REVERSE CIRCULATION DRILLING REPORT

ON THE

ELDORADO PROPERTY CLAIMS

P1035250-1035252, P1035429, P1073267-1073269,
P1073276, P1074433, P1074435-1074436

Situated in

ELDORADO TOWNSHIP
PORCUPINE MINING DIVISION

NTS 42 A-6

Held under Option by

GRANGES INC.
2300-885 WEST GEORGIA STREET
VANCOUVER, BC
V6C 3E8

APRIL 17, 1990

A.J. O'DONNELL
(E.J. Seagel)

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INTRODUCTION

An overburden drilling program was conducted on claims P1035250-1035252, P1035429, P1073267-1073269, P1073276, P1074433, P1074435-1074436 in the Eldorado Township from February 27 to March 7, 1990. The claims are part of property optioned to Granges Inc. of Vancouver, BC, with the exploration progam being conducted under the supervision of M. Kreczmer, Exploration Manager for Granges Inc. of Timmins, Ontario.

LOCATION AND ACCESS

The property is located 20 km southeast of South Porcupine (Figure 1). Access is by an all-weather road from South Porcupine that is presently being maintained by Timmins Nickel.

GEOLOGY

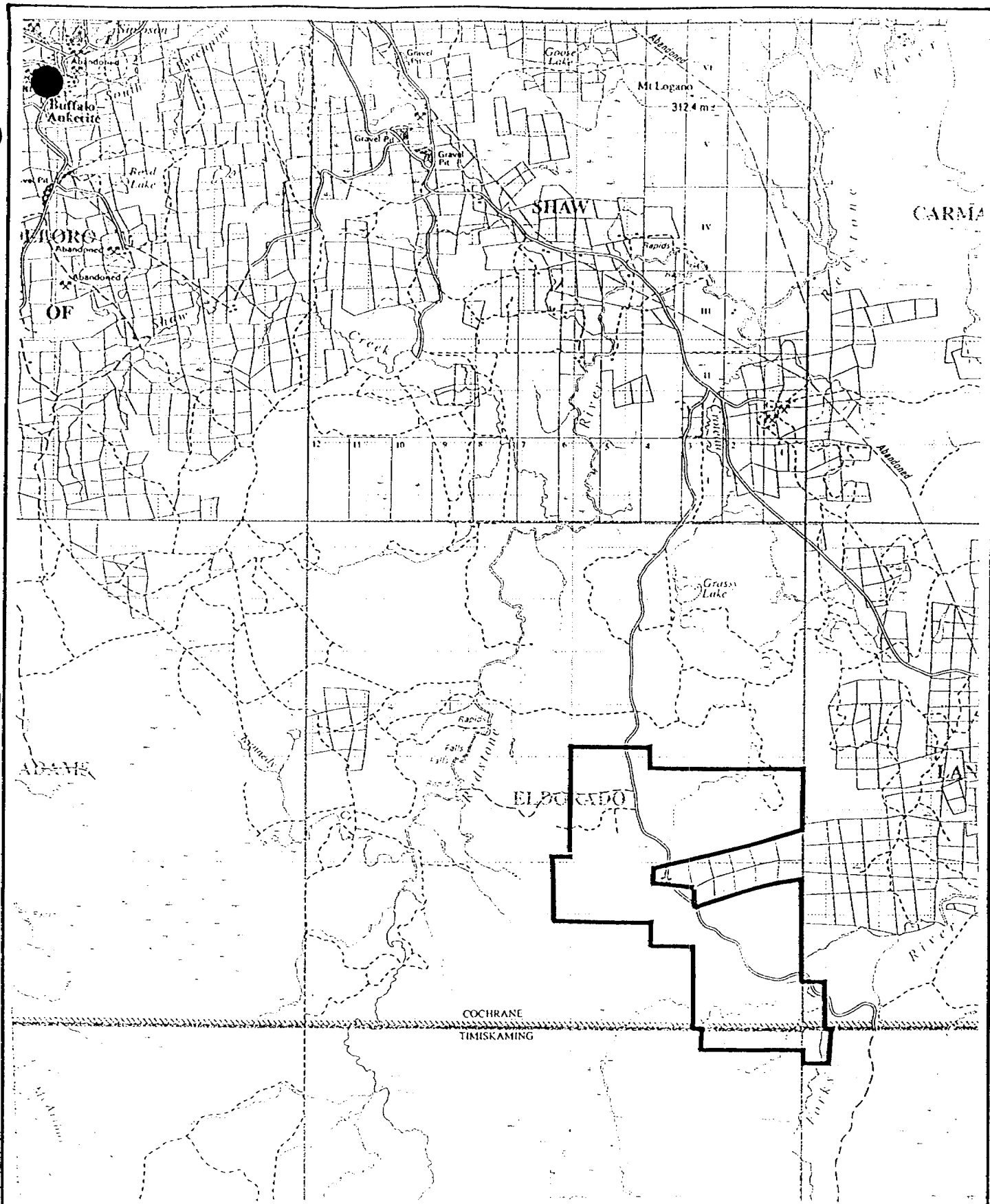
The property is situated along the south edge of the Shaw Dome at the transition zone between the Deloro and Tisdale Groups which consist of alternating units of felsic and ultramafic komatiite volcanics that dip and young to the south. Five mineral occurrences, the Redstone, Hart, Tontine, Langmuir No. 4 and Langmuir No. 2 are located along the southern edge of the Shaw Dome.

The property is underlain by mafic volcanics, ultramafic komatiite flows, and iron formations that have been intruded by trondhjemite and diabase. Outcrops on the property are scarce. A fault cross-cutting the property is interpreted by Pike (1975).

OVERBURDEN DRILLING

Thirty-six reverse circulation drill holes were drilled on the property for a total depth of 458.1 metres (1,503 feet). The holes were drilled by Bradley Bros. Limited of Timmins, Ontario, during the period February 27 to March 7, 1990, and the program was supervised by H. Miree, geologist for Granges Inc.

Assaying for nickel, gold and silver was undertaken by TSL Laboratories of Timmins, Ontario. Selected samples were further analysed geochemically. Swastika Laboratories of Timmins, Ontario, performed the heavy mineral separations for 37 samples. These were then analysed using ICP methods by Min-En Laboratories of North Vancouver, BC, as follows: 21 MI heavy separations were analysed for gold and silver,



GRANGES INC.		
LOCATION MAP		
Date JULY, 89	Drawn. A.M.	Fig. No. 1.

SCALE. 1: 100,000

37 MI heavy separations were analysed for 13 major elements, 4 MI light separations were analysed for 13 major elements, and 2 magnetic separations were analysed for 13 major elements. TSL Laboratories of Timmins, Ontario performed 22 ICAP whole rock analyses.

SUMMARY OF RESULTS

The locations of the drill holes are plotted on the enclosed magnetometer survey map, and the drill hole logs are appended to this report.

Table 1 summarizes the geology and primary assay results of the samples taken from each hole. The supplementary analyses are presented in Appendix B. It should be noted that only analyses received prior to April 17 are reported. Also there appears to be possible contamination in samples 29035, 29036, 29011, 29029, 29046 and 29050, where the heavy metal separations were analysed for gold: these samples are presently being re-examined.

For assessment purposes, Tables 2 and 3 give a breakdown of drilling and assay expenditures for each claim.

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SAMPLE SUMMARY

CLAIM	HOLE NO.	PROPOSED HOLE NO.	WESTING	NORTHING	SAMPLE NO.	DESCRIPTION	FROM	TO	ANALYSES GRAB SAMPLE Ni (ppm)	Au (ppb)	Ag (ppm)
1073276	1	B	0	-300	29001	Allotill	9.9	10.6	< 200.0		
					29002	Int-Fels Intrus -Dior	10.6	12.0	< 200.0		
1073276	2	C	100	-200	29003	AT	11.9	12.8			
					29004	AT	12.8	15.7	< 200.0		
					29005	Orthotill	15.7	16.6	< 200.0		
					29006	Int-Fels Intrus	16.6	18.1	< 200.0		
1073276	3	A	0	-200	29007	AT	18.6	19.2	< 200.0		
					29008	Fels Intrus	19.2	20.4	< 200.0		
1074435	4	E	200	-200	29009	AT	4.7	6.1	< 200.0		
					29010	AT	6.1	7.3	< 200.0		
					No Sample	Lacustrine sand + silt	7.3	10.1			
					29011	OT	10.1	10.2	< 200.0		
					29012	Porph Int Volc	10.2	11.3	< 200.0		
1074436	5	G	300	-150	29013	AT	5.5		< 200.0		
					29014	AT			< 200.0		
					29015	AT			< 200.0		
					29016	AT			< 200.0		
					29017	AT			< 200.0		
					29018	AT			< 200.0		
					29019	AT			< 200.0		
					29020	AT	17.4	18.9	< 200.0		
					29021	AT	18.9	20.0	< 200.0		
					29022	Fels Intrus	20.0	21.2	< 200.0		
1074436	6	H	300	-300	29023	AT	8.5		< 200.0		
					29024	AT			< 200.0		
					29025	AT			< 200.0		
					29026	AT			< 200.0		
					29027	AT	15.8	17.0	< 200.0		
						No Return	17.0	19.5			
					29028	OT	19.5		< 200.0		
					29029	OT		21.8	< 200.0		
					29030	Alt UM (Talc-Chl Sch)	21.8	23.2	400.0		
1074435	7	F	200	-300	29031	OT	5.5	6.9	< 200.0		
					No Sample	Bldr	6.9	7.2			
					29032	OT	7.2	7.5	< 200.0		
					29033	Fels-Intermed Volc	7.5	9.1	< 200.0		
1074435	8	D	100	-300	29034	AT	10.8	12.2	< 200.0		
					29035	OT	12.2	14.0	< 200.0		
					29036	OT	14.0	14.5	< 200.0		
					29037	Fels-Intermed Volc	14.5	15.5	< 200.0		

Table 4. Summary of Sample Geology and Assay Results

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SAMPLE SUMMARY

CLAIM	HOLE NO.	PROPOSED HOLE NO.	WESTING	NORTHING	SAMPLE NO.	DESCRIPTION	FROM	TO	ANALYSES GRAB SAMPLE Ni (ppm)	Au (ppb)	Ag (ppm)
1074436	9	I	400	-150	29038	AT	4.8		< 200.0		
					29039	AT			< 200.0		
					29040	AT			< 200.0		
					29041	AT			< 200.0		
					29042	AT			< 200.0		
					29043	AT			< 200.0		
					29044	AT			< 200.0		
					29045	AT	17.4	20.1	< 200.0		
					29046	OT	20.1	21.6	< 200.0		
					29047	OT	21.6	22.9	< 200.0		
					29048	Fels-Intermed Volc	22.9	24.9	< 200.0		
1074433	10	J	500	-25	29049	AT	2.4	4.3	< 200.0		
					29050	OT	4.3	6.7	< 200.0		
					29051	OT	6.7	7.5	< 200.0		
					29052	Intermed-Fels Volc	7.5	8.4	< 200.0		
1074436	11	K	600	-100	29053	AT	3.0	5.2	< 200.0		
						No Return	5.2	6.9			
					29054	AT	6.9	9.9	< 200.0		
						No Return	9.9	10.8			
					29055	OT	10.8	11.4	< 200.0		
					29056	Intermed Intrus	11.4	12.6	< 200.0		
					29057	No Sample			< 200.0		
					29058	No Sample			< 200.0		
					29059	No Sample			< 200.0		
1074433	12	L	700	-25	29060		8.1		< 200.0		
					29061				< 200.0		
					29062				< 200.0		
					29063				< 200.0		
					29064		14.0	15.5	< 200.0		
					29065		15.5	17.4	< 200.0		
					29066	OT	17.4	18.7	63.0		
					29067	OT	18.7	19.4	57.0		
						Bldr	19.4	19.8			
					29068	OT	19.8	21.8	35.0		
					29069	OT	21.8	23.3	42.0		
					29070	UM; tr py	23.3	24.4	390.0		
1073269	13	N	900	-100	29071	AT	2.3	6.1	28.0		
						No Return	6.1	8.2			
					29072	AT	8.2	10.1	130.0		
					29073	UM; tr py	10.1	11.0	700.0		
1073268	14	M	900	50	29074	AT	4.7	5.8	25.0		
					29075	UM	5.8	7.6	460.0		
1073268	15	P	1025	50	No Sample	Poor Return	0.0	5.9			
					29076	Fels Intrus	5.9	7.3	36.0		

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CLAIM	HOLE NO.	PROPOSED HOLE NO.	WESTING	NORTHING	SAMPLE NO.		DESCRIPTION	FROM	TO	ANALYSES GRAB SAMPLE Ni (ppm)	Au (ppb)	Ag (ppm)
1073268	16	O	1000	150	29077		Intermed - Fels Volc	2.0	3.0	23.0		
1073268	17	Z	1200	200	29078		AT	0.0	7.8	13.0		
					29079		AT	7.8	9.3	10.0		
					29080		OT	9.3	9.8	12.0		
					29081	A	Mafic Volc	9.8	10.8	235.0		
						B	contact interval	10.8	11.0	450.0		
						C	Fels-Intermed Intrus	11.0	11.1	19.0		
1073267	18	Q	1150	325	29082		OT	13.4	14.9	34.0		
					29083		OT	14.9	16.5	50.0		
					29084		Intermed - Fels Volc	16.5	17.7	28.0		
1073267	19	R	1300	400	29085		UM; tr po, py	10.1	11.0	51.0		
							Hole Aband'd due to defective bit					
1073268	20	S	1400	325	29086		AT	10.5	11.0	19.0		
					29087		Intermed Volc	11.0	11.9	10.0		
1073268	21	T	1500	325	29088		OT	13.3	14.0	61.0		
					29089	A	UM (talcose)	14.0	14.3	150.0		
						B	UM (talcose)	14.3	15.2	940.0		
1073268	22	U	1600	325	29090	A	UM + Intermed Volc	5.0	5.5	65.0		
						B	Intermed Volc	5.5	6.7	44.0		
1073267	23	JJ	1500	443	29091		AT	0.0		15.0		
					29092		AT			13.0		
					29093		AT			10.0		
					29094		AT	9.5	10.8	10.0		
					29095		OT	10.8	11.7	36.0		
					29096		Porph Int Volc	11.7	13.9	18.0		
1073268	24	Y	1300	200	29097		OT	5.2	7.2	10.0		
					29098		No Sample					
					29099	A	UM	7.2	7.6	520.0		
						B	Intermed Volc	7.6	8.4	70.0		
1073268	25	X	1400	200	29100		AT	5.2	5.8	25.0		
							Bldr	5.8	6.1			
					29101		OT	6.1	6.6	335.0		
					29102	A	UM	6.6	7.1	700.0		
						B	UM	7.1	7.9	48.0		
1073268	26	W	1500	200	29103		AT	3.7	4.9	16.0		
					29104		AT	4.9	10.1	240.0		
					29105		UM (serpent)	10.1	11.0	600.0		

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CLAIM	HOLE NO.	PROPOSED HOLE NO.	WESTING	NORTHING	SAMPLE NO.		DESCRIPTION	FROM	TO		ANALYSES GRAB SAMPLE Ni (ppm)	Au (ppb)	Ag (ppm)
1073268	27	V	1600	200	29106		UM (Talc-Chl Sch)	7.3	8.6		155.0	10.0	0.0
1073268	28	AA	1200	50	29107		AT	1.2	2.4		42.0		
					29108	A	UM + Intermed Volc	2.4	2.9		71.0	10.0	0.0
						B	Fels-Int Intrus	2.9	3.7		20.0	5.0	0.0
1073268	29	BB	1400	50	29109		OT	3.7	5.2		12.0	5.0	0.0
					29110		OT	5.2	7.5		34.0	5.0	0.0
					29111	A	UM + Qtz Vn	7.5	8.0		210.0	10.0	0.4
						B		8.0	8.4		170.0	10.0	0.2
						C		8.4	8.8		245.0	10.0	0.2
						D		8.8	9.9		86.0	5.0	0.4
						E		9.9			155.0	5.0	0.4
						F					115.0	10.0	0.6
						G			10.7		34.0	5.0	0.0
					29112			10.7	11.3		41.0	10.0	0.2
					29113			11.3	12.3		125.0	5.0	0.2
					29114			12.3	12.6		25.0	5.0	0.2
					29115			12.6	13.7		210.0	5.0	0.2
					29116			13.7	14.0		65.0	5.0	0.4
					29117	A	Sludge				20.0	5.0	0.0
						B					195.0	10.0	0.2
1073268	30	CC	1600	50	29118		AT	4.7	9.6		13.0		
					29119		OT	9.6	11.4	?			
					29120		OT	11.4	13.1		27.0		
					29121		OT	13.1	15.1		44.0		
					29122		Mafic Volc	15.1	16.3		36.0		
					29123		"	16.3	16.8		29.0		
1035429	31 a	FF	450	1250			Hole Abandoned due to defective bit						
1035429	31 b		455	1250	29124		AT	0.9	2.3				
					29125		AT	2.9	3.6		42.0		
							Bldr	3.6	5.5				
					29126	A	Fels Volc	5.5	6.7				
						B							
1035429	32	EE	600	1275	29127		OT	2.7					
					29128		OT						
					29129		OT						
					29130		OT						
					29131		OT	7.5	9.0				
					29132		OT	9.0	11.0				
					29133		OT	11.0	11.6				
					29134		UM + Qtz VN	11.6	12.8				
					29135		Fels Volc	12.8	13.4				

Analyses not yet received

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SAMPLE SUMMARY

CLAIM	HOLE NO.	PROPOSED HOLE NO.	WESTING	NORTHING	SAMPLE NO.	DESCRIPTION	FROM	TO	ANALYSES GRAB SAMPLE Ni (ppm)	Au (ppb)	Ag (ppm)
1035252	33	DD	800	1325	29136	AT	5.0	6.7			
						Bldr	6.7	7.6			
					29137	AT	7.6	10.5			
						Lacustrine sand + silt	10.5	12.2			
					29138	Lacustrine sand + silt	12.2	13.4			
					29139	OT	13.4	13.9			
					29140	Maf Volc + Q V, tr py	13.9	14.9			
1035251	34	II	900	1100		Lacustrine	0.0	14.8			
					29141	UM; tr-1% magnetite	14.8	16.0			
1035250	35	HH	700	1100	29142	AT	1.8	3.3			
					29143	Maf-UM + Qtz weath	3.3	4.9			
					29144	" fresh	4.9	6.1			
1035250	36	GG	500	1100	29145	AT	1.2	2.1			
					29146	AT	2.1	3.0			
						No Return	3.0	6.4			
					29147	OT; tr py	6.4	8.3			
					29148	OT; Lodgement type *	8.3	9.1			
					29149	Intermed-Fels Volc	9.1	10.4			

STATEMENT OF EXPENDITURES

Drilling Costs:

Bradley Bros Limited	
Overburden Drilling Holes 1-36, 455 m	$17,860.00
H. Miree, Granges Inc:	
35 man-days @ $160/day	5,600.00
Overburden Exploration Services:	
8.5 field days @ $350/day	2,975.00
	$26,435.00

Sample Analysis Costs

TSL Laboratories:	
168 Ni geochem @ $5.80	$974.40
✓19 Au/Ag geochem @ $8.00	152.00
Swastika Laboratories:	
37 heavy mineral separations @ $37.50	1,387.50
Min-En Laboratories:	
✓43 13-element ICP @ $12.00	516.00
✓21 Au/Ag geochem @ $9.75	204.75
TSL Laboratories:	
✓21 ICAP whole rock analyses @ $22.00	462.00
	$3,696.65

Total Cost $30,131.65

Table 2. Reverse Circulation Drilling Expenditures

Claim	Hole #	Feet drilled	Cost $17.53/ft	Days Applied Cost ÷ $15
1035250	35	20		
	36	34		
		54	$946.62	63
1035251	34	52.5	920.32	61
1035252	33	49	858.97	57
1035429	31a	11		
	31b	22		
	32	44		
		77	1,349.81	89
1073267	18	58		
	19	36		
	23	45		
		139.5	2,445.43	163
1073268	14	25		
	15	24		
	16	10		
	17	36		
	20	39		
	21	50		
	22	22		
	24	27		
	25	26		
	26	36		
	27	29		
	28	12		
	29	46		
	30	55		
		439	7,695.67	513
1073269	13	36	631.08	42
1037276	1	39		
	2	59		
	3	67		
		167	2,927.51	195

Table 2 (contd). Reverse Circulation Drilling Expenditures

Claim	Hole #	Feet drilled	Cost $17.53/ft	Days Applied Cost ÷ $15
1074433	10	27		
	12	80		
		107.5	1,884.47	125
1074435	4	37		
	7	30		
	8	51		
		118	2,068.54	137
1074436	5	69		
	6	76		
	9	80		
	11	41		
		268	4,698.04	313
			26,426.46	1,758

Table 3. Assay Expenditures

Claim	Cost of Assays		Days Applied Cost ÷ $15
1035250	2 sample preparation @ $37.50	75.00	
	2 ICP @ $12.00	24.00	
	1 ICAP @ $22.00	22.00	
		121.00	8
1035251	1 ICAP @ 22.00	22.00	1
1035252	2 sample preparation @ $37.50	75.00	
	3 ICP at @ $12.00	36.00	
		111.00	7
1035429	3 sample preparation @ $37.50	112.50	
	2 Au/Ag geochem @ $9.75	19.50	
	4 ICP at @ $12.00	48.00	
		180.00	12
1073267	10 Ni geochem @ $5.80	58.00	
	3 sample preparation @ $37.50	112.50	
	1 Au/Ag geochem @ $9.75	9.75	
	4 ICP at @ $12.00	48.00	
	1 ICAP at $22.00	22.00	
		250.25	16
1073268	52 Ni geochem @ $5.80	301.60	
	19 Au/Ag geochem @ $8.00	152.00	
	10 sample preparation @ $37.50	375.00	
	5 Au/Ag geochem @ $9.75	48.75	
	12 ICP at @ $12.00	144.00	
	11 ICAP at $22.00	242.00	
		1263.35	84
1073269	3 Ni geochem @ $5.80	17.40	1
1073276	7 Ni geochem @ $5.80	40.60	
	1 sample preparation @ $37.50	37.50	
	1 ICP at @ $12.00	12.00	
	3 ICAP at $22.00	66.00	
		156.10	10

Table 3 (contd). Assay Expenditures

Claim	Cost of Assays		Days Applied Cost ÷ $15
1074433	15 Ni geochem @ $5.80	87.00	
	6 sample preparation @ $37.50	225.00	
	3 Au/Ag geochem @ $9.75	29.25	
	7 ICP at @ $12.00	84.00	
	1 ICAP at $22.00	22.00	
		447.25	29
1074435	45 Ni geochem @ $5.80	261.00	
	5 sample preparation @ $37.50	187.50	
	5 Au/Ag geochem @ $9.75	48.75	
	5 ICP at @ $12.00	60.00	
	1 ICAP at $22.00	22.00	
		579.25	38
1074436	36 Ni geochem @ $5.80	208.80	
	5 sample preparation @ $37.50	187.50	
	5 Au/Ag geochem @ $9.75	48.75	
	5 ICP at @ $12.00	60.00	
	2 ICAP at $22.00	44.00	
		549.05	36
		3,696.65	242

CERTIFICATE OF QUALIFICATIONS

I, Arthur John O'Donnell, of Delta, British Columbia do hereby certify that:

1. I am Exploration Manager for Granges Inc. with offices at 2300-885 West Georgia Street, Vancouver, B.C. V6C 3E8.

2. I am a graduate of Saint Francis Xavier University, Antigonish, N.S. with a B.Sc. degree in geology. I also took an extra year of geology at Dalhousie University, Halifax, N.S.

3. That I have practised my profession for thirty years.

4. I have been a member in good standing of the Association of Professional Engineers of the Province of Ontario since 1970 and the Association of Professional Engineers of the Province of Manitoba since 1980.

DATED at Vancouver, British Columbia this 24th day of May, 1989.

A.J. O'Donnell, P.Eng.

APPENDIX A

ABBREVIATIONS USED IN REVERSE CIRCULATION DRILL HOLE LOGS

Abbreviations Used in Reverse Circulation Drill Hole Logs

clyy	-	clayey
sndy	-	sandy
pbly	-	pebbley
slt	-	silt
grav	-	gravel
c/p	-	cobble/pebble
bldr	-	boulder
v/s	-	volcanics/sediments
P	-	Paleozoics
xstal	-	crystal
euh	-	euhedral
anh	-	anhedral
o'd	-	oxidized
unoxid	-	unoxidized
c'd	-	carbonatized
diss	-	disseminated
f.g.	-	fine grained
gran	-	granule
d	-	dark
sl	-	slight
l	-	light
pluts	-	plus tens
	-	less than

APPENDIX B

RESULTS OF ANALYSES OF SELECTED SAMPLES

13-Element Analysis of MI Heavies, MI Lights and Magnetics
2-Element Analysis of MI Heavies
ICAP Whole Rock Analysis

CO: GRANGES INC.
PROJ:
ATTN: H.MIREE/T.NEELANDS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0T-0190-SX2+Z2
DATE: 90/03/29
* M.I. HEAVIES * (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	CAO %	CO %	CR2O3 %	CU %	FE2O3 %	MGO %	NI %	PB %	SIO2 %	TIO2 %	ZN %	S %
29005	13.12	9.09	.005	.32	.025	29.25	5.04	.005	.010	32.91	5.45	.020	1.53
29011	11.30	7.43	.005	.18	.010	31.67	4.10	.005	.010	27.12	5.82	.020	9.27
29028	13.31	6.53	.005	.23	.020	32.63	4.27	.015	.015	29.48	7.96	.005	1.80
29029	12.30	7.95	.005	.20	.020	29.84	4.50	.070	.015	29.88	6.46	.005	5.39
29031	12.93	8.07	.005	.25	.010	30.88	4.13	.010	.020	29.84	8.40	.005	1.65
29032	13.58	7.65	.005	.20	.020	31.59	4.55	.015	.020	30.79	6.62	.010	1.96
29035	12.39	8.35	.005	.25	.015	30.30	4.30	.010	.020	30.14	8.34	.005	1.44
29036	13.01	8.41	.005	.25	.015	29.50	4.71	.010	.015	31.29	7.07	.010	1.98
29046	14.15	9.33	.005	.14	.020	26.51	4.98	.045	.010	33.40	6.79	.005	1.04
29047	13.83	7.94	.005	.18	.020	29.48	4.56	.005	.010	31.49	7.48	.005	1.42
29050	12.98	8.46	.005	.15	.010	28.35	4.62	.005	.020	31.16	9.05	.005	.83
29051	13.77	8.16	.005	.16	.010	28.77	4.47	.005	.015	31.21	8.29	.005	1.42
29055	13.25	8.48	.005	.17	.015	28.71	4.44	.005	.015	30.88	8.51	.005	1.60
29060	13.20	9.97	.005	.17	.035	26.50	4.76	.015	.020	32.58	8.22	.020	.77
29067	12.73	9.21	.005	.21	.010	27.83	4.70	.010	.015	31.47	8.98	.010	1.04
29068	12.33	8.73	.005	.23	.010	28.30	5.13	.010	.015	31.24	9.92	.010	.77
29069	9.40	6.67	.005	.51	.015	45.46	4.02	.005	.010	24.23	6.61	.005	.72
29080	13.56	10.16	.005	.14	.010	25.60	4.97	.005	.015	33.60	7.39	.005	.72
29082	10.96	9.26	.005	.24	.010	28.52	5.71	.005	.015	31.61	10.23	.005	.59
29083	11.05	7.72	.005	.19	.005	32.20	4.77	.005	.015	28.45	11.56	.005	.74
29088	13.77	8.17	.005	.16	.015	28.75	4.47	.005	.020	31.62	8.11	.005	1.24
29095	14.98	8.30	.005	.12	.015	27.75	4.99	.005	.010	33.47	6.25	.010	1.46
29097	15.31	7.78	.005	.10	.005	28.25	4.87	.005	.010	33.43	5.95	.020	1.24
29101	12.99	7.16	.005	.14	.005	30.91	4.84	.160	.020	30.04	6.46	.005	4.30
29107	14.35	8.82	.005	.15	.005	27.03	5.18	.005	.015	33.64	6.60	.005	.41
29109	14.60	7.54	.005	.15	.010	28.54	4.94	.005	.015	33.25	6.54	.005	.74
29110	11.97	8.33	.005	.14	.010	29.16	4.31	.005	.015	29.46	8.73	.005	4.11
29119	13.91	10.58	.005	.14	.005	23.34	5.82	.005	.010	36.26	5.72	.010	.97
29120	13.34	8.82	.005	.20	.015	27.59	4.46	.005	.020	31.86	7.73	.005	2.47
29121	12.46	9.14	.005	.17	.015	28.45	4.42	.025	.020	30.31	8.89	.005	2.06
29131	9.80	7.51	.005	.26	.005	31.39	4.88	.005	.015	27.81	13.18	.010	.49
29132	9.90	8.51	.005	.21	.005	29.45	5.76	.005	.010	30.47	10.88	.005	.41
29133	10.30	7.32	.005	.17	.010	31.09	4.88	.005	.015	28.49	11.47	.005	1.88
29138	12.24	8.08	.005	.18	.005	28.78	4.36	.010	.010	30.21	8.55	.010	2.51
29139	11.02	6.70	.005	.22	.010	31.61	4.61	.005	.010	27.71	12.90	.010	.81
29147	14.31	7.36	.005	.17	.005	29.40	4.27	.005	.015	32.27	6.67	.010	.75
29148	13.23	8.45	.005	.18	.005	28.18	4.50	.010	.010	31.65	7.89	.020	1.07

: GRANGES INC.
PROJ:
ATTN: H.MIREE/T.NEELANDS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0Y-0190-SZ1
DATE: 90/03/29
* MAGNETICS * (ACT:FIRE)

SAMPLE NUMBER	AL203 %	CAO %	CO %	CR203 %	CU %	FE203 %	MGO %	NI %	PB %	SIO2 %	TIO2 %	ZN %	S %
29101	1.08	3.02	.005	1.61	.005	74.48	5.88	.115	.005	10.04	.43	.035	.26
29139	1.47	1.05	.005	.75	.020	76.15	.97	.035	.010	5.70	11.62	.040	.01

[redacted] GRANGES INC.
PROJ:
ATTN: H.MIREE/T.NEELANDS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: DT-0190-SL3
DATE: 90/03/29
* M.I.LIGHTS * (ACT:FIRE)

SAMPLE NUMBER	AL203 %	CAO %	CO %	CR203 %	CU %	FE203 %	MGO %	NI %	PB %	SIO2 %	TIO2 %	ZN %	S %
29069	8.84	10.07	.005	.07	.005	8.65	10.42	.015	.005	46.86	.77	.005	.01
29082	10.03	10.40	.005	.05	.005	6.72	5.20	.005	.005	57.16	.72	.005	.01
29110	10.17	12.46	.005	.05	.005	9.51	5.94	.005	.005	51.55	1.25	.005	.13
29133	9.78	10.18	.005	.05	.005	6.41	4.86	.010	.005	58.81	.70	.005	.01

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) 988-4524
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

OT-0190-RG1

Company: GRANGES INC.
Project:
Attn: H.MIREE/T.NEELANDS

Date: MAR-29-90
Copy 1. GRANGES INC., TIMMINS, ONT.
2. GRANGES INC., C/O SWASTIKA LABS.

We hereby certify the following Geochemical Analysis of 21 M.I.HEAVIES samples submitted MAR-05-90 by HEATHER MIREE.

Sample Number	AU-FIRE PPB	AG PPM
29011	4800	2.4
29028	162	0.7
29029	2930	0.8
29031	161	1.3
29032	NES	50.0
29035	25200	6.3
29036	38000	39.8
29046	4520	2.6
29047	831	0.5
29050	7380	0.8
29051	1240	1.8
29055	435	0.7
29068	239	0.8
29083	1910	0.6
29097	9	0.9
29109	3	0.7
29110	196	0.8
29120	244	1.4
29121	750	0.9
29132	206	0.7
29133	362	0.6

Certified by _____

MIN-EN LABORATORIES

NWIEG

T S L LABORATORIES WOFHP
2031 RIVERSIDE DRIVE, UNIT 2, TIMMINS, ONTARIO P4N 7C3
TELEPHONE #: (705) 268 - 4441
FAX #: (705) 268 - 4420

NWIEG

I.C.A.P. WHOLE ROCKWOFHP

LITHIUM METABORATE FUSION

Granges Inc.
136 Cedar Street South
Timmins, Ontario

T.S.L. REPORT No. : W 3763
T.S.L. File No. :
T.S.L. Invoice No. : 3731

YOUR REFERENCE - project 529

ALL RESULTS PPM

SAMPLE #	Ba ppm	Sr ppm	Zr ppm	Y ppm	Sc ppm
29070-	< 10	20	30	8	19
29081-A	310	240	80	10	14
29081-C	490	390	110	6	4

DATE : MAR-22-1990

SIGNED : _____

MW1E6

T S L LABORATORIES WOFHP

2031 RIVERSIDE DRIVE, UNIT 2, TIMMINS, ONTARIO P4N 7C3
TELEPHONE #: (705) 268 - 4441
FAX #: (705) 268 - 4420

MW1EG

I.C.A.P. WHOLE ROCK ANALYSISWOFHP

Lithium MetaBorate Fusion

Sranges Inc.
136 Cedar Street South
Timmins, Ontario

T.S.L. REPORT No. : W 3777
T.S.L. File No. :
T.S.L. Invoice No. : 3753

YOUR REFERENCE - project 529

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	LOI %	TOTAL %
29122-	59.13	15.29	10.69	4.96	4.50	3.29	0.66	1.02	0.13	0.34	2.84	99.58

DATE : MAR-27-1990

SIGNED : _____

MW1EG

T S L LABORATORIES WOFHP
2031 RIVERSIDE DRIVE, UNIT 2, TIMMINS, ONTARIO P4N 7C3
TELEPHONE #: (705) 268 - 4441
FAX #: (705) 268 - 4420

MW1EG

I.C.A.P. WHOLE ROCK ANALYSISWOFHP
Lithium MetaBorate Fusion

Granges Inc.
136 Cedar Street South
Timmins, Ontario

T.S.L. REPORT No. : W 3765
T.S.L. File No. :
T.S.L. Invoice No. : 3702

YOUR REFERENCE - project 529

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	LOI %	TOTAL %
29085-	63.50	16.07	7.27	6.63	2.26	1.28	2.32	0.49	0.21	0.06	2.35	100.09
29089-B	49.11	7.40	9.60	8.07	23.67	0.21	0.32	0.29	0.17	0.30	4.60	99.14
29090-A	61.12	16.71	6.51	3.12	5.27	4.74	2.36	0.64	0.06	0.32	3.82	100.85
29090-B	60.15	16.41	5.94	5.63	4.60	4.69	2.36	0.58	0.08	0.26	3.65	100.68
29099-A	47.32	9.49	10.49	9.46	21.45	0.58	0.28	0.36	0.19	0.26	6.52	99.87
29102-A	46.94	5.43	9.68	7.72	27.37	0.30	0.10	0.29	0.16	0.36	13.75	98.35
29105-	46.89	5.12	9.71	4.76	29.29	0.97	0.70	0.16	0.10	0.38	12.74	98.09

DATE : MAR-13-1990

SIGNED : _____

MW1EG

T S L LABORATORIES WOFHP
2031 RIVERSIDE DRIVE, UNIT 2, TIMMINS, ONTARIO P4N 7C3
TELEPHONE #: (705) 268 - 4441
FAX #: (705) 268 - 4420

MW1EG

I.C.A.P. WHOLE ROCK ANALYSISWOFHP

Lithium MetaBorate Fusion

Granges Inc.
136 Cedar Street South
Timmins, Ontario

T.S.L. REPORT No. : W 3757
T.S.L. File No. :
T.S.L. Invoice No. : 3730

YOUR REFERENCE - project 529

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	LOI %	TOTAL %
29002-	65.27	17.95	2.98	3.52	1.57	5.46	1.88	0.38	0.04	0.10	1.73	99.15
29006-	66.10	16.61	3.56	4.48	2.36	5.01	1.10	0.44	0.05	0.08	1.46	99.79
29008-	65.86	17.70	2.66	4.16	1.16	4.92	2.10	0.36	0.03	0.08	2.29	99.02
29012-	66.80	17.99	2.57	2.97	1.44	5.70	2.08	0.34	0.03	0.08	1.61	100.02
29022-	67.45	17.29	2.48	3.64	1.07	5.45	1.56	0.32	0.03	0.06	1.25	99.34
29030-	49.72	5.55	9.07	12.69	19.81	0.13	0.08	0.26	0.21	0.22	16.44	97.73

DATE : MAR-20-1990

SIGNED : _____

MWIEG

T S L LABORATORIES WOFHP
2031 RIVERSIDE DRIVE, UNIT 2, TIMMINS, ONTARIO P4N 7C3
TELEPHONE #: (705) 268 - 4441
FAX #: (705) 268 - 4420

MWIEG

I.C.A.P. WHOLE ROCK ANALYSISWOFHP

Lithium MetaBorate Fusion

Granges Inc.
136 Cedar Street South
Timmins, Ontario

T.S.L. REPORT No. : W 3797
T.S.L. File No. :
T.S.L. Invoice No. : 3733

YOUR REFERENCE - project 529

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	LOI %	TOTAL %
29149-	65.14	16.87	3.61	4.55	2.03	4.62	1.32	0.37	0.04	0.10	1.80	98.64
29141-	48.05	13.98	14.52	10.67	6.20	2.29	0.62	1.48	0.21	0.22	0.91	98.26

DATE : MAR-20-1990

SIGNED : _____

MW1EG

T S L LABORATORIES WOFHP
2031 RIVERSIDE DRIVE, UNIT 2, TIMMINS, ONTARIO P4N 7C3
TELEPHONE #: (705) 268 - 4441
FAX #: (705) 268 - 4420

MW1EG

I.C.A.P. WHOLE ROCK ANALYSISWOFHP

Lithium MetaBorate Fusion

Granges Inc.
136 Cedar Street South
Timmins, Ontario

T.S.L. REPORT No. : W 3798
T.S.L. File No. :
T.S.L. Invoice No. : 3734

YOUR REFERENCE - project 529

SAMPLE #	SiO2 %	Al2O3 %	Fe2O3 %	CaO %	MgO %	Na2O %	K2O %	TiO2 %	MnO %	P2O5 %	LOI %	TOTAL %
29123-	75.10	11.21	2.34	4.77	1.39	3.24	1.94	0.24	0.04	0.08	3.00	100.33
29106-	42.02	13.55	11.42	4.05	25.29	0.15	1.74	0.64	0.16	0.34	6.98	99.36

DATE : MAR-20-1990

SIGNED : _____

ELDORADO PROJECT #529
REVERSE CIRCULATION DRILLING PROGRAM

SAMPLE SUMMARY

HOLE NO.	PROPOSED HOLE NO.	WESTING	NORTHING	SAMPLE NO.	DESCRIPTION	FROM	TO	ANALYSES: GRAB SAMPLE Ni (ppm)	Au (ppb)	Ag (ppm)	HMC HEAVIES: ICP Cr2O3 (%)	Cu (%)	Fe2O3 (%)	MgO (%)	Si (%)	Pb (%)	SiO2 (%)	TiO2 (%)	Zn (%)	S (%)
1	E	0	-300	29001	Allotill	9.9	10.6	< 200.0												
				29002	Int-Fels Intrus -Dior	10.6	12.0	< 200.0												
2	C	100	-200	29003	AT	11.9	12.8													
				29004	AT	12.8	15.7	< 200.0												
				29005	Orthotill	15.7	16.6	< 200.0			0.32	0.025	29.25	5.04	0.005	0.019	32.91	5.45	0.020	1.53
				29006	Int-Fels Intrus	16.6	18.1	< 200.0												
3	A	0	-200	29007	AT	18.6	19.2	< 200.0												
				29008	Fels Intrus	19.2	20.4	< 200.0												
4	B	200	-200	29009	AT	4.7	6.1	< 200.0												
				29010	AT	6.1	7.3	< 200.0												
				No Sample	Lacustrine sand + silt	7.3	10.1													
				29011	OT	10.1	10.2	< 200.0			0.18	0.019	31.67	4.10	0.005	0.010	27.12	5.82	0.020	0.27
				29012	Porph Int Volc	10.2	11.3	< 200.0												
5	G	300	-150	29013	AT	5.5		< 200.0												
				29014	AT			< 200.0												
				29015	AT			< 200.0												
				29016	AT			< 200.0												
				29017	AT			< 200.0												
				29018	AT			< 200.0												
				29019	AT			< 200.0												
				29020	AT	17.4	18.5	< 200.0												
				29021	AT	18.9	20.0	< 200.0												
				29022	Fels Intrus	20.0	21.2	< 200.0												
6	H	390	-300	29023	AT	8.5		< 200.0												
				29024	AT			< 200.0												
				29025	AT			< 200.0												
				29026	AT			< 200.0												

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AT	[illegible]		[illegible]												
				29024	AT															
				29025	AT			< 200.0												
				29026	AT			< 200.0												
				29027	AT	15.9	17.9	< 200.0												
					No Return	17.0	19.5													
				29028	OT	19.5		< 200.0	0.02	0.020	32.62	4.27	0.015	0.015	29.48	7.96	0.005	1.20
				29029	OT		21.8	< 200.0	0.20	0.020	29.84	5.59	0.070	0.015	29.68	6.46	0.005	5.39
				29030	Alt UM (Talc-Chl Sch)	21.8	23.2	100.0												
7	F	200	-300	29031	OT	5.5	6.9	< 200.0	0.25	0.010	30.69	5.13	0.010	0.020	29.84	8.48	0.005	1.65
				No Sample	Bldr	6.9	7.2													
				29032	OT	7.2	7.5	< 200.0	0.20	0.020	31.55	4.55	0.015	0.020	30.79	6.62	0.010	5.36
				29033	Fels-Intermed Volc	7.5	9.1	< 200.0												
8	G	100	-300	29034	AT	10.8	12.2	< 200.0												
				29035	OT	12.2	14.0	< 200.0	0.25	0.015	30.30	4.30	0.010	0.020	30.14	8.34	0.005	1.84
				29036	OT	14.0	14.5	< 200.0	0.25	0.015	29.56	4.71	0.010	0.015	31.29	7.30	0.010	1.35
				29037	Fels-Intermed Volc	14.5	15.5	< 200.0												
9	E	400	-150	29038	AT	4.9		< 200.0												
				29039	AT			< 200.0												
				29040	AT			< 200.0												
				29041	AT			< 200.0												
				29042	AT			< 200.0												
				29043	AT			< 200.0												
				29044	AT			< 200.0												
				29045	AT	17.4	20.1	< 200.0												
				29046	OT	20.1	21.6	< 200.0	0.14	0.020	29.51	4.98	0.045	0.010	33.40	6.79	0.005	1.04
				29047	OT	21.6	22.9	< 200.0	0.18	0.025	29.46	4.55	0.005	0.010	31.49	7.45	0.005	1.42
				29048	Fels-Intermed Volc	22.9	24.5	< 200.0												
10	J	500	-25	29049	AT	2.4	4.3	< 200.0												
				29050	OT	4.3	6.7	< 200.0	0.15	0.010	28.35	4.62	0.095	0.020	31.16	9.05	0.005	0.83
				29051	OT	6.7	7.5	< 200.0	0.16	0.010	28.77	4.49	0.005	0.015	31.21	8.29	0.005	1.42
				29052	Intermed-Fels Volc	7.5	8.4	< 200.0												
11	K	600	-100	29053	AT	3.0	5.2	< 200.0												
					No Return	5.2	6.8													

11	E	900	-100	29070	OT	3.0	3.5	<	200.0											
					No Return	5.2	6.5													
				29074	AT	6.9	9.9	<	200.0											
					No Return	9.9	10.8													
				29055	OT	10.8	11.4	<	200.0	0.17	0.015	28.72	4.44	0.005	0.015	30.88	5.51	0.005	1.60
				29056	Intermed Intrus	11.4	12.6	<	200.0											
				29057	No Sample			<	200.0											
				29058	No Sample			<	200.0											
				29059	No Sample			<	200.0											
12	L	700	-35	29060		8.1		<	200.0	0.17	0.025	26.50	4.76	0.015	0.020	32.58	5.23	0.020	0.77
				29061				<	200.0											
				29062				<	200.0											
				29063				<	200.0											
				29064		14.0	15.5	<	200.0											
				29065		15.5	17.4	<	200.0											
				29066	OT	17.4	18.7		53.0											
				29067	OT	18.7	19.4		57.0	0.25	0.010	27.53	4.70	0.010	0.035	31.47	5.38	0.010	1.04
					Bldr	19.4	19.8													
				29068	OT	19.8	21.8		35.0	0.23	0.010	28.38	5.13	0.010	0.015	33.24	5.92	0.010	0.77
				29069	OT	21.8	23.3		42.0	0.51	0.015	45.46	4.02	0.005	0.010	24.22	6.91	0.005	0.72
				29070	BM: tr py	23.3	24.4		330.0											
13	N	900	-100	29071	AT	2.3	6.1		23.0											
					No Return	6.3	8.2													
				29072	AT	8.2	10.1		130.0											
				29073	BM: tr py	10.1	11.0		790.0											
14	M	900	50	29074	AT	3.7	5.8		25.0											
				29075	BM	5.8	7.6		480.0											
15	P	1025	50	No Sample	Poor Return	0.0	5.9													
				29076	Fels Intrus	5.9	7.3		35.0											
16	O	1000	150	29077	Intermed - Fels Volc	2.0	3.0		23.0											
17	Z	1200	200	29078	AT	0.0	7.8		15.0											

17	S	1250	200	29078	AT	6.0	7.8	15.0											
				29079	AT	7.8	9.3	10.0											
				29080	OT	9.3	9.8	12.0	0.14	0.015	25.63	4.97	0.005	0.015	32.64	7.38	0.005	0.78	
				29081	A Mafic Volc	9.8	10.8	335.0											
					B contact interval	10.8	11.0	450.0											
					C Fels-Intermed Intrus	11.0	11.2	15.0											
18	Q	1150	325	29082	OT	12.4	14.9	34.0	0.24	0.010	25.52	5.71	0.005	0.015	31.81	10.26	0.005	0.58	
				29083	OT	14.9	16.5	50.0	0.19	0.005	32.50	4.77	0.005	0.015	25.45	11.54	0.005	0.74	
				29084	Intermed - Fels Volc	16.5	17.7	28.0											
19	R	1300	400	29085	UM; cr po. py	15.1	11.0	51.0											
					Hole Aband'd due to defective bit														
20	S	1400	325	29086	AT	10.5	11.0	19.0											
				29087	Intermed Volc	11.0	11.5	16.0											
21	T	1500	325	29088	OT	13.1	14.6	61.0	0.16	0.015	28.75	4.47	0.005	0.020	31.52	8.11	0.005	1.24	
				29089	A UM (talcose;	14.0	14.3	150.0											
					B UM (talcose)	14.3	15.2	240.0											
22	U	1600	325	29090	A UM + Intermed Volc	5.0	5.5	65.0											
					B Intermed Volc	5.5	6.7	44.0											
23	JJ	1500	445	29091	AT	0.0		15.6											
				29092	AT			13.5											
				29093	AT			10.0											
				29094	AT	9.5	10.5	10.0											
				29095	OT	10.5	11.7	36.0	0.12	0.015	27.75	4.55	0.005	0.010	33.47	8.25	0.016	1.46	
				29096	Porph Int Volc	11.7	13.5	15.0											
24	V	1350	200	29097	OT	5.2	7.2	10.0	0.10	0.005	25.25	4.87	0.005	0.010	33.43	5.85	0.030	1.24	
				29098	No Sample														
				29099	A UM	7.2	7.6	520.0											
					B Intermed Volc	7.6	8.4	70.0											
25	X	1400	200	29100	AT	5.2	5.8	35.0											
					Bldr	5.8	6.1												
				29101	OT	6.1	6.6	335.0	0.24	0.035	30.31	4.84	0.160	0.025	30.04	6.46	0.005	0.50	
				29102	A UM	6.6	7.1	700.0											
					B UM	7.1	7.9	42.0											

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]											
					Bldr	5.8	6.1													
				29101	OT	6.1	6.6		335.0			0.14	0.005	30.93	4.54	0.104	0.020	30.04	6.46	3.005	1.24
				29102 A	CB	6.5	7.1		700.0												
				B	CB	7.1	7.9		48.0												
26	W	1500	200	29103	AT	3.7	4.9		16.0												
				29104	AT	4.9	10.1		240.0												
				29105	UM (serpent)	10.1	11.0		600.5												
27	Y	1600	200	29106	UM (Talc-Chl Sch)	7.2	8.8		155.0	10.0	0.6										
28	AA	1200	55	29107	AT	1.2	2.4		42.0			0.15	0.005	27.93	5.18	0.005	0.015	33.64	6.60	0.005	5.41
				29108 A	UM + Intermed Volc	2.4	2.9		71.0	10.0	0.0										
				B	Fels-Int Intrus	2.9	3.7		20.0	5.0	0.0										
29	BB	1400	50	29109	OT	3.7	5.2		12.0	5.0	0.0	0.15	0.010	25.54	4.34	0.005	0.015	33.25	6.54	0.005	6.74
				29110	OT	5.2	7.5		34.0	5.0	0.0	0.14	0.010	29.16	4.31	0.005	0.015	33.46	6.76	0.005	4.11
				29111 A	UM + Qtz Vn	7.5	8.6		210.0	10.0	0.4										
				B		6.5	8.4		170.0	10.0	0.2										
				C		8.4	8.8		245.0	10.0	0.2										
				D		8.8	9.9		36.0	5.0	0.4										
				E		9.9			155.0	5.0	0.4										
				F					115.0	10.0	0.6										
				G			10.7		34.0	5.0	0.0										
				29112		10.7	11.3		41.0	10.0	0.2										
				29113		11.3	12.3		125.0	5.0	0.2										
				29114		12.3	12.6		25.5	5.0	0.2										
				29115		12.6	13.7		210.0	5.0	0.2										
				29116		13.7	14.0		65.0	5.0	0.4										
				29117 A	Sludge				20.0	5.0	0.0										
				B					125.0	10.0	0.2										
30	CC	1600	50	29118	AT	4.7	9.6		13.0												
				29119	OT	9.6	11.4	?				0.14	0.005	23.34	5.62	0.005	0.010	36.26	5.72	0.010	0.97
				29120	OT	11.4	13.1		27.0			0.20	0.015	27.59	4.45	0.005	0.020	31.96	7.73	0.005	2.47
				29121	OT	13.1	15.1		44.0			0.17	0.015	28.45	4.42	0.025	0.020	30.31	8.65	0.005	2.05
				29122	Mafic Volc	15.1	16.3		36.0												
				29123	"	16.3	16.8		25.0												

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	AT	[illegible]	[illegible]	[illegible]											
				29119	OT	9.6	11.4												
				29120	OT	11.4	13.1	27.0	0.23	0.015	27.59	6.44	0.005	0.020	31.86	7.71	0.009	0.47	
				29121	OT	13.1	15.1	44.0	0.17	0.015	28.45	6.42	0.025	0.020	30.37	5.91	0.029	2.05	
				29122	Mafic Volc	15.1	16.3	36.0											
				29123	"	16.3	16.8	26.0											
31 a	FF	450	1250		Hole Abandoned due to defective bit														
31 b		455	1250	29124	AT	0.9	2.5												
				29125	AT	2.5	3.6	42.0											
					Mixed	3.6	5.5												
				29126 A & B	Felsic Volc	5.5	6.7	40.0 17.0											
32	EE	600	1275	29127	OT	3.7		33.0											
				29128	OT			20.0											
				29129	OT														
				29130	OT			20.0											
				29131	OT	7.2	9.0	24.0	0.26	0.005	31.39	4.88	0.005	0.015	27.31	10.35	0.010	0.43	
				29132	OT	9.0	11.0	16.0	0.31	0.005	29.45	5.76	0.005	0.010	30.47	10.86	0.005	0.41	
				29133	OT	11.0	11.6	26.0	0.17	0.010	31.09	4.88	0.005	0.015	28.49	11.47	0.005	1.86	
				29134	OM + Qtz VN	11.6	12.6	33.0											
				29135	Felsic Volc	12.8	13.4	25.0											
33	BB	800	1325	29136	AT	5.0	6.7	16.0											
					Mixed	6.7	7.6												
				29137	AT	7.6	10.5	9.0											
					Lacustrine sand + silt	10.5	12.2												
				29138	Lacustrine sand + silt	12.2	13.4	17.0	0.16	0.005	26.78	4.56	0.005	0.010	30.31	8.55	0.010	2.51	
				29139	OT	13.4	13.9	26.0	0.32	0.010	31.61	4.51	0.005	0.010	27.71	12.90	0.010	0.51	
				29140	Maf Volc + Q V, tr py	13.9	14.9	35.0											
34	II	900	1100		Lacustrine	9.0	14.8												
				29141	OM; tr-1% magnetite	14.8	16.0	27.0											
35	HH	700	1100	29142	AT	1.8	3.3	17.0											
				29143	Maf-OM + Qtz weath	3.3	4.9	40.0											
				29144	" fresh	4.9	6.2	67.0											
36	GG	550	1100	29145	AT	1.2	3.2	15.0											

36	02	500	1100	29145	AT	1.2	2.1	15.0													
				29146	AT	2.1	3.0	45.0													
					No Return	3.0	5.4														
				29147	OT; tr py	6.4	8.3	21.0	8.17	0.005	29.49	5.27	0.005	0.015	32.27	6.67	0.019	0.75
				29148	OT; Lodgement type *	8.3	9.1	25.0	9.18	0.005	25.18	6.30	0.010	0.010	31.65	7.55	0.029	1.07
				29149	Intermed-Fels Volc	9.1	10.4	21.0													

REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb. 28 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-01(B) LOCATION ELDORADO TWP, ONT.
GEOLOGIST RICHARD - OES DRILLER FOURNEL - BRADLEYS BIT NO. B000132 BIT FOOTAGE _____
MOVE TO HOLE move on hole previous day.
DRILL 7:30 – 8:45 AM
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE 8:45 – 8:50 AM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG ★ NEW BIT, NEW SUB ★
				0 – 21' NO RETURN
	N.R.		N.S.	21 – 32.5' BARLOW – OJIBWAY FM: glaciolacustrine silt and clay
20				32.5 – 34.8' MATHESON FM: grey sandy slt diamicton, moderately compact, V/S: pluto 80:20, c/p 2:1, IP 1-3%, o'd to c'r, uneven clast grade – allotill (upper meltout) facies –
			29001	34.8 – 39.5' BEDROCK: INTERMEDIATE INTRUSIVE.
			29002	hypidiomorphic qtz-felds xstals, mafics 30–40% in groundmass, no visible mineralization – diorite – tonalite –
40			E.O.H. 39.5'	
60				
80				
100				

2.13240

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-02(6) LOCATION ELDORADO TWP, ONT.

DATE FEB. 28 1990 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. 90 in -01 BIT FOOTAGE _____

SHIFT HOURS _____ TO _____ TOTAL HOURS _____

CONTRACT HOURS _____

MOVE TO HOLE 8:45 - 8:50 AM

DRILL 8:50 - 9:50 AM.

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 9:50 - 10:00 AM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	N.R.			0-4' No Return
				4-39' Barlow-Ojibway Fm. glaciolacustrine slt + cly
				39-54.5' Matheson Fm.
20			N.S.	39-51.5; grey, clyey sandy slt diamicton, mod. compaction and density, V/S: plut 70:30, FP 1-3% pebbly c/p 2:1, uneven clast grade, o'd to s'r — subtill facies —
				51.5-54.5; contact to v. dense, consolidated sandy slt, no cly, greenish - chloritic, V/S: plut 98:2, felsic intrus. clasts predominate - local — orthotill (lodgement) facies —
40			29003	
			29004	
			29005	
			29006	
60				54.5' Bedrock: Intrm.-Felsic intrusive, hypidiomorphic qtz-feldspar crystals set in siliceous aphanitic groundmass, massive — tonalite —
				E.O.H 59.5'
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-03(A) LOCATION ELDORADO TWP., ONT.

DATE FEB. 28 1990 GEOLOGIST RICHARD-OGS DRILLER FOURNEL-BRADLEYS BIT NO. ~~40 in-02~~ BIT FOOTAGE _____

SHIFT HOURS _____ TO _____

TOTAL HOURS _____

CONTRACT HOURS _____

MOVE TO HOLE 9:50 - 10:00 AM

DRILL 10:00 - 11:10 AM.

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 11:10 - 11:30 AM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
20			N.S.	
40			N.S.	
60			29007	
			29008	
80				
100				

0-55' BARLOW-OJIBWAY FM.

glaciolacustrine slt + cly

55-63' MATHESON FM.

55-56; grey, mod. dense sandy slt clayey diamicton, clast-poor, grades into... (sediment flow)

56-61; proximal lacustrine sediments, non consolidated, gritty silty cly. (B-D type)

61-63; non-compact, grey clayey sandy slt diamicton, pebbly c/p 2:1, V/S: pluto 70:30, IP 1-3%, mafic-ultramf. clasts predominant

– allotill (upper meltout) facies –

63-67' BEDROCK: FELSIC INTRUSIVE

med-g., hypidiomorphic, massive, local qtz xstals, minor K-spar in siliceous groundmass, < 5% mafic accessories incl. biotite

– granite –

E.O.H. 67'

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO EL090-04 (E) LOCATION ELDORADO TWP, ONT (WEST SIDE OF ROAD)

DATE FEB. 28 1990 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. 80 in -03 BIT FOOTAGE _____

SHIFT HOURS _____ TO _____ TOTAL HOURS _____ CONTRACT HOURS _____

MOVE TO HOLE 11:10 - 11:30 AM

DRILL 11:30 - 12:45

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 12:45 - 12:55 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			N.S.	0 - 13.5' BARLOW-OJIBWAY FM. glaciolacustrine slt + cly
			N.S.	13.5 - 15.5' BOULDER, serpentinized ultramafic volc.
20			29009	15.5 - 33.5' MATHESON FM.
			29010	15.5-24; grey, mod. compact, clayey sandy slt, pebbly c/p 10:1, V/S: pluts 70:30, uneven grade clasts - sediment flow.
			N.S.	24-26; diamictic silty f. sand, lacustrine
			29011	26 - 33; sand, as above
			29012	33 - 33.5; ORTHOTILL, dense, olive greenish, sandy slt diamicton, no clay, clast-poor c/p 1:3, V/S: pluts 90:10, coven clast grade.
40			E.O.H. 37'	33.5 - 37' BEDROCK: FELSIC SUBVOLCANIC OR INTRUSIVE qtz-feldspar porphyroblasts (qtz-rich) up to 1 cm set in siliceous (<10% mafics) groundmass, aphanitic, cut by hairline (albite?) veinlets, no visible mineralization.
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-05(G) LOCATION ELDORADO TWP, ONT.

DATE FEB. 28 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. 40 in-04 BIT FOOTAGE _____
MOVE TO HOLE 12:45 - 12:55 PM.
DRILL 12:55 - 3:20 PM.
MECHANICAL DOWN TIME 1:50 - 2:15 ruptured hydraulic line
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE 3:20 - 3:25 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			N.S.	0-18' BARLOW-OJIBWAY FM. glaciolacustrine slt + cly, gritty below 11'.
				18-65.7' MATHESON FM.
20			29013	18-28; ALLOTILL - non-compact grey clayey sandy slt diamicton, pebbly c/p 5:1, v/s: plut 70:30, IP 3-5%
			29014	28-28.3; gritty cly - proximal lacustrine sed.
			29015	28.3-31.5; plot return, f-m. sand
			N.R. N.S.	31.5-58.5 ALLOTILL - non-compact clayey sandy slt as above, layered w/ interbeds of gritty lacustrine cly.
			29016	@ 44' ↓, diamicton becomes greenish-chloritic, becomes v/s: plut 80:20 - blackish komatiite, c/p 10:1
40			29017	@ 46' ↓, above becomes interlayered with sorted lenses of gritty silty cly (prox. lacust.) and minor pebble gravel lenses (debris flows)
			29018	58.5-65.7' DIAMICTIC GRAVELS - above allotill grades into immature (<1/2) pebble-granule gravel, v/s: plut 60:40, diamictic silty m-sand matrix, unconsolidated.
			29019	
60			29020	65.7-69.5 BEDROCK: FELSIC SUBVOLCANIC - INTRUSIVE.
			29021	f-med. greenish grey, massive, hard 6-7, med. hypidiomorphic (ma), <5% mafics in siliceous groundmass, trace euhedral py — quartz latite - monzonite)
			29022	
				E.O.H. 69.5'
80				
100				

** CONTAMINATION NOTE **

Top half of bedrock chip sample saturated by hydraulic oil due to line rupture. Sample rinsed as clean as possible.

REVERSE CIRCULATION DRILL HOLE LOG

DATE FEB. 28 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-06(H) LOCATION ELDORADO TWP., ONT.
GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. CB000210 BIT FOOTAGE _____
MOVE TO HOLE 3:20-3:25 pm.
DRILL 3:25-5:00 pm. - End of day.
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE _____

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG ★ NEW BIT ★
20			N.S.	0-28' BARLOW-OJIBWAY FM. glaciolacustrine slt & cly
				28-71.5' MATHESON FM.
				28-56'; non-compact, v. clyey sandy slt diamicton, v/s: plst 70:30, P 3%, uneven o'd - sub<'n grade, mafic-ultramaf. clasts predominant, occ'l clyey lenses (prox. lacust.), increasingly homogeneous ↓. - alloteill, sediment debris flows -
			29023	56-64'; v. poor return, suspect f. sands, rapid penetration.
40			29024	64-69.5'; ORTHOTILL - v. dense, consolidated grey sandy slt, no cly, v/s: plst's 80:20, P 1-3%, even <'n clast grade, homogenous
			29025	69.5-70.5'; granite bldr.
			29026	70.5-71.5'; ORTHOTILL, as above, now 95% ultramafic clasts - lodgement facies
			29027	71.5-76.0' BEDROCK
60	N.R.		N.S.	med grey-green, strongly foliated (schistose), soft (3), ultramafic schist, slightly talcose, no apparent mineralization, drill bit pulverizing to clay (v. soft), cut by small qtz veinlets.
			29028	- ultramafic schist -
			N.S. 29029	71.5
			29030	
80				E.O.H. 76'
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-07(F) LOCATION ELDORADO TWP., ONT.

DATE MAR. 1 1990 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. _____ BIT FOOTAGE _____

SHIFT HOURS _____ TO _____ TOTAL HOURS _____ CONTRACT HOURS _____

MOVE TO HOLE Twl in 6:45 - 7:30 AM move 7:30 - 7:45 AM.

DRILL 7:45 - 8:50 AM.

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 8:50 - 9:00 AM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			N.S.	0 - 16' BARLOW-OJIBWAY FM. glaciolacustrine slt + cly
20			29031	16 - 24.5 MATHESON FM. ORTHOTILL facies, v. dense grey sandy slt diamicton, consolidated, v/s: plots 90:10, P 1%, even <1/2 clast grade, c/p 1:1.
			N.S. 29032	22.5-23.5; mafic vole. blds.
			29033	
			E.O.H. 30'	24.5 - 30 BEDROCK FELSIC SUBVOLCANIC - INTRUSIVE med. greenish-grayish, massive, hard 6-7, f. grained, feld-qtz phenos in siliceous aphanitic groundmass, approaching hypidiomorphic - latite - dacite
40				
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-086(b) LOCATION ELDORADO TWP., ONT.

DATE MAR. 1 19 90 GEOLOGIST RICHARD - OES DRILLER FOURNEL-BRADLEYS BIT NO. 4¾ in -07 BIT FOOTAGE _____

SHIFT HOURS _____ TO _____

TOTAL HOURS _____

CONTRACT HOURS _____

MOVE TO HOLE 8:50 - 9:00 AM

DRILL 9:00 - 9:55 AM

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 9:55 - 10:05 AM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-35.5' BARLOW-OJIBWAY FM. glaciolacustrine slt + cly
			N.S.	35.5-47.5' MATHESON FM.
20				35.5-40; ALLOTILL - non-compact, v. clyy sandy slt diamicton, V/S: pluts 70:30, IP 3-5%, uneven sub c'd - <1" clast grade, c/p 1:4, meltout-type, grades to.....
				40-47.5; ORTHOTILL - v. dense consolidated grey sandy slt, c/p 4:1 pebbly, unevent to even <1" clast grade, V/S: pluts 80:20 - Fe basalts + minor PY blebs - basal meltout facies
40			29034	
			29035	
			29036	
			29037	
				47.5-51' BEDROCK. FELSIC SUBVOLCANIC OR INTRUSIVE.
				l. greenish-grey, massive, hard 6-7, f. grained qtz.-felds. spheno(?) in (hypidiomorphic?) siliceous aphanite groundmass, <10% mafics
				@ 48.5 - becomes pervasively siliceous, aphanitic - dacite - latite?
				E.O.H. 51'
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 1 19 90
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO ELD90-09(I) LOCATION ELDORADO TWP, ONT.
GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. ____ BIT FOOTAGE ____
MOVE TO HOLE 9:55-10:05 AM.
DRILL 10:05 - 11:45 AM.
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 11:45 - 12:00 NOON

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			N.S.	0-16' BARLOW-OJIBWAY FM. glaciolacustrine slt + cly
20			29038	16-34.5' MATHESON FM. 16-28.5; ALLOTILL - mod. dense but unconsolidated grey, clayey sandy slt diamicton, homogenous except for rare clayey lenses (interbedded mainly 24-28.5'), increasingly clayey downhole, c/p 1:5, V/S: pluts 70:30, IP 3-5%, <1" clast frag. - flowtill or w. meltout
			29039	
			29040	
			29041	28.5-34.5; ORTHOTILL - dense, consolidated sandy slt diamicton, c/p 1:2, V/S: pluts 60:40, IP 3-5%, Fe-basalts numerous, even <1" clast grade, - meltout distal facies
			29042	
40			29043	34.5-35.5; granule-rich diamictic coarse and @ 40' - felsite cobble
			N.S.	42.5-49' NONGLACIAL LACUSTRINE SEDIMENTS
			29044	42.5-44; gritty silty cly, noncompact c/p 1:100, proximal lacustrine,
			29045	45-47; d. grey lacustrine cly, min slt, rare grits and grans
60				47-49; increasing grittiness + granules, debris-charged proximal lacustrine,
			29046	49-75' ALLO-ORTHOTILL SEQUENCE (MATHESON FM.?)
			29047	49-63; gradation from above to mod. compact clayey sandy slt diamicton, even <1" grade, V/S: pluts 70:30, IP 3-5%, Fe-basalts predominant numerous gritty cly lenses - flowtill/debris flows -
			29048	63-67.5; diamictic silty sand, non-compact, pebbly lenses.
80				67.5-75; ORTHOTILL - dense, homogenous sandy slt, pebbly c/p 1:1, 90% local basalt, IP 1%, greenish hue - local derivation - lodgement
			E.O.H. 80'	75-80' BEDROCK: INTERM-FELSIC SUB-VOLCANIC massive, hard 6-7, hypidiomorphic qtz-felds x-stals, <5% mafics, qtz veinlets at 76', no visible mineralization - qtz monzonite - granite -
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO EL090-10(J) LOCATION ELDORADO TWP, ONT.

DATE MAR.1 19 90 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. B000130 BIT FOOTAGE _____

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 11:45 - 12:00

DRILL 12:00 - 1:20 PM

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 1:20 - 1:30

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG ★ NEW BIT ★
	N.R.		N.S.	0-4' NO RETURN
			29049	4-24.5 MATHESON FM.
			29050	4-9.5; ALLOTILL, non-compact clayey sandy slt diamicton, V/S: plots 70:30, C/P 1:10, basalt clasts predominant - melbourne (upper)
20			29051	9.5-14; ORTHOTILL, v. dense, consolidated sandy slt, no cly, C/P 1:1 pbly, even <'n clast grade, V/S: plots 90:10 - mg basalts - bas. komatiite major
			29052	14-24.5; ORTHOTILL, as above, > cly content, C/P 1:10-1:1 v. dense, some clayey seams, increasingly chloritic (greenish) matrix downhole - lodgement facies -
			E.O.H. 27.5'	24.5-27.5 BEDROCK. FEBIC INTRUSIVE.
40				hard →, massive, hypidiomorphic quartz, v. min feldspar, med. grain, mafics < 5%, no visible mineralization - quartz monzonite - granite -
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-11(K) LOCATION ELDORADO TWP., ONT.

DATE MAR. 1 19 90 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADEYS BIT NO. _____ BIT FOOTAGE _____

SHIFT HOURS _____ TO _____

TOTAL HOURS _____

CONTRACT HOURS _____

MOVE TO HOLE 1:20 - 1:30 PM.

DRILL 1:20 - 3:00 PM

MECHANICAL DOWN TIME 3:00 - 3:15 fix water swivel leak.

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 3:15 - 3:20 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0	N.R. COARSE		N.S.	0-37.5' MATHESON FM.
			29053	0-10; coarse clastics, but no return due to water loss
20	N.R.		N.S.	10-35.5; ALLOTILL - poor return of mod. dense, sandy slt diamicton, pebbly, 1/5: plut 70:30, ultramfic vole. litho predominant, rare pyritohedron x-stals noted to 16'
			29054	- 22.5-22.5; granite boulder
			N.S.	@ 22.5', above becomes denser sndy slt, clyy
				- 30-32; allotill becomes v. pebbly, < matrix
			29055	32-35.5; granule-pebble gvl, little matrix, polymictic, clast-supported.
40			29056	35.5-37.5; ORTHOTILL - v. dense, consolidated sndy slt, d. olive greenish, c/p 1:1, 80 $\frac{1}{2}$-90% ultramaf. clasts, P 1-3% lodgement-type facies.
	E.O.H. 41.5'			
60				37.5-41.5 BEDROCK: FELSIC INTRUSIVE
				v. hard, massive hypidiomorphic gty, v. minor K-spar, < 5% mafics - quartz monzonite - granite
				* carbide bit buttons pop out @ 38' (2)
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-12(L) LOCATION ELDORADO TWP, ONT.

DATE MAR1+2 1990 GEOLOGIST RICHARD - OES DRILLER FOURNEL-BRADLEY BIT NO. C870342 BIT FOOTAGE

SHIFT HOURS

TO

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 3:15 - 3:20 PM.

DRILL 3:20 - 5:00 - End of day @ 56'; MAR.2 7:30 - 8:00 warmup drill 9:00 - 9:40

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 9:40 - 9:50 AM

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				★ NEW BIT ★ NEW SUB (switch to South-Bruma)
				0-14: Poor to no return., coarse clastics; losing waters.
				14-76.5; MATHESON FM.
				14-17; ALLOTILL - non-compact clayy sandy slt, V/S: plots 60:40, P 3%, flowtill-meltout.
20				17-20.5; pbly m-coarse, well sorted.
				20.5-26.5; ALLOTILL - as above, but containing numerous sorted sandy gvl lenses, polymictic.
				26.5-38; ORTHOTILL - v. dense, compact sandy slt, C/P 1:1, V/S: plots 70:30, P 1-3%, ultramafic vole. clasts predominant - meltout.
40				38-47.5; ALLOTILL - above becomes less compact, v. pbly, C/P 10:1, homogeneous, some cobbles, numerous sand interlayers 42.5-45' - semi-sorted sediment debris flows.
				47.5-76.5; ORTHOTILL - d. olive greenish, v. dense + compact sandy slt, minor clay, C/P 1:3, homogeneous, - @ 48', mineralized basalt cobble ± py blebs - @ 52.5', " " " " " - end of day MAR1 @ 56'. - Drill out
				MAR.2 - by 66', C/P 1:1 → 1:20, basaltic komatiite lithos predominant (98%) numerous cobbs ↓ 55' - 63.5-65; gvl blds.
60				
				76.5-80 BEDROCK: ULTRAMAFIC VOLCANIC. d. greenish greenish, massive to weakly foliated, mod soft 4, f.g., magnetic, trace of sub-anhedral py-po, blebs to 0.75 cm. - basaltic komatiite. -
80				
100				

N.R.

N.S.

29057
29058
29059 DISCARDED
29060
29061
29062
29063
29064
29065
29066
29067
29068
29069
29070

26.5
38
47.5
51
57
61.5

E.O.H. 80'

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO EL090-13(N) LOCATION ELDORADO TWP., ONT.

DATE MAR. 8 1990 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEY BIT NO. _____ BIT FOOTAGE _____

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 9:40 - 9:50 AM

DRILL 9:50 - 11:05 am.

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER water wait 10:20 - 10:30 am.

MOVE TO NEXT HOLE 11:05 - 11:40

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
20		20	N.S.	
			29071 POOR RETURN	
		27	N.S.	
			29072	
			29073	
40			E.O.H. 36'	
60				
80				
100				

0-33' MATHESON FM.

0-23 ORTHOTILL - olive green sandy silt diamicton, dense + homogenous, c/p 1:1 pebbly, V/S: plut 80:20, IP 3-5%, basaltic komatiites predominant - matrix.

7-7.5; ultramafic volc. cobble

12-16; greater clay content, less dense - (flow-unit?), poor return

18-23; clast lithos becoming more distal downhole to 60:40 V/S: plut, uneven clast grade.

23-26.3 DIAMICTIC GRAVEL - pebbly granule gravel, polymictic, set in an unconsolidated silty sand matrix.

26.3-27; RHYOLITE COBBLE

27-33; ALLOTILL SEQUENCE - mod. dense sandy silt diamicton, interlayered with minor but numerous pebbly gravel lenses, V/S: plut 60:40, sub-O'd to <1", ultramafic cobbles @ 30, 32.

33-36 BEDROCK: ULTRAMAFIC VOLCANIC.

d. greenish, massive to weakly foliated, v.f.-grained, mod. soft 4-5, non-magnetic ultramafic volcanic, <1% euhedral to subhedral PY as pyritohedrons + nodules 0.5-0.75 cm. - basaltic komatiite

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 2 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-14(M) LOCATION ELDORADO TWP, ONT.
GEOLOGIST RICHARD - OES DRILLER FOURNEL-BARRETT BIT NO. 89mm-13 BIT FOOTAGE _____
MOVE TO HOLE 11:05 - 11:10 AM.
DRILL 11:10 - 12:25
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE 12:25 - 12:30 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 19 MATHESON FM.
				0-8; Poor return, oxidized sandy clayey slt diamictite, v. pebbly + non-compact, V/S: pluts 60:40
				8-15.5; sorted m-sand, minor diamictite lenses
				15.5-19; v. non-compact, unconsolidated sandy slt, minor clay, v. pebbly C/P 3:1, V/S: pluts 60:40, TP 3% - upper mottled - glacial - alluvial -
				19-25 BEDROCK: ULTRAMAFIC VOLCANIC
				d. blackish greenish, massive to weakly foliated, v. f. grained, Mg-rich basaltic komatiite, minor white calcite veinlets, trace specks of euhedral-anhedral py to 0.25 cm, matrix magnetite
				E.O.H. 25'

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-15(P) LOCATION ELDORADO TWP, ONT.

DATE MAR. 2 1990 GEOLOGIST RICHARD-DES DRILLER FOURNEL-BRADLEYS BIT NO. 4½ in -14 BIT FOOTAGE _____

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 12:25 - 12:30 PM

DRILL 12:30 - 2:00 PM.

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER 1:20 - 1:20 water wait

MOVE TO NEXT HOLE 2:00 - 2:10 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
20			N.S.	0 - 19.5 MATHESON FM. - poor general return, losing water 0-5; heavily weathered clyy sndy slt diamicton 5-7; ultramafic boulder 7-9; diamicton as above 9-16; ALLOTILL - unoxidized, grey sndy slt diamicton, V/S: pluts 60:40, TP 1-3%, mod. compact, uneven sub O'd to <1" clast grades, minor lenses of sorted p. gravels. 16-19.5; PEB-GRAN GRVL - clast supported, no apparent matrix, polymictic.
			29075 DISCARDED, SMALL SMPL.	
			29076	
			E.O.H. 24'	
40				19.5 - 24 BEDROCK: FELSIC INTRUSIVE or SUBVOLCANIC. l. greenish subtrach, massive, hard 6-7. aplitic > hypidiomorphic qtz > minor felds. xtals in phenos in siliceous matrix <5% mafics
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 2 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO EL090-16(0) LOCATION ELDORADO TWP, ONT.
GEOLOGIST RICHARD - OES DRILLER FOURNEL - BRADLEYS BIT NO. - 4 3/4in - 15 BIT FOOTAGE _____
MOVE TO HOLE 2:00 - 2:10 PM.
DRILL 2:10 - 3:00 PM.
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER 2:20 - 2:30 water wait
MOVE TO NEXT HOLE 3:00 - 3:15 PM

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	N.R.		N.S.	
			29077	0 - 6.5 no return, losing water (coarse clastics)
				E.O.H. 10'
20				6.5 - 10 BEDROCK: INTERM - FELSIC INTRUSIVE. f - med grained, hypidiomorphic, massive hard 6, felds - qtz (minor) ± totals, minor mafic accessories, trace py. latest - monzonite.
40				
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-17(2) LOCATION ELDORADO TWP, ONT.

DATE MAR. 2 1990

GEOLOGIST RICHARD-OES DRILLER FOUNEL-BRADLEY'S BIT NO. ~~6 in -16~~ BIT FOOTAGE _____

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 3:00 - 3:15 p.m.

DRILL 3:15 - 4:30 pm.

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER 3:30 - 4:30 water wait

MOVE TO NEXT HOLE 4:30 - 5:00 fuel up - END OF DAY.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	N.R.		N.S.	
		12		
20			29078	
		25.5	29079	
			29080	
			29081 A.B.C.	
40			E.O.H. 36.5	
60				
80				
100				

0-32' MATHESON FM.

0-12; v. poor return, suspect diamictic sands with occ'l cobbles.

12-27; ALLOTILL - non-compact/consolidated, pbly sandy slt diamicton, polymictic, homogeneous, - debris flow - , increasing clay downhole.

27-30.5; ALLOTILL - as above, becomes interbedded with minor peb-gran gvl, immature sub-ang-sbrd, polymictic.

30.5-32; ORTHOTILL - v. dense, consolidated greenish sandy slt diamicton, C/P 1:1, U/S: plots 80:20, P 1-3%, even clast grade - lodgement -

32-36.5' BEDROCK: PORPHYRITIC BASALT / INTERM.-FELSIC INTRUSIVE.

32-34; feldo.-qtz (min) porphyroblasts set in mafic
-35.5 groundmass - porphyritic basalt.

35.5-36; contact to d. greenish grey, weakly foliated, v. soft 4-5, v. f.g, no visible mineralization - basalt

36-36.5; hypidiomorphic qtz (min) - feldspar intrusive, salmon-coloured K-spar, mafic accessories < 15%.
- monzonite

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-18(a) LOCATION ELDORADO TWP, ONT.

DATE MAR. 3 1990 GEOLOGIST RICHARD - OES DRILLER FOURNEL-BRADLEYS BIT NO. 5¾ in - 17 BIT FOOTAGE

SHIFT HOURS

TO

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 7:30 - 7:45 AM

DRILL 7:45 - 8:00 setup + thaw drill 8:00 - 10:10 AM.

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER water wait 8:30 - 9:05

MOVE TO NEXT HOLE 10:10 - 10:15

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	N.R.			
			N.S.	
20				
40				
		41		
		49	29087	
			29085	
		54	29084	
60		58		
80				
100				

0-54' MATHESON FM.

0-5.5; No return, coarse clastics, losing water

5.5-6; ultramafic cobble, another @ 12'.

6-44; ALLOTILL SEQUENCE - v. poor return, appears to non-compact, unconsolidated pbly sndy slt diamictons, uneven sub o'd- <¼ clast grade, polymictic, numerous sorted pebb-granule lenses

14-15.5; f-sand lense

22-27; as above sndy, pbly

27-31; diamictic silty f-mand

31-36; immature, poorly sorted pebble-granule gvlo, slty diamicton lenses, V/S: plots 60:40

40.5-41; gritty slty clay lens

43.5-44; ultramafic cobble

44-54; ORTHOTILL - dense, olive greenish, sl. dmp sndy slt, C/P 1:5, V/S: plots 95:5 - ultramafics predominate, even <¼ clast grade, increasing downhole consolidation + C/P 1:2 - lodgement facies ?

54-58' BEDROCK: INTERMEDIATE SUB-VOLCANIC

qtz-felds (minor) phenocrysts (PORPHYROBLASTS?) set in siliceous, mafic matrix (<15%), hard 6, massive

DIORITE - ANDESITE.

E.O.H. 58'

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-19(R) LOCATION ELDORADO TWP., ONT.

DATE MAR. 3 1990 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. B000143 BIT FOOTAGE

SHIFT HOURS

TO

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 10:10 - 10:15 AM.

DRILL 10:15 - 11:45 AM.

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 11:45 - 11:55

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG ★ NEW BIT ★
	N.R.		N.S.	0-33' MATHESON FM.
				0-6; v. poor return, oxidized coarse clastics
				6-16; poor return of unconsolidated, gritty silty
				-20; diamictic f-sand, occ'l sorted peb-gran lenses, polymictic.
20			v. poor return, no smpl.	20-33; ALLOTILL - mod. compact, gritty sandy slt, no cly, peb-poor, polymictic - upper meltout; v. poor return. distal source.
			29085	33-36' BEDROCK: ULTRAMAFIC VOLCANIC, silicified
40			E.o.H. 36'	33-35; l.-med. greenish, v.f. grained, hard 6-7, massive silicified mafic-ultramafic, matrix cut by milk-white to translucent quartz veinlets up to 1cm wide, veinlets hold 1% finely disseminated py euhedra-subhedra, Fe-oxide on partings planes, grades into.....
60				35-36; d. blackish-greenish, weakly foliated. ultramafic volc., weakly magnetic, f.g., trace py-po blebs to 0.5 cm.
				★ Carbide bit buttons fall out after 36' drilling - defective - hole terminated prematurely ★
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 3 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-20(S) LOCATION ELDORADO TWP., ONT.
GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. B000166 BIT FOOTAGE _____
MOVE TO HOLE 11:55 - 12:00 NOON
DRILL 12:00 - 1:40 PM.
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER 12:30 - 1:00 water wait
MOVE TO NEXT HOLE 1:40 - 1:55 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				★ NEW BIT ★
				0-36.2' MATHESON Fm.
	N.R.		N.S.	0-16'; no return, water loss via hole blow
			V. POOR RETURN	16-32.2'; ARGILLITE - non-compact, gritty sandy slt diamicton, minor cly, polymictic + loose, rare gran. gvl lenses - sediment debris flows -
20				
				36.2-39' BEDROCK: FELSIC VOLCANIC.
				l. grey, hard 6-7, massive aplitic, f.g., siliceous volcanic, vague qtz + felds. phenos in aphanitic siliceous matrix, <5% mafic accessories, crit lmy qtz veinlets 2-5 mm., trace subhedral py. - quartz latite - rhyolite -
			29086	
			29087	
40				E.O.H. 39'
				★★ LOSING CARBIDE BUTTONS ON NEW BIT, AGAIN ★★ - defective -
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-21(T) LOCATION ELDORADO TWP, ONT.

DATE MAR. 3 1990 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEY BIT NO. _____ BIT FOOTAGE _____

SHIFT HOURS _____ TO _____

TOTAL HOURS _____

CONTRACT HOURS _____

MOVE TO HOLE 1:45 - 1:55 pm

DRILL 1:55 - 3:55 pm.

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER water wait 2:05 - 2:15, again 3:10 - 3:35 pm.

MOVE TO NEXT HOLE 3:55 - 4:00 pm.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0			N.S.	0-46' MATHESON FM. 0-9; weathered diamicton, capped by bldr.
				9-40.5; v. non-compact, granule-rich sandy, sl. clayy slt, polymictic, TP 5-10%, sub o'd - ∠'r. - debris flow or upper meltout. -
20				-@ 27', diabase cobble, then cobbly-pebbly with sorted gvl lenses to 40.5'. - debris flows -
				40.5-43.5; miniature peb-gran gvl with minor diamicton layers.
				43.5-46; ORTHOTILL - olive greenish, v. dense + consolidated, homogenous, clayy sandy slt diamicton, pebbly c/p 1:4; v. pebbly 44-46', V/S: plutons 80:20, P 3%, numerous serpentinite fragments, - distal meltout facies -
40			40.5	
			29088	
			29089 A+B	
			E.O.H. 50'	
60				46-50' BEDROCK: ULTRAMAFIC VOLCANIC.
				SAMPLE A: 46-46.5; d. greenish blackish, weakly foliated, talcose alteration, v. soft 2, no visible mineralization, contact to...
				SAMPLE A: 46.5-47; d. grey-black, massive, v. f.g to aphanitic siliceous sediment, some qtz veinlets noted within matrix, no visible mineralization, please change to...
80				SAMPLE B: 47-50; d. greenish ultramafic rock, mod. soft 4, f. grained, massive, minor serpentinite, no visible mineralization.
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-22(4) LOCATION ELDORADO TWP., ONT.

DATE MAR. 3+4 1990 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEY BIT NO. _____ BIT FOOTAGE _____

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 3:55 - 4:00 PM.

DRILL 4:00 - 4:40 PM. 4:40 - out of water MAR4 warmup 8-8:30 drill to 9:10 AM

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER 4:40 - 5:00 clean tanks - END OF DAY

MOVE TO NEXT HOLE 9:10 AM - 9:20 AM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
20			N.S. N.R. 28090 A+B E.O.H. 22'	0 - 16.3 MATHESON FM. 0-9; heavily oxidized clayy sandy slt diamicton 9-12; DIAMICTIC GRAVEL = immature pebb-granule gvels, minor diamicton lenses, V/S: plots 70:30, P 3% - ultramafics predominant 12-16.3 no returns, losing water in coarse clastics. 16.3-22 BEDROCK: ULTRAMAFIC / MAFIC - INTERM. VOLCANIC 16.3-17; oxidized med-c. grained ultramafic volc., d. greenish-blackish, weakly carbonatized, white calcite veinlets ... contacts. 17-22; d. reddish-green, blackish, massive, fmed. grained, sucrosic qtz-feldspar phenos set in mafic groundmass, siliceous, hard 6-7 = inter-mafic metavolcanic - andesite -
40				
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-23(W) LOCATION ELDORADO TWP., ONT. (CONDUCTOR HOLE, SOUTH GRID)

DATE MAR. 4 1990 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEY'S BIT NO. -20 in -22 BIT FOOTAGE _____

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 9:10 - 9:20 AM.

DRILL 9:45 - 11:15 AM

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER water wait 9:20 - 9:45 AM.

MOVE TO NEXT HOLE 11:15 - 11:45 AM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			N.S.	0 - 38.5' MATHESON FM. 0-14; ALLOTILL - heavily oxidized, non-compact, pebbly sandy slt, 1/4 pluts 60:40.
			29091	14-35.5; ALLOTILL - mod. dense, homogenous sl. greenish sandy slt, c/p 1:1, 1/4 pluts 70:30, interlayered with minor sorted peb-gran. gruls, sericite schist cobble @ 34', minor clayy lenses.
20			29092	
			29093	
			29094	35.5-38.5; ORTHOTILL - olive greenish, mod. dense+ compact, clayy sandy slt, homogenous, clast-poor c/p 1:20, even 1/4 grade.
			29095	
40			29096	38.5 - 45.5' BEDROCK: INTERM. VOLCANIC (PORPHYRITIC) whitish-greyish, massive, hard 6-7 intermediate volcanic, 0.5-1mm FGLOS? qtz phenocrysts set in aplitic f.g. matrix (siliceous) minor mafics < 10%, no visible mineralization - porphyritic inter. volcanic.
			45.5	
			E.O.H. 45.5'	
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-24(Y) LOCATION ELDORADO TWP, ONT.

DATE MAR. 4 19 90 GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEY'S BIT NO. B0001444 BIT FOOTAGE _____

SHIFT HOURS _____ TO _____ MOVE TO HOLE 11:15 - 11:45 AM.

TOTAL HOURS _____ DRILL 11:45 - 12:30 PM.

CONTRACT HOURS _____ MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 12:30 -

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				★ NEW BIT ★
			N.S.	0-23.5' MATHESON FM.
				0-17; non-compact, low density, sandy slt diamicton, oxidized to 10', then grey clyey sandy slt, V/S: plate 60:40, P 3-5 %, C/P 20:1 pebbly - ALLOTILL - sediment flows.
20			29097	NO SAMPLE #29098
				17-23.5; mod. dense, compact, olive greenish, sandy slt, homogenous, V/S: plate 80:20, P 1-3 %; basalte komatiites predominate, even <1% clast feed. -ORTHOTILL-
			29099 A+B	
			E.o.H. 27.5'	
				23.5-27.5' BEDROCK: ULTRAMAFIC VOLC, contact to INTERM. VOLC. OR INTRUS.
40				23.5-25; d. greenish, massive to weakly foliated, v.f. grained, Mg-rich, mod. soft 4, basaltic komatiite, no visible mineralization, contact to....
				25-27.5; siliceous aplitic, f-med. grained almost hypidiomorphic qtz-feldspar with minor mafic accessories -interm. monzonitic intrusive-
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-25(X) LOCATION ELDORADO TWP., ONT.

DATE MAR.4 1990 GEOLOGIST H.MIREC-GRANGES DRILLER FOURNEL-BEAUDRY BIT NO. _____ BIT FOOTAGE _____

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 12:30 - 12:35 PM.

DRILL 12:35 - 1:25 PM.

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 1:25 - 1:40 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
20			N.S.	0 - 21.5 MATHESON Fm.
			29100	0-6-12'; oxidized, non-compact sndy slt, polymictic, uneven sub-o'd - <1/2 - ALLOTILL -
			N.S.	12-13; gritty slty cly boul - prox. lacustrine.
			29101	13-19; ALLOTILL, as above but V/S: splut 60:40, PI 1-3%, unoxidized
			29102 A+B	19-21; mafic basalt lldr.
				21-21.5; ORTHOTILL - compact + dense, greenish clyy sndy slt diamicton, c/p 1:10 clast poor.
40				21.5-26' BEDROCK: ULTRAMAFIC VOLCANIC.
				d. greenish blackish, f. grained to aphanitic, massive ultramafic
60				
			E.O.H. 26'	
80				
100				

FOR H. MIREC

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 4 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-26(W) LOCATION ELDORADO TWP., ONT.
GEOLOGIST RICHARD - OES (H. MIREE - GRANGES INC.) DRILLER FOURNEL - BRADLEYS BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE 1:25 - 1:40 PM.
DRILL 1:40 - 2:30 PM.
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE 2:35 - 2:45 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			NS.	0-33' MATHESON FM.
		12	29103	0-12; oxidized, non-compact polymictic, pebbly-cobbly diamicton - ALLOTILL -
		18		12-30; mod compact sandy slt diamicton, unoxidized 60:40 %/% plutx, sub o'd to s'r - allotill -
20			29104	30-32.5; ORTHOTILL - dense clyy sandy slt diamicton, c/p 1:9, >70% u/s, 5% serpentine fragments
			29105	32.5-33; sorted f sand
40			EOH. 36'	33-36' BEDROCK: ULTRAMAFIC VOLCANIC
				d. greenish, v.f.-grained, mod soft, foliated ultramafic - serpentinized, not talcose
				2% Serpentine
60				
				FOR H. MIREE
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 4 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-27(V) LOCATION ELDORADO TWP., ONT.
GEOLOGIST RICHARD-DES DRILLER FOURNEL-BRADLEYS BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE 2:35 - 2:45 PM.
DRILL 2:45 - 3:15 PM.
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER 3:15 - 3:40 bent rod string while pulling
MOVE TO NEXT HOLE 3:40 - 4:00 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	N.R.			0 - 24' MATHESON FM.
				0-6; no return, coarse clastics.
			N.S.	6-24; very poor return of non-compact, low density, gritty sandy slt, oxidized to 11', uneven sub 0'd - c'r clast grade, occ'l cobble, polymictic, < 0.5 of OATHOTILL / BX — ALLOTILL SEQUENCE —
20				
OVERBURDEN		24		
			29106	
		29		24-29' BEDROCK: ULTRAMAFIC VOLC.- SCHIST.
			E.O.H. 29'	d greenish blackish, strongly foliated, talc-chlorite schist, v. soft 2, -@ 27', grades to unaltered basaltic komatiite, massive to weakly foliated, mod. soft 4, no visible mineralization
40				
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-28(AA) LOCATION ELDORADO TWP, ONT.

DATE MAR. 4 1990 GEOLOGIST RICHARD - OEC DRILLER FOURNIER BRADLEYS BIT NO. B000164 BIT FOOTAGE

SHIFT HOURS

TO

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 3:40 - 4:00 PM.

DRILL 4:00 - 4:45 PM

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER 4:45 - 5:00 clean tanks - END OF DAY.

MOVE TO NEXT HOLE

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG ★ NEW BIT ★
	N.R.		N.S.	
			29107	
			29108 A-B	
20			E.O.H. 12'	
40				
60				
80				
100				

0 - 8' MATHESON FM.

0-4; no return, water loss

4-8; clay sandy silt diameter, oxidized to 11', mod. dense, V/S: splits 70:30, P 1-3% - ultramafics predominant - ORTHOTILL facies -

8-12' BEDROCK: ULTRAMAFIC VOLC / FELSIC INTRUSIVE.

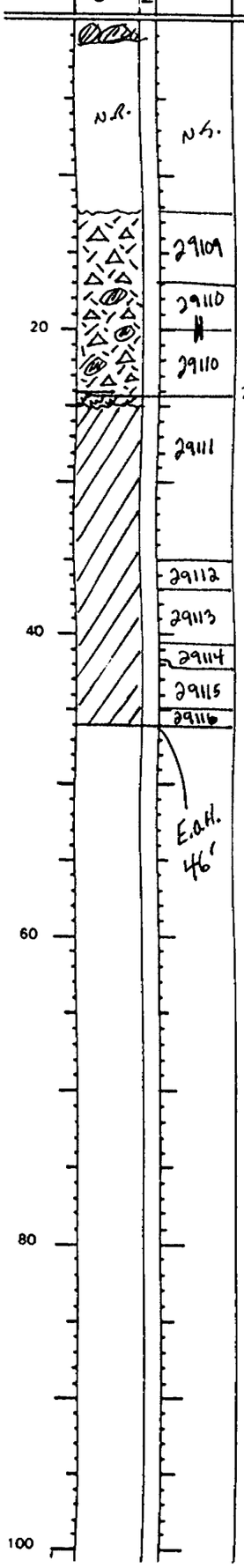
8-9.5; d. greenish, strongly foliated, v. f. grained, soft 4, cut by white calcite veinlets to 2 mm. - ultramafic volc.

9.5-12; contact to whitish - greenish grey, quartz-rich, hypidiomorphic - aplitic f-med. grained felsic intrusive, granodiorite - quartz latite.

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 5 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-29(BB) LOCATION ELDORADO TWP, ONT.
GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE 8:00 - 8:10 AM.
DRILL 10:30 - 1:00 PM.
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER water wait 8:15 - 10:30 - pump frozen (-33°C)
MOVE TO NEXT HOLE 1:00 - 1:10 PM.



0 - 24.5 MATHESON FM.

0-2; bldr lag

2-12.5; NO RETURN, med-fine clastics (JETTING)

12.5-24.5; ORTHOTILL - dense + consolidated, homogeneous, olive grey sndy slt, clast-poor C/P 1:20, U/S: plnts 90:10, TP 1-3%, ultramafics predominant -

- @ 17'+, becomes clast rich orthotill, cobbly + pebbly, now only 70% U/S.
- meltout sequence -

24.5 - 46' BEDROCK: MAFIC-ULTRAMAFIC VOLC., silicified + qtz veined, ~~py~~

24.5-25; chlorite saprolite cly

25 - 26.2; ultramafic volcanic, talc-chlorite schist, v. soft

SAMPLE (A) 2, strongly foliated, euhedral ~~py~~ xstals, minor white calcite veinlets

SMPL B 26.2 - 27.5; massive qtz vein, milk white + barren

SMPL C 27.5 - 29; ultramafic volcanic 50%, qtz vein + calcite 50%

SMPL D 29 - 32.5; translucent cream qtz with dissem. ~~py~~, intercalated with green-black mafics, v. foliated ultramafic wallrock, magnetic

-37 with 5-10% euh-anhedral ~~py~~ aggregates, hairline qtz veinlets crosscut foliation,

37 - 41; intercalated siliceous rock as above, and mod-ultramafic gabbros.

41 - 45; contact to mafic (ump?) volcanic, strongly foliated chlorite schist, siliceous matrix, cut by white qtz veinlets

45-46; back into translucent siliceous rock, dissem. ~~py~~.

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO EL090-30(cc) LOCATION ELDORADO TWP, ONT.

DATE MAR. 5 19 96 GEOLOGIST RICHARD - OES DRILLER FOURNEL-BRADLEYS BIT NO. 40 in - 29 BIT FOOTAGE

SHIFT HOURS

TO

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 1:00 - 1:10 PM.

DRILL 1:10 - 2:25 PM.

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 2:25 - 3:30 PM. - move to NORTH GRID.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	N.R.		N.S.	0 - 49.5' MATHESON FM.
	N.R.		29117	0-8; poor return of oxidized sandy slt diamicton. sludge from
				8-15.5; no return, water loss from hole blow
20			29118	15.5-31.5; ALLOTILL - unconsolidated homogenous sandy slt, v/s: plots 60:40, P 3-5%,
				31.5-49.5; ORTHOTILL facies - d. grey dense, consolidated sandy slt diamicton, c/p 1:1, even <1/2 clast grade, v/s: plots 70:30
				- meltout -
			29119	37-44; - debris charged c/p 10:1, gryuke cobble @ 42'.
40			29120	- @ 44', becomes v. dense & overconsolidated sandy slt, olive greenish-lodgement, c/p 1:10, 90% ultramafics, v. cobbly @ 46'.
			29121	
			49.5	
			29122	49.5-55 BEDROCK: MAFIC Fe - VOLCANIC
			29123	med-d. greenish, mod. hard 5.5, well foliated, f. grained basalt, Fe-oxide along foliation planes, minor hematite blebs.
60			E.O.H. 55'	53.5-55'; above is cut by qtz-feldspar veinlets, diss. py along veinlet contact with wallrock, v. f. grained
				- Fe-tholeiite -
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-31a,31b (FF) LOCATION ELDORADO TWP, ONT. - NORTH GRID.

DATE MAR. 5+6 1990 GEOLOGIST RICHARD - OES DRILLER FOURNEL - BRADEYS BIT NO. B000165 B000145 BIT FOOTAGE

SHIFT HOURS

TO

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 2:25 - 3:30 PM - move from south grid.

DRILL 3:30 - 4:50 PM. MAR 6. - drill 9:00 - 11:10 AM

MECHANICAL DOWN TIME

DRILLING PROBLEMS MAR(6) water wait 8:15 - 9:00 AM, again 10:35 - 10:50 AM.

OTHER water wait 4:50 - 5:00 - End of day @ 12'

MOVE TO NEXT HOLE 11:10 - 11:30 AM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG ★ NEW BITS ★
			N.S.	31a
				0 - 9.5' MATHESON FM.
			29124	- oxidized clay sandy silt diamicton, pbly, 60:40 m/s. pluts, non-compact allotill.
			29125 N.S.	9.5 - 11' (BED)ROCK:
20			29126	l. greenish grey, v. f. grained, massive siliceous matrix - felsic vole.
			E.O.H. 22'	- @ 11', texture dirt blows a cone - only 1.5' of rock drilling, suspect button loss
				★★ ABANDON ELD90-31, move 5' to redrill. - change bit.
				ELD90-31b
40				0 - 12 MATHESON FM - allotill no in -31a
				12 - 15.5 Felsic intrusive bldr
				★★ LOSING CARBIDE BUTTONS AGAIN BY 15' ★★ - premature.
60				15.5 - 18; admixture of broken fels. bldr clips (OXIDIZED) and polymictic <1" clasts in sandy silt, looks like a bedrock joint.
				18 - 22' BEDROCK: felsic metavolcanic.
				l. greenish - grey. f. grained + massive, v. hard 6-7, sucrosic texture, <10% mafic xstals + fragments in siliceous matrix trace py.
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 6 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-32(EE) LOCATION ELDORADO TWP, ONT.
GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEYS BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE 11:10 - 11:20 AM.
DRILL 11:20 - 1:15 PM.
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE 1:15 - 1:30 PM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	N.R.		N.S.	
			29127	
			29128	
20			29129	
			29130	
			29131	
			29132	
			29133	
40			29134	
			29135	
			E.O.H. 44	
60				
80				
100				

0-38' MATHESON FM.

0-6; no return, lithology.
6-9; no return, likely sand (diamictite)
9-17.5; ORTHOTILL - v. dense + consolidated, homogenous, d. olive greenish, sandy slt diamicton, clast-poor 9/0 1:20, 95% ultramafic clast content
17.5-18; ultramafic cobble.
18-36.3; -38 ORTHOTILL - as above, increasing downhole pebbles + clst content, v. dense lodgement-type. - thin gvl lag / BRK.
@ 23.5', ultramafic cobble.

38-44 BEDROCK: ULTRAMAFIC VOLCANIC, TO INTERM-FELSIC VOLCANIC + QTZ VNS.

38-42; heavily oxidized + weathered ultramafic, foliated, cut by numerous qtz veins, trace sulf-sulfid. py to 2mm.
41-42; fresh unoxid ultramafic volcan.
@ 42.5: - qtz vein, adjacent weathering.
42-44; - v. siliceous grdmass, aphanitic, ? flooding of vein wallrock, or felsic volcanic(?)

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 6 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-33(00) LOCATION ELDORADO TWP, ONT.
GEOLOGIST RICHARD -OGS DRILLER FOURNEL-BRABERS BIT NO. CB70343 BIT FOOTAGE _____
MOVE TO HOLE 1:15 - 1:30 PM
DRILL 1:30 - 2:45 PM.
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE 2:45 - 3:15 PM. - MOVE TO SOUTH LINE OF NORTH GRID.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				☆ NEW BIT ☆ ☆ switched to new sub for SMITH-GRINER BIT. ☆
				0-45.5' MATHESON FM.
	N.R.		N.S.	0-16.5 v. poor return due to water loss via hole blow, cobbly at first, then rapid bit jetting of probable diametic rocks.
			29136	16.5-18; ALLOTILL - non-compact clayey sandy slt, c/p 1:1
20			N.S.	18.-18.5; basalt bldr.
			29137	18.5-22; pbly, diametic gvl, polymictic, minor clayey sandy siltstones in immature outwash/flow
				22-23; rhyolite bldr, 1-3% diss py
				23-25; polymictic clast-supported peb-gvl.
			N.S.	25-34.5; ALLOTILL - v. clayey, non-compact sandy slt, interbedded with equal layers of immature peb-gvl, V/S: plutos 60:40, P 3-5%. - flow/sediment flows -
40			29138	
			29139	
			29140	34.5-38; Slt, rare grans - lacustrine.
				38-39; lacustrine clay, no grans.
			E.O.H. 49'	39-40.5; gritty version of above unit
				40.5-42.5; Interbedded allotill (as above) + peb gvls.
60				42.5-45.5; ORTHOTILL - v. dense + consolidated pbly sandy slt diamicton, c/p 5:1, 80% mafic-ultramafic lithos, P 1%, local - lodgement type -
				45.5-49 BEDROCK: MAFIC (Fe-thol.) METAVOLCANIC
80				med. greenish, v.f.-grained, massive to mod. foliated, hard 5-6, Fe-oxide along foliation planes, trace euhedral py, minor barren white quartz veinlets 49.5-49'. - mafic vol. (Fe-tholeiite) ± silicified ultramafic -
100				

REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ELD90-34(II) LOCATION ELDORADO TWP., ONT.

DATE MAR.6 1990 GEOLOGIST RICHARD - OGS DRILLER FOURNEL-BRADLEYS BIT NO. _____ BIT FOOTAGE _____

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 2:45 - 3:15 PM - move to SOUTH LINE, NORTH GRID.

DRILL 3:15 - 4:30 PM

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER water wait 3:45 - 4:00 PM.

MOVE TO NEXT HOLE 4:30 - 4:45 PM. - End of Day.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
20			N.S.	
40			29141	
60			E.O.H. 52.5	
80				
100				

0 - 48.5 MATHESON FM. + BARLOW - OJIBWAY FM.

0-3; Bldrs, no return

3-19; v. poor return, mod. compact diamictic sands, even <¼ granules grade.

19-28.5; above grades into gritty lacustrine (C-O) silty clay

28.5-33; no return, drilling coarse clastics (peb-gnl?)

33-36.5; interbedded peb-gran. gvl (60% V/S), with equal clyey sandy slt alluvial

36.5-38; lacustrine silty clay, becoming gritty

-48.5; + sandy lay 40°.

48.5 - 52.5' BEDROCK: ULTRAMAFIC VOLCANIC

d. greenish-blackish, med. grained, massive to weakly foliated, soft 4, coarse magnetite xstal aggregates in matrix

- coarse g. unmf. flow. -

REVERSE CIRCULATION DRILL HOLE LOG

DATE MAR. 7 19 90
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD 90-35 (HH) LOCATION ELDORADO TWP., ONT.
GEOLOGIST RICHARD-OES DRILLER FOURNEL-BRADLEY'S BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE on-hole.
DRILL 7:50 - 8:40 AM.
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE 8:40 - 8:50 AM.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	NR.		N.S.	0 - 10.7 MATHESON FM.
		6	29142	0-2; blds, no return, losing water
		10.7		2-6; diameter sands, poor return.
			29143	6-10.7; non-compact, oxidized, olive grey clyy sndy slt diamicton, c/p 1:10, even <1" clast grade, V/L: plots 70:30
		16	29144	— ALLOTILL —
20		20		
			E.O.H. 20'	10.7 - 20 BEDROCK: MAFIC-ULTRAMAFIC VOLCANIC + QTZ W.
				10.7-12; oxidized, highly foliated, chlorite schist cut by barren milk white qtz veinlets.....
				12-16.5; as above, unoxidized, no qtz vns.
				16.5-18; chlorite-illite clay saprolite.
				18-20; d. greenish, unoxidized foliated ultramafic, soft 3-4, minor milk white qtz veinlets (19.5-20').
40				
60				
80				
100				

REVERSE CIRCULATION DRILL HOLE LOG

DATE Mar. 7 1990
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ELD90-36(GG) LOCATION ELDORADO TWP., ONTARIO
GEOLOGIST RICHARD-OGS DRILLER FOURNEL-GRADLEYS BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE 8:40 - 8:50 AM.
DRILL 8:50 - 9:20 water unit drill 9:20 - 11:35
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE 11:35 - 12:00 NOON End of program, down to Kidston Rd.

DEPTH IN FEET	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			W.S. 29145	0-30 MATHESON FM.
			29146	0-7; oxidized clyy sndy slt, c/p 1:10, non-compact ALLOTILL.
	N.R.			7-9.5; dense + consolidated, oxidized pbly sndy slt, ORTHOTILL
20	N.R.			9.5-10; basalt bldr
			29147	10-18.5; v. poor return, homogenous f.g., non compact suspect diamictic shd. + minor granules.
			29148	18.5-20.5 NO return, coarse clastics, losing much water, suspect pel. gravel.
			29149	20.5-25; ORTHOTILL - dense, d. olive grey sndy slt diamicton, c/p 1:1. 80% ultramafic clasts, even c'n grade
40			E.O.H. 34'	25-25.8; - granit bldr.
				25.8-27.5; ORTHOTILL, as above., with rhyolite cobble + dissem. py.
				27.5-30 ORTHOTILL - NN. dense, v. consolidated sl. clyy sndy slt, c/p 1:2, V/s. pluto 90:10 - lodgement type
60				
				30-34 BEDROCK: INTERM. VOLCANIC
				l. greenish-grey, massive, hard 6-7, f-med. grained, qtz-felds phenocrysts, rare py specks
				- dacite -
80				
100				

Ministry of Northern Development and Mines

Ontario

DOCUMENT No. W 9006•603

42A06SE0084 2.13249 ELDORADO

900

Report of Work (Expenditures, Subsection 77(19))

Mining Act

Type of Work Performed	Mining Division	Township or Area
REVERSE CIRCULATION DRILLING	PORCUPINE	ELDORADO

Recorded Holder	Prospector's Licence No.
GRANGES INC. 2.13249	T1970

Address	Telephone No.
2300-885 WEST GEORGIA ST, VANCOUVER, BC, V6C 3E8	(604) 687-2831

Work Performed By: BRADLEY BROS. LIMITED, TIMMINS, ONTARIO

Name and Address of Author (of Submission): A.J. O'DONNELL, GRANGES INC. (as above)

Date When Work was Performed — From: 27 02 90 (Day / Mo. / Yr.) To: 07 03 90 (Day / Mo. / Yr.)

All the work was performed on Mining Claim(s): Indicate no. of days performed on each claim. *See Note No. 1 on reverse side

Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days
1035250	63	1035251	61	1035252	57	1035253	89				
1073267	163	1073268	513	1073269	42	1035236	195	1074433	125	1074435	137
1074436	313										

Instructions
Total days credits may be distributed at claim holder's choice. Enter number of days credits per claim in the expenditure days credit column (below).

Calculation of Expenditure Days Credits: Total Expenditures TABLE 2 $ 26,426.46 ÷ 15 = Total Days Credits 1758

Total Number of Mining Claims Covered by this Report of Work: 11

Mining Claims (List in numerical sequence). If space is insufficient, attach schedules with required information

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	1073279	40	P	1074012	40	P	1074020	40	P	1090162	40
P	1074005	40	P	1074013	40	P	1074021	40	P	1090544	40
P	1074006	40	P	1074014	40	P	1074027	40	P	1113426	40
P	1074007	40	P	1074015	40	P	1089992	40	P	1113427	40
P	1074008	40	P	1074016	40	P	1089999	40	P	1114070	40
P	1074009	40	P	1074017	40	P	1090159	40	P	1114071	56
P	1074010	40	P	1074018	60	P	1090160	60	P	1114072	60
P	1074011	40	P	1074019	40	P	1090161	60	P	1114079	60

Total Number of Days Performed	Total Number of Days Claimed	Total Number of Days to be Claimed at a Future Date
1758	1756	2

ONTARIO GEOLOGICAL SURVEY ASSESSMENT FILES OFFICE JUL 05 1990

Certification of Beneficial Interest *See Note No. 2 on reverse side

I hereby certify that, at the time the work was performed, the claims covered in this report of work were recorded in the current recorded holder's name or held under a beneficial interest by the current recorded holder.

Date: APRIL 20, 1990 RECEIVED

Recorded Holder or Agent (Signature)

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Address of Person Certifying: A.J. O'DONNELL, EXPLORATION MANAGER, GRANGES INC. (as above)

Telephone No.	Date	Certified By (Signature)
(604) 687-2831	APRIL 20, 1990	

Received Stamp: RECEIVED JUN 15 1990 MINING LANDS SECTION

RECORDED APR 23 1990 11:45

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
1756	APR/23/90	Mining Recorder	APR 23 1990
	Date Approved as Recorded	Provincial Manager, Mining Lands	
	20 June 90		

0878 (89/06)

Filed with Reverse Circulation Drilling Report February - March, 1990

Ministry of Northern Development and Mines

Ontario

Report of Work
Mining Act (Expenditures, Subsection 77(19))

Instructions
- Please type or print.
- Refer to Subsection 77(19), the Mining Act for assessment work requirements and maximum credits allowed under this Subsection.
- Technical Reports, maps and proof of expenditures in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch.

Type of Work Performed	Mining Division	Township or Area
REVERSE CIRCULATION DRILLING	PORCUPINE	ELDORADO

Recorded Holder	Prospector's Licence No.
GRANGES INC. (continued)	
Address	**Telephone No.**
Work Performed By	
Name and Address of Author (of Submission)	**Date When Work was Performed** From: Day / Mo. / Yr. To: Day / Mo. / Yr.

All the work was performed on Mining Claim(s): Indicate no. of days performed on each claim. *See Note No. 1 on reverse side

Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days

Instructions
Total days credits may be distributed at claim holder's choice. Enter number of days credits per claim in the expenditure days credit column (below).

Calculation of Expenditure Days Credits: Total Expenditures $ ÷ 15 = Total Days Credits

Total Number of Mining Claims Covered by this Report of Work

Mining Claims (List in numerical sequence). If space is insufficient, attach schedules with required information

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	1114088	60									
P	1114089	60									
P	1114091	60									
P	1114092	60									
P	1114096	60									
P	1114097	60									

Total Number of Days Performed	Total Number of Days Claimed	Total Number of Days to be Claimed at a Future Date

Certification of Beneficial Interest *See Note No. 2 on reverse side

I hereby certify that, at the time the work was performed, the claims covered in this report of work were recorded in the current recorded holder's name or held under a beneficial interest by the current recorded holder.	Date APRIL 20, 1990	Recorded Holder or Agent (Signature)

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Address of Person Certifying: A.J. O'DONNELL, EXPLORATION MANAGER, GRANGES INC.

Telephone No.	Date	Certified By (Signature)
(604) 687-2831	APRIL 20, 1990	

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Provincial Manager, Mining Lands

Received Stamp

Filed with Reverse Circulation Drilling Report, February - March 1990

Ministry of Northern Development and Mines
Ontario

DOCUMENT No. W 9006•60343

Mining Act

Report of Work
(Expenditures, Subsection 77(19))

Instructions
- Please type or print.
- Refer to Subsection 77(19), the Mining Act for assessment work requirements and maximum credits allowed under this Subsection.
- Technical Reports, maps and proof of expenditures in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch.

Type of Work Performed	Mining Division	Township or Area
ASSAY	PORCUPINE	ELDORADO

Recorded Holder: GRANGES INC. **2.13249**

Prospector's Licence No.: T1970

Address: 2300-885 WEST GEORGIA ST, VANCOUVER, BC, V6Z 3E8

Telephone No.: (604) 687-2831

Work Performed By: TSL LABORATORIES, TIMMINS, ONTARIO; SWASTIKA LABORATORIES, TIMMINS, ONTARIO; MIN-EN LABORATORIES, N. VANCOUVER, BC

Name and Address of Author (of Submission): A.J. O'DONNELL, GRANGES INC. (as above)

Date When Work was Performed — From: 03 03 90 (Day Mo. Yr.) To: 17 04 90 (Day Mo. Yr.)

All the work was performed on Mining Claim(s): Indicate no. of days performed on each claim. *See Note No. 1 on reverse side

Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days	Mining Claim	No. of Days
1035250	8	1035251	1	1035252	7	1035253	12				
1073267	16	1073268	84	1073269	1	1073276	10	1074433	29	1074435	38
1074436	36										

Instructions
Total days credits may be distributed at claim holder's choice. Enter number of days credits per claim in the expenditure days credit column (below).

Calculation of Expenditure Days Credits: Total Expenditures TABLE 3 $3,696.65 ÷ 15 = Total Days Credits 242

Total Number of Mining Claims Covered by this Report of Work: 11

Mining Claims (List in numerical sequence). If space is insufficient, attach schedules with required information

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	1090545	40									
P	1090548	40									
P	1090549	40									
P	1090551	40									
P	1090552	40									

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JUN 15 1990
MINING LANDS SECTION

Total Number of Days Performed	Total Number of Days Claimed	Total Number of Days to be Claimed at a Future Date
242	200	42

Certification of Beneficial Interest *See Note No. 2 on reverse side

I hereby certify that, at the time the work was performed, the claims covered in this report of work were recorded in the current recorded holder's name or held under a beneficial interest by the current recorded holder.

Date: APRIL 20, 1990

Recorded Holder or Agent (Signature):

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Address of Person Certifying: A.J. O'DONNELL, EXPLORATION MANAGER, GRANGES INC. (as above)

Telephone No.: (604) 687-2831

Date: APRIL 20, 1990

Certified By (Signature):

For Office Use Only

Total Days Cr. Recorded: 200

Date Recorded: April 23/90

Mining Recorder: Mining Recorder

Date Approved as Recorded: 20 June 90

Provincial Manager, Mining Lands:

Received Stamp: RECORDED APR 23 1990

0576 (89/06)

Table 2. Reverse Circulation Drilling Expenditures

Claim	Hole #	Feet drilled	Cost $17.53/ft	Days Applied Cost ÷ $15
1035250	35	20		
	36	34		
		54	$946.62	63
1035251	34	52.5	920.32	61
1035252	33	49	858.97	57
1035429	31a	11		
	31b	22		
	32	44		
		77	1,349.81	89
1073267	18	58		
	19	36		
	23	45		
		139.5	2,445.43	163
1073268	14	25		
	15	24		
	16	10		
	17	36		
	20	39		
	21	50		
	22	22		
	24	27		
	25	26		
	26	36		
	27	29		
	28	12		
	29	46		
	30	55		
		439	7,695.67	513
1073269	13	36	631.08	42
1037276	1	39		
	2	59		
	3	67		
		167	2,927.51	195

Table 2 (contd). Reverse Circulation Drilling Expenditures

Claim	Hole #	Feet drilled	Cost $17.53/ft	Days Applied Cost ÷ $15
1074433	10	27		
	12	80		
		107.5	1,884.47	125
1074435	4	37		
	7	30		
	8	51		
		118	2,068.54	137
1074436	5	69		
	6	76		
	9	80		
	11	41		
		268	4,698.04	313
			26,426.46	1,758

Table 3. Assay Expenditures

Claim	Cost of Assays		Days Applied Cost ÷ $15
1035250	2 sample preparation @ $37.50	75.00	
	2 ICP @ $12.00	24.00	
	1 ICAP @ $22.00	22.00	
		121.00	8
1035251	1 ICAP @ 22.00	22.00	1
1035252	2 sample preparation @ $37.50	75.00	
	3 ICP at @ $12.00	36.00	
		111.00	7
1035429	3 sample preparation @ $37.50	112.50	
	2 Au/Ag geochem @ $9.75	19.50	
	4 ICP at @ $12.00	48.00	
		180.00	12
1073267	10 Ni geochem @ $5.80	58.00	
	3 sample preparation @ $37.50	112.50	
	1 Au/Ag geochem @ $9.75	9.75	
	4 ICP at @ $12.00	48.00	
	1 ICAP at $22.00	22.00	
		250.25	16
1073268	52 Ni geochem @ $5.80	301.60	
	19 Au/Ag geochem @ $8.00	152.00	
	10 sample preparation @ $37.50	375.00	
	5 Au/Ag geochem @ $9.75	48.75	
	12 ICP at @ $12.00	144.00	
	11 ICAP at $22.00	242.00	
		1263.35	84
1073269	3 Ni geochem @ $5.80	17.40	1
1073276	7 Ni geochem @ $5.80	40.60	
	1 sample preparation @ $37.50	37.50	
	1 ICP at @ $12.00	12.00	
	3 ICAP at $22.00	66.00	
		156.10	10

Table 3 (contd). Assay Expenditures

Claim	Cost of Assays		Days Applied Cost ÷ $15
1074433	15 Ni geochem @ $5.80	87.00	
	6 sample preparation @ $37.50	225.00	
	3 Au/Ag geochem @ $9.75	29.25	
	7 ICP at @ $12.00	84.00	
	1 ICAP at $22.00	22.00	
		447.25	29
1074435	45 Ni geochem @ $5.80	261.00	
	5 sample preparation @ $37.50	187.50	
	5 Au/Ag geochem @ $9.75	48.75	
	5 ICP at @ $12.00	60.00	
	1 ICAP at $22.00	22.00	
		579.25	38
1074436	36 Ni geochem @ $5.80	208.80	
	5 sample preparation @ $37.50	187.50	
	5 Au/Ag geochem @ $9.75	48.75	
	5 ICP at @ $12.00	60.00	
	2 ICAP at $22.00	44.00	
		549.05	36
		3,696.65	242

GRANGES INC.
885 WEST GEORGIA STREET
23RD FLOOR
VANCOUVER, B.C., CANADA V6C 3E8
TELEPHONE: (604) 687-2831
FAX: (604) 687-8699

2.13249

April 20, 1990

RECEIVED
APR 23 1990
MINING LANDS SECTION

Ontario Ministry of Northern Development and Mines
Mineral Development and Lands Branch
Mining Lands Section
3rd Floor, 880 Bay Street
Toronto, Ontario
M5S 1Z8

Dear Sir:

Re: Report of Work, Eldorado Township

Please find enclosed duplicate reports of work on claims situated in Eldorado Township. The completed Report of Work forms have been sent to the Mining Recorder for the Porcupine Mining Division in Timmins.

I trust everything is in order.

Yours truly,

GRANGES INC.

Erica Seagel

Erica Seagel
Lands Manager

encls.

GRANGES INC.
885 WEST GEORGIA STREET
23RD FLOOR
VANCOUVER, B.C., CANADA V6C 3E8
TELEPHONE: (604) 687-2831
FAX: (604) 687-8699

2.13249

CERTIFIED SIGNED STATEMENT

FOR PROOF OF PAYMENT OF EXPENDITURES
under Subsection 77 (19)

This is to certify that reverse circulation drilling expenditures of $26,435.00 and assay expenditures of $3,696.65 (total expenditures $30,131.65) were incurred during the overburden drilling program conducted on claims in the Eldorado Township, Porcupine Mining Division, from February 27 to March 7, 1990.

Submitted by GRANGES INC.

Janis D. Busse,
General Counsel
& Corporate Secretary

GRANGES INC.
885 WEST GEORGIA STREET
23RD FLOOR
VANCOUVER, B.C., CANADA V6C 3E8
TELEPHONE: (604) 687-2831
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Submitted by GRANGES INC.

Janis D. Busse,
General Counsel
& Corporate Secretary

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885 WEST GEORGIA STREET
23RD FLOOR
VANCOUVER, B.C., CANADA V6C 3E8
TELEPHONE: (604) 687-2831
FAX: (604) 687-8699

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FOR PROOF OF PAYMENT OF EXPENDITURES
under Subsection 77 (19)

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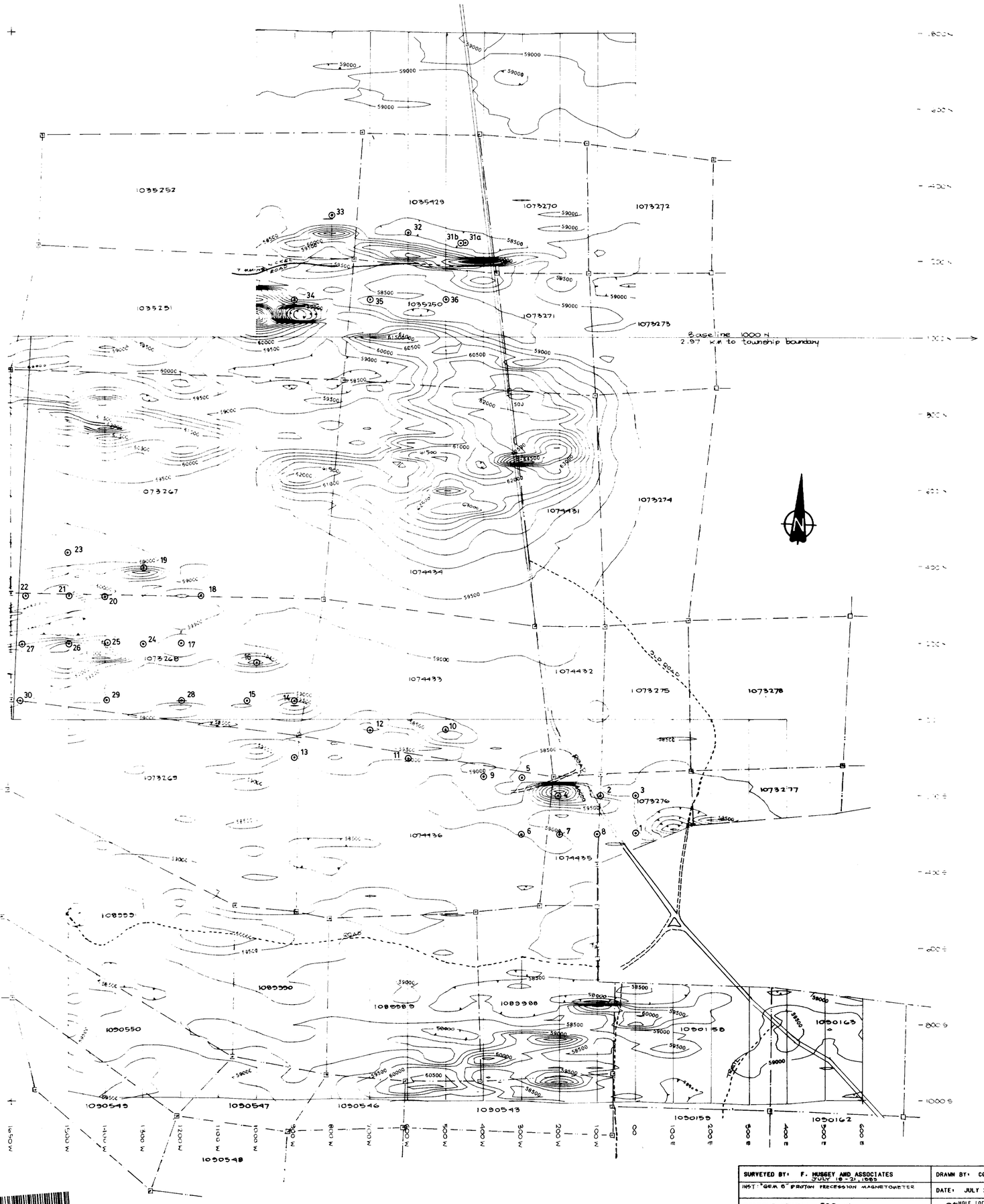
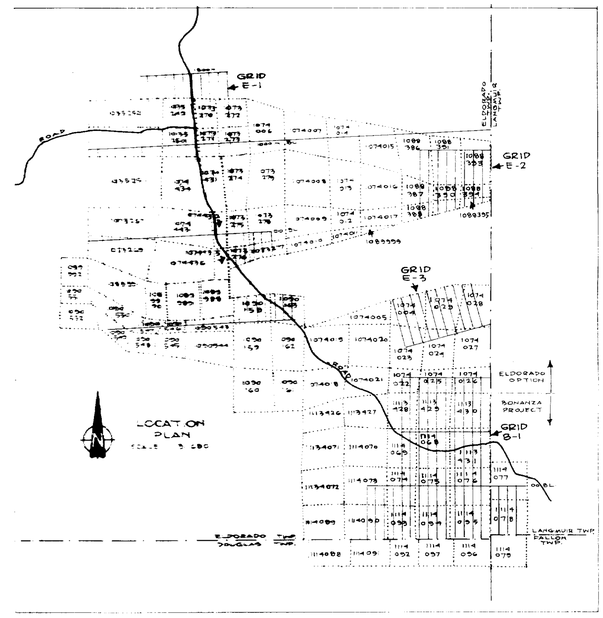
Submitted by GRANGES INC.

Janis D. Busse,
General Counsel
& Corporate Secretary





RECEIVED
APR 23 1990
MINING LANDS SECTION

2.13249

0.0 100.0 200.0 400.0 METRIC

SURVEYED BY: F. HUGGEY AND ASSOCIATES JULY 18 - 21, 1989	DRAWN BY: CGU	GRANGES INC. VANCOUVER OFFICE	MAGNETOMETER SURVEY (CONTOURS ONLY) AND REVERSE CIRCULATION DRILL HOLE PLAN ELDORADO PROJECT GRID E-1 ELDORADO TWP., ONTARIO	SCALE: 1:5000
INST.: GEM 8 PROTON PRECESSION MAGNETOMETER	DATE: JULY 29/89 / MARCH 1990			PROJECT NO.: 529
CONTOUR INTERVAL: 500 nT	⊙ = HOLE LOCATION 2 = HOLE NUMBER			N.T.S. NO.: 42A-6