0.02	3.2
138.01 - 139.10	1.09	0.01	0.3
139.10 - 139.60	0.50	0.01	2.6
189.00 - 191.00	2.00	0.03	0.2
191.00 - 192.00	1.00	0.01	1.4
192.00 - 193.00	1.00	0.01	0.2
196.47 - 199.50	3.03	0.04	0.2
199.50 - 201.50	2.00	0.03	0.2
201.50 - 203.61	2.11	0.01	0.1

RESULTS AND CONCLUSIONS

The stratigraphy intersected in DDH 85-2 represents the lower portion of the White Lake Formation and the upper part of the underlying Marama Formation. The Marama Formation consists of massive porphyritic rhyodacitic flows, whereas the White Lake Formation consists of trachyandesitic flows interbedded with poorly sorted coarse volcanic conglomerate, minor mafic tuffs, and arkosic sandstone. Several interflow sedimentary units exhibit good pyrite-sericite alteration especially in the interval 92.9 - 134.3 m. This interval was sampled and assayed resulting in only slightly above background values for gold and silver.

The rocks intersected in DDH 85-3 consist of coarse, poorly sorted sediments and three separate mafic flow sequences. The sediments consist of rhythmically deposited arkosic sandstones and conglomerates in cycles of 6 to 20 metres. At least seven rhythmic sedimentary cycles are recognized. Relative to DDH 85-2, these rocks are stratigraphically higher in the White Lake Formation sequence.

Alteration features are poor, in DDH 85-3, except for an interval from 133.74 to 139.60 m where a section of mafic flow is moderately silicified, carbonitized and flanked by narrow pyrite zones.

Select portions of drill core were split and submitted for gold-silver assay. Assay results are only slightly above background for gold and silver.

The November, 1985 diamond drill program conducted by EMC tested the down dip precious metal potential of altered zones discovered during the April, 1985 drill program. Diamond drilling confirmed the presence of altered zones consisting of pyrite + sericite + quartz + carbonate. However select samples submitted for assay resulted in low concentrations of gold and silver, very similar to values obtained in the April drill program.

Widespread percussion and diamond drilling on the Dusty Mac property has not detected the presence of economic precious metal concentrations.

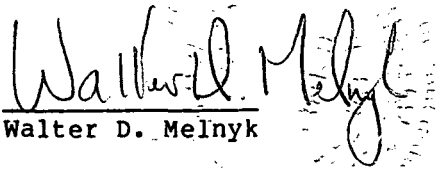
Walker Helge

COST STATEMENT

Salaries	Project Geologist 15 days @ \$230/day	\$ 3,450.00
Food/Accommodation	15 days @ \$50/day	750.00
Vehicle	15 days @ \$60/day	900.00
Assaying	Au, Ag 31 samples @ \$16.50/sample	511.50
Diamond drilling	1314 feet @ \$13.64/ft	17,926.00
Additional drilling costs:	Lost casing, labour	2,207.00
Assessment report:	4 days @ \$230/day	920.00
	Total	<u>\$ 24,664.50</u> =====

STATEMENT OF QUALIFICATION

I received my Bachelor of Science degree in Geological Engineering from the University of Saskatchewan, Saskatoon, in 1972. I have been permanently employed as an exploration geologist since 1974. I am a member of the Association of Professional Engineers of Ontario and British Columbia.


Walter D. Melnyk

0894B

APPENDIX A

DETAILED DRILL LOGS

ESSO MINERALS CANADA DRILL LOG

HOLE NO. DDH 85-2
 PAGE 1 OF 15
 PROJECT 2197
 LOGGED BY: W. Melnyk

COLLAR COORDINATES L5+00 N
1+93 E
 AZIMUTH 225° DIP -65°
 HORIZONTAL PROJECTION 83m

COLLAR ELEVATION 297m
 TOTAL LENGTH 196.90m
 VERTICAL PROJECTION 178.8m

CONTRACTOR TEX DRILLING LTD. CORE SIZE NQ
 DATE STARTED NOV. 2 DATE COMPLETED NOV. 7, 1985
 AVERAGE CORE RECOVERY 98%

PURPOSE To test large undrilled area north northwest of Dusty Mac Pit.
 COMMENTS: Intersected thick altered section from 92.9 to 131.3m. Poor precious metals.

ALTERATION SCALE



absent
 slight
 moderate
 intense

TOTAL SULPHIDE SCALE



traces only
 < 1%
 1% - 3%
 3% - 10%
 > 10%

SUMMARY LOG

0 - 48.8 : Overburden
 48.8 - 64.7 : Arkosic sandstone
 64.7 - 92.9 : Conglomerate
 92.9 - 98.7 : Tuffaceous sediment - altered
 98.7 - 108.3 : Mafic flows
 108.3 - 114.6 : Tuffaceous conglomerate - altered
 114.6 - 127.1 : Tuffaceous conglomerate - altered
 127.1 - 129.6 : Mafic flow
 129.6 - 134.3 : Conglomerate - altered
 134.3 - 136.3 : Mafic flow
 136.3 - 150.2 : Conglomerate - altered
 150.2 - 154.8 : Mafic flow
 154.8 - 163.0 : Agglomerate
 163.0 - 173.4 : Marama conglomerate
 173.4 - 181.3 : Agglomerate
 181.3 - 196.9 : Marama dacite

DIP TESTS

DEPTH	DIP	AZIMUTH	DEPTH	DIP	AZIMUTH

LEGEND

Walter Melnyk

PAGE 2 OF 15		PROJECT: 2197				
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION		
				FROM	TO	
				0	48.77	Casing, + overburden
50		88		48.77	64.70	SANDSTONE : Sandstone with intercalated bands of graphitic shale. Sandstone is volcanic derived - arkosic. Unit is distinctly green chloritic containing rhythmic layering of graphitic black shale at base of sed cycle to clean arkosic sandstone to cobbly gravel at top of cycle pebbles and cobbles consist of tan siliceous pieces 2 cm or less, green porphyritic mafic volcanic fragments, odd quartz pebble and granulated black graphitic shale
		100		52.00		Bedding at -20° W.C.A.
				52.70		Bedding at -15° W.C.A.
55		92				Unit has numerous thin hairline to 2mm carbonate healed fractures No quartz veining in this section.
				57.00	59.00	Sheared, crushed interval, sandstone + shale still intact but soft clayey.
60		96				
		101		61.85		Bedding at -45° W.C.A.
				63.1	63.8	Graphitic shale, Bedding at -80° W.C.A.
65		99		64.70	92.87	CONGLOMERATE : Coarse polymictic conglomerate 64.70-70.79 : Section contains thin 1-4cm bands of sandstone and "graphitic shale." 65.93-66.11 : Porphyritic, pyritic boulder or dike chilled margins contacts 80° W.C.A. 66.58-66.77 : Porphyritic dike? 65° W.C.A. contacts 67.21-67.91 : Porphyritic dike? contacts 45° W.C.A. 67.87-67.96 : Porphyritic dike?

PAGE 4 OF 15		PROJECT: 2197			
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION	
				FROM	TO
70		99			<p>Porphyritic rocks are porcelaneous brown, siliceous, with fine grained pyrite.</p> <p>69.85 - 70.04 : Sandstone and shale. Good bedding at 75° W.C.A.</p>
		70			<p>70.40 : thin shaly seam bedded at 70° W.C.A.</p>
75		92			<p>70.58 - 70.79 : shale bedded at 45° W.C.A.</p> <p>70.79 - 83.20 : Conglomerate. Medium green color, polymictic. No sandstone, shale except for minor graphitic material in conglomerate matrix. Unit is weakly sericitic, only minor carbonate in hair-line fractures. No quartz veining.</p> <p>Conglomerate components are all volcanic, variable shades of green to brown and some porphyritic. Moderate angularity in components. Quartz fragments in final three meters.</p> <p>72.00 - 72.54 : Broken, some clay fault.</p>
		100			<p>Section is solid, competent over entire interval.</p>
80		100			
		73			
85		95	day		<p>82.80 - 83.20 : Gouge in part fault.</p> <p>83.20 - 92.87 : Conglomerate silicified. Not as diverse in composition. Has brown porcelaneous appearance, textures have been partly masked. Pyrite picks up. Very fine grained, clots in conglomerate matrix. 3-5% No veining, odd fine fracture healed with carbonate.</p>
		99			<p>Section is competent, only weakly broken.</p>
90		94			

PAGE 8 OF 15		PROJECT: 2197				
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION		
				FROM	TO	
115		99		114.61	127.12	TUFFACEOUS CONGLOMERATE. Apple green waxy, intensely sericitized, soft. Much carbonate as fracture healings.
						114.61 - 122.68: Pale green, waxy, moderately to intensely sericitized, weakly pyritic - disseminated 1-2% carbonate fracture fillings. No veining. Rock intensely disrupted, much movement through unit. Competent sericitic rock fragments held together by clay.
120		100				
						122.40 - clay seam 30° W.C.A.
125		99				122.68 - 127.12: Similar to above except this section is brown in color and contains significant fine grained pyrite ~ 5-7%. Occasional blebs of fine grained pyrite to 1cm diameter.
						Section again very soft. Intensely altered.
130		99		127.12	129.60	MAFIC FLOW: Pale to medium green may in part be agglomeration contains odd foreign pebble. Unit is non-pyritic and contains irregular quartz inclusions. Unit is competent, hard, probably only very weakly altered, upper fault contact at -20° W.C.A., bottom at -45° W.C.A.
				129.60	134.34	CONGLOMERATE: Pale green-brown color again brown color due to contained fine grained pyrite.
135		100				
				134.34	136.28	MAFIC FLOW: Same as 127.12 - 129.60. Section is hard fault bounded and has two quartz veins 10cm and 25cm.

PAGE 9 OF 15		PROJECT: 2197				HOLE NO. 85-2									
ALTERATION						TOTAL SULPHIDE	SAMPLES			ASSAYS					
1	2	3	4	5	6		FROM	TO	WIDTH	SAMPLE NUMBER	g/tonne Au	g/tonne Ag			
✓	✓	✓	✓	✓	✓	111.00	114.61	3.61	19059	0.18	1.5				
✓	✓	✓	✓	✓	✓	114.61	118.00	3.39	19060	0.02	1.6				
✓	✓	✓	✓	✓	✓	118.00	121.00	3.00	19061	0.15	0.5				
✓	✓	✓	✓	✓	✓	121.00	122.60	1.60	19062	0.02	0.6				
✓	✓	✓	✓	✓	✓	122.60	124.60	2.00	19063	0.01	1.2				
✓	✓	✓	✓	✓	✓	124.60	127.12	2.52	19064	0.15	2.0				
✓	✓	✓	✓	✓	✓	127.12	129.60	2.48	19065	0.03	1.0				
✓	✓	✓	✓	✓	✓	129.60	131.60	2.00	19066	0.03	1.0				
✓	✓	✓	✓	✓	✓	131.60	134.34	2.74	19067	0.06	0.8				

PAGE 10 OF 15		PROJECT: 2197				
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION		
				FROM	TO	
					both barren at -45° W.C.A. Fault bounded at -45° W.C.A.	
				136.28	150.22	CONGLOMERATE: 136.28 - 139.50: Similar to previous sections. Brown color soft, incompetent, unit intensely altered, tectonically disrupted. Unit contains much more matrix vs. pebbles. May have a tuffaceous component. Contains very fine grained pyrite to 3%.
140		100				139.50 - 150.22: Distinct conglomerate. Has a polymictic component, although porphyritic medium green volcanic component is most abundant. Also have quartz pebbles, locally, occasional tan pieces, grey felsic pebbles, and hematitic fragments. All components are variable and size varies to 4-5 cm with the average 2-3 cm. Matrix is very distinct as it is black graphitic, amorphous, stark contrast. Unit is both fragment and matrix supported.
145		100				Unit is weakly altered (?) sericitic. < 1% diss. pyrite Unit is solid, not faulted, hard. No veining.
150		98		150.22	154.84	MAFIC FLOWS: Dark to pale green, gray porphyritic flows. Phenocrysts of feldspar have largely been resorbed, remain as pale white corroded ghosts to 3mm in diameter. Unit is hard, contains no veining, is wholly competent. < 1% py
155		101		154.84	163.00	AGGLOMERATE: A varied volcanic unit containing occasional large blocks of porphyritic volcanic material. In some respects similar to previously labelled conglomerates. Is a color & texture variation of components, only.

PAGE 12 OF 15		PROJECT: 2197			
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION	
				FROM	TO
160		98			minor black graphitic matrix and sandy material. unit is wholly competent, hard, < 1% diss py, not faulted, not veined.
		99			162.0 - 163.00: Section is quite sandy.
165		98	163.00	173.35	MARAMA CONGLOMERATE (LOWER LAHAR) Distinct unit composed of angular and occasionally rounded pebbles & fragments of Marama dacite. Dacite is aphanitic, light green, siliceous. For most part unit is fragment supported. Matrix is generally hematitic orange reddish brown. Unit is solid carries no quartz veining or pyrite. Not faulted.
		97			
170		100			171.48 - 173.35: Quantity of Marama fragments drops off drastically. Unit has a high tuff or ash component.
175		100	173.35	181.25	AGGLOMERATE (LAHAR?) Chaotic assemblage of volcanic material. Main component is a porphyritic mafic volcanic with feldspar crystals ~ 1mm in length crowded, altered or resorbed. Many fragments as large as 15cm are distinctly hematitic. Section is competent only odd carbonate fracture filling.
180		100			179.0 - 181.25: section is much more varied in composition occasional quartz fragment with sandy-muddy matrix.

DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG			GEOLOGICAL DESCRIPTION
				FROM	TO	
185		97		181.25	183.10	MAFIC - INTERMEDIATE FLOW: Pale, porphyritic flow. Feldspar crystals resorbed, ghost relicts. Very hard. Several carbonate healed tension gashes. Bottom is fault contact at 70' w.c.A.
		90		183.10	196.90	MARAMA DACITE: Shades of green and grey, siliceous, typically porphyritic with feldspar phenocrysts ~ 1mm and generally resorbed. Rock is brittle, competent has several carbonate healed fractures.
		98				Occasional thin mud seams are present ~ <1cm. In general solid competent unit. 183.10 - 188.0 : Dacite auto brecciated.
		101				
		102				
190						
		95				
				196.90		END OF HOLE
200						

ESSO MINERALS CANADA DRILL LOG

HOLE NO. DDH 85-3
 PAGE 1 OF 17
 PROJECT 2197
 LOGGED BY: W. Melnyk

COLLAR COORDINATES _____

L3N, 2403E

COLLAR ELEVATION 297 m

AZIMUTH 225° DIP -65°

TOTAL LENGTH 203.61 m

HORIZONTAL PROJECTION 86 m

VERTICAL PROJECTION 185.0 m

CONTRACTOR TEX DRILLING LTD CORE SIZE NQ

DATE STARTED Nov 10 DATE COMPLETED Nov 14, 1985

AVERAGE CORE RECOVERY 96%

PURPOSE To test large undrilled area north northwest of Dusty Mac pit.
 COMMENTS: Intersected thick sedimentary sequence of White Lake Formation.

ALTERATION SCALE



0 absent
 1 slight
 2 moderate
 3 intense

TOTAL SULPHIDE SCALE



0 traces only
 1 < 1%
 2 1% - 3%
 3 3% - 10%
 4 > 10%

SUMMARY LOG

0 - 28.0 : Overburden
 28.0 - 38.3 : Agglomerate
 38.3 - 44.0 : Arkosic sandstone
 44.0 - 50.0 : Conglomerate
 50.0 - 60.1 : Arkosic sandstone
 60.1 - 74.3 : Agglomerate
 74.3 - 80.2 : Arkosic sandstone
 80.2 - 88.4 : Agglomerate
 88.4 - 91.4 : Arkosic sandstone
 91.4 - 92.4 : Conglomerate
 92.4 - 106.1 : Mafic flows
 106.1 - 108.2 : Conglomerate
 108.2 - 137.5 : Mafic Flows
 137.5 - 144.7 : Agglomerate
 144.7 - 154.3 : Arkosic sandstone
 154.3 - 156.7 : Conglomerate
 156.7 - 161.0 : Arkosic sandstone
 161.0 - 163.7 : Agglomerate
 163.7 - 167.0 : Arkosic sandstone
 167.0 - 196.5 : Agglomerate
 196.5 - 203.6 : Mafic flows

DIP TESTS

DEPTH	DIP	AZIMUTH	DEPTH	DIP	AZIMUTH

LEGEND

Walker Melnyk

PAGE 4 OF 17		PROJECT: 2197				
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION		
				FROM	TO	
50		98		50.00	60.10	<p>ARKOSIC SANDSTONE</p> <p>Similar to 41.00 - 43.97</p> <p>50.00 - 57.10: thinly bedded sandstone. Regular thin black partings of graphitic material throughout. Good graded bedding.</p> <p>51.00: Bedding at 70° w.c.a.</p>
			AS			
		102				<p>53.50: Bedding at 65° w.c.a.</p> <p>54.25 - 56.00: Broken ground, several thin gouge sections which appear to be parallel with bedding.</p> <p>56.00: Bedding at 80° w.c.a.</p>
55			SO			
		83				<p>57.10 - 60.10: Many foreign blocks incorporated with sandstone. Sandstone is still major component. Several "clay-bound" sections 57.30 - 57.70 & 58.80 - 59.10. Movement has occurred in these zones.</p> <p>No veining present.</p> <p>B.Horn contact fault contact, sharp at 15° w.c.a.</p>
		100		60.10	74.30	<p>AGGLOMERATE:</p> <p>Similar to previous agglomerates. Porphyritic, pale green, to light gray, when altered, volcanic blocks in a similar fine grained matrix. Minor sandy component to matrix as well.</p> <p>Several small 2-1cm pieces are hematitic.</p> <p>unit is again solid competent, not pyritic and has only odd carbonate healed fracture.</p>
60						
		100				
65		100				
		99				<p>68.00 - 68.20: Clay, gouge, fault.</p>
70						

DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG			GEOLOGICAL DESCRIPTION
				FROM	TO	
75		99				
		82		74.30	80.23	73.80 - 74.30: Coarse chaotic conglomerate, matrix is mainly black graphitic shaly material. ARKOSIC SANDSTONE: Section is still predominantly sandstone but has a significant black graphitic component consequently this section is badly broken over entire interval. 76.00: Bedding at 70° W.C.A. Short < 5cm gauge at 74.5, 77.0, 78.4, 78.7 and 80.23. Faults seem to be parallel with bedding.
		86	AS/			78.00: Bedding at 70° W.C.A. Again only carbonate healed fractures.
80		85		80.23	88.44	AGGLOMERATE: Poorly sorted dumping of volcanic pebbles, cobbles & blocks. Component size varies from 5cm to 7cm. Matrix is fine volcanic material and derived sediment plus small amount of black graphitic material. 81.70: gauge - fragments cemented by clay. 83.50: gauge 10cm at 45° W.C.A. Bleaching adjacent this zone. Majority of volcanic components are porphyritic, feldspar crystals are whitish green, resorbed.
85		98				86.90 - 87.40. Badly broken and gauge cemented fragments.
90		99		88.44	91.36	ARKOSIC SANDSTONE Poorly sorted sandstone, minor graphitic material plus coarse gravel sized sections. Bedding shallowed here 40° W.C.A.
		91		91.36	92.40	CONGLOMERATE (OR AGGLOMERATE) Continuation of previous section: 80.23 - 88.44

PAGE 8 OF 17		PROJECT: 2197				
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION		
				FROM	TO	
95				92.40	106.07	<p>MAFIC FLOWS: Pale, light green, vaguely porphyritic andesitic flows. Feldspar phenocrysts to 4mm often vague resorbed. Unit is altered - weak sericitic(?)</p> <p>92.40 - 97.00: Section is pervasively intensely stressed, locally brecciated; fragments held together with clay or gouge. Very soft incompetent unit. Some carbonate healing of fracture. No quartz veining, No sulfides.</p> <p>97.00 - 100.36: Solid cohesive flows, distinctly porphyritic, again no veining except for minor carbonate healed fractures. Feldspar phenocrysts have slight orange tint.</p> <p>97.90: 4cm gouge.</p>
				100.36	106.07	<p>100.36 - 106.07: Flows hematitic. Very similar to above except have distinct hematitic cast through section. This section is broken moderately, fragments are often crudely cemented with many vugs present. No veining or sulfides.</p>
				106.07	108.21	<p>CONGLOMERATE: Blocks + pieces of above flow material combined with sandy and graphitic matrix. Top 0.8m stressed and reconsolidated.</p>
				108.21	108.59	<p>SANDSTONE: Graded, bedded arkosic sandstone. Bedding - 40° w.c.a.</p>
110				108.59	133.74	<p>MAFIC FLOWS: Thick sequence of mafic flows generally porphyritic usually only < 1 to 2 meters thick per flow. No veining, only minor carbonate in tension gashes. No sulfides.</p> <p>For the most part unit is competent, solid, but several clay seams are present.</p> <p>113.60: 4cm gouge seam at 45° w.c.a.</p>
				113.60		<p>Flows from medium to dark green with darker green mafic shadows of phenocrysts.</p>
				115		

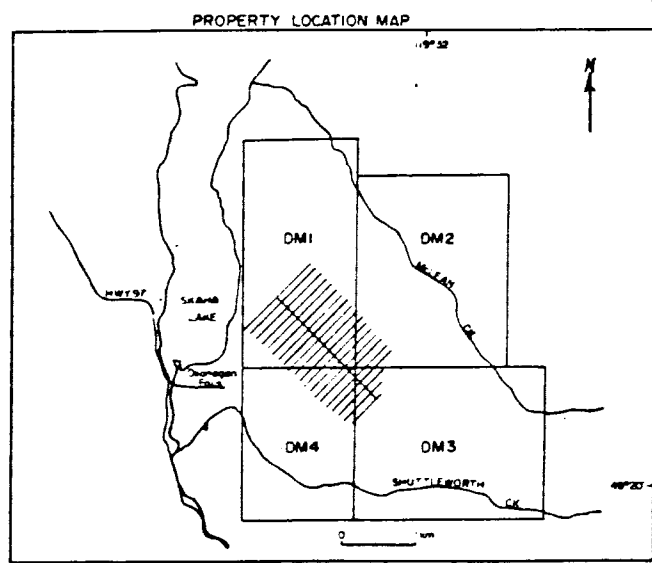
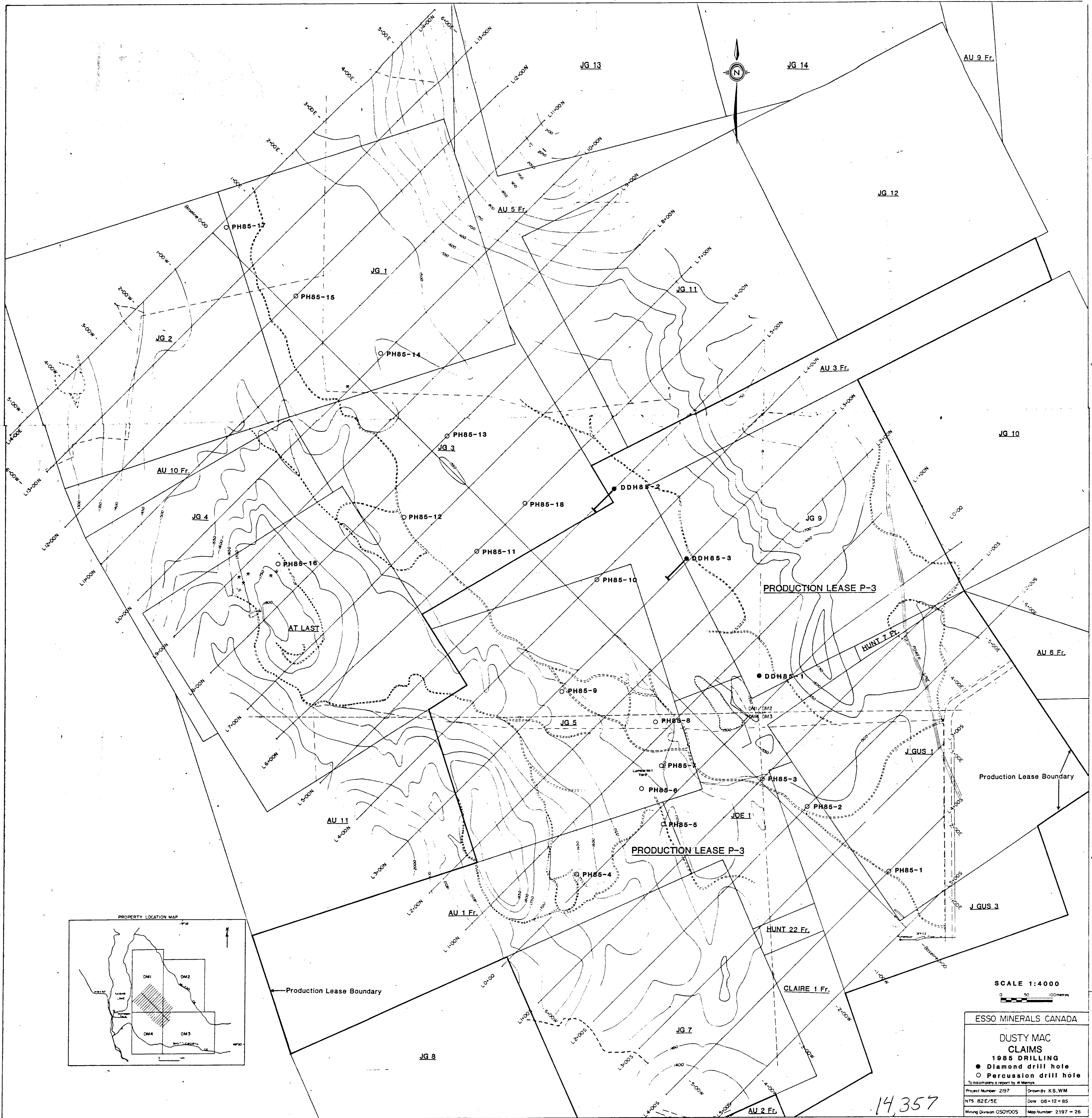
PAGE 10 OF 17		PROJECT: 2197				
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION		
				FROM	TO	
					<p>Mafic flows continued</p> <p>116.15 - 116.80: Brecciated zone cemented by gouge. One fracture is shallow at 15° W.C.A. and another major gouge zone is at about 50° W.C.A.</p>	
120					<p>120.75: 3cm gouge zone at -45° W.C.A.</p>	
					<p>123.85: 4cm gouge zone at -40° W.C.A.</p> <p>124.32: 4cm gouge zone at -45° W.C.A.</p>	
125						
130					<p>131.60 - 133.74: Brecciated flows (autobrecciation) agglomeratic (?), minor amount of graphitic material incorporated in matrix of flows.</p>	
				133.74	137.50	<p>MAFIC FLOW(S):</p> <p>Periphyritic feldspathic rock with much quartz ^{carbonate} veinings through sections. locally flow is br'd + quartz tons matrix. Only trace pyrite in quartz. Principle q.v. attitude is -40° W.C.A.</p> <p>Volcanic rock is soft - chloritic possibly sweetized. Top 10cm is dark grey siliceous & pyritic. This flow unit contains only trace pyrite.</p>
135						

PAGE 12 OF 17		PROJECT: 2197				
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION		
				FROM	TO	
140		101		137.50	138.02	TUFF (?) Dark gray strongly pyritic, brecciated. 8% py.
				138.02	144.67	AGGLOMERATE: Mixed assemblage of volcanic blocks and cobbles in a tuffaceous (?) sandy matrix. 139.10 - 139.60: Bedded pyritic tuff. Bedding at -65° W.C.A. pyritic 5%. Very fine grained.
145		99	99	144.67	154.34	ARKOSIC SANDSTONE: Consistent with mainly sandstone with thin black graphitic shales. 146.76 - 147.71: conglomerate - various associated porphyritic volcanic material. 145.00: Bedding at 65° W.C.A.
				101		
150		99	99	150.00		150.00: Bedding at 75° W.C.A. and quite consistent at this steep angle.
				98		
155		98	98	153.64	154.34	Much black graphitic shale. Bedding at -80° W.C.A. 3cm gouge at 154.34 conformable with bedding.
				154.34	156.65	CONGLOMERATE: Associated volcanic fragments, mostly porphyritic, set in a black graphitic matrix.
160		97	97	156.65	161.00	ARKOSIC SANDSTONE 156.65 - 157.46: Abundant black graphitic material. Bedding at -80° W.C.A. 157.46 - 158.02: Melic flow breccia. 158.02 - 161.00: Graphitic arkosic sandstone, many thin black bands of graphitic shale.
				87		

PAGE 14 OF 17		PROJECT: 2197				
DEPTH (m)	R Q D	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION		
				FROM	TO	
165		90		161.00	163.68	minor gorge at 160.98 AGGLOMERATE (CONGLOMERATE) Chaotic aggregate of green porphyritic + non-porph. volcanic fragments in a muddy, sandy matrix.
				163.68	166.96	ARKOSIC SANDSTONE: Thinly bedded, bedded, graded sandstone. Many thin black bands of graphitic material. Section is broken badly. Bedding is at -80° W.C.A.
				166.96	169.10	FAULT GOUGE: Clay predominantly with cobbles of volcanic material. Movement may be at -45° W.C.A.
				169.10	196.47	AGGLOMERATE (OR LAHAR) 162.10-182.40: Medium green coarse volcanic unit with abundant coarse immature gritty arkosic sandstone. Occasional rip-up clasts of graphitic shale (not many). Some black graphitic material occurs in matrix with sandy component. No quartz veining. Most volcanic fragments are porphyritic but feldspar phenocrysts are resorbed Overall unit appears to be weakly sericitic with light dusting of pyrite through matrix. Unit is competent overall but there are numerous clay slips throughout.
170		99				170.50: 1cm clay seam at -45° 170.82: 3cm clay seam at -50° 172.50: 3cm clay seam at -30° 175.60: 2cm gouge coincident with 5cm graphitic shale Bedding + clay seam both at -80°.
175		102				
180		96				179.22-182.00: Section intensely stressed, rock fragments held together with clay.

PAGE 16 OF 17		PROJECT: 2197			
DEPTH (m)	RQD	% CORE REC	GRAPHIC LOG	GEOLOGICAL DESCRIPTION	
				FROM	TO
185		100			183.40-196.47: This section could be termed conglomerate as fragments & pieces of volcanic material and occasional minor assorted foreign material lie haphazardly in a sandy shaly matrix which often supports fragments. Again much carbonate through unit.
					entire unit solid, cohesive.
		101			
190		101			
					191.70: 10cm section with much very fine grained pyrite in matrix of conglomerate.
		99			
195					194.68-195.02: fault gorge coincident with minor block graphitic material.
		94	196.47	203.61	MAFIC FLOWS (AGGLOMERATIC) Pale green, feldspathic porphyritic mafic flows. Feldspar phenocrysts are resorbed for the most part. Unit is intensely carbonized. Noticeable increase in carbonate infilled tension gashes and several larger splashes of carbonate as void fillings. unit has been stressed intensely but maintains cohesive nature. Several thin (2cm) slips at -95° W.C.P.
200		98			
		101			
				203.61	END OF HOLE

PAGE 17 OF 17					PROJECT: 2197				HOLE NO. 85-3					
ALTERATION					TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS				
						FROM	TO	WIDTH		g/tonne Au	g/tonne Ag			
						189.00	191.00	2.00	19075	0.03	0.2			
						191.00	192.00	1.00	19076	0.01	1.4			
						192.00	193.00	1.00	19077	0.01	0.2			
						196.47	199.50	3.03	19078	0.04	0.2			
						199.50	201.50	2.00	19079	0.03	0.2			
						201.50	203.61	2.11	19080	0.01	0.1			



SCALE 1:4000
 0 50 100 METERS

ESSO MINERALS CANADA

DUSTY MAC
 CLAIMS
 1985 DRILLING
 ● Diamond drill hole
 ○ Percussion drill hole

To accompany report by # Meryna
 Project Number: 2197 Drawn By: K.S.W.M.
 NTS: 82E/5E Date: 06-12-85
 Mining Division: OSOY005 Map Number: 2197-26

14,357