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MARY ELLEN RESOURCES LTD.
EBY PROPERTY
EBY TOWNSHIP, ONTARIO

REVERSE CIRCULATION OVERBURDEN DRILLING AND HEAVY MINERAL GEOCHEMICAL SAMPLING

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MINING LANDS SECTION

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1.0 SUMMARY

This report details the results of a 62-hole reverse circulation overburden drilling/heavy mineral geochemical sampling program that was conducted by Mary Ellen Resources Ltd. on its Eby property near Kirkland Lake in the Abitibi Greenstone Belt of northeastern Ontario. The drill program was designed to evaluate the gold potential of the Kirkland Lake - Larder Lake Fault in the northwest part of the property and that of green carbonate alteration zones in komatiitic flows south of the fault in the northeast part of the property. The Kerr Addison Mine model, which involves syngenetic precipitation of gold in inter-flow sediments followed by epigenetic remobilization into green carbonate zones, was used as a guide. Drill operating costs, excluding road preparation, averaged $47.98/metre.

The drill area is underlain mainly by Archean volcanic and sedimentary rocks including, from oldest to youngest: 1) komatiitic volcanics of the Larder Lake Group; 2) tholeiitic volcanics of the Kinojevis Group; and 3) graben sediments of the Timiskaming Group. Basalt predominates but significant areas of komatiite and conglomerate-graywacke are present. Other rock units intersected are granodiorite, syenite and Matachewan diabase. The metamorphic grade is sub-greenschist to lower greenschist facies. In the northwest, shearing associated with the Kirkland Lake - Larder Lake Fault is confined to the conglomerate, and green carbonate is rare. In the northeast, the holes were drilled too far south of the fault to intersect green carbonate. The only significant bedrock anomaly (175 ppb Au) occurs in conglomerate intersected in Hole 13. Slightly elevated levels of arsenic occur along the fault in the northwest.

Overburden depth in the drill holes averages 11.05 metres. All preserved Quaternary strata are of Late Wisconsinan to Holocene age; older strata were unprotected during the Wisconsinan glaciation because the area is topographically elevated. The direction of Late Wisconsinan ice flow was south-southeast. Matheson Till deposited by this ice forms a nearly continuous veneer over the bedrock surface and is largely bedrock-derived, making it an excellent geochemical sampling medium. The till is regionally overlain by glaciolacustrine clay and silt of

Lake Ojibway and is locally overlain or supplanted by sand and gravel of the Highway Esker. Holocene peat bogs locally cap the Late Wisconsinan sediments.

Matheson Till on the Eby property and elsewhere along the Kirkland Lake - Larder Lake Fault has a high gold background that is caused mainly by fine, abraded grains of visible gold. Erratic clustering of these fine gold grains and/or the occasional presence of a coarser gold grain produces many spurious heavy mineral gold anomalies. Thirty-nine of forty till anomalies on the property appear to be of this type. The remaining anomaly in Hole 57 probably represents significant gold dispersion from a known green carbonate zone 200 metres to the north.

The northeast corner of the property, the target area of previous work, appears to have the best gold potential and is the only area in which the Kerr Addison Mine model applies. Follow-up exploration including diamond drilling is recommended to test the green carbonate zone north of the Hole 57 overburden anomaly and the anomalous conglomerate intersected in Hole 13. Detailed reverse circulation drilling should be done over the more northerly green carbonate zones that were not tested in the present program.

2. INTRODUCTION

2.1 Project Outline

From January 19 to February 03, 1987, Mary Ellen Resources Ltd. of the Kasner Group of Companies conducted a detailed program of reverse circulation overburden drilling for the purpose of heavy mineral geochemical sampling on its Eby property in the Abitibi Greenstone Belt near Kirkland Lake, Ontario (Fig. 1, 2, 3). The Kirkland Lake - Larder Lake Fault, a regionally auriferous structure having a close spatial association with the gold deposits at Matachewan, Kirkland Lake and Larder Lake (Kerr-Addison Mine) in Ontario and at Cadillac, Malartic and Val d'Or in Quebec, transects the northwest portion of the property and the main objective of the drilling was to test the overburden along this fault and subsidiary faults for glacially dispersed gold concentrations indicative of economic bedrock mineralization. The program was also designed to develop a diamond drill target in an area of known sub-economic grade mineralization associated with green carbonate alteration south of the fault in the northeast corner of the property.

Mary Ellen Resources contracted Heath and Sherwood Drilling of Kirkland Lake, Ontario, to perform the drilling and Overburden Drilling Management Limited (ODM) of Nepean, Ontario to manage the program. Geologist G. Shelp logged (Appendix A) and sampled the drill holes and supervised the drilling. Field assistance was provided by David Hurd representing the Kasner Group of Companies.

Sixty-two holes were drilled (Plan 1, in pocket). ODM collected samples from Quaternary till, sand and gravel sections and from short sections (generally 1.5 metres) of the underlying bedrock. One hundred and eighty-one overburden samples and 62 bedrock samples were collected (Table 1).

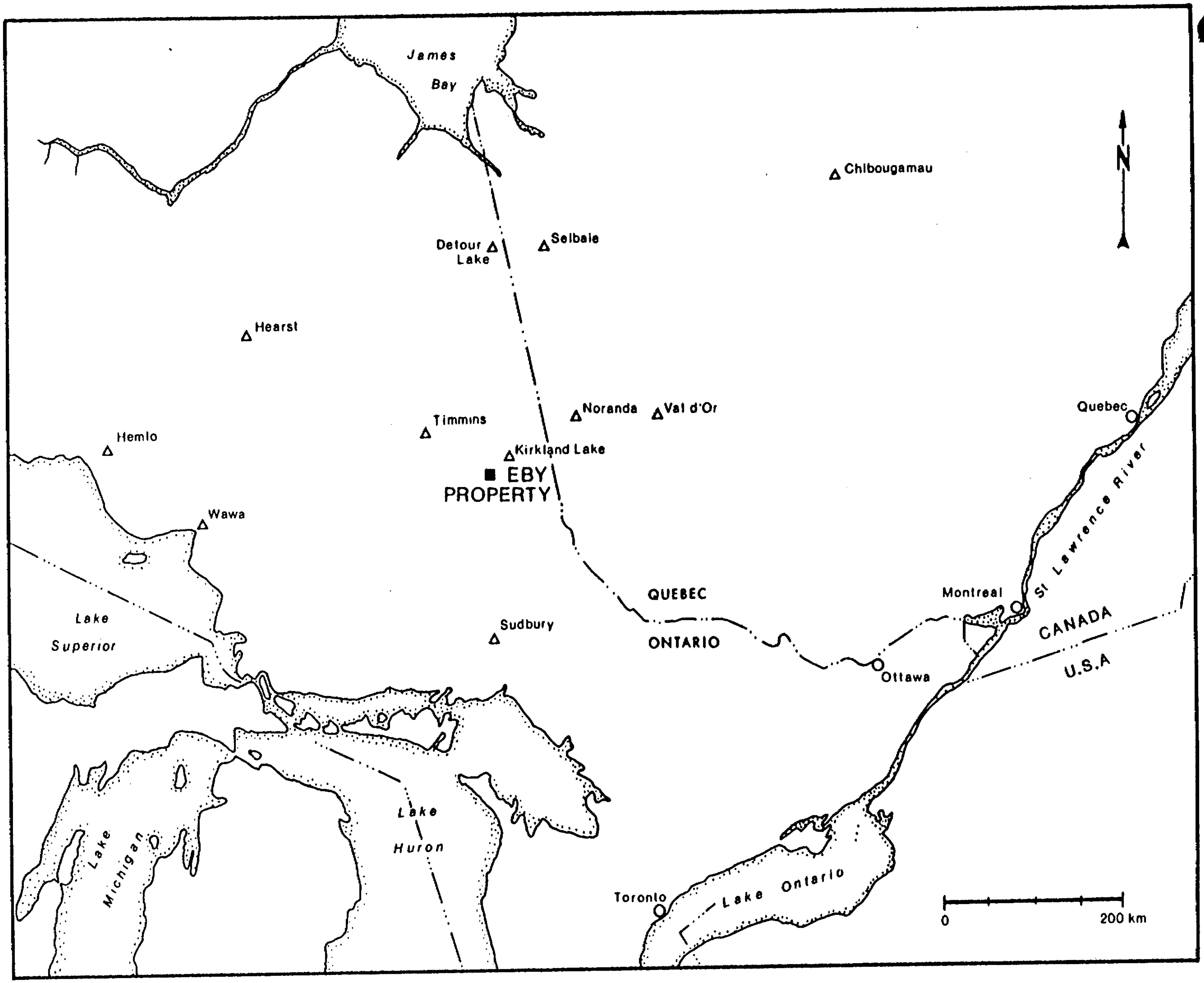


Figure 1 - Eby Property Location Map

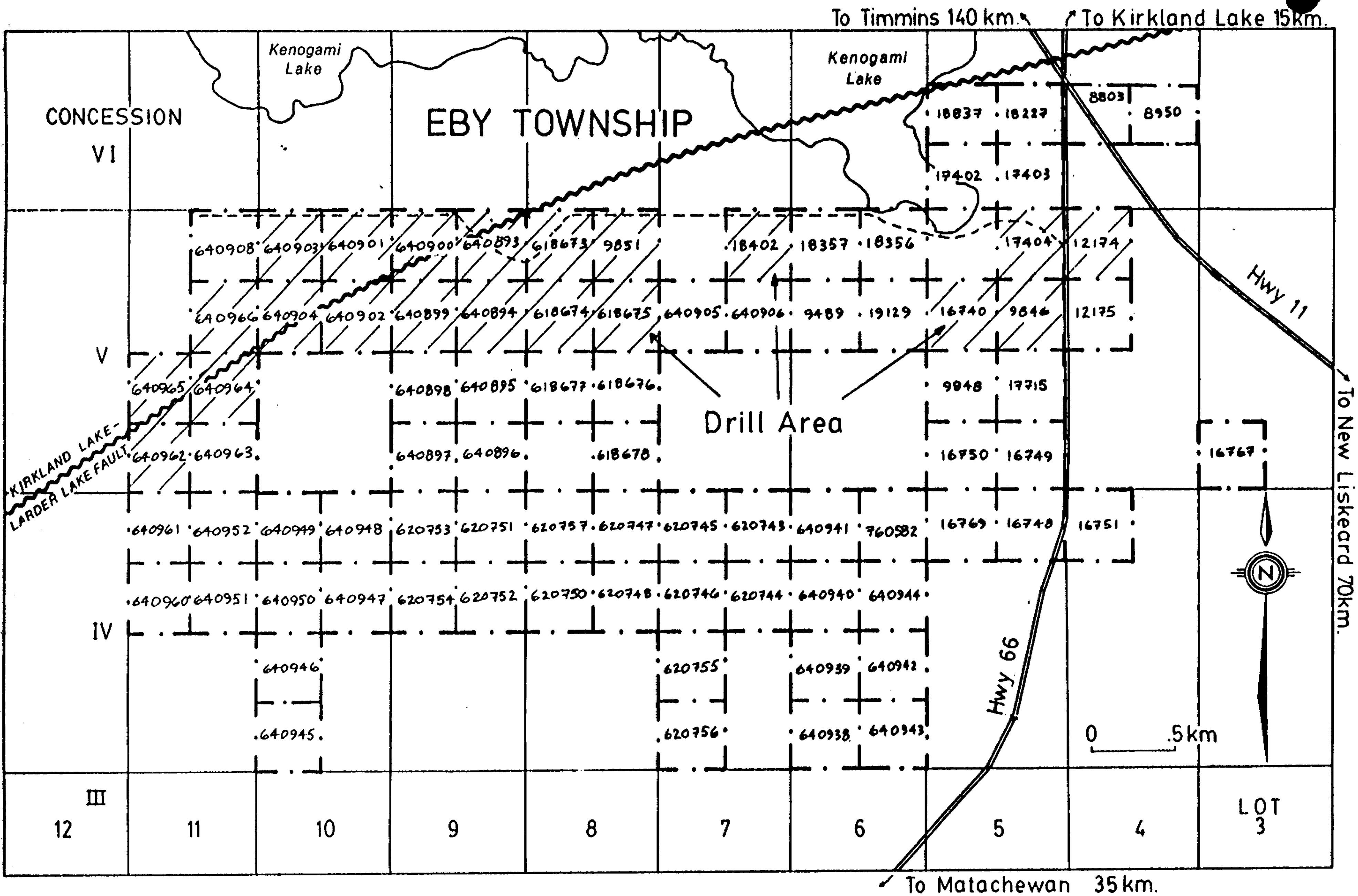


Figure 3 - Claim Map

Hole Number	Coordinates	Metres Drilled		Hole Depth (metres)	Samples Collected	
		Overburden	Bedrock		Overburden	Bedrock
ME-87 01	L 37W; 6+15N	10.0	-	10.0	5	-
02	37W; 4+90N	10.5	1.5	12.0	6	1
03	37W; 3+90N	14.0	1.5	15.5	7	1
04	37W; 2+70N	10.5	1.5	12.0	7	2
05	37W; 1+90N	14.5	1.1	15.6	6	1
06	37W; 0+90N	16.0	1.0	17.0	6	1
07	37W; 0+00N	15.8	1.7	17.5	4	1
08	37W; 1+00S	17.4	1.6	19.0	5	1
09	41W; 2+50N	17.6	1.5	19.1	9	1
10	41W; 1+50N	4.5	2.0	6.5	1	1
11	41W; 0+50N	15.4	1.6	17.0	5	1
12	41W; 0+50S	5.2	1.8	7.0	1	1
13	45W; 2+90N	2.4	1.6	4.0	1	1
14	45W; 1+90N	9.0	1.5	10.5	2	1
15	45W; 0+90N	8.0	1.5	9.5	1	1
16	45W; 0+10S	8.0	1.5	9.5	1	1
17	45W; 1+10S	6.2	1.3	7.5	1	1
18	45W; 2+10S	6.6	2.0	8.6	1	2
19	47W; 0+50S	27.4	1.1	28.5	2	1
20	50W; 0+60S	12.0	-	12.0	3	-
21	50W; 1+60S	13.0	1.5	14.5	3	1
22	50W; 2+60S	11.2	1.3	13.5	2	1
23	50W; 3+60S	11.0	1.5	12.5	1	1
24	54W; 7+25S	5.8	1.7	7.5	1	1
25	54W; 6+00S	6.5	1.0	7.5	2	1
26	54W; 5+00S	8.0	1.5	9.5	1	1
27	54W; 4+00S	12.5	1.5	14.0	6	1
28	54W; 3+25S	5.6	1.4	7.0	2	1
29	41W; 3+50N	11.5	2.0	13.5	7	1
30	33W; 4+00N	8.0	0.5	8.5	4	1
31	L 33W; 2+90N	7.0	1.5	8.5	3	1

Table 1 - Drilling Statistics

Hole Number	Coordinates	Metres Drilled		Hole Depth (metres)	Samples Collected	
		Overburden	Bedrock		Overburden	Bedrock
ME-87- 32	33W; 2+00N	8.0	2.0	10.0	2	1
33	31W; 4+50N	9.0	2.0	11.0	1	1
34	31W; 5+50N	8.8	1.7	10.5	5	1
35	31W; 3+50N	11.8	1.7	13.5	4	1
36	31W; 2+50N	18.0	1.5	19.5	8	1
37	31W; 1+50N	2.7	1.8	4.5	1	1
38	31W; 0+50N	13.5	1.5	15.0	5	1
39	28W; 5+50N	4.6	2.9	7.5	1	2
40	27W; 5+65N	10.0	2.0	12.0	2	2
41	27W; 4+40N	11.3	2.2	13.5	3	1
42	27W; 3+35N	3.0	1.5	4.5	1	1
43	27W; 1+50N	6.6	1.9	8.5	2	1
44	24W; 6+40N	6.4	1.1	7.5	2	1
45	24W; 5+40N	13.0	1.5	14.5	3	1
46	24W; 4+40N	8.4	1.6	10.0	1	1
47	24W; 3+40N	2.0	1.5	3.5	1	1
48	18W; 6+00N	22.0	1.5	23.5	8	1
49	18W; 5+00N	15.4	1.6	17.0	4	1
50	18W; 3+80N	2.5	1.5	4.0	-	1
51	0+25W; 1+00N	22.4	2.1	24.5	9	1
52	7W; 0+50N	3.4	1.1	4.5	1	1
53	6W; 1+10N	5.5	1.1	6.6	-	1
54	5W; 1+50N	12.2	2.8	15.0	5	1
55	4W; 2+25N	5.7	1.8	7.5	1	1
56	3W; 2+75N	10.6	1.5	12.1	1	1
57	2W; 2+25N	18.0	1.5	19.5	1	1
58	1W; 2+40N	14.8	1.6	16.4	1	1
59	1E; 2+75N	29.0	2.5	31.5	2	1
60	2E; 3+50N	19.5	-	19.5	-	-
61	3+50E; 3+50N	11.5	1.5	13.0	1	1
62	2+50E; 3+75N	25.5	-	25.5	-	-
	TOTAL	687.2	93.2	780.4	181	62

Table 1 - Drilling Statistics (cont'd)

Heavy mineral concentrates (Appendix B) were prepared from the overburden samples at ODM's laboratory in Rouyn, Quebec. The bedrock chip samples were logged under a binocular microscope (Appendix D) and their lithologies were related to the established Archean stratigraphy (Plan 1; Fig. 3). Subsamples of the bedrock chips and heavy mineral concentrates were analyzed for gold, arsenic and copper (Appendix E, F). Some of the heavy mineral concentrates were also analyzed for zinc. An independent study consisting of detailed mineralogical logging of the concentrates is being conducted by Jeanette Lourim, consulting geologist.

This report documents all of the work from the drilling program. A detailed analysis of Archean stratigraphy and structure and of Quaternary stratigraphy is included and used as the basis for interpreting the bedrock and heavy mineral gold anomalies.

2.2 Principles of Deep Overburden Geochemistry in Glaciated Terrain

During the Pleistocene epoch of the Quaternary period, the crowns of all ore bodies that subcropped beneath the continental ice sheets of North America were eroded and dispersed down-ice in the glacial debris. The dispersion mechanisms were systematic (Averill, 1978) and the resulting ore "trains" in the overburden are generally long, thin and narrow but most importantly are several hundred times larger than the parent ore bodies. These large trains can be used very effectively to locate the remaining roots of the ore bodies.

Because the dispersion trains originated at the base of the ice, they are either partly or entirely buried by younger, nonanomalous glacial debris. Most trains are confined to the bottom layer of debris deposited during glacial recession--the basal till. In fact, the sampling of glacial overburden for exploration purposes is commonly referred to as "basal till sampling". It is important to note, however, that in areas affected by multiple glaciations the bottom layer of debris in the overburden section may be only the lowermost of several stacked basal tills, and that a dispersion train may occur at any level within any one of the basal till horizons. Consequently, the term "basal till sampling" is not synonymous with the collection of samples from the base of the overburden section. Moreover, the term is not strictly correct because significant glacial dispersion trains can occur in formations other than basal till.

From the foregoing statements, it can be seen that glacial dispersion and glacial stratigraphy are interdependent. Consequently, the effectiveness of overburden sampling as an exploration method is related to the ability of the sampling equipment to deliver stratigraphic information from the unconsolidated glacial deposits. In areas of deep overburden including most of the Abitibi Greenstone Belt in northwestern Quebec, drills must be used. Most drills have been designed to sample bedrock and are unsuitable for overburden exploration, but in the last fifteen years rotasonic coring rigs and reverse circulation rotary rigs have been developed to sample the overburden as well as the bedrock. Both drills provide accurate stratigraphic information throughout the hole and also deliver large samples that compensate for the natural inhomogeneity of glacial debris.

Reverse circulation rotary rigs are much more widely used in the Abitibi than are rotasonic coring rigs. They employ dual-tube rods and a tricone bit with the outer rod tube acting as a casing to contain the drill water for recirculation and to prevent contamination of samples by material caving from overlying sections. Air and water are injected at high pressure through the annulus between the outer and inner rods to deliver a continuous sample of the entire overburden section through the small inner rod (Fig. 4). The sample is disturbed but returns to surface instantly, and the precise positions of stratigraphic contacts can be identified. Full sample recovery is possible in all formations regardless of porosity or consistency, although sample loss due to blow-out commonly occurs in the first 1 to 3 metres of the hole until a sediment seal is made around the outer rod.

Reverse circulation holes are normally extended 1.5 metres into bedrock. Cuttings of maximum 1 cm size are obtained. These cuttings are used to determine the bedrock stratigraphy, structure and geochemistry and are also compared to the till clasts to help determine ice flow directions and glacial dispersion patterns.

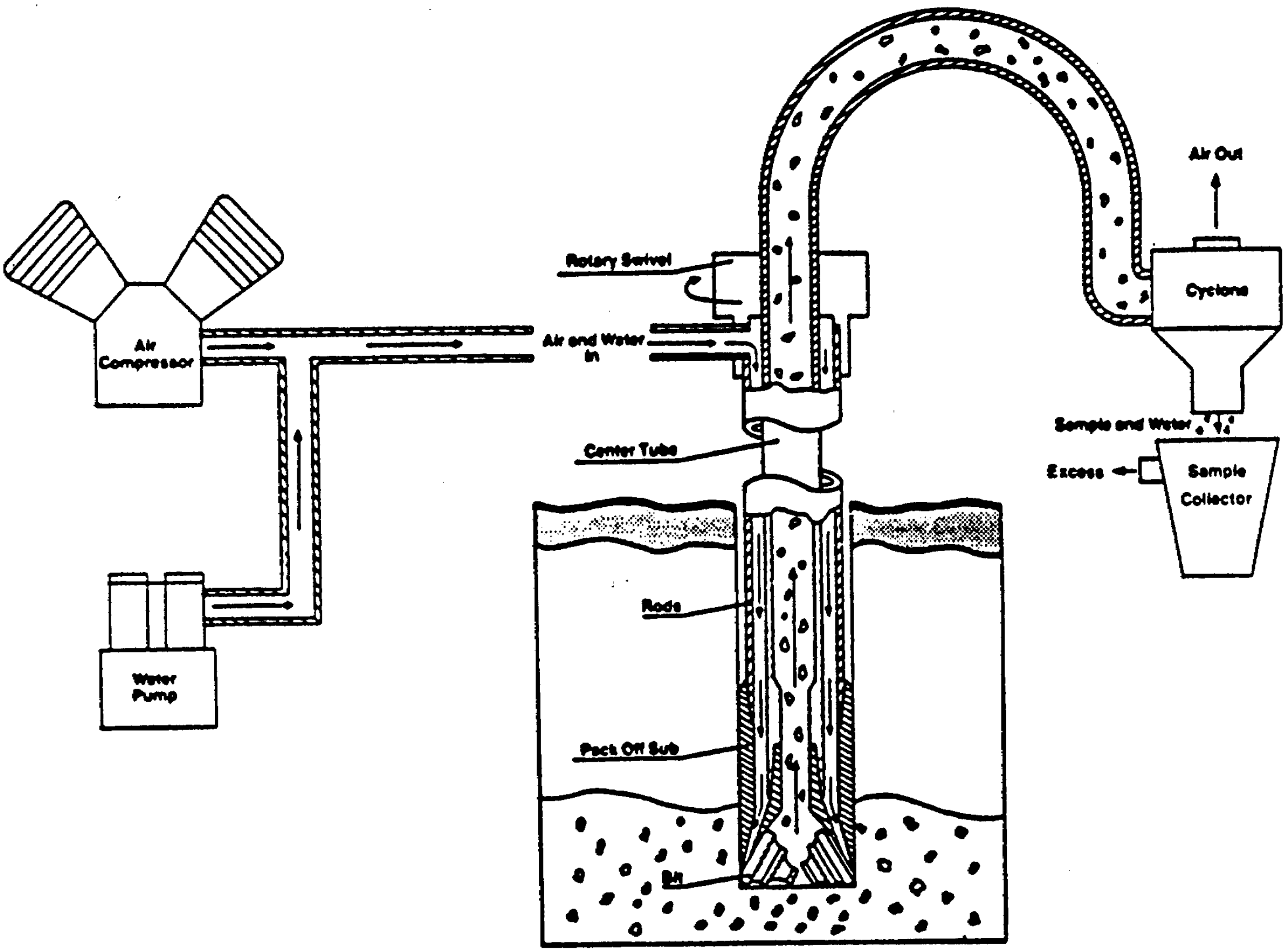


Figure 4 - Schematic of a Typical Reverse Circulation Drilling System

Most of the glacial overburden in Canada is fresh, and metals in the overburden occur in primary, mechanically dispersed minerals rather than in secondary chemical concentrations. While ore mineral dispersion trains are very large, they are also weak due to dilution by glacial transport and are difficult to identify from a normal "soil" analysis of the fine fraction of the samples. Consequently, heavy mineral concentrates are prepared to amplify the primary anomalies, and analysis of the fines is normally reserved for areas where significant post-glacial oxidation is evident. The heavy mineral concentrates are very sensitive, and special care must be taken to avoid the introduction of contaminants into the samples. On gold exploration programs, it is advantageous to separate and examine any free gold particles because most gold anomalies in heavy mineral concentrates are caused by background nugget grains that are of no interest.

2.3 Property Description and Access

The Eby property is located 16 km west of Kirkland Lake (Fig. 1) in Lots 4 to 11, Concessions 4, 5 and 6 of Eby Township (Fig. 3). The property lies south and southeast of Kenogami Lake and is represented by an irregularly shaped claim block comprised of 58 unpatented and 26 patented mining claims totalling approximately 3,480 acres (Tables 2 and 3).

Highway 66 passes in a north-south direction through the eastern end of the property. East-west logging roads provide good access to the drill area which is in the northern third of the property. Tractor roads were cleared to the drill sites.

2.4 Physiography and Vegetation

The Eby property lies within the southern part of the Abitibi Upland physiographic region (Bostock, 1968). The central portion of the Abitibi Upland is represented by a north-sloping clay belt region that was covered by Lake Ojibway

Claim No.	Twp.	Conc.	Lot	Acres
618673	Eby	5	8	40
618674	Eby	5	8	40
618675	Eby	5	8	40
618676	Eby	5	8	40
618677	Eby	5	8	40
618678	Eby	5	8	40
620743	Eby	4	7	40
620744	Eby	4	7	40
620745	Eby	4	7	40
620746	Eby	4	7	40
620747	Eby	4	8	40
620748	Eby	4	8	40
620750	Eby	4	8	40
620751	Eby	4	9	40
620752	Eby	4	9	40
620753	Eby	4	9	40
620754	Eby	4	9	40
620755	Eby	4	7	40
620756	Eby	4	7	40
620757	Eby	4	8	40
640893	Eby	5	9	40
640894	Eby	5	9	40
640895	Eby	5	9	40
640896	Eby	5	9	40
640897	Eby	5	9	40
640898	Eby	5	9	40
640899	Eby	5	9	40
640900	Eby	5	9	40
640901	Eby	5	10	40
640902	Eby	5	10	40
640903	Eby	5	10	40
640904	Eby	5	10	40
640905	Eby	5	7	40
640906	Eby	5	7	40
640908	Eby	5	11	40
640938	Eby	4	6	40
640939	Eby	4	6	40
640940	Eby	4	6	40
640941	Eby	4	6	40
640942	Eby	4	6	40
640943	Eby	4	6	40
640944	Eby	4	6	40
640945	Eby	4	10	40
640946	Eby	4	10	40
640947	Eby	4	10	40
640948	Eby	4	10	40
640949	Eby	4	10	40
640950	Eby	4	10	40
640951	Eby	4	11	40
640952	Eby	4	11	40
640960	Eby	4	11	40
640961	Eby	4	11	40
640962	Eby	5	11	40
640963	Eby	5	11	40
640964	Eby	5	11	40
640965	Eby	5	11	40
640966	Eby	5	11	40
760582	Eby	4	6	40

Table 2 - List of Mary Ellen Mining Claims, Eby Property

Claim No.	Township	Concession	Lot	Acres
18402	Eby	5	7	40
18357	Eby	5	6	40
9489	Eby	5	6	40
18837	Eby	6	5	40
18227	Eby	6	5	40
8803	Eby	6	4	40
8950	Eby	6	4	40
12174	Eby	5	4	40
12175	Eby	5	4	40
17402	Eby	6	5	40
17403	Eby	6	5	40
17404	Eby	5	5	40
19129	Eby	5	6	40
16740	Eby	5	5	40
9846	Eby	5	5	40
9848	Eby	5	5	40
17715	Eby	5	5	40
16750	Eby	5	5	40
16749	Eby	5	5	40
16767	Eby	5	3	40
16748	Eby	4	5	40
16751	Eby	4	4	40
9851	Eby	5	8	40
16769	Eby	4	5	40
18356	Eby	5	6	40

Table 3 - List of Optioned Mining Claims, Eby Property

10,000 years ago during Late Wisconsinan ice withdrawal. The southern boundary of the clay belt is the Hudson Bay - St. Lawrence River drainage divide. The Eby property is 5-10 km south of the divide and Ojibway clay plain and is 20-25 km north of a smaller clay plain deposited in glacial Lake Barlow. Lakes Barlow and Ojibway were briefly joined over the drainage divide (Vincent and Hardy, 1979), and during this period all bedrock valleys on the Eby property were infilled with glaciolacustrine sediments. As a result, overburden thickness in the drill area is extremely variable, ranging from 2 to 29.0 metres with an average of 11.05 metres.

All creeks and swamps in the drill area drain into the Blanche River system which flows southward into Lake Timiskaming, the largest remnant of glacial Lake Barlow. The property is generally flat with an approximate elevation of 320 metres ASL. Relief of 10 to 15 metres occurs on bedrock outcrops that are clustered in the south-central and northeastern parts of the property (Plan 1).

2.5 Previous Work

Mary Ellen Resources acquired the Eby property in January, 1982, to cover a potential source area for gold anomalies detected during a 1980-1981 reverse circulation drilling program conducted by the Ontario Geological Survey (Routledge et al, 1981).

Prior to Mary Ellen's acquisition of the property, the geology of Eby Township was mapped in detail by Lovell (1972). His report also includes a summary of previous exploration. A synopsis of the work pertaining to the Mary Ellen property has been compiled by Stewart Carmichael, geologist for the Kasner Group of Companies. This work was focussed on several green carbonate zones lying immediately south of the Kirkland Lake - Larder Lake Fault on the six claims east of Kenogami Lake (Fig. 3). Some work was also done along the presumed southwestern extension of the fault on the south side of the lake. The most encouraging gold intersections, 0.702 oz/ton over 10 feet and 0.64 oz/ton over 2 feet, were obtained by Beaucoeur Mines in diamond drill holes on a green carbonate zone on Claim 18227. Green carbonate is a favourable gold indicator in the region, particularly at the Kerr Addison Mine at Larder Lake.

In 1979, the Ontario Geological Survey conducted a regional airborne electromagnetic and magnetic survey (Pitcher 1979) as part of the Kirkland Lake Incentive Program (KLIP). Four programs of reverse-circulation drilling followed. Three of the KLIP holes (80-24, 81-01 and 81-03) were drilled on the Eby property (Routledge, 1981). Anomalous gold was detected in the heavy mineral fraction of samples from Hole 80-24 and in the minus 63 micron fraction of samples from Hole 81-03.

In February 1983, Mary Ellen Resources conducted an airborne E.M. and magnetometer survey which was successful in verifying the presence of the Kirkland Lake - Larder Lake Fault. Subsequent geological mapping (Carmicheal, 1985) revealed the presence of interflow carbonate sediments and iron formation similar to those hosting much of the gold at the Kerr Addison Mine (Jensen and Hinse, 1979). In 1985, line cutting, detailed geological mapping, ground geophysics and humus sampling were carried out. In November of the same year, Mary Ellen Resources undertook a 9 hole (4008 feet) diamond drill program on Claims 18227 and 17403 in the green carbonate area to test an I.P. anomaly and a zone where anomalous gold values had been reported previously. Five of the nine holes intersected sub-ore grade mineralization.

3. DRILLING AND SAMPLING

3.1 Drill Hole Pattern

Twelve of the sixty-two reverse circulation holes were drilled on the southern edge of the green carbonate area at the southeast corner of Kenogami Lake. These holes were positioned on one east-west traverse, roughly perpendicular to the 165 degree azimuth (Baker 1980) of Late Wisconsinan ice movement. The balance of the holes were drilled south of the lake along the projection of the Kirkland Lake -

Larder Lake Fault and were positioned on north-south sections to cross the fault at intervals of 200 to 500 metres. The hole separation along all traverses was 100 metres.

The above drilling pattern should provide good overburden exploration coverage because most known gold dispersion trains (Table 4) are 300 to 1000 metres long and 100 to 400 metres wide. It should also provide good bedrock exploration coverage because the traverses cross rather than follow the bedrock strata and structures.

3.2 Drilling Equipment

Heath and Sherwood's drill rig employed an Acker MP drill head with a 3 metre feed cylinder. The drill, together with all its ancilliary equipment including air compressor, water pump and logging and sampling facilities, was unitized and enclosed on the bed of a Nodwell Model FN-160 tracked carrier for all-terrain mobility and all-weather operation.

The rig employed an air compressor with a rated capacity of 300 c.f.m. at 160 p.s.i. and a water pump having a capacity of 20 g.p.m. at 600 p.s.i. pressure. Water flow was normally restricted to 4-5 g.p.m. to improve recovery of fines. The rig was equipped with a 110 volt generator and Cool White fluorescent fixtures that simulate natural sunlight for accurate sample logging. All equipment except the air compressor and Nodwell carrier was operated hydrostatically from a central diesel engine.

The rig carried twenty-two 10-foot drill rods. The holes were logged in metres using the approximate conversion factor of 3 metres to 10 feet. This resulted in the logged hole depth being 1.6 percent less than true depth.

Heath and Sherwood supported the drill rig with a Bombadier B-15 Muskeg tractor equipped with a 400-gallon, exhaust-heated water tank. Road clearing was done by Glen Kasner of the Kasner Group of Companies using a Caterpillar D7 bulldozer.

		TRAIN LENGTH[1] (m)	
PROVINCE	GOLD DEPOSIT	TRACED	EST. TOTAL
Saskatchewan	Lake "X"[2]	300	300
Saskatchewan	Star Lake	300	800
Saskatchewan	Lake "Y"	500	1000
Saskatchewan	Waddy Lake[2]	600	2000
Ontario	McCool	300	400
Quebec	Cooke Mine[3]	800	1000
Quebec	Golden Pond West	300	400[4]
Quebec	Golden Pond	400	500[4]
Quebec	Golden Pond East	100	1000

1 - Based on minimum 10 gold grains of similar size and shape per 8 kg sample for free gold trains and on coincident high gold and base metal assays for invisible gold trains

2 - Deposit oriented parallel to glacial ice advance

3 - Invisible gold deposit

4 - Train foreshortened by erosion in last ice advance

Table 4 - Heavy Mineral Gold Dispersion Trains Identified by Overburden Drilling Management Limited Laboratory

3.3 Drill Performance

Drilling on the Eby property started on January 19, 1987 and was completed on February 3, 1987, for a total of 16 drilling days. The drill usually operated on one 10-hour shift per day but the shift was lengthened or shortened at the discretion of the field geologist. A broken axle and transmission problems on the FN-160 Nodwell resulted in two and a half days of down-time. Minor delays were caused by track problems on the muskeg tractor and by the replacement of a fuel injector on the Nodwell.

Sixty-two holes were drilled for a total of 687.2 metres of overburden and 93.2 metres of bedrock (Table 1). All holes except Holes 01, 20, 60 and 62 reached bedrock. Production averaged 48.8 metres per day or 6.0 metres per operating hour. Chargeable (productive) drill hours amounted to 115 and mechanical downtime to 29 hours or 25.2 percent. Drilling costs, excluding road clearing, averaged $47.98/metre ($14.63/foot).

3.4 Logging and Sampling

Overburden samples were collected in two 20 litre buckets coupled with a plastic tube. This procedure ensures a quiet settling environment thus reducing the loss of fines encountered if only one bucket is used and allowed to overflow. Most of the clay is still lost but a recent research study made by ODM (Dimock, 1985) showed that sand loss is insignificant and silt loss is reduced to 40 percent compared to 72 percent with the one-bucket system. Interestingly, fine gold is lost in direct proportion to fine minerals of low specific gravity such as quartz and feldspar because the flake shape rather than high density of fine gold is the primary factor controlling the rate of settling. Further research conducted by ODM (Kurina, 1986) on various inlet/outlet attachments on the second bucket showed an additional 33 percent of fine material could be retained by utilizing a horizontally curved inlet tube for spiral flow and a vertical stack skimmer on the outlet. The two-bucket system with the modified flow configuration was employed on the Mary Ellen program.

ODM employed a 10-mesh (1700 micron) screen over the first bucket to separate and discard the majority of rock cuttings and thereby increase the proportion of matrix material needed to identify and trace dispersion trains. The +10 mesh rock cuttings were constantly monitored to discern any variations which could give clues to overburden stratigraphy, or for any clasts indicative of an environment suitable for gold or base metal mineralization. Approximately 20 percent of the cuttings were kept for future reference. The degree of sorting of the -10 mesh matrix was monitored to differentiate till from sand and gravel.

Till units were sampled continuously using an average sample interval of 1.5 metres. Glaciofluvial and related sand and gravel were sampled over longer, 3 to 6 metre intervals because they are far-travelled and thus generally ineffective for mineral tracing. Glaciolacustrine clay and silt were not sampled because they are of no exploration value.

In the field, both the overburden and bedrock samples were assigned a number denoting the company (ME), the year (87), the position of the hole in the drilling sequence and the position of the sample in the drill hole. Thus a designation such as ME-87-35-03 indicates the third sample collected from the thirty-fifth drill hole.

Following collection, the overburden samples were reduced to 7-9 kilograms with an aluminum scoop, packed in heavy plastic bags and shipped in 20-litre metal pails to the ODM processing laboratory in Rouyn, Québec.

3.5 Sample Processing

ODM's processing procedures for the overburden samples are illustrated in the flow sheet of Figure 5 and may be summarized as follows:

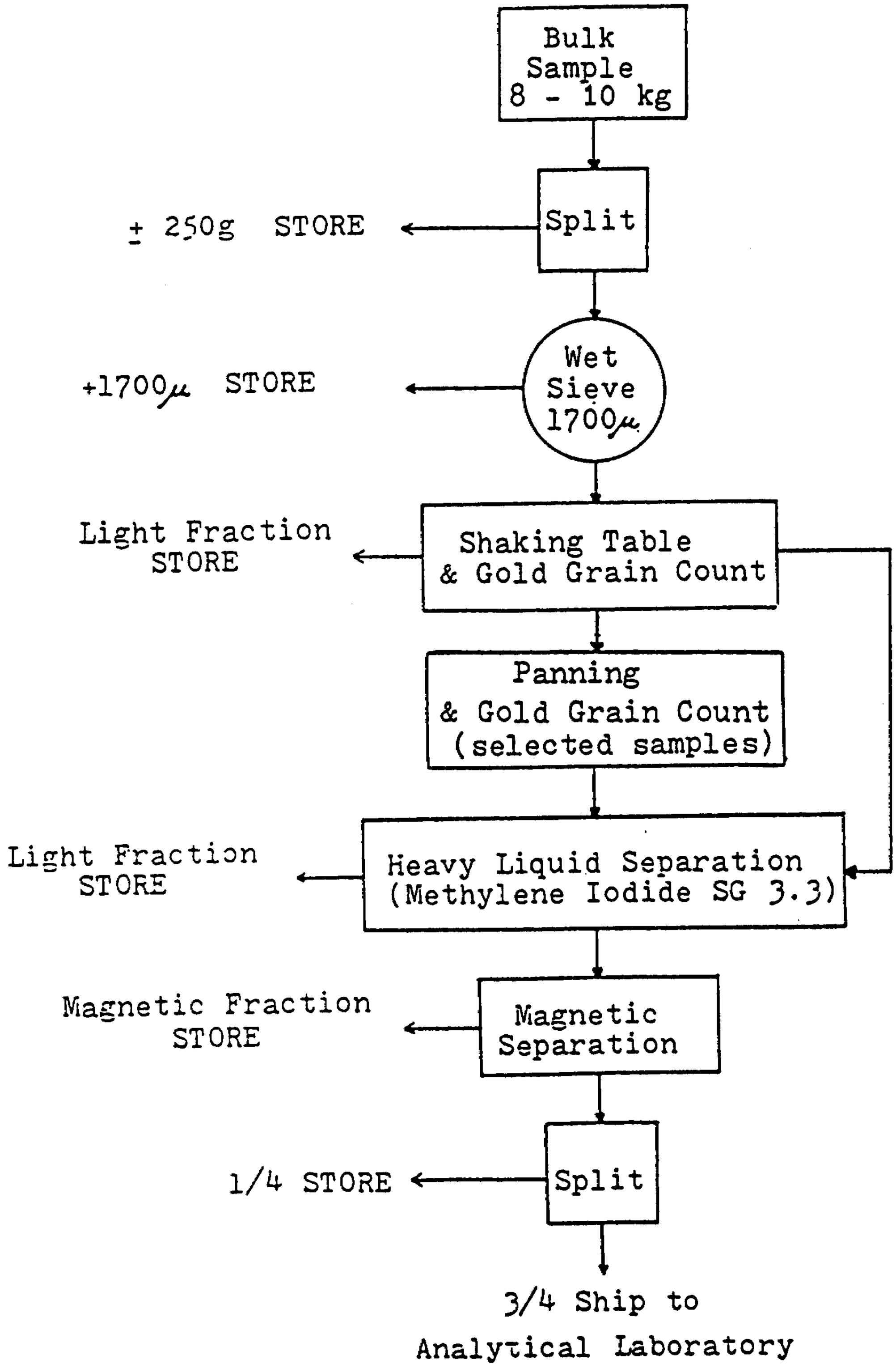


Figure 5 - Sample Processing Flow Sheet

First, a 250 gram character sample is extracted from the bulk sample using a tube-type sampler. The character sample is dried and stored for future reference. On some gold programs, its minus 250 mesh fraction is separated and analyzed to check for occluded gold that may not be recovered in the heavy mineral concentrates.

The remainder of the bulk sample is weighed wet and is sieved at 1700 microns (10 mesh). The +1700 micron clasts are weighed wet and the -1700 micron matrix is processed on a shaking table to obtain a preconcentrate. The table concentrate and all fractions obtained from it are weighed dry. The Mary Ellen sample weights are listed in Appendix B.

ODM has developed technology for evaluating free gold anomalies as the samples are being tabled. The use of special feeders and table adjustments causes many gold grains to separate from the other heavy minerals and follow individual paths across the table. These grains are picked from the deck, placed under a binocular microscope, measured to obtain an estimate of their contribution to the eventual assay of the concentrate (Table 5), and classified as delicate, irregular or abraded (Fig. 6) to determine their approximate distance of glacial transport. Photomicrographs (35 mm slides) are taken if more than 10 gold grains are present.

Magnetite, with a Specific Gravity of 5.2, is the heaviest of the common minerals and normally forms the top mineral band on the table above garnet and epidote/pyroxene. Common flake gold coarser than 125 microns separates completely from the magnetite and is readily counted. Fine gold, thick gold and delicate gold travel with the magnetite due to size and shape effects, and only 10 to 20 percent of such grains can be sighted on the table. Gold particles can also be obscured by pyrite which tends to cross the table in the gold path if it forms more than 10 percent of the concentrate. However, ODM has developed a special panning technique to recover the hidden particles together with some copper, lead and arsenic pathfinder minerals. ODM normally pans samples in which two or more gold particles are sighted on the table as well as samples with high pyrite concentrations or any delicate gold. The Mary Ellen table and pan gold counts are listed in Appendix C.

Size Classification	Flake Diameter (microns)	ppb Au
Very Fine	50	10
"	100	100
Fine	150	330
"	200	760
Medium	300	2,400
"	400	5,400
"	500	10,000
Coarse	600	16,200
"	700	24,000
"	800	33,300
"	900	43,700
"	1,000	55,000
Very Coarse	1,000+	55,000+

Table 5 - Geochemical Contribution of One Gold Grain to a Fifteen Gram Sample

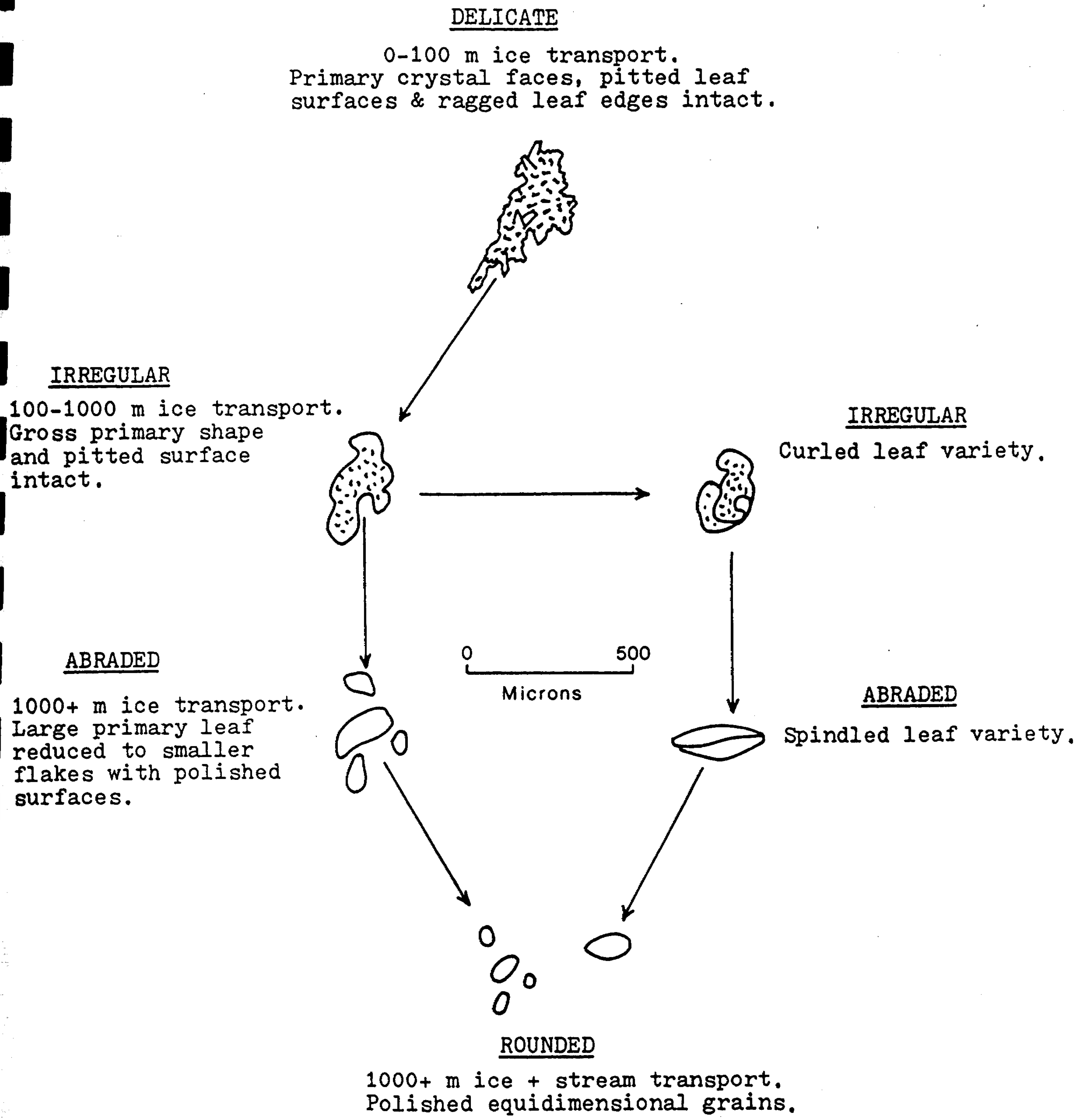


Figure 6 - Effects of Glacial Transport on Gold Particle Size and Shape (Developed by Overburden Drilling Management Ltd.)

The table and pan concentrates and any gold grains are recombined and the concentrate is dried. A heavy liquid separation in methylene iodide (Specific Gravity 3.3) is then performed. The light fraction (S.G. less than 3.3) is stored and the heavy fraction undergoes a magnetic separation to remove drill steel and magnetite. The Mary Ellen magnetic separates were checked to ensure that they contained not more than five percent pyrrhotite.

3.6 Sample Analysis

The heavy mineral concentrates were analyzed by Assayers (Ontario) Ltd. of Toronto. A 1-gram subsample was used for Cu-Zn-As analysis and the balance of the concentrate was used for gold analysis. No pulping was required. Gold was analyzed using fire assay preparation and atomic absorption finish. Base metals (Cu and Zn) and As were analyzed by inductively coupled plasma (I.C.P.).

The bedrock samples were analyzed by Swastika Laboratories Ltd. of Kirkland Lake. Subsamples of the bedrock chips were homogenized by pulping in a shatterbox and were analyzed for gold by the fire assay method with atomic absorption finish. Copper and arsenic were analyzed using atomic absorption and colourimetry, respectively.

4. BEDROCK GEOLOGY

4.1 Regional Geology

The Eby property is in the southwestern portion of the Abitibi Greenstone Belt. The Abitibi Belt is of Archean age (2,700-2,750 million years old) and comprises repeated komatiitic through tholeiitic to calc-alkalic cycles of lavas, volcaniclastics, porphyries and layered basic-ultrabasic intrusions with coeval clastic sedimentary rocks and intrusives of potassium poor dioritic to tonalitic composition. These rocks have been complexly deformed and metamorphosed to the sub-greenschist or greenschist facies and intruded by late kinematic granodiorite and monzonite plutons (Gariepy, Allègre, Lajoie, 1984).

The volcanic rocks in the southwestern part of the Abitibi Belt are preserved in an east plunging synclinorium between the Lake Abitibi Batholith in the north and the Round Lake Batholith in the south (Jensen, 1985). The Eby property is on the south limb of the synclinorium (Fig. 2) where two main cycles of volcanism are recognized. The property is underlain by komatiitic and tholeiitic volcanics of the Larder Lake Group and Kinojevis Groups respectively, and by unconformably overlying sediments of the Timiskaming Group. All three groups belong to the upper volcanic cycle, Cycle II. Metamorphic grade is sub-greenschist.

In the Kirkland Lake area, the south limb of the synclinorium is cut by a large scale, east-west trending structure known as the Kirkland Lake - Larder Lake Fault. Following peak metamorphism of the Abitibi Belt 2,650 ± years ago, the Kirkland Lake - Larder Lake Fault acted as a major hydrothermal conduit which resulted in the deposition of significant gold mineralization at Matachewan, Kirkland Lake and Larder Lake in Ontario and at Cadillac, Malartic and Val d'Or in Quebec. This fault transects the northwestern part of the Eby property and also passes through or near the northeast corner of the property where it crosses komatiite flows of the Larder Lake Group, resulting in the formation of considerable "green carbonate" (Fe/Mg carbonate mixed with fuchsite). A similar relationship occurs at the Kerr-Addison Mine and other gold deposits in the Larder Lake area.

Although it is known mainly as a late-Abitibi gold conduit, the Kirkland Lake - Larder Lake Fault was also active at other stages of the evolution of the Abitibi Belt, most notably during Cycle II when it was a basin-marginal subsidence zone (Jensen, 1985) and at the culmination of Cycle II when it received graben sediments of the Timiskaming Group.

Lovell (1972) mapped a number of small intrusive bodies of several lithologies on or near the Eby property. In order of decreasing age, these intrusives are:

1. Na-rich trondhjemite and quartz diorite satellites of the Round Lake batholith which lies 5 km south of the property and is probably coeval with the Cycle II volcanics (Jensen, 1985).

2. K-rich syenite, granodiorite and quartz monzonite satellites of the Otto stock which lies 7 km to the southeast and is probably coeval with the sediments of the Timiskaming Group.

3. North-south tending diabase dikes of the Matachewan swarm which are of Late Archean to Early Proterozoic age (2,485 million years, Fahrig and Wanless, 1963; 2,690 million years, Gates and Hurley, 1973).

Northeast and west of the property, the Abitibi Belt is covered by Proterozoic sediments of the Cobalt Group. These sediments, which include extensive tillite and varved sequences of glacial origin, are cut by diabase dikes of Keweenawan age (1400 ± million years).

4.2 Eby Bedrock Logging Procedures

A binocular microscopic log of all bedrock samples was prepared (Appendix D) to confirm and amplify field descriptions with the objective of producing an accurate stratigraphic map. Particular attention was paid to primary features, and the rocks were assigned genetic names such as intermediate volcanics rather than metamorphic names such as chlorite-carbonate schist.

Reasonably accurate measurements of primary mineralogy, structure, texture, degree of metamorphism and alteration can be made from chip samples with a binocular microscope, but inherent limitations are present. These limitations include:

1. Inability to differentiate gray plagioclase from pale gray-brown and gray-green pyroxene where the grain size is less than 0.1 mm as in many volcanic rocks. This often precludes differentiation of intermediate volcanics from mafic volcanics in the Abitibi belt as extensive areas have undergone only sub-greenschist facies metamorphism resulting in the preservation of primary pyroxene. In greenschist facies areas where pyroxene has been largely converted to darker green amphibole and chlorite, intermediate and mafic units can be differentiated.

2. Inability to determine bedding thickness or fragment size where the dimensions of the beds or fragments are greater than the 1 cm diameter of the coarsest drill cuttings.

3. Inability to recognize tops in bedded sections.

4. Difficulty in differentiating certain primary structures such as pillow selvages from secondary veins and shears.

5. Necessity of inferring gross mineralogy of aphanitic samples from rock colour and hardness.

4.3 Bedrock Lithology of the Reverse Circulation Drill Holes

The following six rock units were intersected in the Eby reverse circulation drill holes:

1) Ultramafic volcanics (komatiitic flows)
2) Mafic volcanics (basaltic flows)
3) Metasediments (conglomerate, graywacke)
4) Granodiorite
5) Syenite
6) Diabase

The distribution of these rock units (Plan 1) is very similar to that mapped by Carmichael (1985). Basalt is the dominant rock type, occurring in 66 percent of the holes, followed by komatiite, conglomerate and the intrusive rocks. The main mafic/ultramafic contact occurs in the northeast corner of the property and represents the boundary between the Kinojevis and Larder Lake Groups. The contact between the mafic volcanics and sediments roughly coincides with the Kirkland Lake - Larder Lake Fault in the northwestern part of the property and represents the boundary between the Kinojevis and Timiskaming Groups. Small intrusive bodies including granodiorite, syenite and Matachewan diabase are randomly distributed on the property.

The low grade of regional metamorphism and the intense shearing and hydrothermal alteration along the Kirkland Lake - Larder Lake Fault described by previous workers are all evident in the drill holes. Basalt samples south of the fault are massive to weakly foliated and contain either primary pyroxene or pale green chloritic pseudomorphs of pyroxene. Conglomerate samples along the fault invariably show some degree of foliation, schistosity, shearing, brecciation or quartz-Fe/Mg carbonate veining.

4.3.1 Ultramafic Volcanics (Unit 1)

Ultramafic volcanics were intersected in six of the 58 drill holes in which a bedrock sample was obtained. All six intersections occur in the northeast corner of the property in the area previously mapped as the Larder Lake Group. The rocks range in colour from a mottled dark green and white to dark green and have an average grain size of 0.2 mm. The original massive structure is present only in Hole 57 where a distinct pyroxene spinifex texture has been preserved. The remaining ultramafic samples are well foliated to schistose, resulting in a masking of the original grain size and texture of the rocks.

Two distinct mineralogical phases of komatiite are present; peridotitic and pyroxenitic komatiite. According to Jensen (1985), such variations are normal within a single komatiitic flow. The peridotitic komatiite samples (e.g. Hole 54) consists of 60-75 percent talc, 5-25 percent Fe/Mg carbonate, 5-10 percent chlorite and 7-10 percent magnetite (a product of the breakdown of primary olivine). In contrast, the pyroxenitic komatiite samples (e.g. Hole 58), consist of 20-60 percent talc, 30-40 percent chlorite, 5-25 percent Fe/Mg carbonate and less than 0.1 percent magnetite. An exception is the spinifex-textured sample of Hole 57 which consists of 30-50 percent acicular pyroxene phenocrysts (1-5 mm in size) shot through a groundmass composed of 70-80 percent pyroxene, 20 percent plagioclase, and 3 percent magnetite.

The Fe/Mg carbonate in the komatiite is probably a product of the breakdown of olivine and pyroxene during dewatering of the lava as the samples do not contain any indicators of hydrothermal alteration such as fuchsite, pyrite, tourmaline, quartz-carbonate veins or bleached zones.

4.3.2 Mafic Volcanics (Unit 2)

Mafic volcanics were intersected in 40 drill holes. The primary fabric of most samples is typical of basaltic flows, ranging almost randomly from aphanitic to medium/coarse-grained (0.2-0.5 mm) and massive. Samples having a grain size of less than 0.1 mm often contain 1 to 5 percent unstretched amygdules that are variably filled with quartz, chlorite, calcite or pyrite. Hyaloclastic (flow-top breccia) structure is rare (Hole 17) and many samples contain both coarse and fine-grained phases suggesting small-scale chilling more consistent with pillowed flows than with thick, texturally-zoned flows.

Most of the aphanitic samples are pale to medium green in colour and consist of a hypocrystalline mixture of glass and pyroxene or plagioclase needles. Hyaloclastite fragments, where recognized, are coarser-grained (0.05-0.1 mm). Cooling cracks are often evident in the glass, and amygdules may be present. Sometimes the feldspar or pyroxene needles in the glass are concentrated in variolitic clusters.

Coarse-grained massive basalt, representing the lower or central portions of flows, is a darker green colour becoming speckled green and white in very coarse-grained samples. Some samples contain 1 to 10 percent pyroxene phenocrysts, locally with ophitic habit, and others are sub-diabasic but most have a hypidiomorphic (equigranular, interlocking) texture. The gross texture of the coarsest samples resembles that of gabbros. In detail, however, the pyroxene and plagioclase are seen to occur in the elongate lath form that characterizes basalt flows.

Mineralogically the basalt consists of 40 to 70 percent pyroxene with the only other major mineral being plagioclase. In the aphanitic samples, the pyroxene and plagioclase could be differentiated only in hyaloclastite fragments, if at all (of course, in hyaloclastites, the matrix would have the same composition as the fragments), and it was often necessary to infer the composition on the basis of colour and diagnostic basaltic textures such as variolites. Quartz was seen in only a few samples. Leucoxene is the most common accessory mineral, occurring in concentrations of 1 to 5 percent in many of the coarse-grained samples. A few samples contain 2 to 10 percent magnetite. These samples occur in Holes 48, 49, 52 and 53 located along the Kinojevis/Larder Lake contact (Plan 1) and represent a normal transition from komatiitic to tholeiitic volcanics. Most samples contain trace to 0.3 percent pyrite, or less commonly pyrrhotite.

Three colour phases of pyroxene can sometimes be seen in the more massive samples. In order of decreasing abundance they are pale green, pale brown and dark green. The dark green variety is the most likely to form phenocrysts and, in deformed samples, is the first to be altered to chlorite while the pale brown variety is the most stable. The chlorite generally pseudomorphs the pyroxene in colour as well as habit and is recognized only by its softness. Chloritization of pyroxene is accompanied by albitization of plagioclase which results in the formation of 1 to 5 percent disseminated calcite, and up to 20 percent visible saussurite flecks.

Basalt intersections along the Kirkland Lake - Larder Lake Fault show little evidence of deformation and hydrothermal alteration whereas the conglomerate to the north is sheared and altered. In a few isolated intersections, the brittle basalt has been brecciated, bleached and replaced by a stockwork of carbonate or quartz-carbonate veins, locally with strong silicification (Hole 30). Most of the carbonate reacts either moderately or very slowly with dilute hydrochloric acid, indicating a composition ranging from dolomite to ankerite. The total percentage of disseminated plus vein Fe/Mg carbonate is contoured on Plan 1.

4.3.3 Metasediments (Unit 3)

Metasediments were intersected in eight holes along the Kirkland Lake - Larder Lake Fault in the northwest corner of the property. These metasediments belong to the Timiskaming Group, and are slightly younger than all other volcanic and sedimentary rocks of the Abitibi greenstone belt (Jensen, 1985). Their confinement to the fault zone indicates that this fault, which is known mainly for its role as an enormous hydrothermal conduit during the waning stages of folding and metamorphism, was also a major graben structure during sedimentation.

Because the sediments are proximal to the fault, most of the samples are highly deformed and altered. However, the preservation of primary structures and textures is sufficient to allow recognition of the following subunits:

3 a - conglomerate
3 b - graywacke

Conglomerate predominates and was intersected in seven of the eight drill holes. The rock is varicoloured with the matrix exhibiting a pale gray-green colour and the clasts a bleached (pale) green or red colour. The predominant green colour of these rocks is a reflection of the samples being composed largely of locally derived tholeiitic basalt belonging to the Kinojevis Group. The bleaching of these basalts most likely occurred during sedimentation.

The conglomerate samples have a gravelly texture which varies from clast supported with up to 90 percent clasts to matrix supported with greater than 90 percent coarse sand. The matrix generally consists of 85-90 percent volcanic lithics, 5-10 percent quartz, 1-5 percent chlorite and a trace of jasper and fuchsite. Sericite is locally present (up to 20 percent) in the more deformed samples. The clasts component is composed mainly of basaltic rock fragments with varying amounts of granodiorite and "feldspar porphyry". The granodiorite clasts generally represent less than 10 percent of the sample but rise to 50 percent in Holes 14 and 21 which were drilled near a small granodiorite stock. This suggests that the stock is older than the sediments. Hematization which most likely occurred during diagenesis has imparted a pervasive red stain to the conglomerate making clast lithology identification more difficult. The "feldspar porphyry" clasts tend to be particularly susceptible to hematization and may actually be K-rich porphyrytic trachytes. This lithology is common in the conglomerate east of Kirkland Lake where Timiskaming sedimentation was accompanied by alkalic volcanism. Hydrothermal alteration has added up to 10 percent Fe/Mg carbonate, a trace of fuchsite and trace to 0.5 percent pyrite to the conglomerate.

Greywacke was encountered only in Hole 16 where the character of the sediment is largely masked by severe deformation, buff-yellow bleaching and 40 percent quartz-carbonate veining. The least deformed chips consist of 70 percent pale green, sand-sized (0.2-0.5 mm) volcanic lithics (the same as those present in the conglomerate), 10-15 percent quartz sand and 15 percent matrix chlorite. Fe/Mg carbonate constitutes 10 percent of the sample. Only a trace of pyrite is present.

4.3.4 Granodiorite (Unit 4)

Granodiorite was intersected in Holes 18, 19 and 40 located immediately south of the fault zone in the northwestern part of the property. The Hole 18 and 19 intersections appear to define a small stock while the Hole 40 intersection probably represents a dike.

The granodiorite is pale pink to buff in colour and porphyritic exhibiting a grain size of 0.05-0.2 mm for the groundmass and 1.0-3.0 mm for phenocrysts. Structurally, the rock is massive to weakly foliated in Holes 18 and 40 and strongly sheared in Hole 19 where the groundmass and many of the feldspar phenocrysts have been reduced to a buff sericitic mylonite.

Mineralogically, the samples consist of 20-50 percent feldspar phenocrysts is a groundmass composed of 60-70 percent pink to gray feldspar, 20 percent chlorite and 10-20 percent quartz. Slow-reacting Fe/Mg carbonate constitutes 3-15 percent of the groundmass and also occurs as disseminations and fracture fillings. Sulphides are present as disseminated pyrite or as pyrite associated with quartz-carbonate veinlets and constitute less than 1 percent of the sample.

The name "granodiorite" is used very loosely here as much of the feldspar is pink suggesting a quartz monzonite or trondhjemite composition. A trondhjemite composition would help explain the presence of "granodiorite" clasts in the Timiskaming conglomerate as trondhjemites in the area tend to be associated with the older plutonism that produced the Round Lake batholith.

4.3.5 Syenite (Unit 5)

Syenite was intersected in Holes 51 and 56 in the northeast corner of the property where it appears to form small dikes cutting the Larder Lake komatiites. The syenite in Hole 56 the syenite is brick red in colour and exhibits a porphyritic texture with a grain size of 0.1-0.15 mm for the groundmass and 1.0-1.5 mm for phenocrysts. Xenoliths of komatiitic affinity (talc-chlorite schists), 1-5 mm in size, constitute one percent of the rock. The groundmass exhibits an equigranular, interlocking texture and is moderately to well foliated.

Mineralogically, Sample 51-10 consists of approximately 70 percent feldspar phenocryst whereas sample 56-03 contains two percent chloritized biotite phenocrysts. The groundmass in both samples is composed of 50-80 percent feldspar, 10-30 percent chloritized biotite, 5-10 percent quartz and 5-10 percent specular hematite which has imparted a pervasive red stain to the feldspar.

The syenite contains up to 8 percent disseminated calcite that may represent contamination from komatiite xenoliths as the feldspar in Kirkland Lake syenites is an albitic perthite (Lovell, 1972) that would produce little calcite if altered. The samples contain up to 1 percent magnetite and 1 percent disseminated cubic pyrite.

4.3.6 Diabase (Unit 6)

One diabase dike was intersected in Hole 07 and a second dike was intersected in Holes 25 and 26. Both dikes are in the northwestern corner of the property and are assumed to be of the north-south trending Matachewan variety.

The diabase samples are massive and are dark green-black in colour with the exception of local pink weathering of plagioclase which is characteristic of the lithology (Lovell, 1967). The texture varies from equigranular to diabasic to slightly ophitic, and the grain size is generally 0.2 to 1.2 mm with the coarsest grains being pyroxene crystals that poikilitically enclose smaller plagioclase crystals to produce the ophitic texture.

Because the diabase dikes post-date regional metamorphism, they are unaltered except for local, fracture-controlled epidote veining, chloritization of pyroxene and saussuritization/carbonatization of plagioclase. The major minerals are plagioclase (40 percent), pyroxene (40-45 percent), chlorite (5-15 percent) and quartz (1-2 percent). Most of the pyroxene is pale green in colour but some is pale brown and has a schiller lustre. Accessory minerals include 1 to 5 percent magnetite, 1 percent leucoxene and 2 percent rutile (Hole 26 only).

4.4 Bedrock Geochemistry

All bedrock chip samples from the reverse circulation drilling program were analyzed for copper, arsenic and gold. The analytical results are presented in Appendix E.

Copper results are all less than 200 ppm. Most of the higher values (100 to 200 ppm) occur in mafic volcanics or diabase because the pyroxene that is a major constituent of these rocks is an effective scavenger of copper.

All gold assays greater than or equal to 10 ppb and all arsenic values greater than or equal to 50 ppb are shown on Plan 1. Anomalous gold values occur only in Holes 13 and 58, with 175 ppb (average value of two analyses) and 10 ppb respectively. Neither sample contains elevated arsenic or copper values. The host is conglomerate in Hole 13 and carbonatized komatiite in Hole 58.

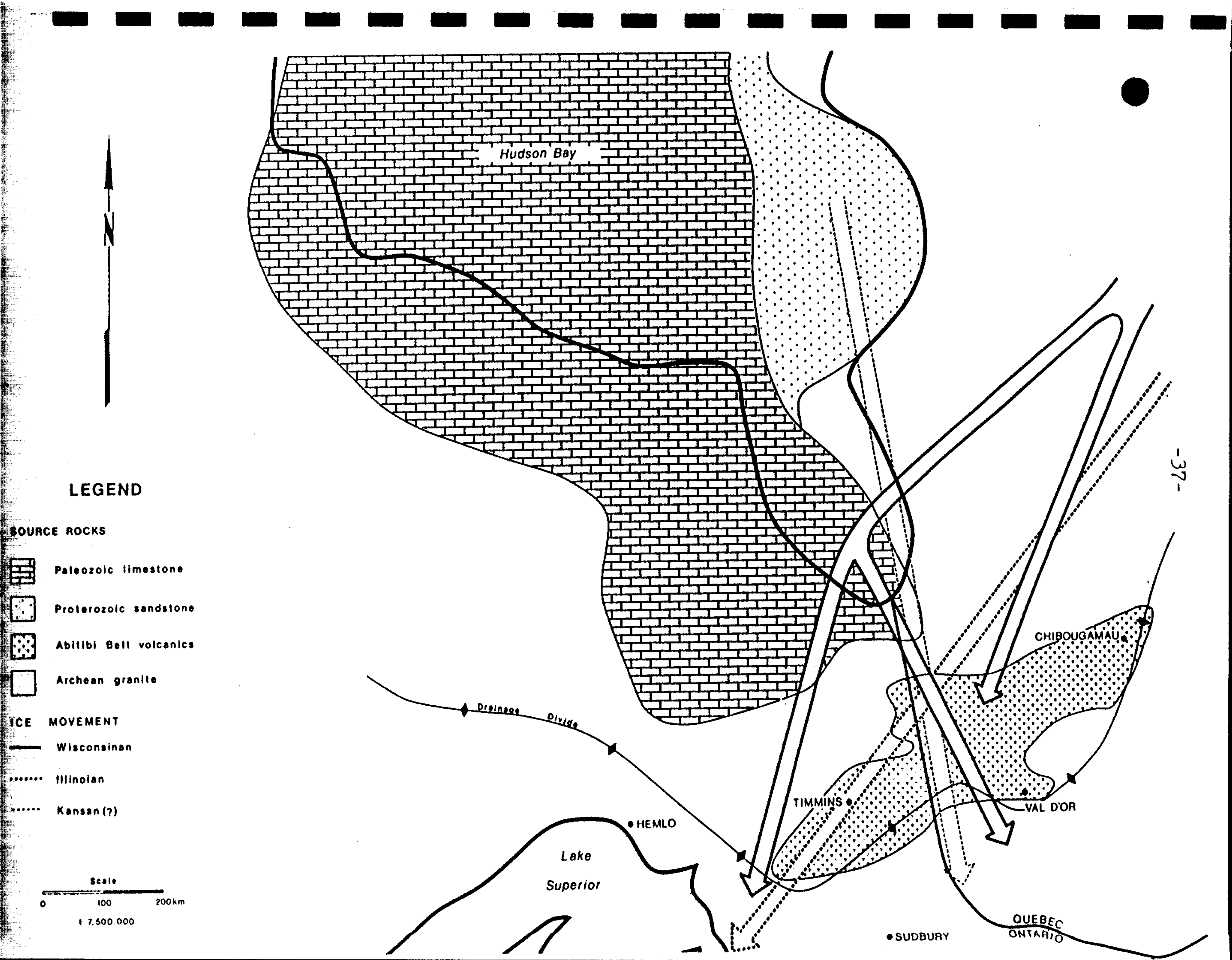
Elevated arsenic (50-73 ppm) is generally restricted to the fault zone and the southern edge of the Larder Lake komatiites. Similar concentrations of arsenic have been encountered by ODM elsewhere along the Kirkland Lake - Larder Lake Fault and along the other regional auriferous structures of the Abitibi Belt--the Porcupine-Destor Fault and the Casa-Berard Break.

5. OVERBURDEN GEOLOGY

5.1 Quaternary History and Stratigraphy of the Abitibi Region

The Quaternary geology of the Abitibi region, as determined by ODM from thousands of drill holes and scanty literature, is summarized in Figure 7 and Table 6. Tills from three major glaciations and sediments from two interglacial periods are present.

The oldest till was deposited by ice moving southward from Hudson Bay -- possibly 1 million years ago in Kansan time -- and is enriched in clasts of Proterozoic sandstone and Paleozoic limestone. This till is so rarely preserved that it is of no significance in exploration. The next till (Lower Till) was deposited by ice moving southwestward from Nouveau Quebec in Illinoian time more than 125,000 years ago. It is preserved in many buried valleys and contains the dispersion trains from any mineralization in these valleys. The youngest till was


N
Hudson Bay
LEGEND
SOURCE ROCKS
Paleozoic limestone
Proterozoic sandstone
Abitibi Belt volcanics
Archean granite
ICE MOVEMENT
Wisconsinan
Illinoian
Kansan (?)
Scale
0
100
200km
1:7,500,000
Drainage Divide
HEMLO
Lake
Superior
TIMMINS
CHIBOUGAMAU
VAL D'OR
QUEBEC
ONTARIO
SUDBURY

Abitibi Quaternary Stratigraphy

0 Years B.P.	**HOLOCENE**
	7 Holocene Sediments 7b - forest-peat member 7a - fluvial member
10,000 Years B.P.	**PLEISTOCENE**
	LATE WISCONSINAN
	6 Cochrane Unit 6c - regressive sediments 6b - till 6a - transgressive sediments
	5 Ojibway II Sediments 5d - littoral and aeolian member 5c - glaciolacustrine clay member 5b - glaciolacustrine sand member 5a - glaciofluvial member
	4 Chibougamau/Matheson Till
100,000 Years B.P.	**EARLY WISCONSINAN AND SANGAMON**
	3 Missinaibi Sediments 3c - Ojibway I member 3b - forest-peat member 3a - fluvial member
	ILLINOIAN
	2 Lower Till and Sediments
1,000,000 Years B.P.	**YARMOUTH AND KANSAN**
	1 Older Till and Sediments

Table 6 - Table of Quaternary Formations for the Abitibi Region

deposited 10,000 years ago by Late Wisconsinan ice that has split into a southeast-moving Matheson/Cochrane lobe west of Val d'Or-Matagami and a southwest-moving Chibougamau lobe east of Val d'Or-Matagami. The esker-like Harricana Moraine was deposited at the contact between the two ice lobes.

In Yarmouth and Sangamon time immediately following the Kansan and Illinoian glaciations, respectively, interglacial sediments including soil profiles and northward-transported fluvial gravels were deposited on the Kansan and Illinoian tills. The gravels consist mostly of recycled till debris, are oxidized, and often contain wood fragments.

In Early Wisconsinan time 100,000 years ago and in Late Wisconsinan time 10,000 years ago, the region was flooded by glacial Lakes Ojibway I and II respectively, and varved clay, silt and fine sand sheets up to 30 metres thick were deposited. The Ojibway I sediments coarsen upward because they were deposited from a transgressive ice sheet. They were overridden by the thick Wisconsinan glacier and are indurated, dry and platy whereas the Ojibway II sediments were deposited from regressive ice, fine upward and are soft. Glaciofluvial esker/delta sands and gravels were deposited by the meltwater rivers that fed both lakes.

The final glacial event in the Abitibi was a minor southeastward re-advance of the thin Cochrane ice lobe into the north part of Lake Ojibway II, depositing Cochrane Till which consists mainly of clay recycled from the soft lake bed. When the Cochrane ice melted, Lake Ojibway II drained catastrophically, exposing the Late Wisconsinan eskers which were subjected to considerable erosion by wave and wind action until they became stabilized by vegetation.

5.2 Quaternary Geology of the Eby Property

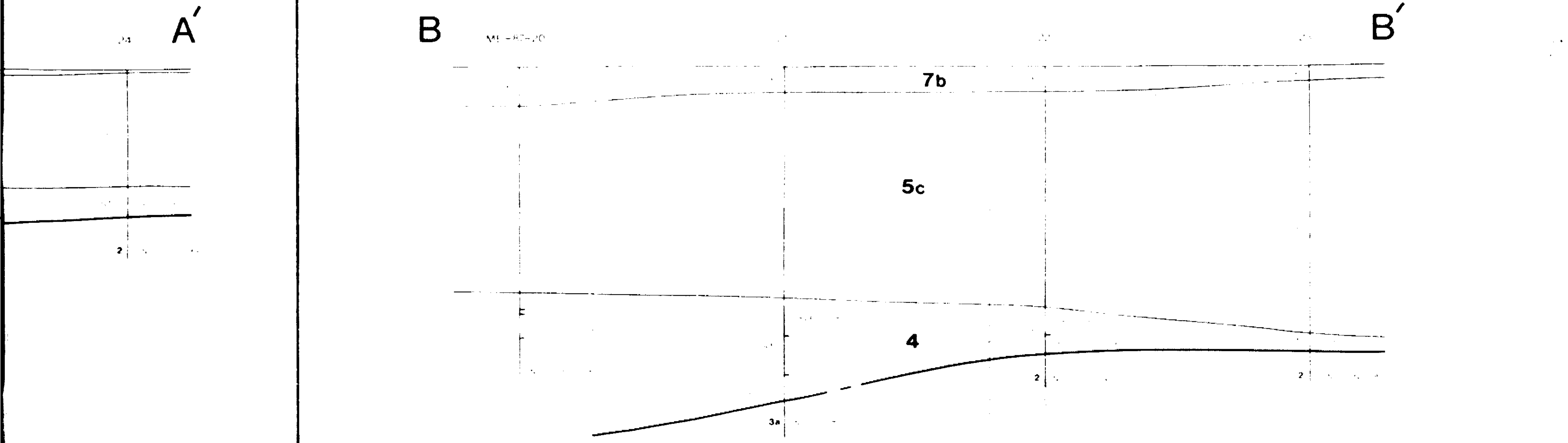
During Late Wisconsinan time, the Eby Property was situated in a relatively short-lived, shallow body of water which joined glacial lakes Barlow and Ojibway II. Water depth probably varied between 5-30 metres with bedrock ridges on the property forming small islands in the lake (Vincent and Hardy, 1979).

The formation of Lake Barlow south of the drainage divide was a freak of nature resulting from the construction of a moraine dam in the Lake Timiskaming area. It is highly improbable that similar conditions existed in Early Wisconsinan time; therefore the Eby property probably was not covered by Lake Ojibway I and no clay layer was deposited to protect the pre-Wisconsinan deposits from erosion during the Wisconsinan glaciation. Consequently, only deposits of Late Wisconsinan age were intersected in the drilling. These units are described in detail below and are shown in section in Figures 8 to 14. For the sake of simplicity, the Late Wisconsinan sediments occurring on the property will be referred to as Lake Ojibway II sediments and not as Lake Barlow - Ojibway sediments.

5.2.1 Matheson Till (Abitibi Unit 4)

During the wasting of the Wisconsinan ice sheet, a nearly continuous layer of Matheson Till was deposited on the bedrock surface on the Eby property. The till was absent in only six of the 62 drill holes, five of which are along the axis of a north-south trending esker-delta complex occurring along Highway 66 (Plan 1) and known as the Highway Esker (Baker, 1980). Two of the five holes were abandoned during penetration of delta sands and consequently it is not known if till overlies bedrock in these holes.

The thickness of the till layer is generally less than 4 metres in elevated areas and between 8 and 17 metres in buried bedrock valleys which trend roughly east-northeast parallel to the Kirkland Lake - Larder Lake Fault and transverse to Wisconsinan ice movement, and thus tended to entrap debris as the ice melted. The thickest section was intersected in Hole 09 which was drilled off the southern end of a drumlin (Section L-L', Fig. 14). Drumlins generally occur in areas of flat lying stratigraphy. Flat lying Proterozoic sediments of the Cobalt Group occur just north of the property.



LEGEND

Abitibi Quaternary Stratigraphy

0
Years B.P.

HOLOCENE

7 Holocene Sediments
  7b - forest-peat member
  7a - fluvial member

10,000
Years B.P.

PLEISTOCENE

LATE WISCONSINAN

6 Cochrane Unit
  6c - regressive sediments
  6b - till
  6a - transgressive sediments

5 Ojibway II Sediments
  5d - littoral and aeolian member
  5c - glaciolacustrine clay member
  5b - glaciolacustrine sand member
  5a - glaciofluvial member

4 Chibougamau/Matheson Till

100,000
Years B.P.

EARLY WISCONSINAN AND SANGAMON

3 Missinaibi Sediments
  3c - Ojibway I member
  3b - forest-peat member
  3a - fluvial member

ILLINOIAN

2 Lower Till and Sediments

1,000,000
Years B.P.

YARMOUTH AND KANSAN

1 Older Till and Sediments

Sediment Varieties

P	Peat
C	Clay, silt
S	Sand
G	Gravel
ST	Sand-silt till; clay subordinate
CT	Clay till

Symbols

━━━━	Quaternary/bedrock unconformity
〰〰〰	Interglacial unconformity
────	Quaternary unit boundary
┈┈┈┈	Quaternary sub-unit boundary

Geochemistry

ST 195 10 17 30

Sand-silt till interval with 195 ppb Au, 10 ppm Cu, 17 ppm As, and 30 ppm Zn (where measured) in non-magnetic heavy mineral fraction (S.G. greater than 3.3)

Bedrock Lithology

6 Diabase

[illegible]

Scale

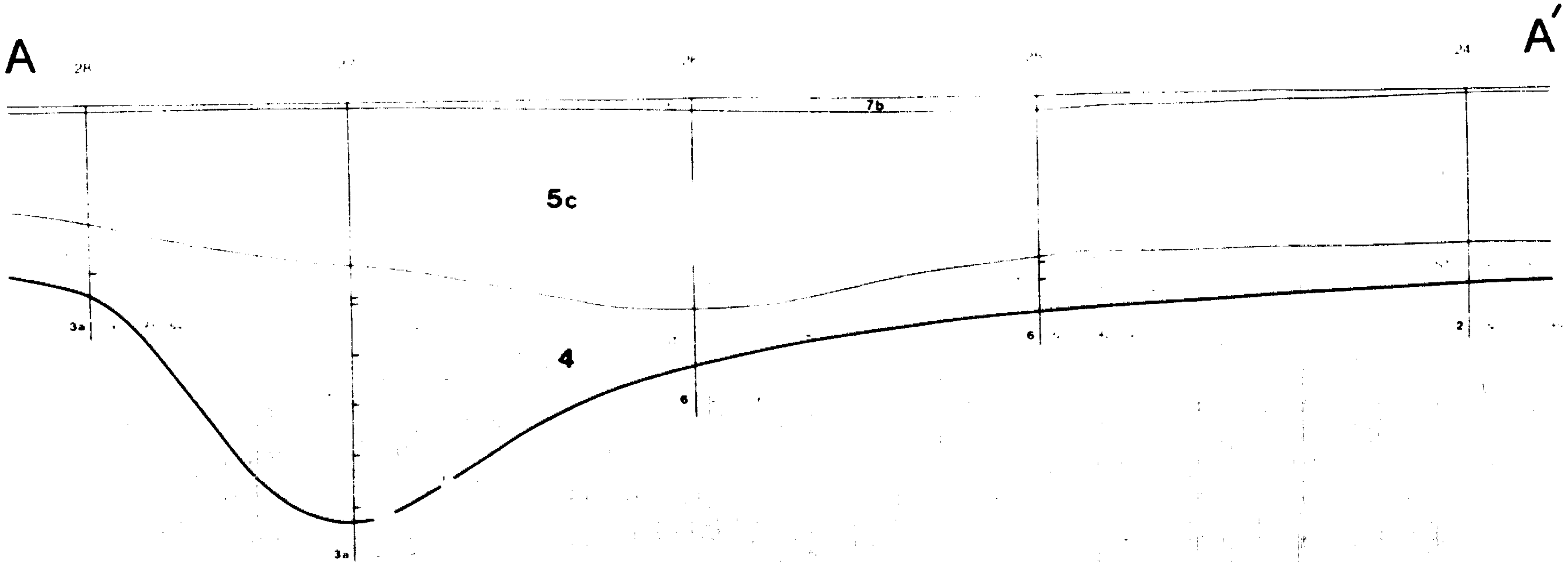
[illegible]

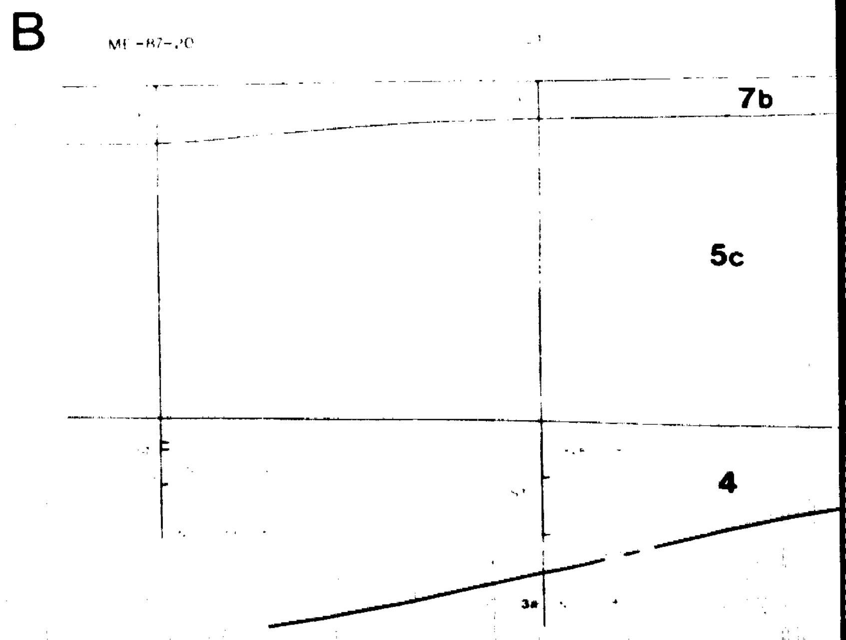
MARY ELLEN RESOURCES LTD.

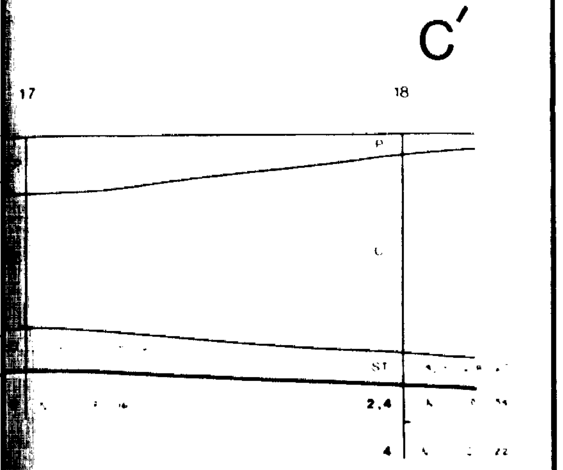
EBY PROPERTY

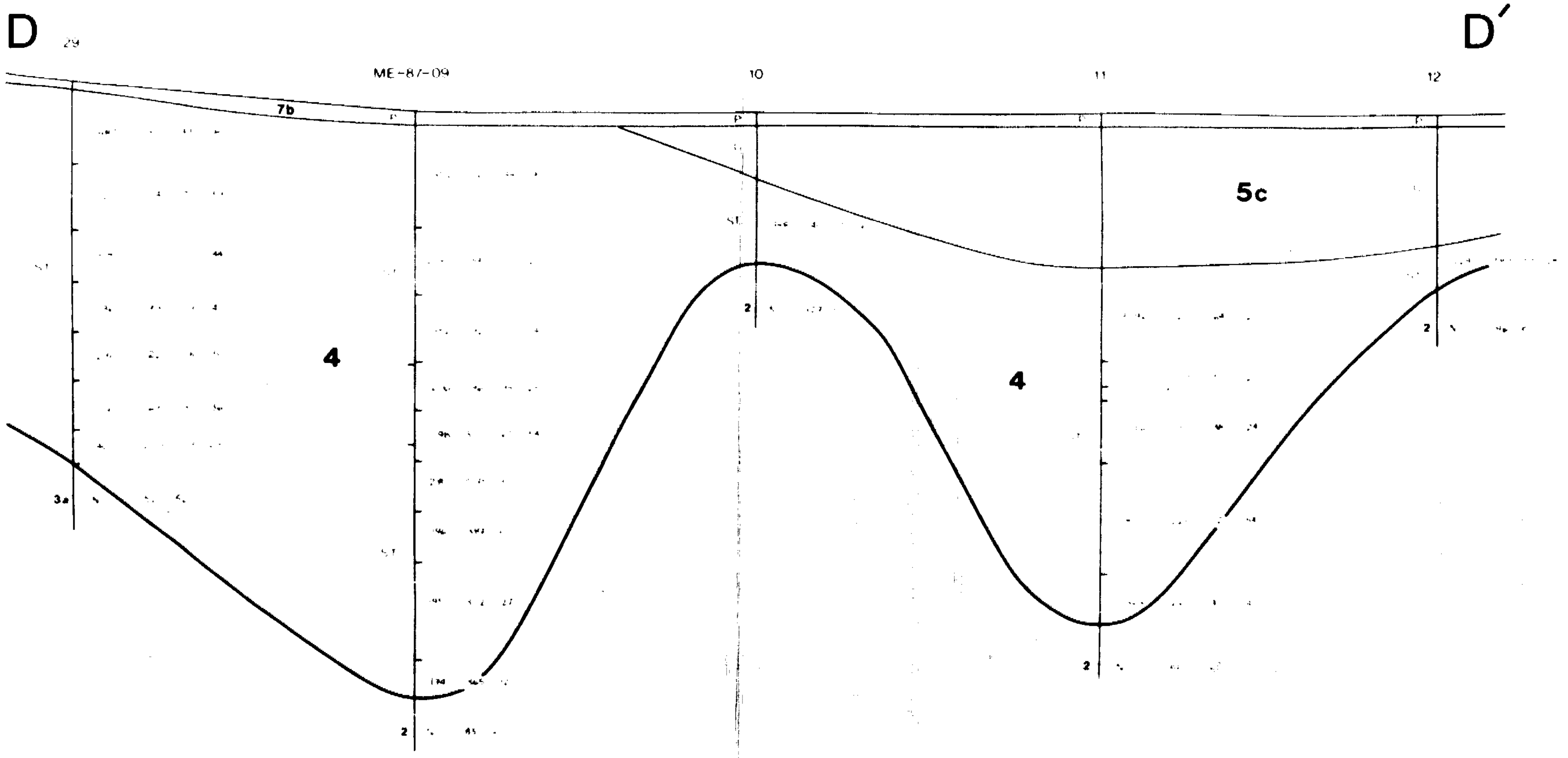
A–A′ and B–B′

BY OVERBURDEN DRILLING MANAGEMENT LIMITED 1992


A
28
24
A′
7b
5c
3a
4
6
6
2
3a


B
MF-87-20
7b
5c
4
3a





LEGEND

Abitibi Quaternary Stratigraphy

0
Years B.P.

HOLOCENE

7 Holocene Sediments
- 7b - forest-peat member
- 7a - fluvial member

10,000
Years B.P.

PLEISTOCENE

LATE WISCONSINAN

6 Cochrane Unit
- 6c - regressive sediments
- 6b - till
- 6a - transgressive sediments

5 Ojibway II Sediments
- 5d - littoral and aeolian member
- 5c - glaciolacustrine clay member
- 5b - glaciolacustrine sand member
- 5a - glaciofluvial member

4 Chibougamau/Matheson Till

100,000
Years B.P.

EARLY WISCONSINAN AND SANGAMON

3 Missinaibi Sediments
- 3c - Ojibway I member
- 3b - forest-peat member
- 3a - fluvial member

ILLINOIAN

2 Lower Till and Sediments

1,000,000
Years B.P.

YARMOUTH AND KANSAN

1 Older Till and Sediments

Sediment Varieties

P	Peat
C	Clay, silt
S	Sand
G	Gravel
ST	Sand-silt till; clay subordinate
CT	Clay till

Symbols

━━━━	Quaternary/bedrock unconformity
∿∿∿∿	Interglacial unconformity
────	Quaternary unit boundary
┄┄┄┄	Quaternary sub-unit boundary

Geochemistry

ST 198 30 17 30

Sand-silt till interval with 198 ppb Au, 30 ppm Cu, 17 ppm As, and 30 ppm Zn (where measured) in non-magnetic heavy mineral fraction (S.G. greater than 3.3)

Bedrock Lithology

6	Diabase
5	Syenite
4	Granodiorite
3	Metasediments (conglomerate (3a); graywacke (3b))
2	Mafic volcanics (basalt)
1	Ultramafic volcanics (komatiite flows)

Scale

HOR. 1:2,000 VERT. 1:200

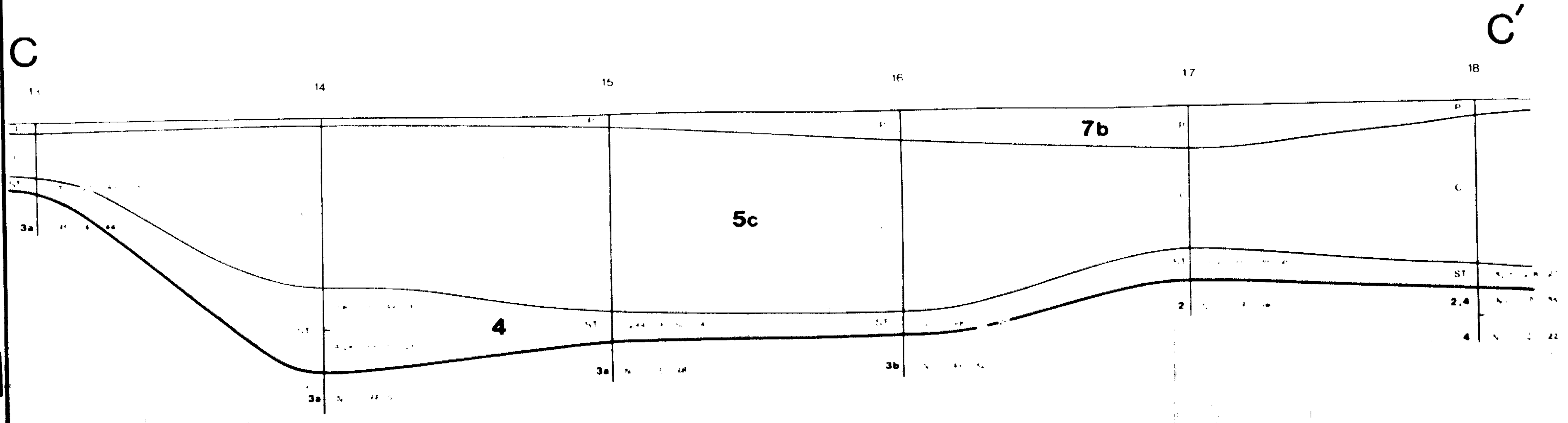
MARY ELLEN RESOURCES LTD.

EBY PROPERTY

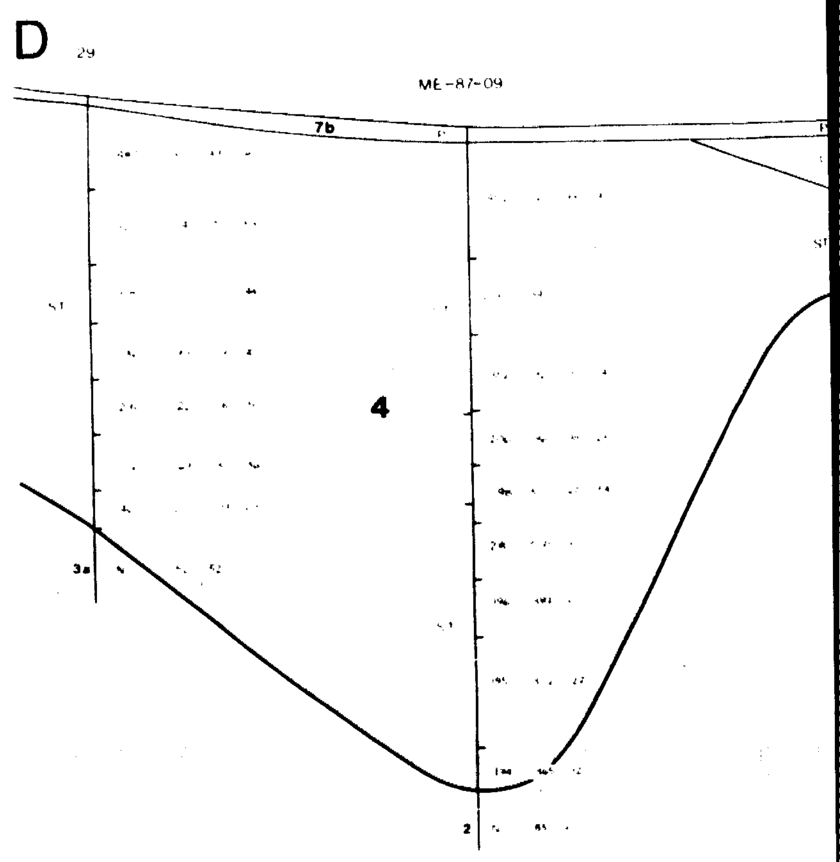
Eby Twp

C-C′ and D-D′

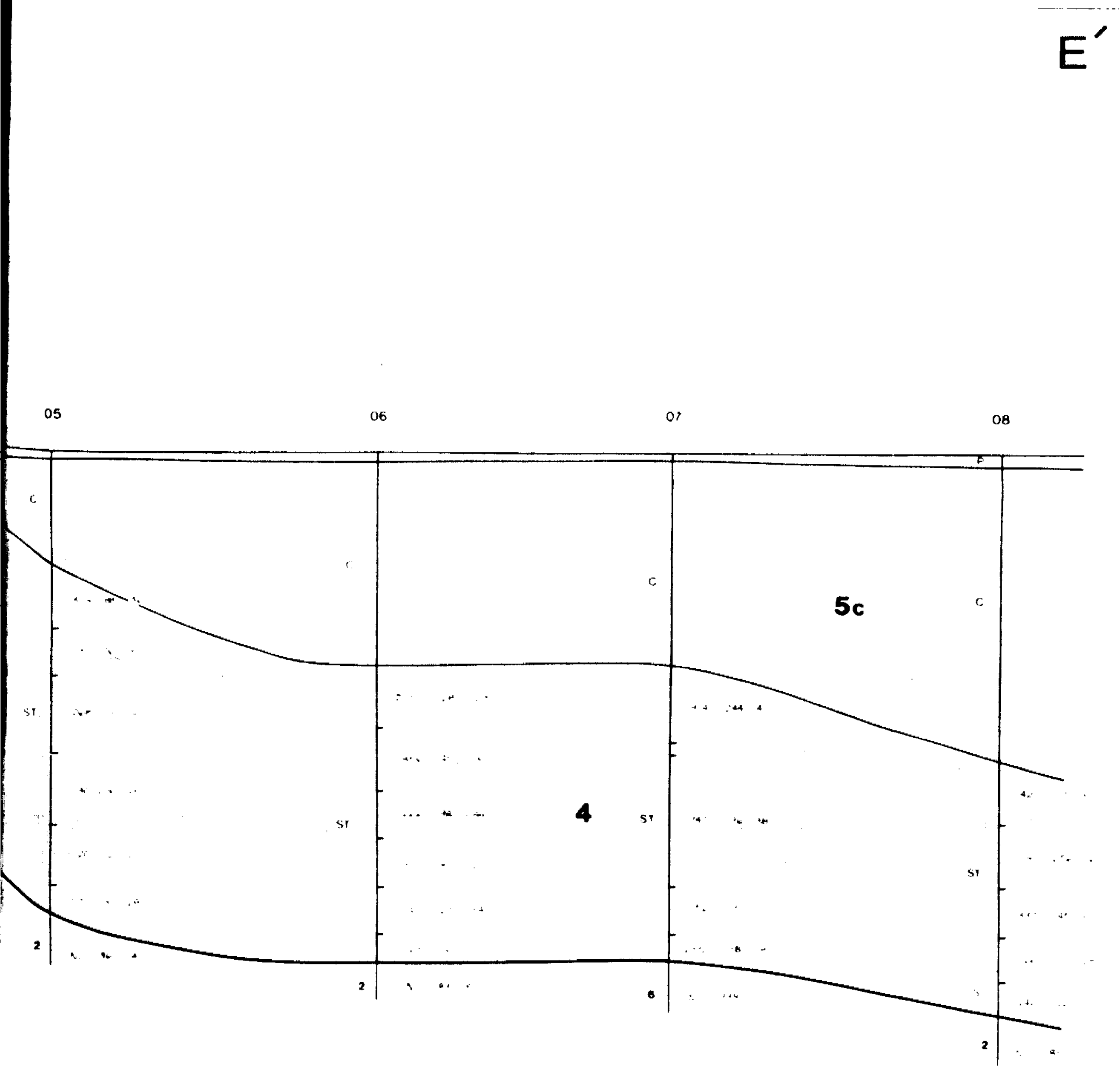
BY OVERBURDEN DRILLING MANAGEMENT LIMITED JUNE 1987

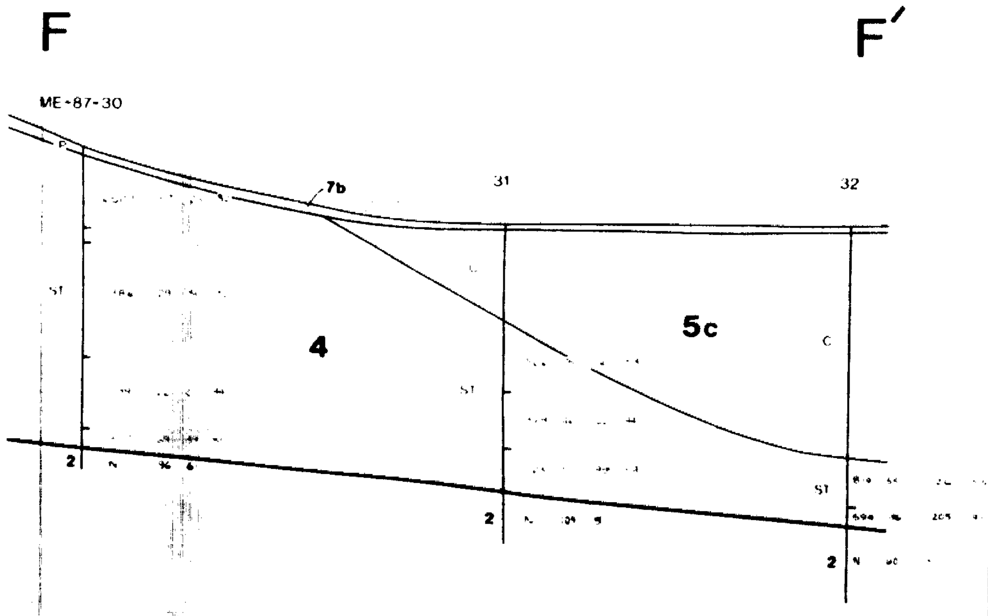


C
C′
14
15
16
17
18
7b
5c
4
ST
P
C
3a
3b
2
2,4
4



D
29
ME-87-09
7b
P
ST
4
3a
2





LEGEND

Abitibi Quaternary Stratigraphy

0
Years B.P.

HOLOCENE

7 Holocene Sediments
7b - forest-peat member
7a - fluvial member

10,000
Years B.P.

PLEISTOCENE

LATE WISCONSINAN

6 Cochrane Unit
6c - regressive sediments
6b - till
6a - transgressive sediments

5 Ojibway II Sediments
5d - littoral and aeolian member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glaciofluvial member

4 Chibougamau/Matheson Till

100,000
Years B.P.

EARLY WISCONSINAN AND SANGAMON

3 Missinaibi Sediments
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member

ILLINOIAN

2 Lower Till and Sediments

1,000,000
Years B.P.

YARMOUTH AND KANSAN

1 Older Till and Sediments

Sediment Varieties

P	Peat
C	Clay, silt
S	Sand
G	Gravel
ST	Sand-silt till; clay subordinate
CT	Clay till

Symbols

━━━ Quaternary/bedrock unconformity
〰〰〰 Interglacial unconformity
─── Quaternary unit boundary
┄┄┄ Quaternary sub-unit boundary

Geochemistry

ST 198 30 17 30 Sand-silt till interval with 198 ppb Au, 30 ppm Cu, 17 ppm As, and 30 ppm Zn (where measured) in non-magnetic heavy mineral fraction (S.G. greater than 3.3)

Bedrock Lithology

6	Diabase
5	Syenite
4	Granodiorite
3	Metasediments (conglomerate (3a); graywacke (3b))
2	Mafic volcanics (basalt)
1	Ultramafic volcanics (komatiite flows)

Scale

HOR. 1:2,000 VERT. 1:200

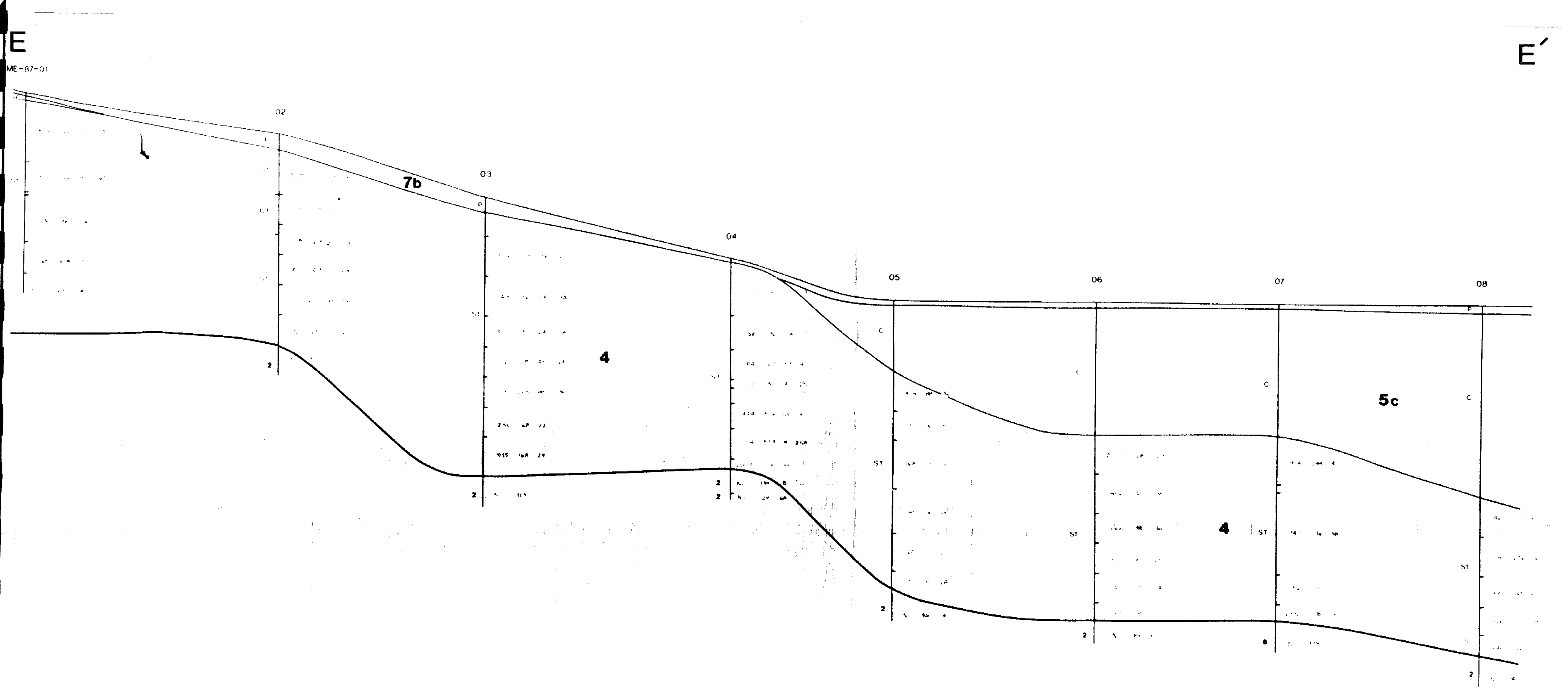
MARY ELLEN RESOURCES LTD.

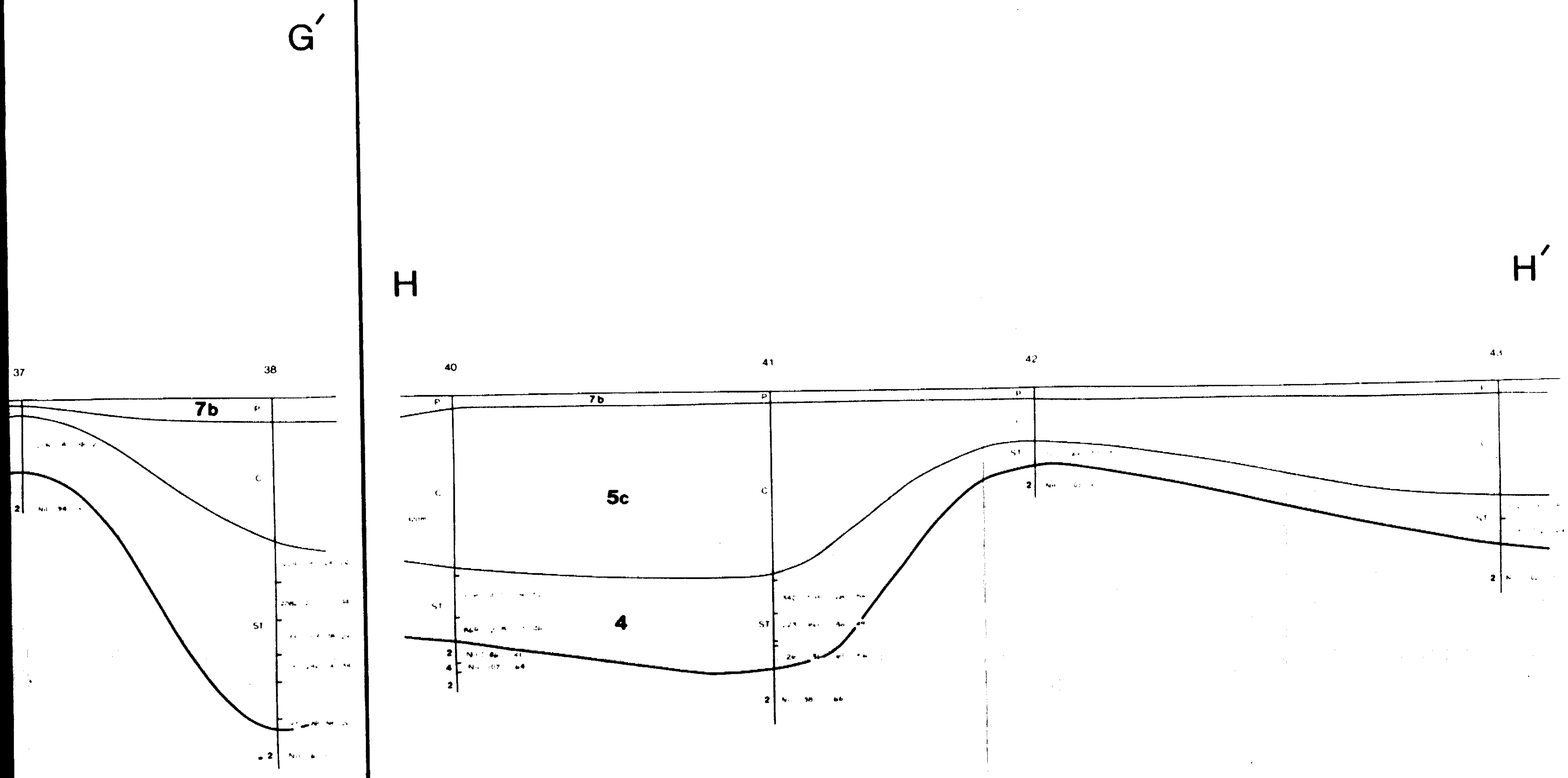
EBY PROPERTY

Eby Twp.

E-E′ and F-F′

BY OVERBURDEN DRILLING MANAGEMENT LIMITED JUNE 1987


E
ME-87-01
E′
02
03
04
05
06
07
08
7b
4
5c
4
P
CT
ST
C
ST
C
C
C
ST
ST
ST
ST
2
2
2
2
2
2
6
2



Abitibi Quaternary Stratigraphy

0 Years B.P.

HOLOCENE

7 Holocene Sediments
7b - forest-peat member
7a - fluvial member

10,000 Years B.P.

PLEISTOCENE

LATE WISCONSINAN

6 Cochrane Unit
6c - regressive sediments
6b - till
6a - transgressive sediments

5 Ojibway II Sediments
5d - littoral and aeolian member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glaciofluvial member

4 Chibougamau/Matheson Till

100,000 Years B.P.

EARLY WISCONSINAN AND SANGAMON

3 Missinaibi Sediments
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member

ILLINOIAN

2 Lower Till and Sediments

1,000,000 Years B.P.

YARMOUTH AND KANSAN

1 Older Till and Sediments

Sediment Varieties

P	Peat
C	Clay, silt
S	Sand
G	Gravel
ST	Sand-silt till; clay subordinate
CT	Clay till

Symbols

Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary sub-unit boundary

Geochemistry

ST 198 50 17 30 Sand-silt till interval with 198 ppb Au, 50 ppm Cu, 17 ppm As, and 30 ppm Zn (where measured) in non-magnetic heavy mineral fraction (S.G. greater than 3.3)

Bedrock Lithology

6	Diabase
5	Syenite
4	Granodiorite
3	Metasediments (conglomerate (3a); graywacke (3b))
2	Mafic volcanics (basalt)
1	Ultramafic volcanics (komatiite flows)

Scale

HOR. 1:2,000 VERT. 1:200

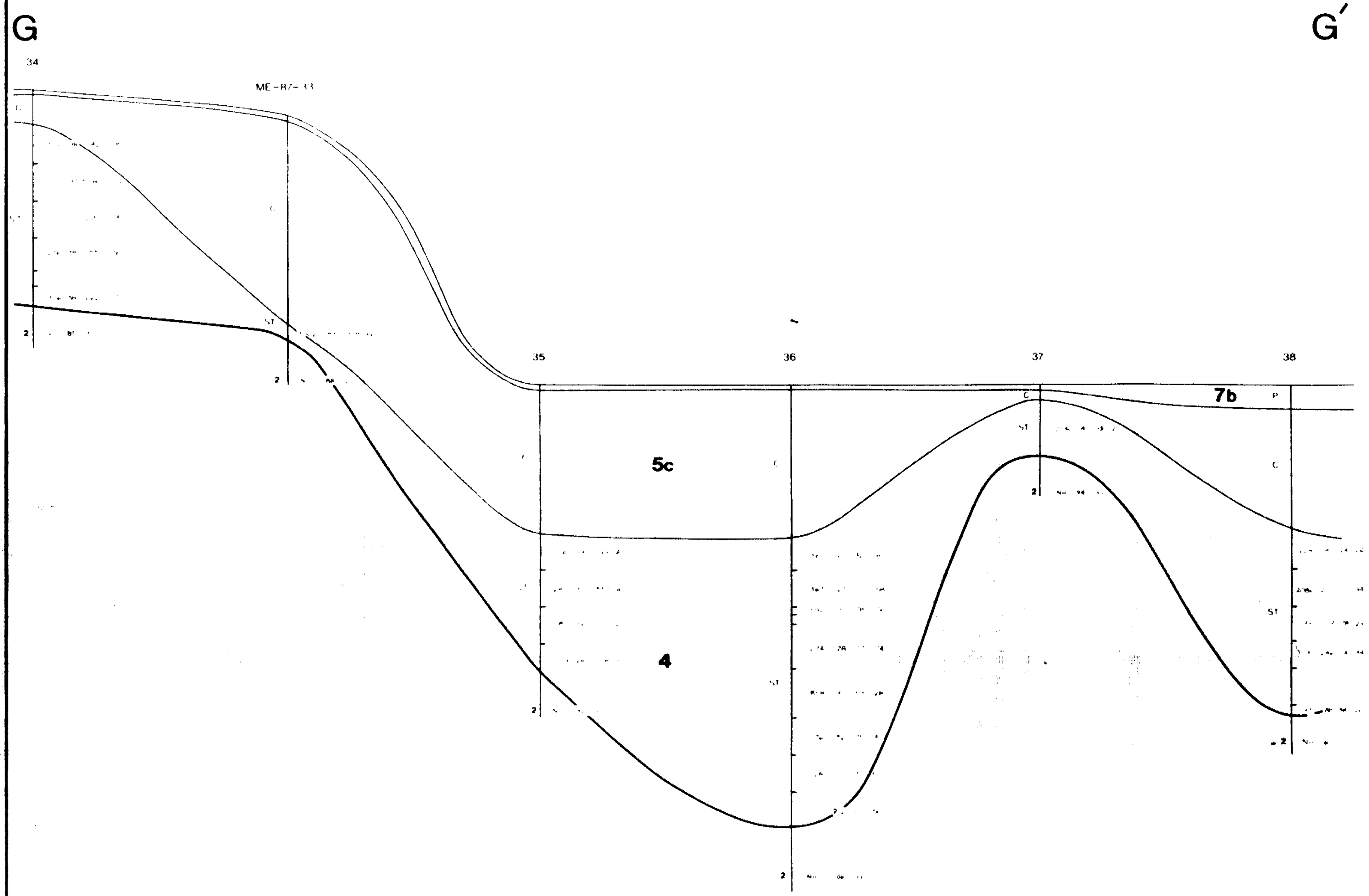
MARY ELLEN RESOURCES LTD.

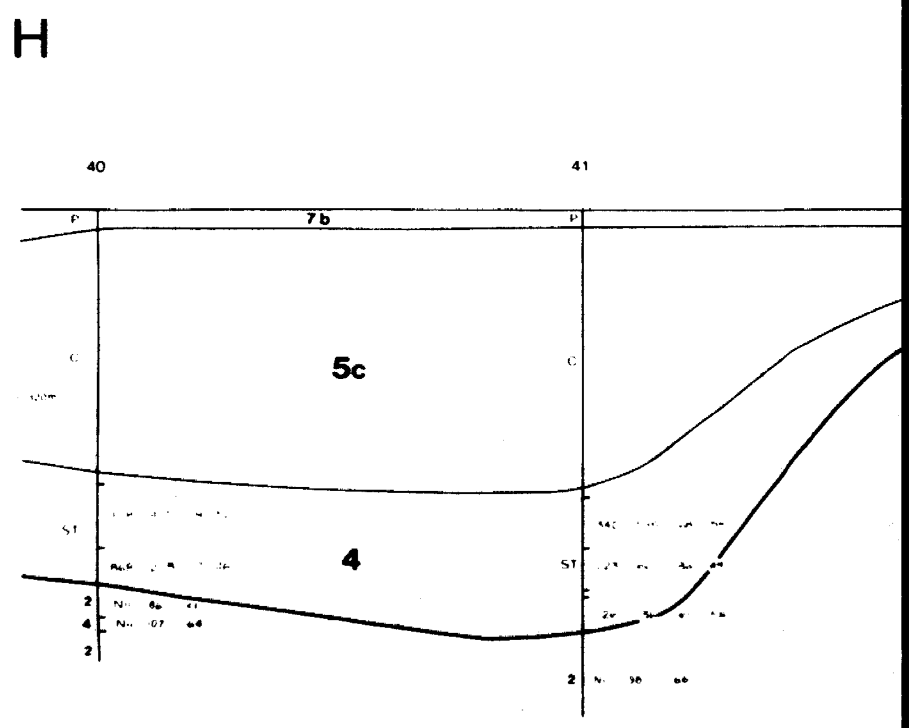
EBY PROPERTY

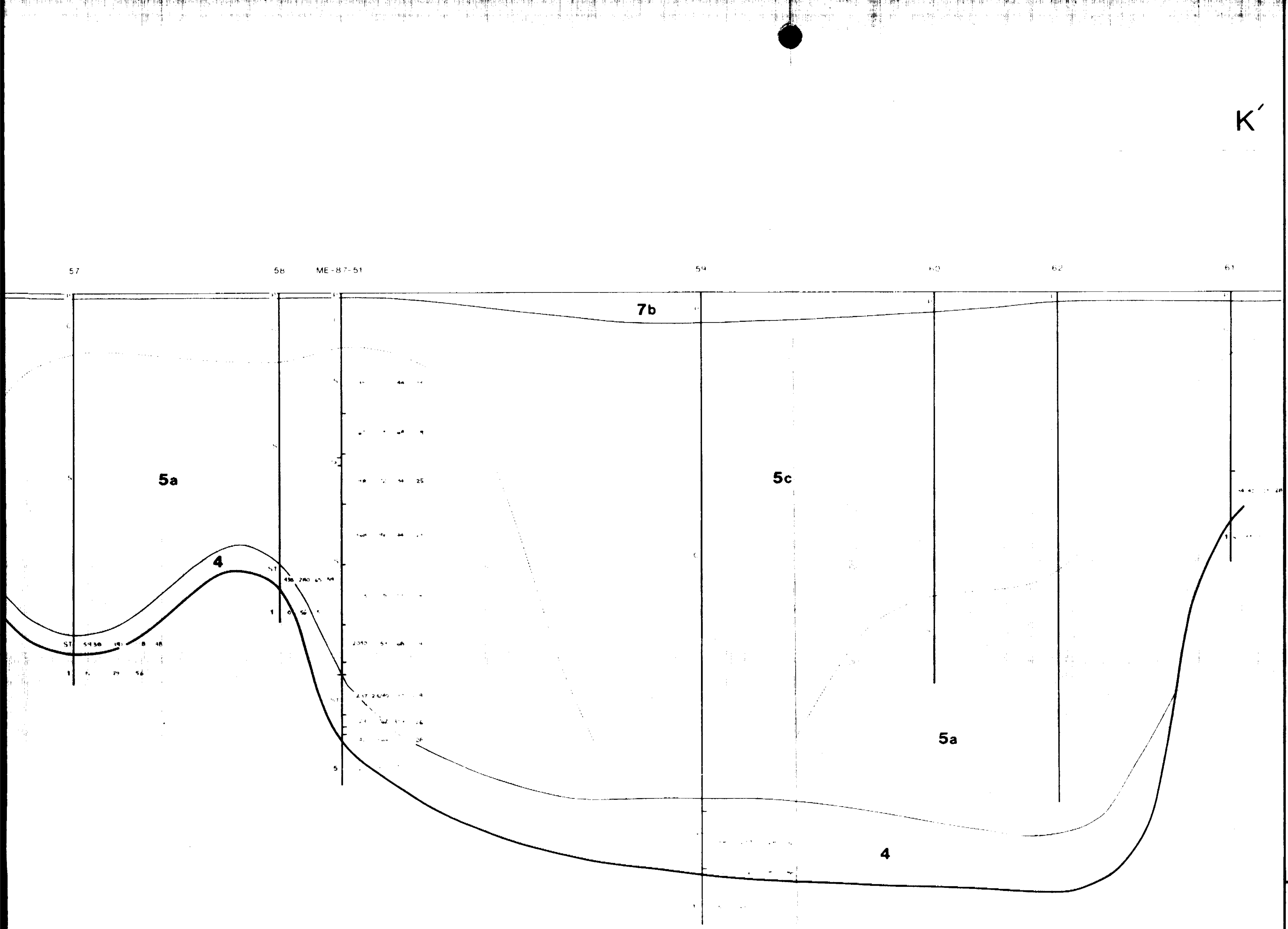
Eby Twp

G-G′ and H-H′

BY OVERBURDEN DRILLING MANAGEMENT LIMITED JUNE 1987


G
G′
34
ME-87-33
35
36
37
38
5c
4
7b
C
ST
P
2


H
40
41
7b
5c
4
P
C
ST
2
4



LEGEND

Abitibi Quaternary Stratigraphy

Years B.P. **HOLOCENE**

7 Holocene Sediments
7b - forest-peat member
7a - fluvial member

10,000 Years B.P. **PLEISTOCENE**

LATE WISCONSINAN

6 Cochrane Unit
6c - regressive sediments
6b - till
6a - transgressive sediments

5 Ojibway II Sediments
5d - littoral and aeolian member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glaciofluvial member

4 Chibougamau/Matheson Till

100,000 Years B.P. **EARLY WISCONSINAN AND SANGAMON**

3 Missinaibi Sediments
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member

ILLINOIAN

2 Lower Till and Sediments

1,000,000 Years B.P. **YARMOUTH AND KANSAN**

1 Older Till and Sediments

Sediment Varieties

P	Peat
C	Clay, silt
S	Sand
G	Gravel
ST	Sand-silt till; clay subordinate
CT	Clay till

Symbols

Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary sub-unit boundary

Geochemistry

ST 198 10 17 30 Sand-silt till interval with 198 ppb Au, 10 ppm Cu, 17 ppm As, and 30 ppm Zn (where measured) in non-magnetic heavy mineral fraction (S.G. greater than 3.3)

Bedrock Lithology

6	Diabase
5	Syenite
4	Granodiorite
3	Metasediments [illegible]
2	Mafic volcanics (basalt)
1	[illegible]

Scale

HORIZ. 1:2,000 VERT. 1:200

MARY ELLEN RESOURCES LTD

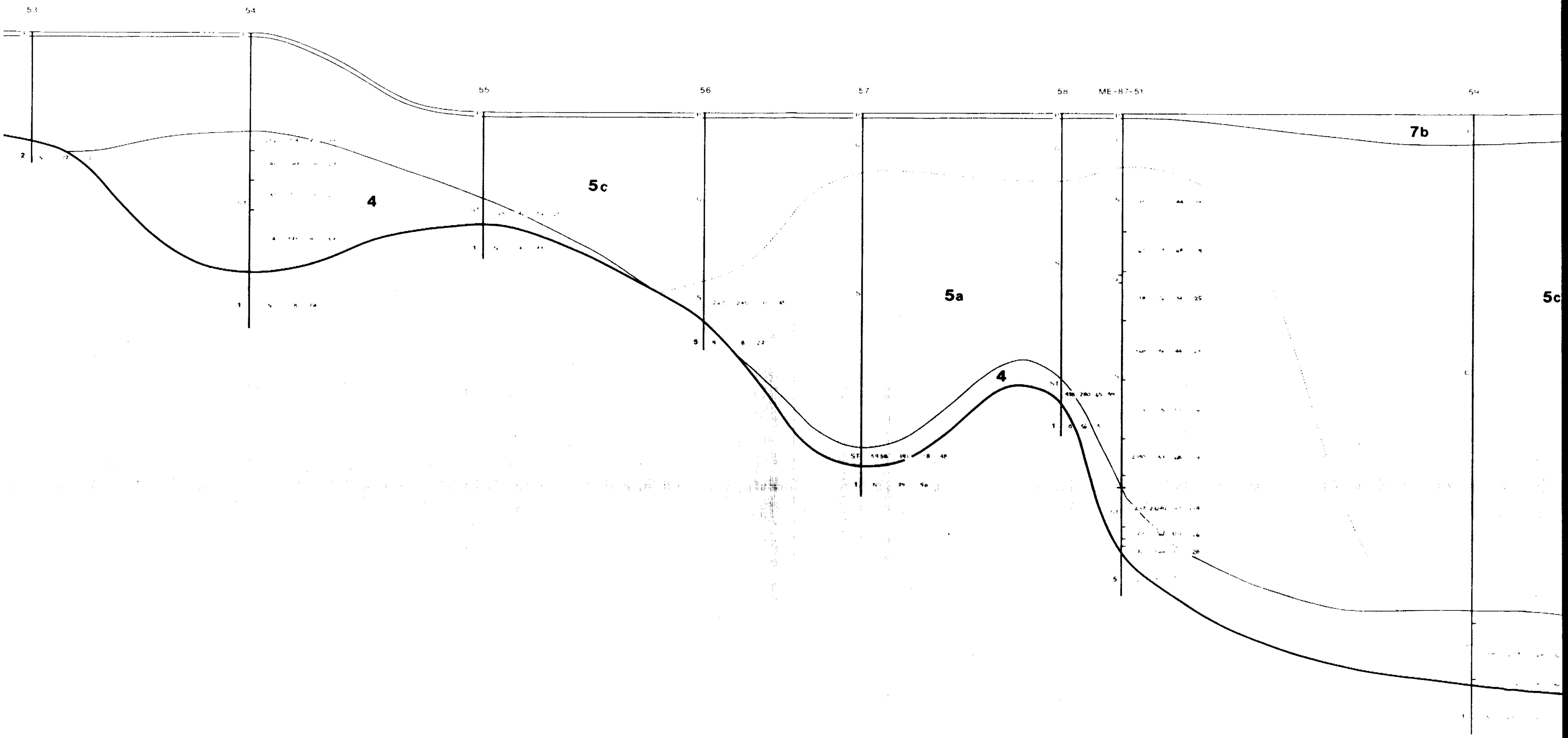
EBY PROPERTY

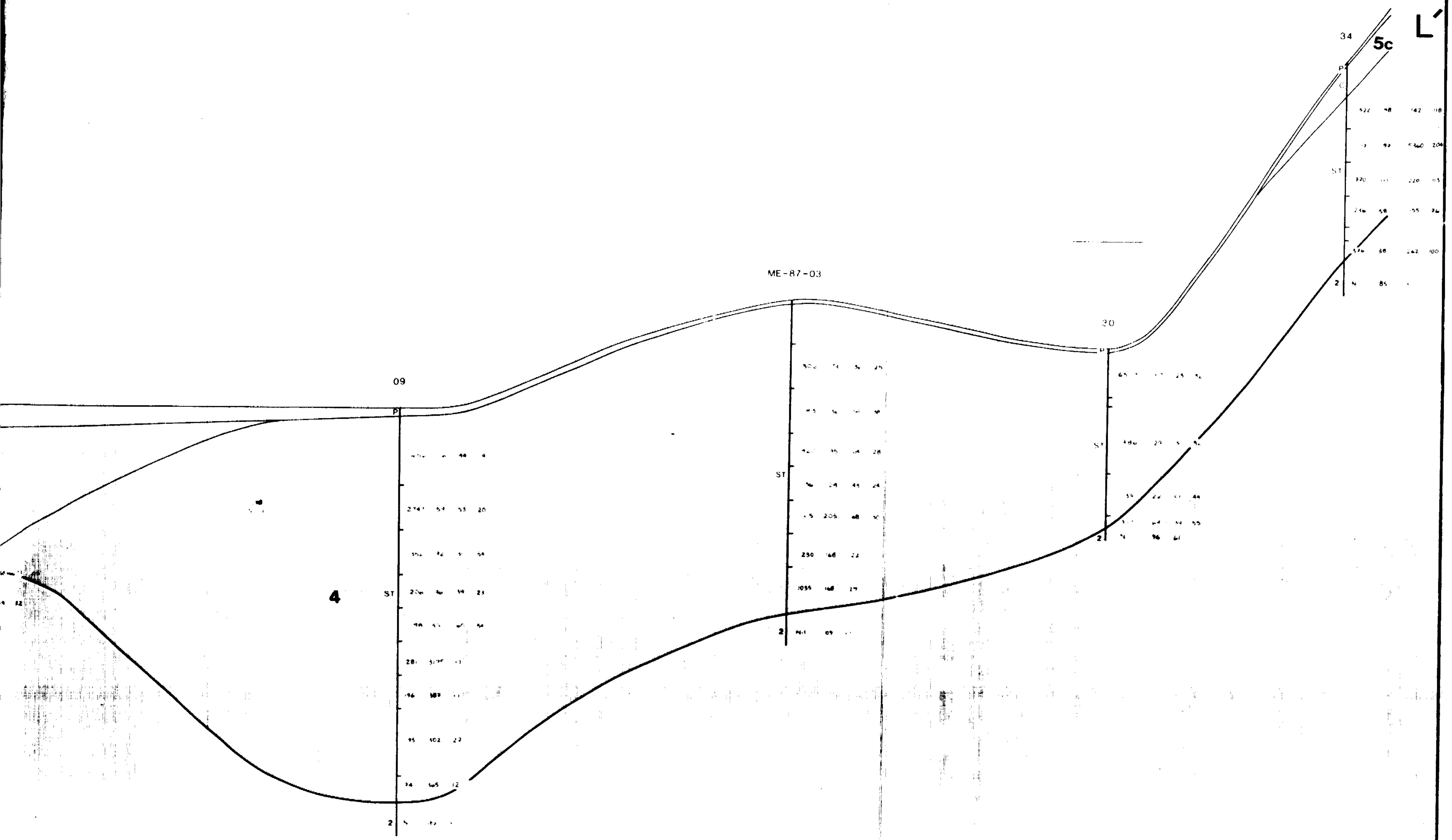
[illegible]

K–K′

BY OVERBURDEN DRILLING MANAGEMENT LIMITED [illegible]

K





LEGEND

Abitibi Quaternary Stratigraphy

0 Years B.P.

HOLOCENE

7 Holocene Sediments
- 7b - forest-peat member
- 7a - fluvial member

10,000 Years B.P.

PLEISTOCENE

LATE WISCONSINAN

6 Cochrane Unit
- 6c - regressive sediments
- 6b - till
- 6a - transgressive sediments

5 Ojibway II Sediments
- 5d - littoral and aeolian member
- 5c - glaciolacustrine clay member
- 5b - glaciolacustrine sand member
- 5a - glaciofluvial member

4 Chibougamau/Matheson Till

100,000 Years B.P.

EARLY WISCONSINAN AND SANGAMON

3 Missinaibi Sediments
- 3c - Ojibway I member
- 3b - forest-peat member
- 3a - fluvial member

ILLINOIAN

2 Lower Till and Sediments

1,000,000 Years B.P.

YARMOUTH AND KANSAN

1 Older Till and Sediments

Sediment Varieties

P	Peat
C	Clay, silt
S	Sand
G	Gravel
ST	Sand-silt till; clay subordinate
CT	Clay till

Symbols

━━━	Quaternary/bedrock unconformity
〰〰〰	Interglacial unconformity
───	Quaternary unit boundary
-------	Quaternary sub-unit boundary

Geochemistry

ST 198 50 17 30 Sand-silt till interval with 198 ppb Au, 50 ppm Cu, 17 ppm As, and 30 ppm Zn (where measured) in non-magnetic heavy mineral fraction (S.G. greater than 3.3)

Bedrock Lithology

6.	Diabase
5	Syenite
4.	Granodiorite
3	Metasediments (conglomerate (3a); graywacke (3b)
2	Mafic volcanics (basalt)
1	Ultramafic volcanics (komatiite flows)

Scale

HOR. 1:5,000 VERT. 1:250

MARY ELLEN RESOURCES LTD.

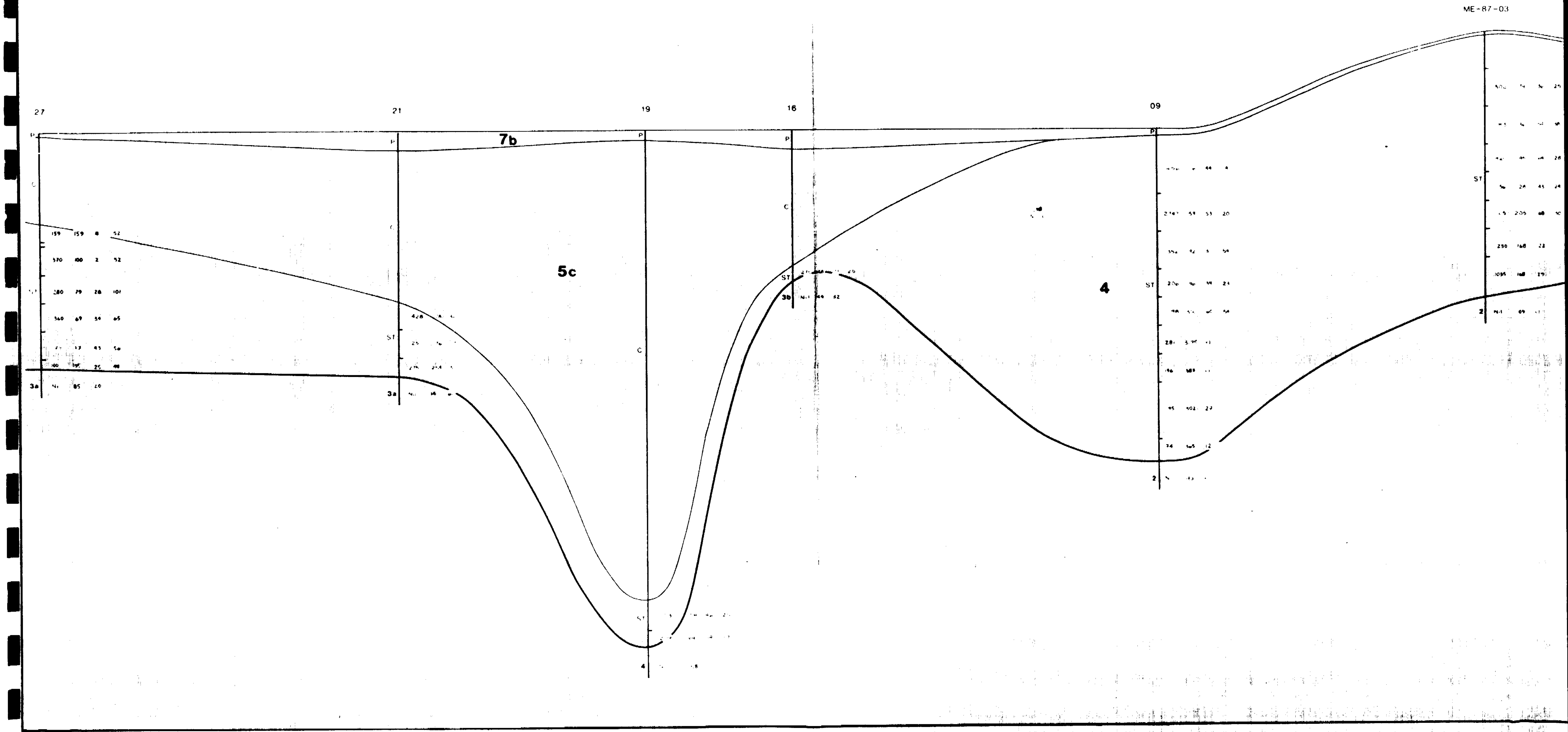
EBY PROPERTY

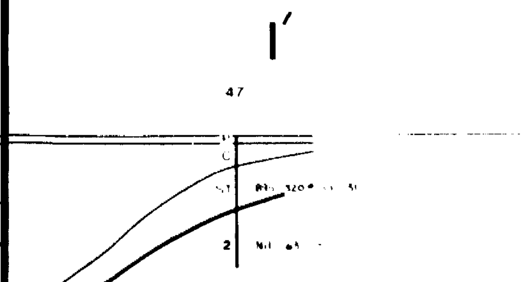
Eby Twp

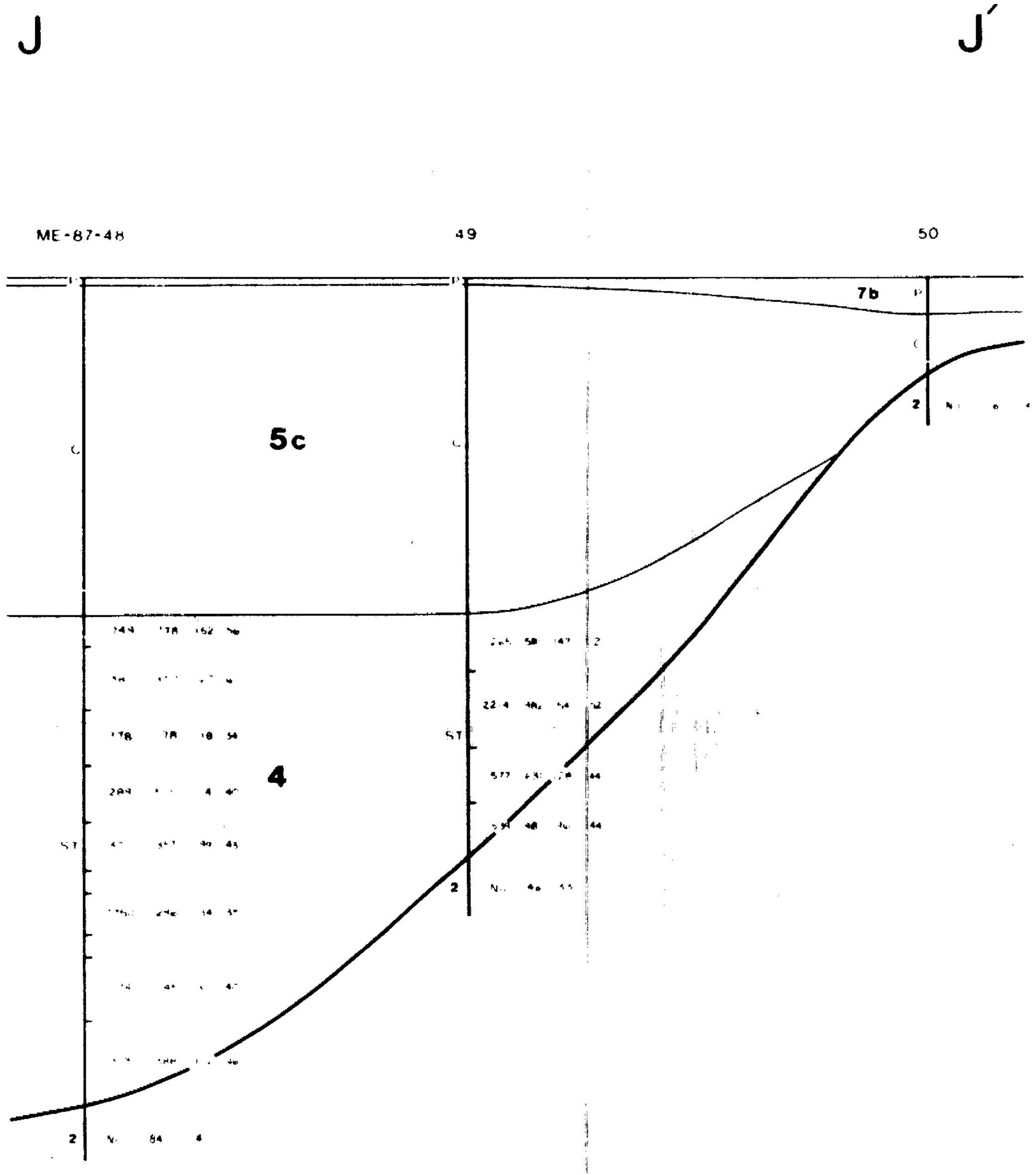
L-L´

BY OVERBURDEN DRILLING MANAGEMENT LIMITED JUNE 198

L


ME-87-03
27
21
19
16
09
P
C
ST
7b
5c
4
159 159 8 52
370 100 2 52
280 79 28 101
360 69 34 65
3a
3b
2
4
250 168 22





LEGEND

Abitibi Quaternary Stratigraphy

0
Years B.P.

HOLOCENE

7 Holocene Sediments
  7b - forest-peat member
  7a - fluvial member

10,000
Years B.P.

PLEISTOCENE

LATE WISCONSINAN

6 Cochrane Unit
  6c - regressive sediments
  6b - till
  6a - transgressive sediments

5 Ojibway II Sediments
  5d - littoral and aeolian member
  5c - glaciolacustrine clay member
  5b - glaciolacustrine sand member
  5a - glaciofluvial member

4 Chibougamau/Matheson Till

100,000
Years B.P.

EARLY WISCONSINAN AND SANGAMON

3 Missinaibi Sediments
  3c - Ojibway I member
  3b - forest-peat member
  3a - fluvial member

ILLINOIAN

2 Lower Till and Sediments

1,000,000
Years B.P.

YARMOUTH AND KANSAN

1 Older Till and Sediments

Sediment Varieties

P	Peat
C	Clay, silt
S	Sand
G	Gravel
ST	Sand-silt till; clay subordinate
CT	Clay till

Symbols

▬	Quaternary/bedrock unconformity
〰	Interglacial unconformity
—	Quaternary unit boundary
⋯	Quaternary sub-unit boundary

Geochemistry

ST 198 30 17 30 — Sand-silt till interval with 198 ppb Au, 30 ppm Cu, 17 ppm As, and 30 ppm Zn (where measured) in non-magnetic heavy mineral fraction (S.G. greater than 3.3)

Bedrock Lithology

6	Diabase
5	Syenite
4	Granodiorite
3	Metasediments (conglomerate (3a); graywacke (3b))
2	Mafic volcanics (basalt)
1	Ultramafic volcanics (komatiite flows)

Scale

HOR. 1:2,000 VERT. 1:200

MARY ELLEN RESOURCES LTD.

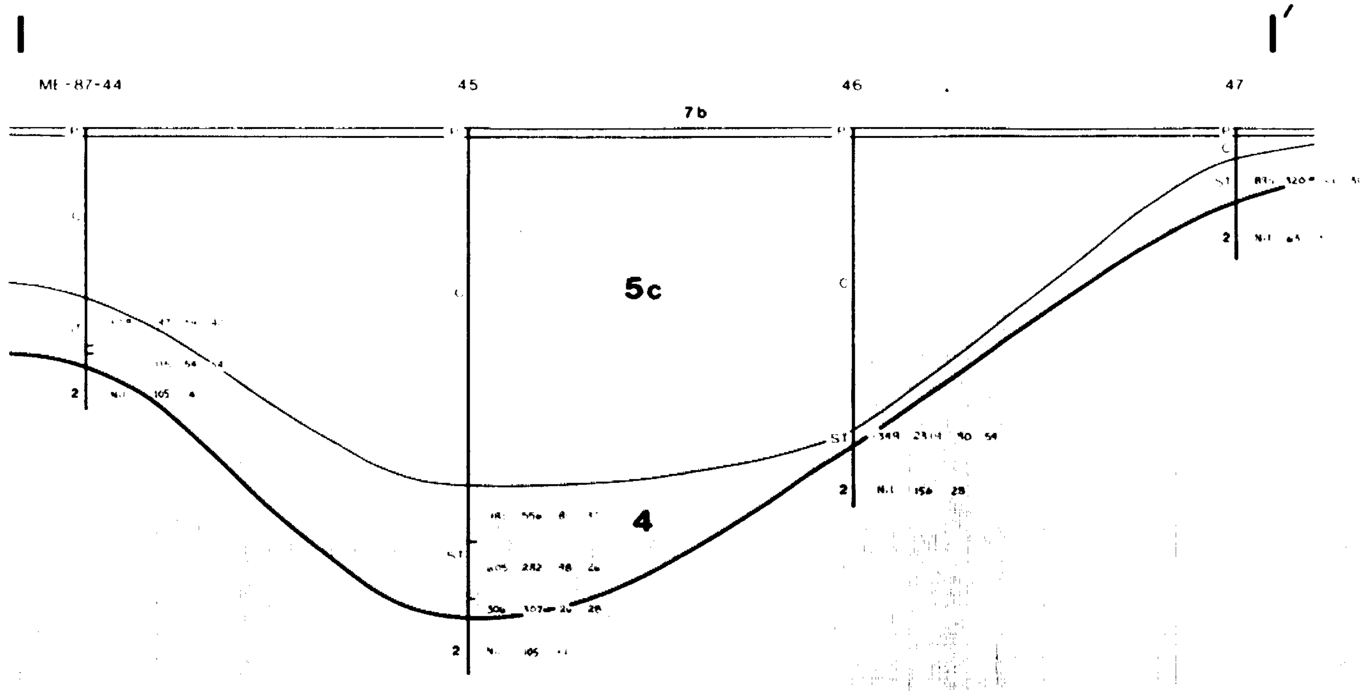
EBY PROPERTY

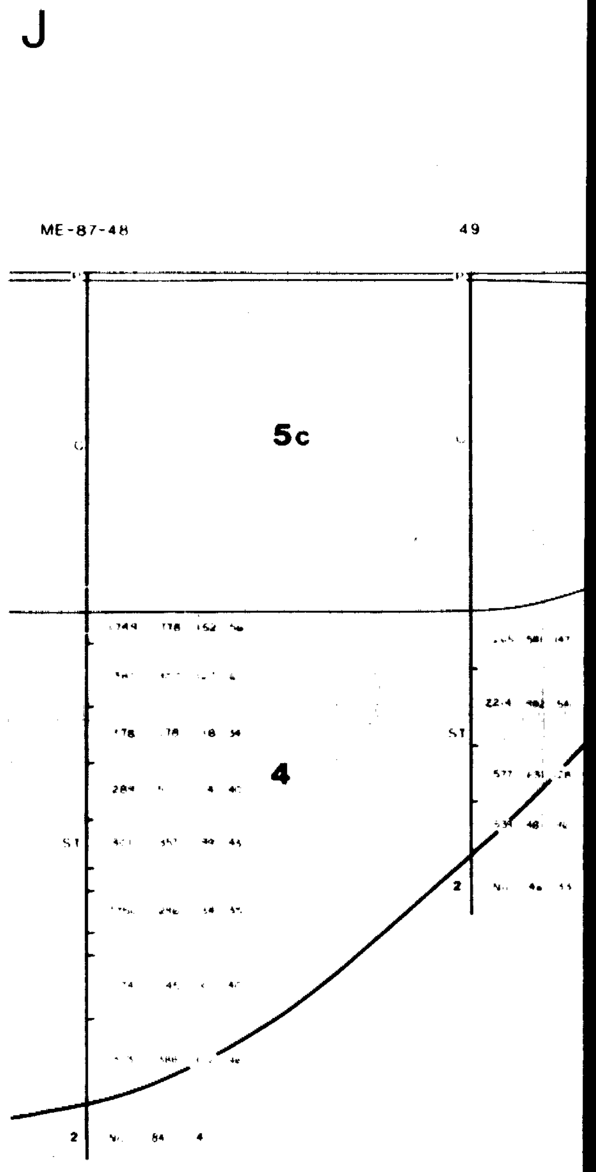
Eby Twp

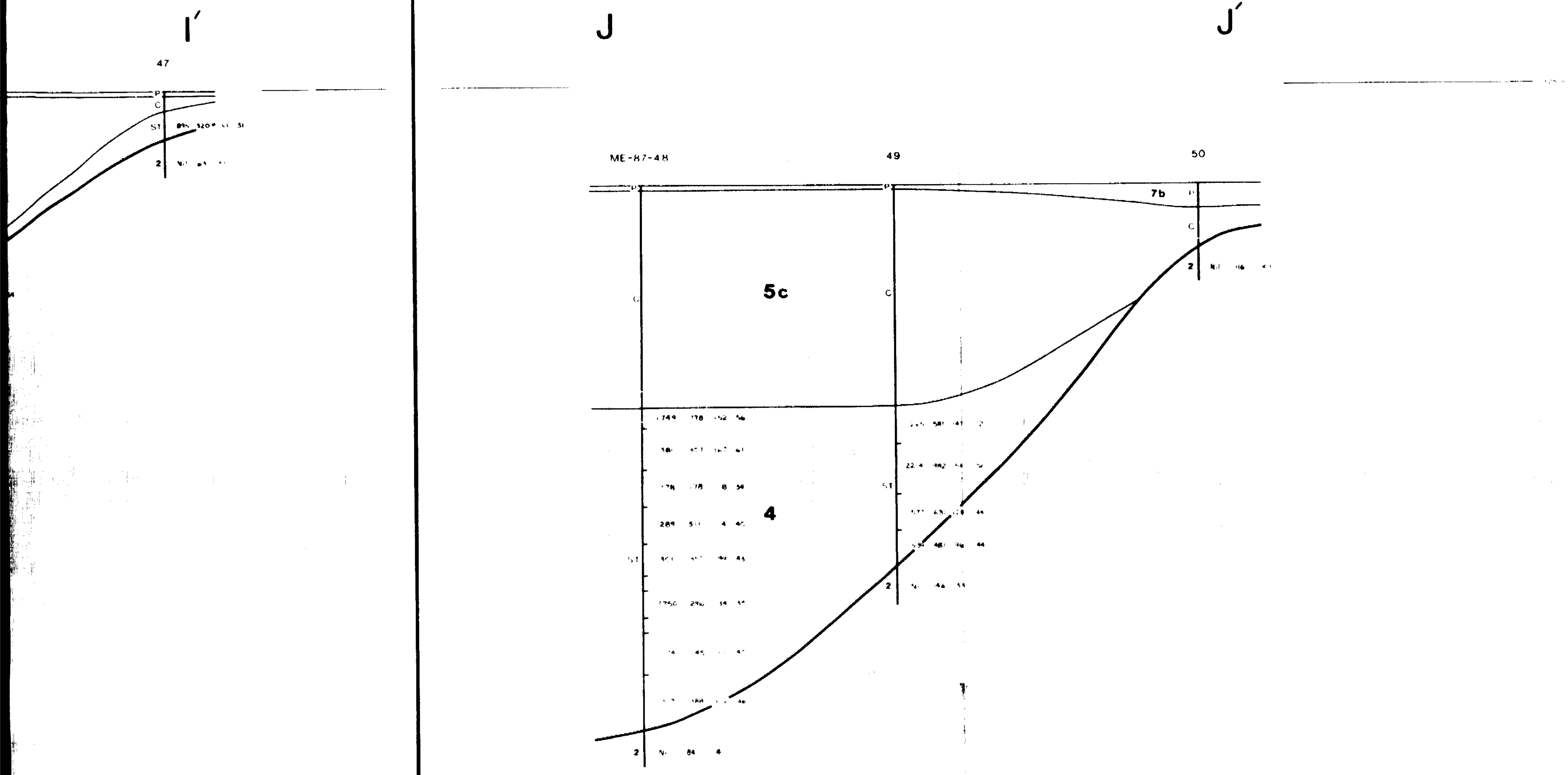
[illegible]

I-I′ and J-J′

BY OVERBURDEN DRILLING MANAGEMENT LIMITED JUNE 1987


I
I′
ME-87-44
45
46
47
7b
5c
4
ST
2


J
ME-87-48
49
5c
4
ST
2



LEGEND

Abitibi Quaternary Stratigraphy

? Years B.P. **HOLOCENE**

7 Holocene Sediments
  7b - forest-peat member
  7a - fluvial member

10,000 Years B.P. **PLEISTOCENE**

LATE WISCONSINAN

6 Cochrane Unit
  6c - regressive sediments
  6b - till
  6a - transgressive sediments

5 Ojibway II Sediments
  5d - littoral and aeolian member
  5c - glaciolacustrine clay member
  5b - glaciolacustrine sand member
  5a - glaciofluvial member

4 Chibougamau/Matheson Till

100,000 Years B.P. **EARLY WISCONSINAN AND SANGAMON**

3 Missinaibi Sediments
  3c - Ojibway I member
  3b - forest-peat member
  3a - fluvial member

ILLINOIAN

2 Lower Till and Sediments

1,000,000 Years B.P. **YARMOUTH AND KANSAN**

1 Older Till and Sediments

Sediment Varieties

P	Peat
C	Clay, silt
S	Sand
G	Gravel
ST	Sand-silt till; clay subordinate
CT	Clay till

Symbols

━━━━	Quaternary/bedrock unconformity
〰〰〰	Interglacial unconformity
────	Quaternary unit boundary
- - - - -	Quaternary sub-unit boundary

Geochemistry

ST 198 50 17 30 Sand-silt till interval with 198 ppb Au, 50 ppm Cu, 17 ppm As, and 30 ppm Zn (where measured) in non-magnetic heavy mineral fraction (S.G. greater than 3.3)

Bedrock Lithology

6	Diabase
5	Syenite
4	Granodiorite
3	Metasediments (conglomerate (3a); graywacke (3b))
2	Mafic volcanics (basalt)
1	Ultramafic volcanics (komatiite flows)

Scale

HOR. 1:2,000 VERT. 1:200

MARY ELLEN RESOURCES LTD.

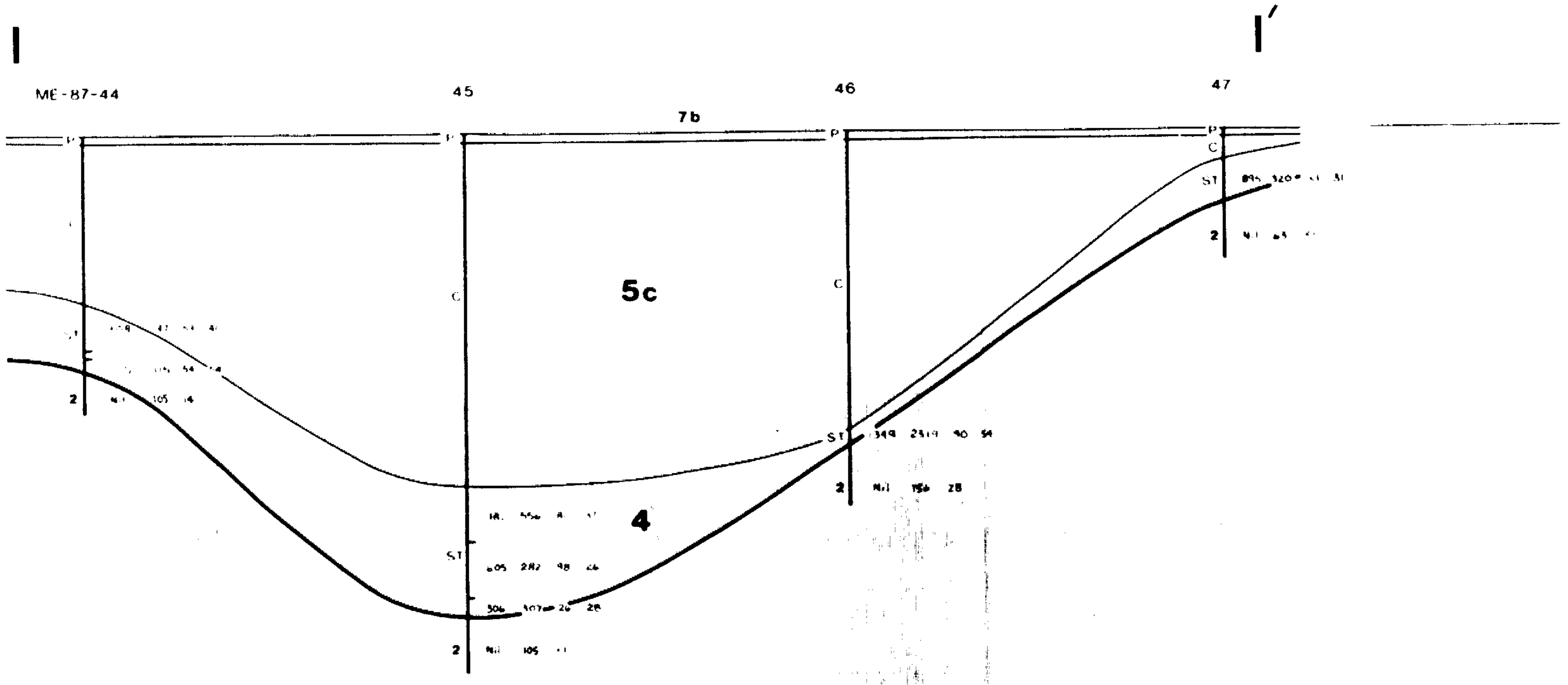
EBY PROPERTY

Eby Twp

Figure 2 - Section

I-I' and J-J'

BY OVERBURDEN DRILLING MANAGEMENT LIMITED JUNE 1987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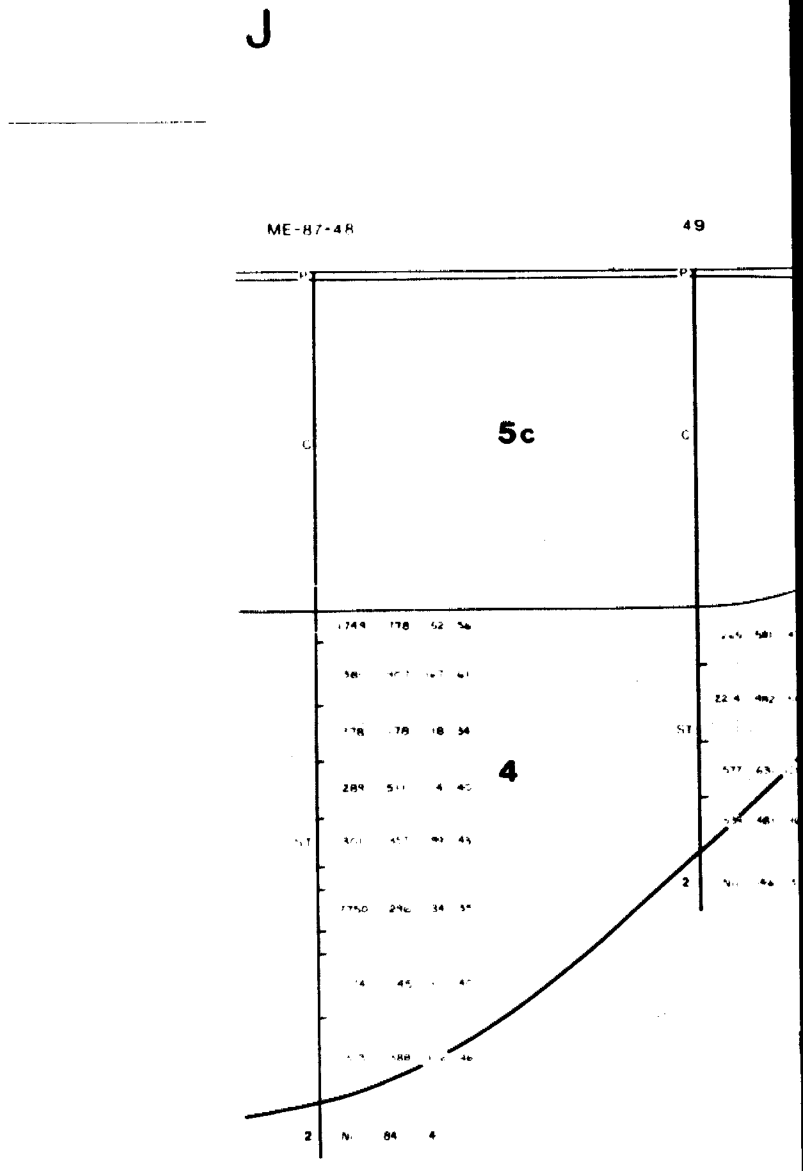
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Matheson Till throughout much of the Abitibi region consists mainly of recycled bottom sediments of Lake Ojibway I and thus has either a very sandy or very clayey matrix and is clast-poor. The sand component is generally beige and the clay component is gray. On the Eby property where the Ojibway I sediments were thin or absent, the till is mainly bedrock-derived and is stony with a matrix of silty-sandy rock flour. The matrix of the till was generally described in the field as being gray or gray-beige but actually has a subtle green tone. Stratification is rarely apparent whereas sections that melted out in the deeper parts of Lake Ojibway II often display clay and sand interbeds and are underconsolidated.

Clast lithologies in the till are generally 60-70 percent Abitibi volcanics and metasediments, 20-30 percent granitoids, and 10-20 percent Cobalt sediments with the Abitibi component rising to greater than 90 percent in the lower 1 to 3 metres of some sections. Most of the granitoids as well as the Abitibi volcanics and Cobalt sediments are probably short-travelled as the Watabeag Batholith, a 30-40 km wide granitic complex, occurs only 15 km up-ice from the property. Thus the till should be a good medium for heavy mineral geochemical exploration.

5.2.2 Ojibway II Sediments (Abitibi Unit 5)

The following sediments were deposited on the Eby property while it was flooded by glacial Lakes Barlow and Ojibway II.

Subunit 5a:	Glaciofluvial sand and gravel of the Highway Esker which was deposited partly as the bed of a river channel in the ice and partly as a subaqueous fan or delta at the mouth of this channel.
Subunit 5c:	An upper ice-distal silt, clay member of the lake bed.

The Highway Esker glaciofluvial member (Subunit 5a) is restricted to the east end of the property and was intersected in seven drill holes. The esker is best represented in a 16 metre section in Hole 51 (Fig. 13). It consists mostly of sand rather than gravel indicating a rapid reduction in the flow energy of the meltwater channel during the transition from the erosional to the depositional stage. Delta development along the flanks of the esker during the retreat of the ice was minimal and the lower, ice-proximal silty sand layer (Subunit 5b) of the lake bed that is common elsewhere in the region is absent on the Eby property.

The esker sand is well bedded in grain sizes ranging from fine to coarse and often contains pebble laminations. It is a clean, washed beige colour and the pebbles are well rounded and polished. The delta sands are gray-beige to beige fine sand.

Ice-distal glaciolacustrine clay and silt (Subunit 5c) blanket the property except around bedrock outcrops where the Matheson Till rises to surface. The clay reaches a maximum thickness of 23 metres in a buried bedrock valley intersected by Hole 19 (Fig. 14) and has a significant levelling effect on the terrain surface. This is well illustrated on Section K-K' (Fig. 13).

The clay is soft and gray and locally grades downward into silt. Many sections were described as pure gray clay on the field logs but probably contain subtle beige silt varves.

5.2.3 Holocene Sediments (Abitibi Unit 7)

The glaciolacustrine clay on the Eby property is locally mantled by 0.5 to 2 metres of peat that was deposited during the 8,000 years that have elapsed since the draining of Lake Ojibway II.

6. OVERBURDEN GEOCHEMISTRY

6.1 Regional Gold and Base Metal Background and Anomaly Threshold Levels

Heavy mineral gold anomaly threshold levels and properties of significant gold dispersion trains are detailed in Appendix G. In summary, visible gold particles of various sizes are randomly scattered through the till and the absence or presence of one or two of these particles in a standard 8 kilogram sample may result in an analytical background ranging from less than 10 to greater than 50,000 ppb (Table 5). Because of this great variability, we have established an anomaly threshold level of 10 grains of visible gold. Recognizing that some anomalies may be caused by gold occluded in sulphides or other minerals rather than by free gold grains, we also investigate any anomalies over a second, 1,000 ppb threshold. The 1,000 ppb value is based on the observation that heavy mineral concentrates from most gold dispersion trains have a gold content similar to that of the source mineralization; thus 1,000 ppb in the till is suggestive of anomalous bedrock and values over 3,000 ppb are suggestive of ore-grade mineralization. Significant anomalies, in addition to being caused by more than 10 gold grains or by occluded gold, also generally display vertical stratigraphic continuity within the host till horizon and may have an associated pathfinder metal, particularly arsenic or copper. Delicate or irregular gold grains are also significant as they normally indicate a proximal source. Any gold grains present should also be of similar size, indicating a common source.

The base metal background of a heavy mineral concentrate, and particularly of our high-density methylene iodide concentrates, is higher than that of a raw till sample, ranging up to several hundred ppm, because base metals tend to substitute to a significant extent for other metal ions in the structures of heavy silicate and sulphide minerals such as pyroxene and pyrite. The established anomaly threshold level for Cu and Zn, indicating the presence of ore-type minerals such as chalcopyrite and sphalerite in the sample, is 800 ppm. Because till concentrates from dispersion train samples tend to grade the same as the bedrock source mineralization, massive sulphide deposits which typically grade 50,000 ppm (5 percent) combined Cu-Zn often produce anomalies over 10,000 ppm in each metal. The anomaly threshold level for arsenic is about the same as for Cu and Zn but only those arsenic anomalies having a gold association are significant.

Significant base metal anomalies, like significant gold anomalies, normally display vertical continuity in the host till and have a pathfinder association. In the case of copper and zinc, the presence of grains of banded massive pyrite-chalcopyrite-sphalerite mineralization in the concentrate is a favourable indicator whereas the presence of only coarse crystalline vein-type chalcopyrite or sphalerite is unfavourable.

6.2 Eby Heavy Mineral Gold Background

The gold background of the till on the Eby property is higher than the Abitibi average. This undoubtedly reflects the proximity of the area to the regionally auriferous Kirkland Lake - Larder Lake Fault as we have found a similar gold background elsewhere along this fault and also along the Porcupine-Destor Fault and the Casa-Berdard Break.

The average number of gold grains reported for Eby samples containing background levels of gold (less than 10 grains) was 3.2 grains. Sand and gravel samples consistently contain less gold than till samples.

The calculated gold grain assays for background samples are generally between 10 and 800 ppb and show good correspondence with the Bondar-Clegg assays. This shows that:

1. We were often able to observe all of the gold grains that were recovered on the table.

2. In most samples, all of the recovered gold is free gold rather than occluded gold.

6.3 Eby Heavy Mineral Gold Anomalies

Assayers (Ontario) Ltd. analyzed the Eby overburden concentrates for gold using the fire assay method with atomic absorption finish. The weight of sample employed was the weight of the 3/4 concentrate minus a 1-gram subsample that was analyzed for Cu, Zn and As.

Gold assays exceeding the 1000 ppb anomaly threshold and ranging up to 25,000 ppb were reported for twenty-eight of the one hundred and eighty-one overburden samples (16 percent). Four additional samples (3 percent) containing visible gold would have given assays over 1000 ppb if the coarsest grain(s) had entered the 3/4 analytical split of the heavy mineral concentrate. Another eight samples (4 percent) yielded gold grain counts equal to or greater than the 10 gold grain anomaly threshold but assayed less than 1,000 ppb because all of the gold grains were fine. Thus, a total of forty samples representing 23 percent of the collected samples are anomalous.

In the Abitibi region, on average, 10 percent of samples that contain only background levels of gold yield anomalous results due to:

1. The chance occurrence of one or two coarse gold grains in the sample ("nugget effect"), or;

2. The chance occurrence of 10 or more fine gold grains in the sample ("cluster effect").

Thus 10 of every 23 anomalous samples on the Eby property can reasonably be assumed to be false "background anomalies", with the remaining anomalies reflecting either the higher-than-average gold background along the Kirkland Lake - Larder Lake Fault or the presence of dispersion trains related to significant bedrock mineralization, or both. That most of the anomalies are of the false background type is evident from the relatively uniform distribution of the anomalies throughout the drill area, as shown on Plan 2.

The anomalies on Plan 2 are plotted INPUT-fashion. Where two or more anomalous samples are present in a hole, the best anomaly is shown. Quadrants one through four (clockwise from upper right) represent greater than or equal to one thousand ppb Au, greater than or equal to ten grains of visible gold, stratigraphic continuity and a pathfinder metal assocication, respectively.

As numerous anomalous samples and holes are present, various screening processes are used to separate background noise from those anomalies which are, or may be, caused by dispersion from significant mineralized sources. The screening processes and anomalies discounted are listed in Table 7. In many cases anomalies are discounted for more than one reason.

The first screening method is to discount anomalies which have no stratigraphic continuity although we rarely eliminate anomalies solely on this basis. In this regard, an anomaly at the base of a till horizon is automatically assumed to have stratigraphic continuity as is an anomaly in a single sample till horizon. A lack of stratigraphic continuity is displayed by a single, isolated anomalous sample within or at the top of a multi-sample till horizon. A gold anomaly with no stratigraphic continuity is generally caused by a single nugget or by an erratic cluster of background gold grains. Such anomalies are so common that often they are vertically contiguous with one another or with a gold anomaly of another type. We refer to this as "chance continuity" and discount the anomaly as if it had no continuity.

A second phase of anomaly screening is the calculation of assays (Appendix C) using the formula/parameters discussed in Appendix G. In this case the calculated and measured (geochemical) assays are compared. Either good correlation or a low measured assay is indicative of sufficient visible gold being seen initially to account for the anomaly. We consider the correlation between calculated and measured assays to be "good" if the calculated assays are not more than twice as high as or fifty percent less than the measured assays. This allows for a doubling or halving of the normal thickness factor for flake gold particles used in the calculation. A low measured assay indicates that the largest grain of visible gold or a disproportionate number of the grains remained in the retained 1/4

Gold Anomalies				Grains V.G. (*Not Panned)	1st Phase Screening (Strat. Cont.)	2nd Phase Screening (Good Corr./ Low Assay)	3rd Phase Screening (Nugget Effect)	Remarks
Hole No.	Sample No.	Au Assay (ppb)						
		Meas.	Calc.					
ME-87- 01	02	312	231	10	No	Yes	No	All gold grains abraded, 0.5% py., 200 grains aspy.
02	06	72	163	14	Basal	Yes	No	All gold grains (except two) abraded, 2% py.
03	06	230	100	10	Chance	Yes	No	All gold grains (except two) abraded, 1% py.
	07	1,035	503	6	Basal	Yes	Inferred	All gold grains (except one) abraded, 2% py.
04	04	2,166	1,065	3	No	Yes	Observed	All gold grains abraded, 1% py. 97% of calc. gold contained in one 175x300 micron nugget.
	07	25,000	0	*0	Basal	High	Inferred	Check panned 1/4 conc.; no V.G., 1% py.
05	03	1,068	621	*1	No	Yes	Observed	Gold grain abraded @ 225x225.
	06	275	165	10	Basal	Yes	No	Six abraded gold grains, 3 irregular, 1 delicate, 1% py.
06	01	2,157	1,853	4	Chance	Yes	Observed	All gold grains abraded. 92% of calc. gold contained in one 250 x 400 micron nugget.
	02	856	421	11	Chance	Yes	No	All gold grains (except one) abraded.
07	02	747	1,076	8	No	Yes	No	All gold grains abraded, 1% py.
	04	2,332	594	9	Basal	High	Inferred	All gold grains (except one) abraded, 1% py., 150 grains aspy. Check panned 1/4 conc.; 1I @ 25x25, 1A @ 75x100, 1% py.
08	01	1,427	1,778	5	No	Yes	Observed	All gold grains abraded, 2% py. 80% of calc. gold contained in one 200x500 micron nugget.
09	02	2,747	1,099	6	No	High	Observed	All gold grains (except one) abraded, 1% py. 62% of calc. gold contained in one 150x225 micron nugget.
11	01	9,096	5,612	7	No	Yes	Observed	All gold grains abraded, 1% py. 95% of calc. gold contained in one 375x575 micron nugget.
	05	1,364	389	*1	Basal	High	Inferred	One irregular gold grain. Check panned 1/4 conc.; no V.G., 0.5% py., 5 grains galena.
14	02	4,168	4,930	15	Basal	Yes	Observed	All gold grains abraded, 1% py. 91% of calc. gold contained in one 225x450 micron grain.
15	01	694	386	10	Basal	Yes	No	All gold grains abraded, 1% py.
17	01	1,159	730	10	Basal	Yes	No	All gold grains abraded, 1% py.
20	01	2,718	1,661	5	Chance	Yes	Observed	All gold grains abraded, 2% py.
	02	1,025	420	9	Basal	High	Inferred	All gold grains abraded, 2% py. Check panned 1/4 conc.; 1A @ 75x150, 1% py.

Table 7 - Heavy Mineral Gold Anomaly Screening

Gold Anomalies				Grains V.G. (*Not Panned)	1st Phase Screening (Strat. Cont.)	2nd Phase Screening (Good Corr./ Low Assay)	3rd Phase Screening (Nugget Effect)	Remarks
Hole No.	Sample No.	Au Assay (ppb)						
		Meas.	Calc.					
ME-87- 21	01	428	210	11	No	Yes	No	All gold grains (except one) abraded, 1% py.
	03	2,751	947	4	Basal	High	Inferred	All gold grains abraded, 2% py. Check panned 1/4 conc.; no V.G., 1% py.
25	02	6,491	22	*1	Basal	High	Inferred	One abraded gold grain. Check panned 1/4 conc.; no V.G., 1% py., 1 grain galena.
30	01	6,507	3,887	6	No	Yes	Observed	All gold grains (except one) abraded, 1% py. 99% of calc. gold contained in one 250x600 micron nugget.
31	03	23	4,993	3	Basal	Yes	Observed	Two abraded gold grains and 1 irregular, 1% py. 93% of calc. gold contained in one 125x500 micron nugget.
33	01	1,002	0	*0	Basal	High	Inferred	Check panned 1/4 conc.; no V.G., 1% py.
36	01	1,360	882	9	No	Yes	No	All gold grains abraded, 1% py.
	05	858	2,187	8	No	Yes	Observed	All gold grains (except one) abraded, 1% py. 46% of calc. gold contained in one 225x325 micron nugget.
	07	1,028	1,425	8	Chance	Yes	No	All gold grains abraded, 2% py.
	08	306	230	15	Basal	Yes	No	All gold grains abraded, 2% py.
38	02	2,086	1,120	8	No	Yes	Observed	All gold grains abraded, 2% py. 71% of calc. gold contained in one 150x325 micron nugget
44	01	1,908	760	4	Chance	High	Inferred	All gold grains abraded, 3% py. Check panned 1/4 conc.; no V.G., 3% py.
	02	100	1,212	*1	Basal	Yes	Observed	One abraded gold grain. Original gold grain (100x275 micron abraded) found in 1/4 split.
46	01	1,349	6,387	7	Basal	Yes	Observed	All gold grains (except one) abraded. 97% of calc. gold contained in one 325x400 micron nugget.
48	01	1,749	446	3	No	High	Inferred	All gold grains abraded, 20% py.
	06	7,750	6,431	7	No	Yes	Observed	All gold grains abraded, 5% py. 91% of calc. gold contained in one 275x750 micron nugget.
49	02	2,214	1,610	7	No	Yes	Observed	All gold grains (except one) abraded, 20% py. 68% of calc. gold contained in one 250x350 micron nugget.
51	06	2,090	1,172	8	No	Yes	Inferred	Four abraded, 1 irregular and 3 delicate gold grains, 2% py.
57	01	5,938	6,574	17	Basal	Yes	Observed	Eleven abraded, 2 irregular and 4 delicate gold grains, 5% py. 74% of calc. gold contained in one 400x625 micron nugget.

Table 7 - Heavy Mineral Gold Anomaly Screening (cont'd)

split of the concentrate. Thus either good correlation of measured and calculated assays or a low measured assay generally indicates background noise if the 10 gold grain threshold for dispersion trains is not met.

A third screening method is the direct elimination of nugget anomalies by check panning and analysis. Table 7, in addition to Low Assays and Good Correlation, includes another category - High Assays - which refers to those samples in which the number of gold grains sighted was not sufficient to explain the anomalies obtained. High Assays can be caused by any one of the following:

1. A missed nugget.
2. A sighted nugget for which the actual thickness is greater than the assumed thickness (0.1-0.2 x diameter) used in the assay calculation.
3. The difference in weight between the total concentrate on which the calculation is based and the 3/4 concentrate that is assayed (applies only to samples in which a nugget is present, as fine gold would be evenly distributed through the sample).
4. A large number of missed fine gold grains.
5. Invisible gold in pyrite or other heavy minerals.

Missed nuggets normally account for about 80 percent of High Assays, the thickness and weight factors for 10-20 percent, and fine gold and invisible gold for less than 10 percent. Only the fine gold and invisible gold anomalies are significant.

One method of evaluating anomalies in the High Assay category is to pan the retained 1/4 concentrates, and this was done for the Eby samples (Table 7). An absence or minimal amount of fine visible gold or less than ten percent sulfides in the 1/4 concentrate generally precludes the occurrence of fine gold or sulphide gold in anomalous concentrations in the 3/4 analytical split, and such anomalies can be assumed to have been caused by a missed or unusually thick nugget. Samples which apparently contain multiple gold particles but do not meet the ten grain minimum (assuming visible gold in the 1/4 and 3/4 is directly proportional) are grouped with nugget anomalies provided sulphide levels are low. Where uncertainty exists the 1/4 concentrate can be analyzed by the non-destructive INA method with the hope of duplicating the 3/4 analysis.

Using the above screening process, thirty-three of the forty anomalies can be confidently discounted as background nugget occurrences. These anomalies fall into two groups -- Group 1 in which the number of gold grains observed during intitial processing was sufficient to account for the reported assays but was either below or only marginally above the 10-grain anomaly threshold, and Group 2 (High Assay category) in which little or no gold was seen but the 1000 ppb anomaly threshold was exceeded.

Twenty-three of the thirty-three discounted anomalies are in Group 1. In addition to being caused by sub-anomalous concentrations of gold grains, fourteen of these anomalies lack stratigraphic continuity. Five of the other nine anomalies show chance continuity and the remaining four, by chance, occur in basal samples.

Ten of the discounted anomalies are in Group 2 and unexpectedly yielded assays over 1000 ppb. Three of these lack stratigraphic continuity and could be dismissed on this basis alone; one other anomaly shows chance continuity and the other six occur in basal samples. As a further check, the 1/4 concentrates of all ten samples were panned. No significant gold grain or sulphide mineral concentrations were found. It is probable that all of these anomalies were caused by unsighted nuggets and are of no significance. As a final check, the 1/4 concentrate splits of five samples showing basal continuity have been submitted for analysis to test for occluded gold. If occluded gold is present, the gold content of the 1/4 split should be similar to that of the 3/4 split.

6.3.1 Potentially Significant Gold Anomalies

The seven remaining anomalies occur in seven different drill holes (No. 02, 05, 14, 15, 17, 36 and 51) and probably are as insignificant as the 33 discounted anomalies. However, it is difficult to dismiss these seven anomalies at the 100 percent confidence level, principally because they all occur in basal samples and were all caused by more then 10 gold grains that, in each hole, tend to be of a common size. Moreover, six of the seven anomalies are proximal to the Kirkland Lake - Larder Lake Fault. The major negative factor in each case is that most of the gold grains are abraded. Furthermore, four of the anomalies are surrounded by non-anomalous holes which, considering the detailed nature of the hole pattern, severely limits the potential for a source of significant size. Finally, the gold grains in some cases are so fine that the assays are well under 1,000 ppb, thereby limiting both the size and grade of the source.

6.3.1.1 Hole 02 Anomaly

The anomaly in Hole 02 occurs in Sample 06 at the base of a 10 metre section of Matheson Till resting on bedrock at a depth of 10.5 metres. Processing of this sample produced a total of 14 gold grains; two irregular and 12 abraded with eight of these grains less than 50 microns in diameter and the remainder less than 125 microns. The concentrate assayed 72 ppb Au which is consistent with the number and size of gold grains present. Respective copper, zinc and arsenic analytical results were 125, 25 and 25 ppm. Metal levels in the underlying bedrock are not elevated.

The anomaly is directly over the Kirkland Lake - Larder Lake fault but the abraded nature of the gold grains suggests a distal source. Moreover the anomaly is very weak and is not repeated in nearby drill holes. In summary, the anomaly was probably caused by the cluster effect and the gold grains are part of the normal background for the area.

6.3.1.2 Hole 05 Anomaly

The anomaly in Hole 05 occurs in Sample 06 at the base of an 11 metre section of Matheson Till overlying bedrock at a depth of 14.5 metres. This sample yielded three delicate, one irregular and six abraded gold grains. The delicate and irregular gold grains were less than 50 microns whereas the abraded grains varied in size from 25 to 150 microns. Only one percent pyrite was noted in the concentrate.

The hole occurs approximately 250 metres down-ice from the interpreted position of the Kirkland Lake - Larder Lake Fault. The underlying bedrock contains, at best, background metal levels. The presence of visible delicate gold does suggest dispersion from a local source, most likely the fault; however, the low concentration and low analytical results are consistent with only a very localized or a low grade source.

6.3.1.3 Holes 14/15/17 Anomaly

The most continuous anomaly and therefore the one that most closely matches known dispersion trains occurs in Holes 14, 15 and 17. Hole 16, which was drilled between Holes 15 and 17, gave near-anomalous results. Inclusion of this hole gives a 300 metre long anomaly trending roughly parallel to the regional 165 degree azimuth of Late Wisconsinan ice flow and straddling the Kirkland Lake - Larder Lake Fault.

The Matheson Till in the anomalous area is only one to two samples thick (Fig. 9) and the anomaly is confined to the basal samples. The gold grain counts range from seven to twenty and all of the grains are abraded. With the exception of a 300 x 725 micron nugget in Hole 14, these grains are all relatively fine (25 to 200 microns). If the 4700 ppb contribution of the nugget is subtracted from the assay for the Hole 14 sample, all of the assays are in the relatively narrow but sub-anomalous range of 82 to 730 ppb. Thus the anomaly has the important dispersion train property of consistency between drill holes but is just as weak as the ones in Holes 02 and 05.

If the anomaly represents a true dispersion train, the abraded nature of the gold grains is problematic. Abraded grains normally indicate considerable transport either by ice alone or by fluvial interglacial transport and concentration (placers in Sangamon gravels) with subsequent reworking by ice. However, anomalous bedrock (slightly altered conglomerate with 175 ppb Au) is present in Hole 13, just 100 metres up-ice from the till anomaly, and Sangamon gravels are not present on the property. This suggests either that the gold was abraded prematurely or more likely that the anomalies in Holes 14, 15 and 17, like many of the other anomalies on the property, were caused by the cluster effect and strictly by chance occur in adjacent drill holes.

6.3.1.4 Hole 36 Anomaly

The anomaly in Hole 36 occurs in Sample 08 at the base of a 12 metre section of Matheson Till resting on bedrock at a depth of 18 metres. Processing of this sample produced 15 abraded gold grains with all grains less than 150 microns in diameter and eight of these less than 50 microns. The concentrate also contained two percent pyrite. An analytical value of 306 ppb Au is consistent with the calculated value of 230 ppb. Bracketing holes are not anomalous. This, combined with the abraded nature of the gold grains and the low assay, strongly suggests that the anomaly was carried by the cluster effect.

6.3.1.5 Hole 57 Anomaly

The Hole 57 anomaly is the only potentially significant anomaly over the komatiitic Larder Lake volcanics in the northeastern part of the drill area. Sample 01 of a thin Matheson Till section overlying bedrock at a depth of 18 metres yeilded four delicate, two irregular and eleven abraded gold grains as well as 5 percent pyrite. Fifteen of the seventeen gold grains are finer than 100 microns; the other two are nuggets -- a very large, irregular one of 400 x 625 microns and a smaller abraded one of 300 x 375 microns.

The delicate and irregular grains are probably from a local source while the abraded grains are assumed to represent clustered background gold. The calculated and measured assays show good correlation (6,574 and 5,938 ppb, respectively), and the calculated contribution of the delicate and irregular grains is 4,867 ppb with 99.8 percent of this coming from the large nugget. The probable source is a known green carbonate zone 200 metres up-ice (Plan 2) where considerable trenching and shallow shaft development has been done previously.

6.4 Eby Heavy Mineral Arsenic and Base Metal Anomalies

Thirteen of the 181 overburden samples (7 percent) from 13 drill holes (21 percent) produced assays over the 800 ppm anomaly threshold level for copper or arsenic. Twelve of these 13 samples are anomalous in copper and the other (Sample 34-02) is anomalous in arsenic. Many other overburden samples scattered throughout the drill area display elevated but sub-anomalous levels of copper and arsenic (200-800 ppm). This suggests very weak but widespread mineralization which probably reflects normal variations in the metal contents of the different rock types present in the area. The majority of the zinc assays are less than 200 ppm -- commonly less than 100 ppm -- representing background levels only. No samples contain more than 800 ppm Zn.

A limited screening process similar to that previously used for gold anomalies has been employed to separate background noise from those anomalies which are, or may be, related to significant mineralized sources. The anomalies and screening processes and are listed in Table 8. In some cases anomalies are discounted for more than one reason.

As with gold anomalies, one screening method is to eliminate anomalies which have no stratigraphic continuity. Six copper anomalies and the only arsenic anomaly do not show stratigraphic continuity (Table 8). With one exception these anomalies are weak. Sample 51-07 assayed 23,240 ppm Cu which has been traced to drill cuttings of a weakly mineralized boulder. Thus the anomaly is not

Hole No.	Sample No.	Strat. Cont.	Strat. Unit	Assay Values (ppm)			1/4 H.M.C.	Remarks
				Cu	Zn	As		
ME-87-01	02	No	M. Till	1,026	67	41	-	Not significant
09	06	No	M. Till	3,175	-	1	-	Not significant
34	02	No	M. Till	97	204	5,360	-	Not significant
39	01	Basal	M. Till	931	31	18	5% py., 0.2% cpy./bornite	Weak train
40	02	Basal	M. Till	1,208	48	7	10% py., 0.2% cpy.	Weak train
41	03	Basal	M. Till	1,136	58	165	7% py., 0.3% cpy./bornite	Weak train
44	02	Basal	M. Till	1,115	54	54	3% py., 0.2% cpy.	Weak train
46	01	Basal	M. Till	2,319	54	90	15% py., 0.5% cpy.	Weak train
48	02	No	M. Till	907	61	54	-	Not significant
49	02	No	M. Till	982	52	54	-	Not significant
51	07	No	M. Till	23,240	119	97	1% py., 5% cpy., 2% bornite	Not significant (mineralized boulder)
54	02	No	M. Till	1,089	29	178	30% py., 0.1% cpy.	Not significant
59	02	Basal	M. Till	1,116	88	85	5% py., 0.2% cpy./bornite	Weak train

Table 8 - Heavy Mineral Arsenic and Base Metal Anomaly Screening

considered significant. In two cases (Samples 01-02 and 49-02) the copper anomalies by chance coincide with gold anomalies that are equally insignificant.

Five copper anomalies (931-2,319 ppm) clustered in the basal samples of Holes 39, 40, 41, 44, and 46 just south of the Larder Lake komnatiites near their intersection with the Kirkland Lake - Larder Lake Fault show real or apparent stratigraphic continuity as does a sixth copper anomaly in the basal sample of Hole 59 over the komatiites. Anomalies of this type can be further qualified by direct mineralogical observation. In the case of the Eby samples, the retained 1/4 concentrates were visually examined under a binocular microscope to ascertain the percentages of copper minerals present relative to the precentage of pyrite. In addition, small incorporated rock chips were observed for the presence of economically viable banded massive base metal sulphides versus less attractive vein-hosted disseminated sulphides. Sufficient percentages of copper minerals (0.2 to 0.5 percent chalcopyrite/bornite, occasionally associated with quartz) were observed to account for all of the anomalous assay results, and no sulphide bonding was observed.

Only background zinc and arsenic values are associated with these concentrates. The most obvious source for the copper is the underlying bedrock which in the five-hole anomaly area is generally described as strongly foliated and sheared basalts with 2-5% quartz carbonate veining. These basalts show slightly elevated copper levels of 83-156 ppm. The komatiite at Hole 59 assayed only 47 ppm Cu but is a soft talc-chlorite-carbonate schist and ODM has observed that similar rocks elsewhere can shed a large volume of copper when glaciated. None of the indicated copper mineralization is considered significant.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 Gold Potential of the Eby Property

The gold content of the till on the Eby property is high but this is a regional feature found along all major gold structures (Kirkland Lake - Larder Lake Fault, Porcupine - Destor Fault and Casa-Berardi Break) in the Abitibi Belt and is not in itself an indication of the gold potential of the property. Indeed the high background is a nuisance as it appears to be caused principally by visible gold that, due to erratic distribution (the cluster effect) and variations in grain size (the nugget effect), produces many false heavy mineral gold anomalies. Of forty anomalies obtained, only one anomaly in Hole 57 appears to be significant.

The Eby property was acquired by Mary Ellen Resources largely on the basis of the similarity of its geology to that found at the Kerr Addison Mine at Larder Lake. In the Kerr Addison model, gold can be expected to occur in altered (green carbonate) komatiitic flows and interflow sediments of the Larder Lake Group proximal to the Kirkland Lake - Larder Lake Fault. Some workers consider the gold to be entirely epigenetic while others such as Jensen and Hinse (1979) suggest that the gold in the interflow sediments accumulated sygenetically during Cycle II volcanism when the Kirkland Lake - Larder Lake Fault was a basin-marginal structure and that only the gold in the green carbonate zones is epigenetic.

On the Eby property, the Larder Lake komatiites are found only in the northeast and it is in this area that previous exploration has been concentrated. Only 12 of the reverse circulation holes were drilled here and these holes were positioned too far down-ice from the fault (1200 metres) and most of the known green carbonate zones to provide a good test of the gold potential. The only encouragement obtained is the 4,867 ppb delicate/irregular gold grain anomaly in Hole 57, and 99.8 percent of this anomaly is caused by one gold grain. The probable source of the gold is the most southerly of the known green carbonate zones which lies 200 metres up-ice.

Most of the reverse circulation drilling was done on the northwestern part of the property where the Kirkland Lake - Larder Lake Fault forms the contact between Kinojevis basalts and Timiskaming conglomerates. Green carbonate alteration is rare here and the Kerr Addison model does not apply. Any gold mineralization would probably be shear-controlled. Unfortunately most of the shearing occurs in the conglomerate which is generally considered to be younger than the main episode of gold mineralization (Downes, 1979). Some evidence of younger mineralization is provided by the 175 ppb gold anomaly in the conglomerate of Hole 13 but the till over and down-ice from the conglomerate did not yield any anomalies suggestive of concentrated mineralization.

7.2 Gold Targets

Follow-up exploration is recommended for the following three target areas:

1) The weak bedrock gold anomaly in Hole 13.
2) The green carbonate horizon 200 metres north of Hole 57.
3) The untested green carbonate zones further to the north.

7.2.1 Hole 13 Area

One or two core holes should be drilled to cross-section the geology under Hole 13 and determine whether the gold anomaly in the conglomerate is significant. Mary Ellen should select the hole sites using the geophysical data obtained from previous surveys.

7.2.2 Hole 57 Area

It is recommended that Mary Ellen review the assessment files to determine whether the gold found by early workers in the green carbonate zone 200 metres north of Hole 57 matches that found in the till at Hole 57 in terms of tenor and particle size. Some diamond drilling may be warranted west and southwest of the main green carbonate outcrop (Plan 2).

7.2.3 Northern Green Carbonate Zones

The paucity of positive results from the present drilling is due mainly to the unfavourable geology in the areas that were selected for drilling. The reverse circulation method itself cannot be faulted as it produced positive results in the one instance where holes were drilled near known mineralization. This suggests that the method could be applied successfully over the more northerly green carbonate zones that are closer to the Kirkland Lake - Larder Lake Fault. Much of this area is overburden covered and previous work has been concentrated around the few outcrop clusters that are present (Plan 2). Approximtely 30 holes would give detailed coverage on a 100 x 200 metre grid pattern. Hole depth would probably average 10 metres and all-inclusive costs $100/metre for a total project cost of $30,000.

7.3 Property Acquisition

The Larder Lake komatiites strike in a northwesterly direction onto the adjoining property where they are covered by Kenogami Lake. Aquisition of this property would provide a broader target area in which to test the Kerr Addison model. The lake-covered area could probably be evaluated very effectively using reverse circulation drilling.

S. Averill, President

CERTIFICATE - STUART A. AVERILL

I, Stuart A. Averill, residing at 192 Powell Avenue, Ottawa, Ontario hereby certify as follows:

That I attended the University of Manitoba at Winnipeg, Manitoba and graduated with a B.Sc. (Hons.) in Geology in 1969.

That I have worked continuously in the field of mining exploration geology since 1971.

That I am President and a principal owner of Overburden Drilling Management Limited, 107-15 Capella Court, Nepean, Ontario, an independent geological consulting company that I founded in 1974.

That I qualify for and have recently applied for fellowship in the Geological Association of Canada.

That this technical report is based on data gathered on the subject property by employees of Overburden Drilling Management Limited and interpreted by me.

That I have no direct or indirect interest in Mary Ellen Resources Limited.

S. Averill

Stuart A. Averill, B.Sc. (Hons.)

Dated at Ottawa, Ontario this 9th day of June 1987

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APPENDIX A

REVERSE CIRCULATION DRILL HOLE LOGS

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MV-38 ELEV 331 m

DATE JAN 19 1987

HOLE NO ME-87-01 LOCATION LINE 37W, 6+15 N

GEOLOGIST SHELP DRILLER HALSALL BIT NO. JCCC388 BIT FOOTAGE 0-10 m

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

MOVE TO HOLE ______

DRILL 0930 - 11.15

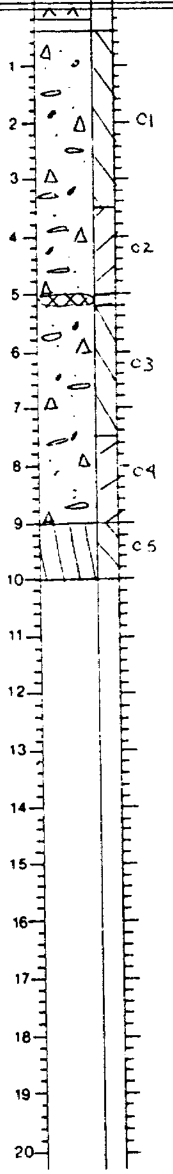
MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE 11.15 - 11.30

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0 - 0.1 ORGANICS

0.1 - 0.4 OJIBWAY II CLAY

beige soft clay

0.4 - 9.0 MATHESON TILL

- grey to grey beige fine-med sand
- pebble 80% volc/seds 20% granitoid
- cobbly

5.0 - 5.2 boulder (mafic volc)

9.0 - 10.0 BEDROCK

(TIMISKAMING CONGLOMERATE)

- dark green colour with lighter coloured granite and jasper clasts
- distinct clasts with the absence of a matrix
- massive
- conglomerate (variable grain size!

(Bit failed while drilling this unit)

10.0 , E.O.H

NOTE Poor sample return

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-37

DATE JAN 19 19 87

HOLE NO ME 87-02 LOCATION L37W 4+90N ELEV 329m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. LB68554 BIT FOOTAGE 0-12m

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 11.15 - 11.30

DRILL 11.30 - 13.10

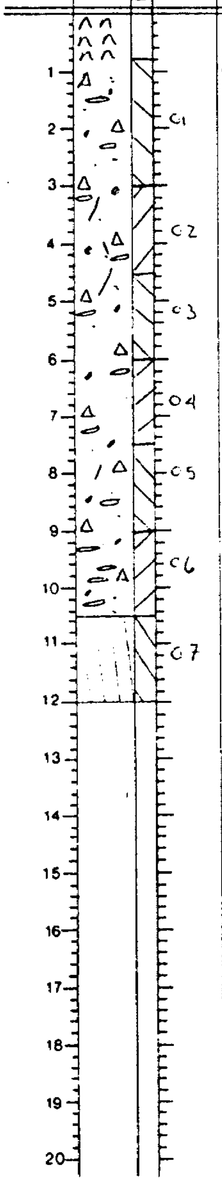
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 13.10 - 13.20

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO.



DESCRIPTIVE LOG

0-0.8 ORGANICS

0.8-10.5 MATHESON TILL

- grey to grey-beige fine-med sand
- pebble 90% volc/seds
  10% granitoid
- cobbly

3.0-5.0 5-15% grey gritty clay

8.0-8.2 30% grey gritty clay

9.0-10.5 cobbly section
- matrix poor
- greater than 95% volcanic

10.5-12.0 BEDROCK
(Basalt)
- dark green
- fine-grained
- strongly calcareous
- < 5% qtz-carbonate veinlets
- massive -> weakly foliated

12.0 E.O.H

NOTE Very poor return.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-36

DATE JAN 19 19 87

HOLE NO ME87-03 LOCATION L37W 3190N ELEV 326m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CR65554 BIT FOOTAGE 12.0-27.5m

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 1310-1320

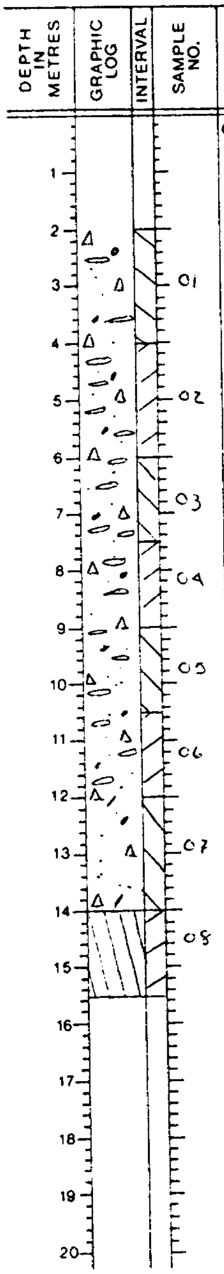
DRILL 1320-15.10

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 15.10-15.20



DESCRIPTIVE LOG

0-2.0 NO SAMPLE

2.0-14.0 MATHESON TILL
- grey beige - beige fine to med sand
- pebble 90% volc/seds
  10% granitoid
- cobbly

3.6-3.7 20% grey gritty clay

4.6-12.0 cobbly section
- 100% volcanics
- matrix poor

12.0-12.2 20% dark grey hard, gritty clay

13.8-14.0 30% dark grey gritty clay

14.0-15.5 BEDROCK
(mafic volcanic)
- dark green
- fine-grained
- massive -> weakly foliated
- strongly calcareous
- < 1% qtz-carbonate veinlets
- fine-grained pyrite in veinlets

15.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-35

DATE JAN 19 1987

HOLE NO ME-87-04 LOCATION L37W 2+70N ELEV 323m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68554 BIT FOOTAGE 225

SHIFT HOURS

____ TO ____

MOVE TO HOLE 15 10 - 15.20

DRILL 15 20 - 17.00

TOTAL HOURS

MECHANICAL DOWN TIME

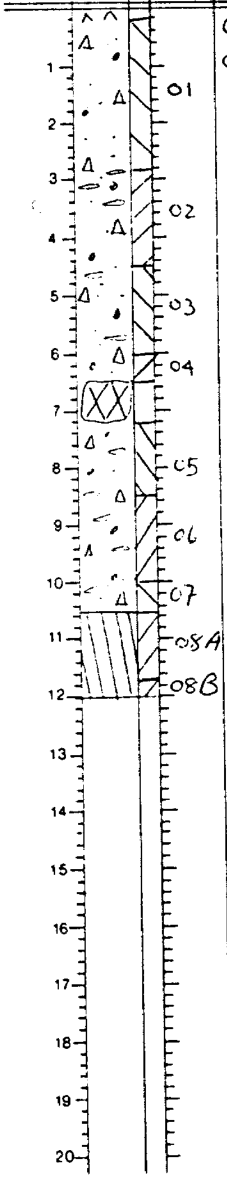
DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0 - 0 2 ORGANICS

0 2 - MATHESON TILL

- grey - grey beige fine-med sand
- pebbles 90 % volc/seds
  10 % granitoid

2.8 - 3.6 cobbly section
- matrix poor

6.5 - 7.2 boulder
(mafic volc)

10.5 - 12.0 BEDROCK
(Basalt)

10.5 - 10.9 strongly oxidized
10-15 % quartz-carbonate veinlets

10.9 - 11.7 med - dark green
- foliated, appears sheared
(slipplanes)
- fine-grained

11.7 - 12.0 quartz-vein
- strongly sheared

12.0 E.O.H.

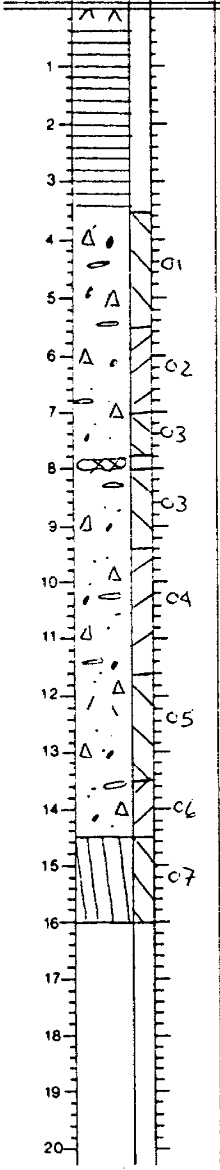
NOTE poor return (0 2 - 3.0).

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 20 19 87
HOLE NO ME87-05 LOCATION L37W , 1+90N ELEV 321m SITE mo-61
GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68553 BIT FOOTAGE 0-15.5
SHIFT HOURS
______ TO ______
MOVE TO HOLE 9.00 - 9.10
DRILL 9.10 - 11.40
TOTAL HOURS
______
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
______
OTHER
MOVE TO NEXT HOLE 11.40 - 11.50

NEW BIT CB68553

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0 - 0.2 ORGANICS

0.2 - 35 <u>OJIBWAY SEDIMENTS</u>

- grey, soft, pure clay

3 5 - 14.5 MATHESON TILL

- grey beige - beige fine-med sand
- pebbles 60 % volc/seds
  40 % granite
- occasional cobble
- occasional lithified silty clasts

by 5.6 pebbles 80 % volc/seds
20 % granitoid

7.8 - 8.0 boulder (mafic volc)

12.0 - 12.4 10 % dark grey, gritty clay

14.5 - 16.0 BEDROCK

- mottled dark and olive green
- medium grained
- sheared
- distinct plag crystals
- saussuritization

155 thin seam of reddish rock
(hematite, jasper)

(Gabbro or coarse-grained Mafic Volc)

16.0 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-62

DATE JAN 20 19 87

HOLE NO ME87-06 LOCATION L37W, 0190 N ELEV 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68553 BIT FOOTAGE 15.5-32.5

SHIFT HOURS

_____ TO _____

MOVE TO HOLE 11.40 - 11.50

DRILL 11.50 - 13.30

TOTAL HOURS _____

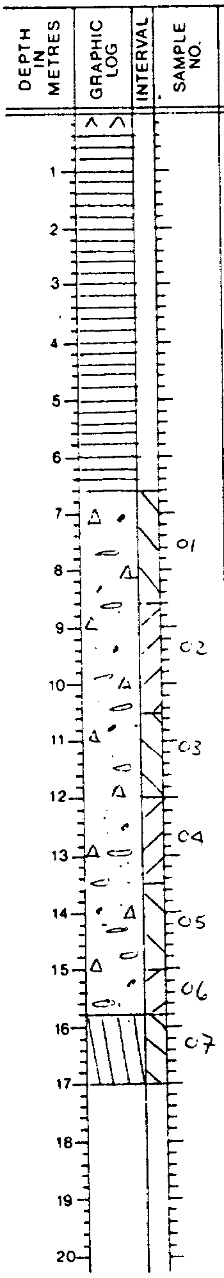
MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

CONTRACT HOURS _____

OTHER _____

MOVE TO NEXT HOLE 13.30 - 13.40



DESCRIPTIVE LOG

0-0.2 ORGANICS

0.2-6.6 OJIBWAY SEDIMENTS

- grey soft, pure clay

6.6-158 MATHESON TILL

- grey fine-med sand
- pebble 90 % volc/seds
  10 % granitoid
- cobbly

158-17.0 BEDROCK

(Basalt)

- dark green
- fine-grained
- massive -> moderately foliated
- <01% jasper blebs

17.0 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-63

DATE JAN 20 19 87

HOLE NO ME-87-07 LOCATION L37W Base Line ELEV 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68553 BIT FOOTAGE 32.5-500m

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 13.30-13.40

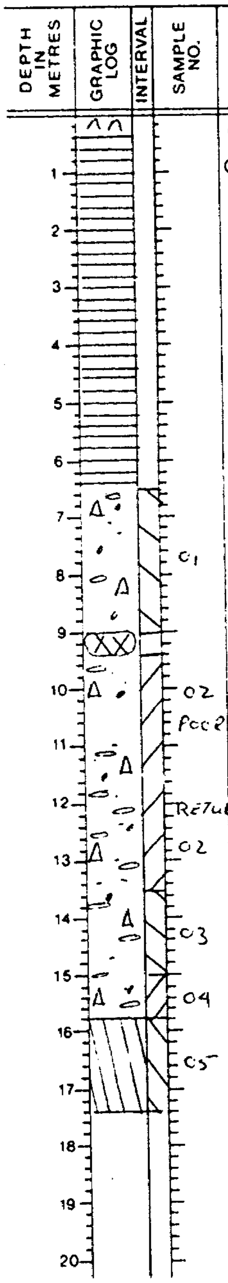
DRILL 13.40-15.30

MECHANICAL DOWN TIME 13.40-13.50, 15.30-16.15 (muskeg tread problems)

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 16.15-16.20



DESCRIPTIVE LOG

0-0.2 ORGANICS

0.2-6.5 OJIBWAY SEDIMENTS

- dark grey, soft, pure, clay

6.5-15.8 MATHESON TILL

- grey fine-med sand
- pebble 80% volc/seds
  20% granitoid
- occasional cobble

9.0-9.4 boulder (mafic volc)

11.0-15.8 cobbly section

15.8-17.4 BEDROCK

- dark green
- rubbly appearance, fragmented possibly sheared
- strongly calcareous

16.4-16.5 5% calcite veinlets

(Mafic volcanic)

17.4 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-64

DATE JAN 20 19 87

HOLE NO ME-87-08 LOCATION L37W 1400 S

GEOLOGIST SHELP DRILLER HALSALL BIT NO. J000389 BIT FOOTAGE 0-190m

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

MOVE TO HOLE 16.15-16.20

DRILL 16.20 - 17.00

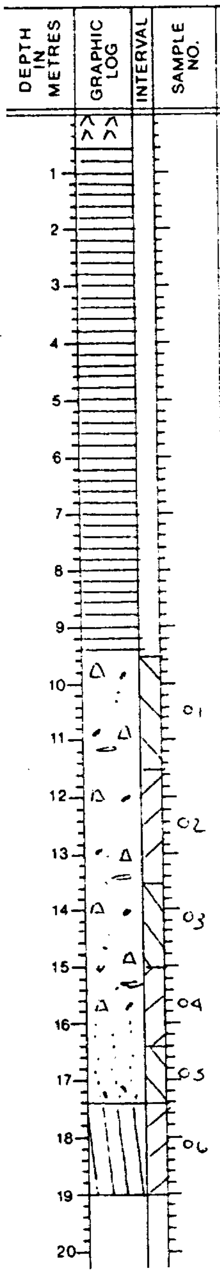
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

JAN 21/87 drill 07.30 - 08.30
move 08.30 - 08.55



DESCRIPTIVE LOG

0 - 0.4 ORGANICS

0.4 - 9.5 OJIBWAY SEDIMENTS
- dark grey, soft, pure clay

9.5 - 17.4 MATHESON TILL
- grey fine-med sand
- pebble 90% volc/seds
10% granitoid
- occasional cobble

16.0-17.4 grey fine-med sand
- ≃10% pebbles at end of section

16.0-17.4 possibly Missinaibi Sediments

17.4-19.0 BEDROCK
(BASALT)
- dark green
- appears sheared (slip planes)
- fine-grained
- ~ 5% jasper

19.0 EOH.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 21 19 87

SHIFT HOURS

_____TO_____

TOTAL HOURS

CONTRACT HOURS

SITE mo-27

HOLE NO ME87-09 LOCATION 91+00W 2+50N ELEV 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. J00C389 BIT FOOTAGE 19-38.2m

MOVE TO HOLE 08.30- 08.55

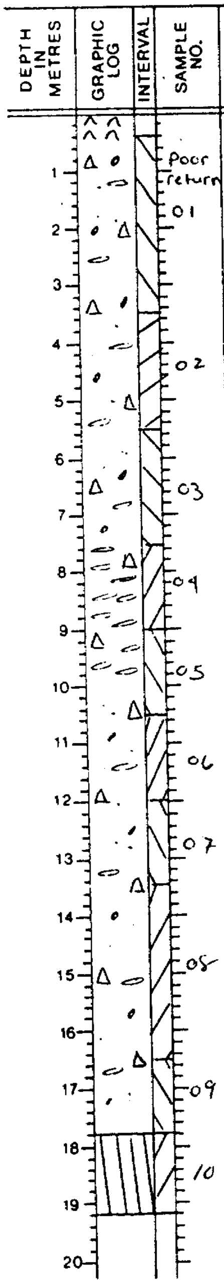
DRILL 08.55 - 11.00

MECHANICAL DOWN TIME 09.10 - 09.20 waterpump

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 11.00 - 11.10



DESCRIPTIVE LOG

0 - 0.4 ORGANICS

0.4 - 17.6 MATHESON TILL

- grey - greybeige fine-med sand
- pebbles 80% volc/seds 20% granitoid (5-10% jasper)
- occasional cobble

7.6-10.0 cobbly section 100% volc

17.6- 19.2 BEDROCK (Basalt)

- dark green
- foliated, appears sheared
- 5-10% qtz-carbonate (pink) veinlets with trace fine-grained pyrite
- fine-grained

19.2 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-26

DATE JAN 21 1987

HOLE NO ME-87-10 LOCATION L41+00W 1+50N ELEV 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. JOCO 389 BIT FOOTAGE 382-448.8m

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 11.00 - 11.10

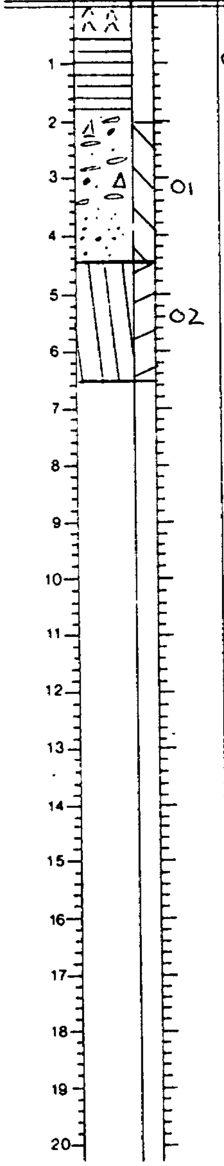
DRILL 11.10 - 12.45

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 12.45 - 12.55



DESCRIPTIVE LOG

0 - 0.4 ORGANICS

0.4 - 2.0 OJIBWAY SEDIMENTS

- grey, soft, pure clay

2.0 - 4.5 MATHESON TILL

2.0 - 3.5 cobbly section
- 80% volc/sed
  20% granitoid
- matrix poor
  - grey fine-med sand

3.5 - 4.5 greybeige-beige fine-med sand
- pebbles 80% volc/seds
  20% granitoid

4.5 - 6.5 BEDROCK
(Basalt)
- dark green
- foliated
- fine-grained
- strongly calcareous
- 2-3% calcite veinlets
- <1% jasper

6.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-25

DATE JAN 21 1987

HOLE NO ME87-11 LOCATION L41W OLSON ELEV 321 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. J0003F9 BIT FOOTAGE 49.8-61.8m

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

MOVE TO HOLE 12.45 - 12.55

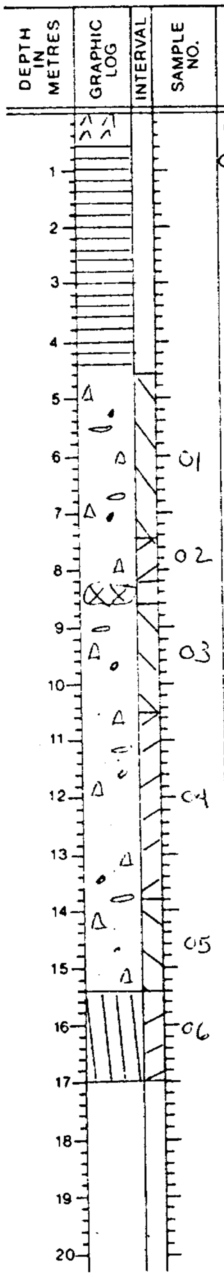
DRILL 12.55 - 14.00

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER clean recirc tank 1400-14.15

MOVE TO NEXT HOLE 14.15 - 14.25



DESCRIPTIVE LOG

0-04 ORGANICS

0.4-46 OJIBWAY SEDIMENTS

- grey, pure, soft clay

4.6-15.4 MATHESON TILL

- grey fine-med sand
- pebbles 70% volc/seds
  30% granitoid

changing to 80/20 downsection

- occasional cobble.

8.2-8.6 boulder
(mafic volc)

12.0 pebbles
>95% volc

15.4-17.0 BEDROCK
(Basalt)

- dark green
- foliated
- fine-grained
- strongly calcareous

15.6-15.8 }
16.4-17.0 } 5-10% quartz-carbonate veinlets

17.0 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-24

DATE JAN 21 19 87

HOLE NO ME-87-12 LOCATION 41W 0+50S ELEV 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CR6K555 BIT FOOTAGE 0-7m

SHIFT HOURS

______ TO ______

MOVE TO HOLE 14.15 - 14.25

DRILL 14.25 - 15.05

TOTAL HOURS

MECHANICAL DOWN TIME

DRILLING PROBLEMS

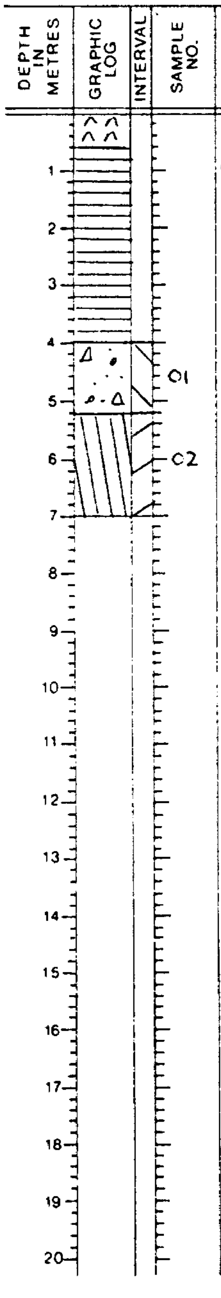
CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE 1505 - 1545

New Bit

New Sub



DESCRIPTIVE LOG

0-0.4 ORGANICS

0.4-4.0 OJIBWAY SEDIMENTS

- grey, pure, soft clay

4.0-5.2 MATHESON TILL

- grey fine-med sand.
- pebbles 70 % volc/seds
  30 % granitoid

5.2-7.0 BEDROCK

(Basalt)

- dark green
- fine grained
- appears sheared (slip planes)
- strongly calcareous
- 3-5% quartz-carbonate (pink) veinlets

7.0 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-21

DATE JAN 21 19 87

HOLE NO ME-87-13 LOCATION 45W, 2190N ELEV 321 m

GEOLOGIST SHELP DRILLER HOLSALL BIT NO CB65555 BIT FOOTAGE 7-11m

SHIFT HOURS

_____ TO _____

MOVE TO HOLE 15.05 - 15.45

DRILL 15.45 - 17.00

TOTAL HOURS _____

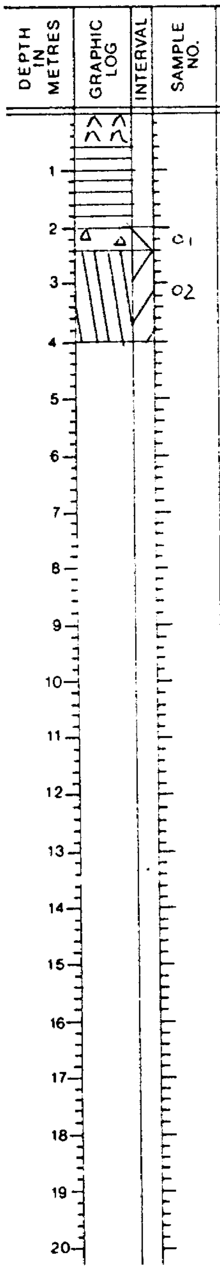
MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

CONTRACT HOURS _____

OTHER _____

MOVE TO NEXT HOLE _____



DESCRIPTIVE LOG

0-0.4 ORGANIC

0.4-2.0 OJIBWAY SEDIMENTS

- grey, pure, soft clay

2.0-2.4 MATHESON TILL

- grey fine-med sand
- pebbles 80 % volc/seds 20 % granitoid

2.4-4.0 BEDROCK

(conglomerate)

- dark green matrix surrounding light pink granite clasts
- mafic component (>70%) is strongly foliated, fine grained
- granitic clasts - rounded, fine-med grained and range in size from <2mm to >1cm.

3.4-3.6 strongly oxidized section of mafic material

- appearance of small oxidized nodules (Fe, Mn)

4.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-20

DATE JAN 22 19 87

HOLE NO ME 87-14 LOCATION 45 W , 1190 N ELEV 321 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB6K555 BIT FOOTAGE 11.0-21.5 m

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 7.50 - 8.10

DRILL 08.10 - 900

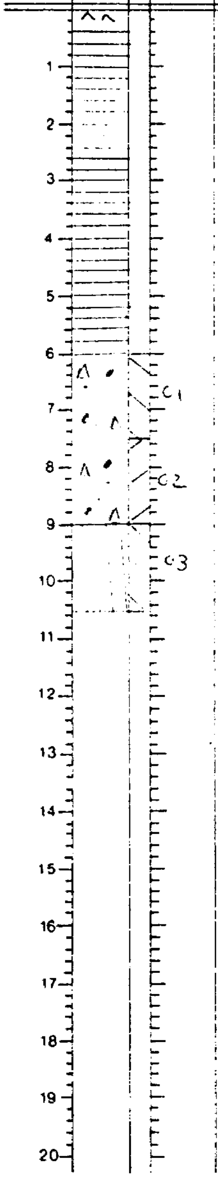
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 9.00 - 9.15

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO.



DESCRIPTIVE LOG

0 - 0.2 ORGANIC

0.2 - 6.0 <u>OJIBWAY SEDIMENTS</u>

grey, soft, pure clay

6.0 - 9.0 <u>MATHESON TILL</u>

- grey fine-med sand
- pebbles 90 % volc/seds
  10 % granitoid

9.0 - 10.5 <u>BEDROCK</u>

(Conglomerate)

- mixed jasper, basalt and granitic chips
- basalt - dark green, foliated
- granitic clasts are med-coarse grained, pink
- clasts are vari-sized <2mm -> >> 1cm
- mafic material comprises >60 % of rock
- <0.1 % fuchsite

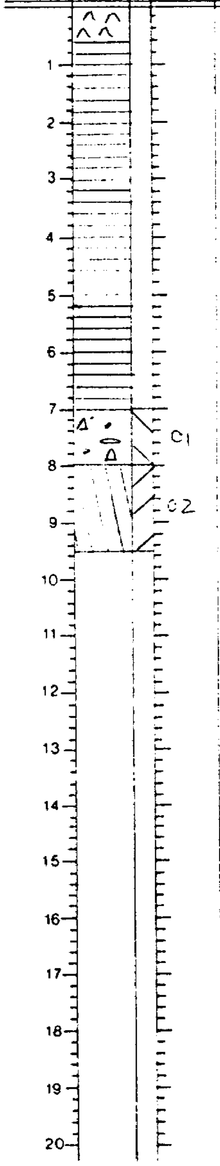
10.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-19

DATE JAN 22 19 87
HOLE NO ME 87-15 LOCATION 45 W 0+90N
GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB65555 BIT FOOTAGE 26.5-31cm
SHIFT HOURS
_____ TO _____
MOVE TO HOLE 900-9.15
DRILL 915-10.15
TOTAL HOURS
_____
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
_____
OTHER
MOVE TO NEXT HOLE 10.15 - 10.30

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0 - 0.5 ORGANICS

0.5 - 7.0 OJIBWAY SEDIMENTS

- grey, pure, soft clay

7.0 - 8.0 MATHESON TILL

- grey fine - med sand
- pebble 80 % vole/seds
  20 % granitoid
- occasional cobble

8.0 - 9.5 BEDROCK

(Conglomerate)

- >70% dark green mafic material surround granitic clasts of various sizes (<2m ->>1cm)
- mafic material is fine-grained and foliated
- granitic clasts - finegrained to coarse grained

9.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-19

DATE JAN 22 19 87

HOLE NO ME 87-15 LOCATION 45 W OF 9 N

GEOLOGIST SHELP DRILLER HALSALL BIT NO CB655555 BIT FOOTAGE 21.5-31.cm

SHIFT HOURS

______ TO ______

MOVE TO HOLE 900-9.15

DRILL 915-10.15

TOTAL HOURS

______

MECHANICAL DOWN TIME

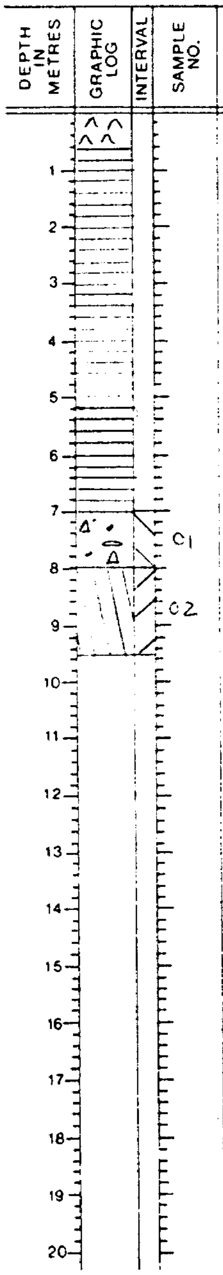
DRILLING PROBLEMS

CONTRACT HOURS

______

OTHER

MOVE TO NEXT HOLE 10.15-10.30



DESCRIPTIVE LOG

0 - 0.5 ORGANICS

0.5 - 7.0 <u>OJIBWAY SEDIMENTS</u>

- grey, pure, soft clay

7.0 - 8.0 <u>MATHESON TILL</u>

- grey fine - med sand
- pebble 80 % vole/seds
  20 % grantoid
- occasional cobble

8.0 - 9.5 <u>BEDROCK</u>

(conglomerate)

- >70% dark green mafic material surround granitic clasts of various sizes (<2m->>1cm).
- mafic material is fine-grained and foliated
- granitic clasts - fine grained to coarse grained

9.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-17

DATE JAN 22 1987

HOLE NO ME-87-17 LOCATION 45 W, 1+10S ELEV 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. C86155 BIT FOOTAGE 40.5-48.0m

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

MOVE TO HOLE 11.10 - 11.20

DRILL 11.20 - 12.05

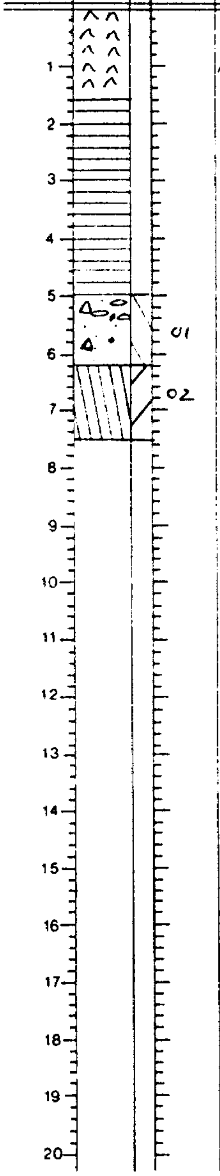
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 12.05 - 12.15

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0 - 1.5 ORGANICS.

1.5 - 5.0 OJIBWAY SEDIMENTS

-grey, pure, soft clay

50 - 6.2 MATHESON TILL

50 - 54 cobbly section
>95% volc
-matrix poor

54 - 6.2 - grey fine-med sand
-pebbles >90% volc/seds
<10% granitoid

6.2 - 7.5 BEDROCK
(Basalt)
- dark green
- fine-grained
- foliated, possible shearing
. strongly calcareous
- <1% qtz-carbonate veining
- <0.1 % pyrite
- trace jasper

7.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE mo-83

DATE JAN 22 19 87

HOLE NO ME-87-18 LOCATION 45 W, 2+10 S ELEV 321 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CR68555 BIT FOOTAGE 480-545m

SHIFT HOURS

_____ TO _____

MOVE TO HOLE 12.10 - 12.15

DRILL 12.15 - 13.20

TOTAL HOURS

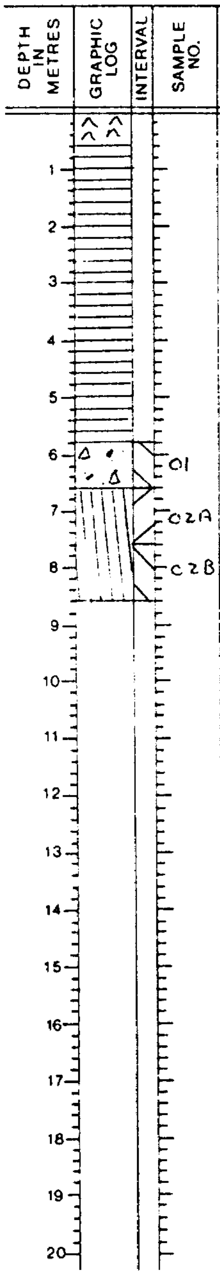
MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE 13.20 - 14.30



DESCRIPTIVE LOG

0 - 0.5 ORGANICS

0.5 - 58 OJIBWAY SEDIMENTS

- grey, pure, soft clay

58 - 6.6 MATHESON TILL

- grey fine-med sand
- pebbles >95% volc/seds

6.6 - 8.6 BEDROCK

6.6-7.6 dark green with 20-30% of rock comprised of buff coloured qtz-carbonate veinlets

- veinlets contain fine grained pyrite and a trace of fuchsite
- mafic rock is fine-grained and appears sheared
- 5% leucoxene
- <0.1% fine-grained pyrite

(Basalt)

7.6 - 8.6

- mottled dark green and pink
- medium to coarse grained
- <1% carbonate veinlets
- massive
- <0.1% pyrite

(Granodiorite).

8.6 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-16

DATE JAN 22 19 87

HOLE NO ME-87-19 LOCATION 47W 0+50S ELEV - 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CBG4461 BIT FOOTAGE 0-28.5

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 13.20 - 14.30

DRILL 14.30 - 15.40

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 15.40 - 16.00

NEW BIT

Pg 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
	^ ^			0-0.5 ORGANICS						
1				0.5-25.0 OJIBWAY SEDIMENTS						
2				-grey, soft, pure clay						
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

HOLE NO ME-87-19 LOCATION

DATE ______ 19__

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

SHIFT HOURS

______ TO ______

MOVE TO HOLE

DRILL

TOTAL HOURS

MECHANICAL DOWN TIME

DRILLING PROBLEMS

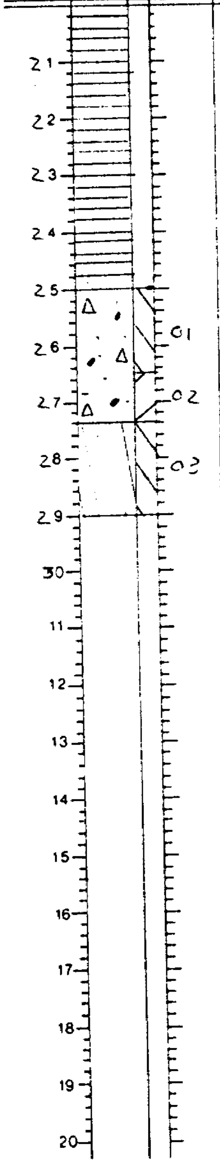
CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE

Pg 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



250 - 27.4 MATHESON TILL

- grey fine- med sand.
- pebbles 90 % volc/seds
  10 % granitoid

27.4 - 29.0 BEDROCK
(mafic -> ultramafic volc)

274-282 olive-green
- foliated, appears sheared
- fine-grained
- calcareous

282-290 dark green with 10-20 %
qtz-carbonate veinlets (pink)
- up to 50 % veinlets in some sections
- <<0.1 % sulphide
- trace fuchsite

290 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-13

DATE JAN 22 19 87

HOLE NO ME-87-20 LOCATION L50W, 0+60S ELEV 321m

GEOLOGIST S HELP DRILLER HALSALL BIT NO. CB68461 BIT FOOTAGE 28.5-40.5m

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

MOVE TO HOLE 15.40 - 16.00

DRILL 16.00 - 17.00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

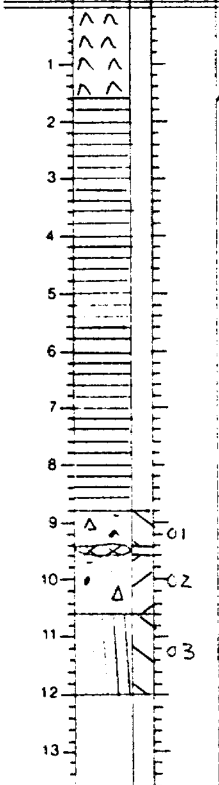
OTHER

MOVE TO NEXT HOLE

JAN 23/87

maintenance	08.00 - 10.15
drill	10.15 - 11 20
move	11 20 - 11 30

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0 - 1.5 ORGANICS

1.5 - 8.8 OJIBWAY SEDIMENTS

- grey, pure, soft clay

8.8 - 10.6 MATHESON TILL

- grey fine - med sand
- pebbles >95% volc/seds

9.4 - 9.6 boulder (granite)

10.6 - 12.0 BEDROCK

(Conglomerate)

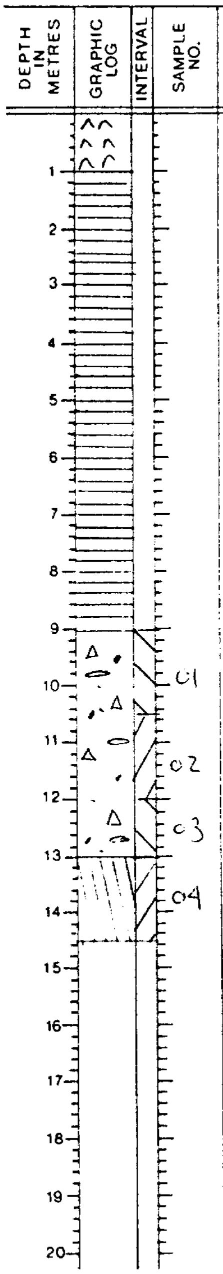
- consists of mafic volcanic and granitic clasts in a mafic matrix
- mafic component (dark green)
  - >60%
  - foliated
  - fine - grained
- granitic component (pink)
  - fine - med grained
  - <1% sulphides
  - 1% jasper
  - vari sized clasts ≥ 2mm to >1cm

12.0 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE MO-12

DATE JAN 23 19 87
HOLE NO ME-87-21 LOCATION L 50W, 11+60S ELEV 321m
GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68461 BIT FOOTAGE 40.5-55.0m
SHIFT HOURS
____ TO ____
MOVE TO HOLE 11.20-11.30
DRILL 11.30-12.50
TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
OTHER
MOVE TO NEXT HOLE 12.50-13.00



DESCRIPTIVE LOG

0-1.0 ORGANICS

1.0-90 OJIBWAY SEDIMENTS
- grey, soft, pure clay

9.0-13.0 MATHESON TILL
- grey fine-med sand
- pebbles 70% volc/seds
  30% granitoid
- occasional cobble

by 11.0 pebbles 90% volc/seds
10% granitoid

130-145 BEDROCK
(altered mafic - ultramafic volc)
- med-dark yellow green
- foliated, appears sheared
- fine-grained
- >10% qtz-carbonate veinlets (pink)
- <1% jasper
- trace fuchsite
- <0.1% sulphides

14.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 23 19 87

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO ME-87-22 LOCATION 517E mo-11 L50W, 2+60S ELEU 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68461 BIT FOOTAGE 550-67.5m

MOVE TO HOLE 12.50-1300

DRILL 1300-13.50

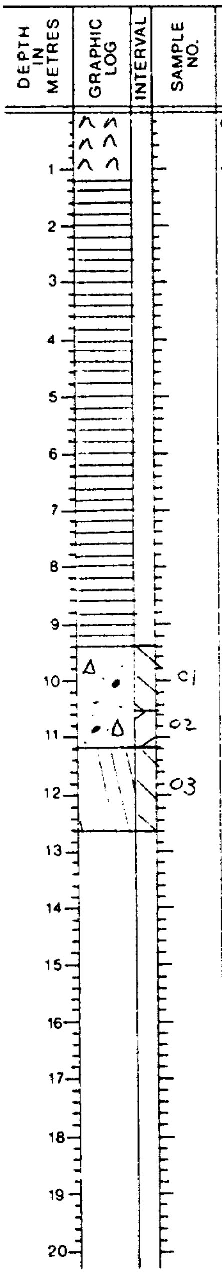
MECHANICAL DOWN TIME 13.50-17.00 Clutch replacement.

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____

Jan 24 - Down time - clutch replacement.



DESCRIPTIVE LOG

0-1.0 ORGANICS.

1.0-9.4 OJIBWAY SEDIMENTS

- grey, soft, pure clay

9.4-11.2 MATHESON TILL

- grey fine-med sand
- pebbles 70% volc/seds
  30% granitoid

11.2-12.6 BEDROCK

(Basalt)

- dark green -> black
- fine-grained
- Siliceous
- sheared
- 5% qtz-carbonate (pink & white) veinlets
- <0.1% fine-grained pyrite.

12.6 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE #10

HOLE NO ME-87-23 LOCATION L50W 3+60S. ELEV 321m

DATE JAN 25 19 87

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68461 BIT FOOTAGE 67.5-79cm

SHIFT HOURS

______ TO ______

MOVE TO HOLE 12.00-12.15

DRILL 12.15 - 14.55

TOTAL HOURS

MECHANICAL DOWN TIME 15.00 - INJECTOR PROBLEMS -

DRILLING PROBLEMS

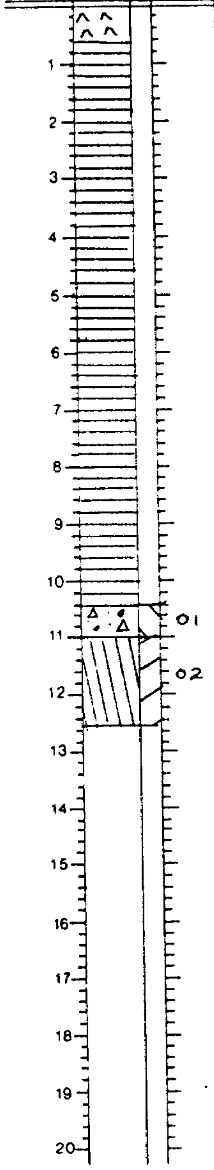
CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE 14.55-15.00.

NEW BIT CB68557 11.5-12.5 = 1m

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0-0.5 ORGANIC

0.5-10.4 OJIBWAY SEDIMENTS

grey, soft, pure clay

10 4-11 0 MATHESON TILL

- grey fine -med sand
- pebbles 70% volc/seds
  30% granitoid

11.0-12.5 BEDROCK

- med green
- fine-grained
- siliceous
- appears sheared (slip faces.)
- 1% qtz-carbonate veinlets

12.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 26 19 87

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO ME-87-24 LOCATION SITE #84 L54W, 7+25 S ELEV 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68557 BIT FOOTAGE 12.5-20.0

MOVE TO HOLE 7.30-8.00

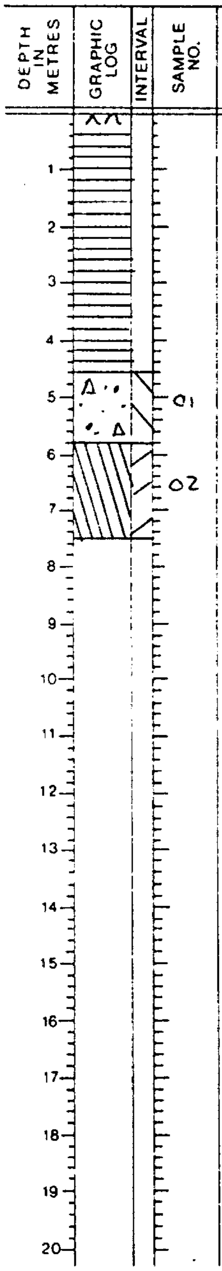
DRILL 9.00-10.40

MECHANICAL DOWN TIME 8.00-9.00 (frozen line, generator problems)

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 10.40-10.50



DESCRIPTIVE LOG

0-0.2 ORGANICS

0.2-4.6 <u>OJIBWAY SEDIMENTS</u>

-grey, pure, soft clay

4.6-5.8 <u>MATHESON TILL</u>

-grey fine-med sand.

-pebbles 70% volc/seds
30% granitoid

5.8-7.5 <u>BEDROCK</u>

(Ultramafic volc)

- dark grey to green black
- fine-grained
- appears sheared
- 1-2% pyrite in shears (slip planes) and as disseminations
- minor saussuritization
- moderately hard
- weakly calcareous
- < 1% qtz-carbonate veinlets with hematite.

7.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE *JAN 26* 19 *87*

HOLE NO *ME-87-25* LOCATION *SITE #3 , L54 W, 4+00S ELEV 321m*

GEOLOGIST *SHELP* DRILLER *HALSALL* BIT NO *CB6855?* BIT FOOTAGE *200-27.5*

SHIFT HOURS

____ TO ____

MOVE TO HOLE *10.40 - 10.50*

DRILL *10.50 - 12.45.*

TOTAL HOURS

MECHANICAL DOWN TIME

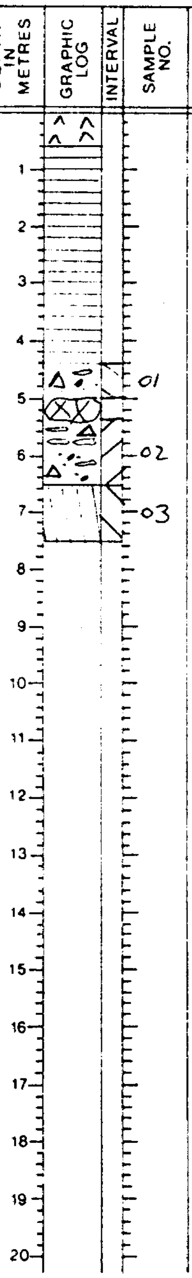
DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE *12.45 - 12.55*

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.5 ORGANICS.

0.5-4 6 OJIBWAY SEDIMENTS

- grey beige to beige, soft, pure clay

by 2.0 gray clay

4.6-6.5 MATHESON TILL

- grey fine-med sand
- pebble 60% volc/seds 40% granitoid
- occasional cobble.

50-5.4 boulder (granite)

5.4-5.8 cobbly section

6.5-7.5 BEDROCK (Gabbro)

- mottled dark green and light green
- coarse grained
- massive
- magnetic - distinct magnetite crystals
- < 0.1% pyrite

7.5 E.O.H (bit finished)

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 26 1987

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-86-26 LOCATION SITE #4, L 54W, 5100S ELEV 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68556 BIT FOOTAGE 0-9.5

MOVE TO HOLE 12.45-12.55

DRILL 12.55-14.15

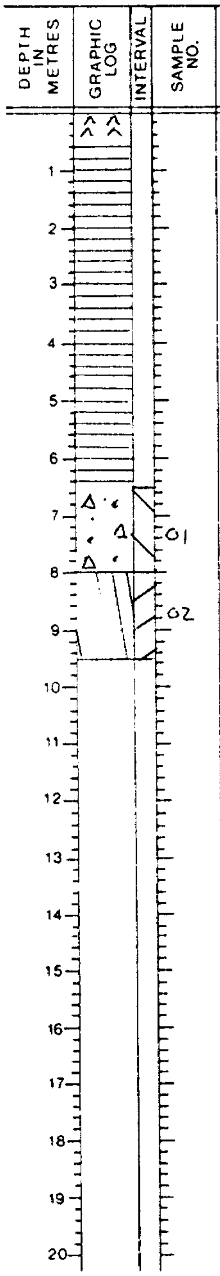
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 14.15-14.25

NEW BIT CB68556



DESCRIPTIVE LOG

0-0.4 ORGANICS

0.4-6.5 OJIBWAY SEDIMENTS

- grey, soft, pure clay

6.5-8.0 MATHESON TILL

- grey fine-med sand
- pebble 60 % volc/seds
  40 % granitoid

8.0-9.5 BEDROCK

(Gabbro)

- dark green
- med-coarse grained
- sheared (slip planes) obscurred grain size and texture
- <<0.1 % pyrite

9.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 26 19 87

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO ME-87-27 LOCATION SITE #5, L54W, 4+00S ELEV 321m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68556 BIT FOOTAGE 9.5-23.5

MOVE TO HOLE 14.15-14.25

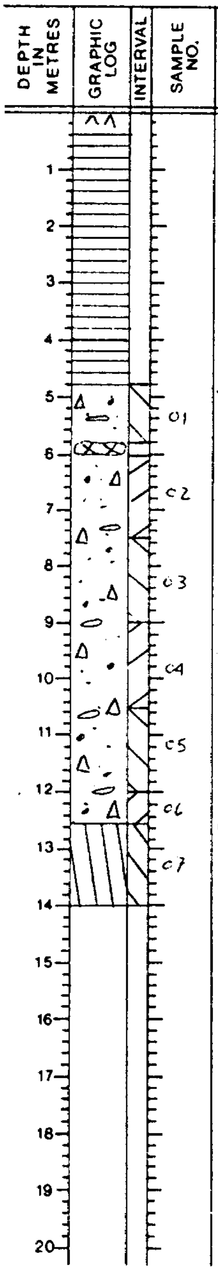
DRILL 14.25 - 15.40.

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 15.40 - 15.50



DESCRIPTIVE LOG

0-0.2 ORGANICS

0.2-4.8 OJIBWAY SEDIMENTS
- grey, soft, pure clay

4.8-12.5 MATHESON TILL
- grey fine-med sand
- pebble 70 % volc/seds
  30 % granitoid
- occasional cobble.

5.8-6.0 boulder (mafic volc).

12.5-14.0 BEDROCK
(mafic - ultramafic volc)
- mottled dark green and yellow
- fine-grained
- schistose, strongly fractured and/or sheared.
- 5-10 % qtz-carbonate veinlets
- <0.1 % pyrite associated with veinlets
- trace fuchsite, jasper

14.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

SITE #6

DATE JAN 26 19 87

HOLE NO ME-87 28 LOCATION L59W 3+25S ELEV 321m

GEOLOGIST SHIELD DRILLER HALSALL BIT NO CBL556 BIT FOOTAGE 235-30.5

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 15:40-15:50

DRILL 15.50 -17.00

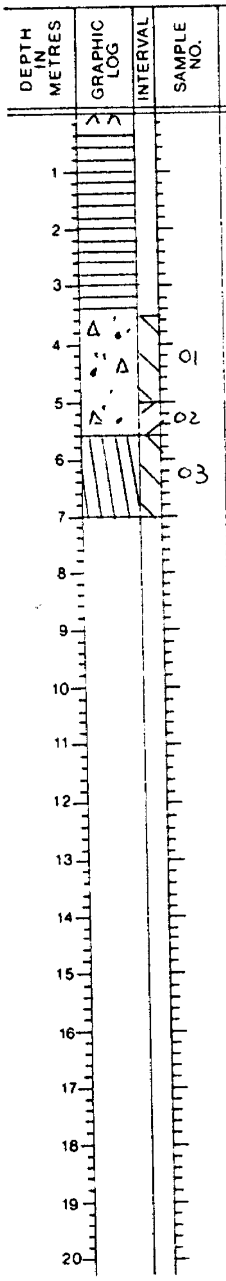
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

First two attempts, no till, intersect bedrock at 1.5m.
-moved to 3+25S



DESCRIPTIVE LOG

0-0.2 ORGANICS

0.2-3.5 OJIBWAY SEDIMENTS
- beige, soft, pure clay
- by 1.5 grey clay

3.5-5.6 MATHESON TILL
- grey fine-med sand
- pebbles 70% volc/seds
30% granitoid

5.6-7.0 BEDROCK.
(Conglomerate)
- dark olive green mafic component with what appear to be multistage qz-carbonate veinlets, id granitic and sedimentary clasts
- dark green rock - fine-grained
- foliated
- no small clasts occur in mafic matrix
- mafic-granitic contacts appear to represent granitic clasts in a mafic matrix

7.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 27 19 87
HOLE NO ME-87-29 LOCATION SITE #28, L41W, 3+50N ELEV 322 m
GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB6X556 BIT FOOTAGE 305-490
SHIFT HOURS
____ TO ____
MOVE TO HOLE 07.30-07.45
DRILL 07.45 - 10.05
TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
OTHER
MOVE TO NEXT HOLE 10.05 - 11.00

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
		0-0.2 ORGANICS
	Poor	0.2-11.5 MATHESON TILL
1	01	
	Return	-grey beige to beige fine-med sand
2		
		- pebbles 80 % volc/seds 20 % granitoid
3	02	
4		-very cobbly
5	03	
6		
	04	
7		
8	05	
9		
	06	
10		
11	07	
		11.5-13.5 BEDROCK
12	08	(conglomerate)
13		- mossiac of dark green (mafic matrix), light pink (graniti
14		clasts) and red (jasper clasts)
15		- clast varisized <2mm to >1cm
16		- mafic component -> foliated, fine-grained
		- granite component -> fine-grained
17		- <<0.1 % fine-grained pyrite
18		
19		13.5 E.O.H.
20		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 27 19 87

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO ME-87-30 LOCATION SITE #41, L33W, 4+00 N; ELEV 324 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB66556 BIT FOOTAGE 41.0 - 49.6

MOVE TO HOLE 10.05 - 11.00

DRILL 11.00 - 12.35

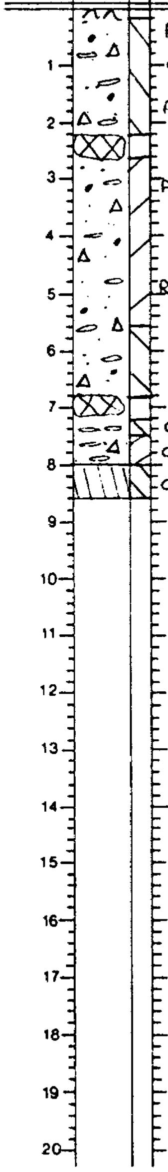
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 12.35 - 12.45.

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



SAMPLE NO.:

Poor
01
Return
Poor
02
Return
03
03
04
05

DESCRIPTIVE LOG:

0 - 0.2 ORGANICS

0.2 - 8.0 MATHESON TILL

- beige fine-med sand
- pebbles 80 % volc/seds
  20 % granitoid
- very cobbly

2.2 - 2.6 boulder (granitic).

by 4.0 matrix is grey fine-med. sand.

6.8 - 7.2 boulder (mafic volc).

7.6 - 8.0 cobbly section 100 % volc. matrix poor

8.0 - 8.6. BEDROCK (Basalt)

8.0 - 8.2
- med. olive green
- fine-grained
- foliated
- strongly oxidized

8.2 - 8.3 qz vein

8.3 - 8.6 same as 8.0 - 8.2

8.6 E.O.H (tricone bit cones left at bottom of hole).

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 27 19 87

HOLE NO ME-87-31 LOCATION SITE #85, L33W, 2+90 N; ELEV 322m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68673 BIT FOOTAGE 0-8.5

SHIFT HOURS

____ TO ____

MOVE TO HOLE 12.35 - 12.45

DRILL 12.45 - 14.40

TOTAL HOURS

MECHANICAL DOWN TIME

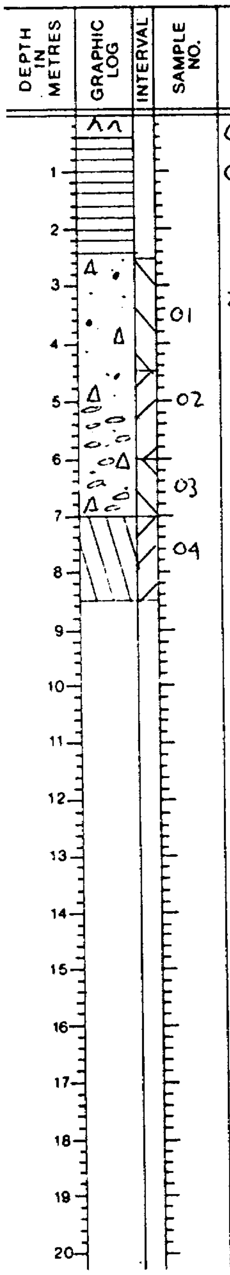
DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE 14.40 - 14.50

New Bit - CB68673
New Sub.



DESCRIPTIVE LOG

0-0.2 ORGANICS

0.2-2.5 OJIBWAY SEDIMENTS

grey-beige, pure, soft, clay

2.5-7.0 MATHESON TILL

-grey fine-med sand.
-pebbles 70% volc/seds
30% granitoid

5.0-7.0 cobbly section
100% volcanics

7.0-8.5 BEDROCK
(Basalt)
- dark green
- fine-grained
- foliated
- calcareous
- <0.1% fine-grained pyrite
- << 1% qtz-carbonate veinlets

8.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 27 19 87

HOLE NO ME-87-32 LOCATION SITE #86, 133W, 2+00N, ELEV 322m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68673 BIT FOOTAGE 8.5-18.5m

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

MOVE TO HOLE 14.40 - 14.50

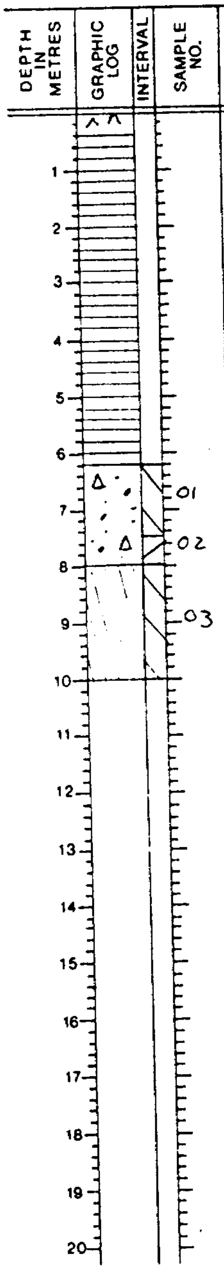
DRILL 14.50 - 15.45

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 15.45 - 15.55



DESCRIPTIVE LOG

0 - 0.2 ORGANICS

0.2 - 6.2 <u>OJIBWAY SEDIMENTS</u>

beige, soft pure clay

by 3.0 grey clay

6.2 - 8.0 <u>MATHESON TILL</u>

- grey fine-med sand
- pebbles 80 % volc/seds
  20 % granitoid

80 - 10.0 <u>BEDROCK</u>

- medium grey green
- fine-grained
- massive
- generally 5-10% qtz-carbonate veinlets
  with up to 40% in some sections
- <0.1 % pyrite

by 8.6 rock appeared strongly sheared, oxidized
- very soft

10.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 27 19 87

HOLE NO ME-87-33 LOCATION SITE # 70, L31W, 4+50N ; ELEV. 336 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CBWL 73 BIT FOOTAGE 15.5-29.5 m

SHIFT HOURS

______ TO ______

MOVE TO HOLE 15.45 - 15.55

DRILL 15.55 - 16.45

TOTAL HOURS

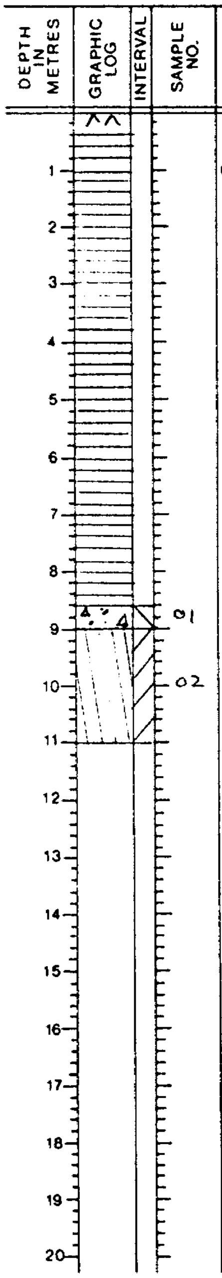
MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS

OTHER 16.45-1700 clean tanks.

MOVE TO NEXT HOLE



DESCRIPTIVE LOG

0 - 0.2 ORGANICS

0.2 - 8.6 OJIBWAY SEDIMENTS

-grey, soft, pure clay

8.6 - 9.0 MATHESON TILL

-grey fine-med sand

-pebbles 90% volc/seds, 10% granitoid

-very cobbly

9.0 - 11.0 BEDROCK

(Basalt)

-dark green

-fine grained

-massive -> mod. foliated

-10-15% qtz-carbonate veinlets

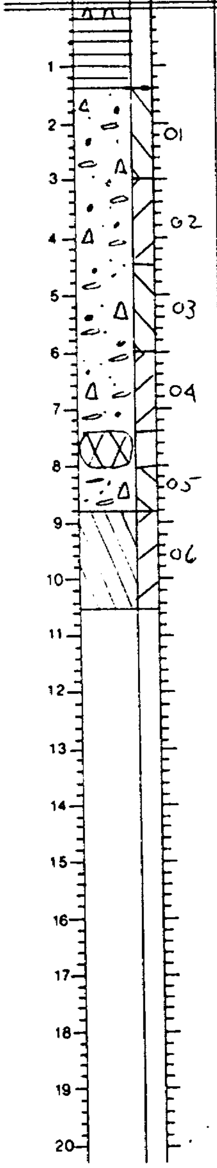
-1% fine-grained pyrite and pyrite blebs

11.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 28 1987
HOLE NO ME-87-34 LOCATION SITE 43, L31W, 5150N, ELEV 337m
GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB168673 BIT FOOTAGE 295-400
SHIFT HOURS
____ TO ____
MOVE TO HOLE 7.00-7.30
DRILL 7.30-8.50
TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
OTHER
MOVE TO NEXT HOLE 8.50-9.05

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-1.4 OJIBWAY SEDIMENTS
- beige slightly gritty, soft clay

1.4-8.8 MATHESON TILL
- greybeige-beige fine-med sand.
- pebble 90% volc/seds
10% granitoid
- very cobbley
7.4-8.0 boulder (mafic volc)

8.8-10.5 BEDROCK
(Interm/mafic volc)
- med. green grey
- fine-grained
- massive -> weakly foliated
- mod. hard
- <0.1 % very fine-grained pyrite
- strongly calcareous
- 1-2% qtz-carbonate veinlets
9.3-9.5 appearance of light olive green (saussuritization).
rock (oxidized and fractured)
by 9.8 deep yellow colour.
- strong shearing (slip planes).

10.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 28 19 87

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-87-35 LOCATION SITE #69, L31W, 3+50N ; ELEV 325m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68673 BIT FOOTAGE 40.0-53.5

MOVE TO HOLE 8.50-9.05

DRILL 9.05-10.40

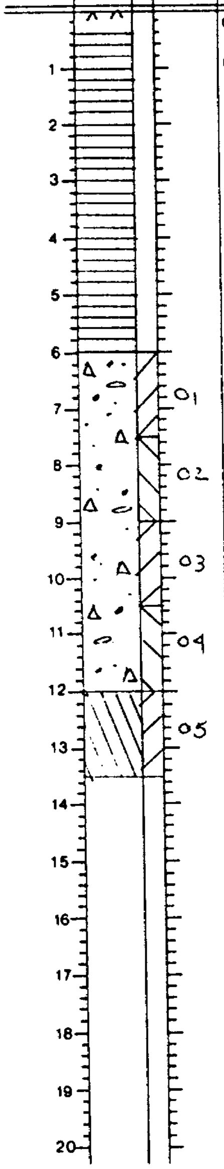
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 10.40-10.50

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-6.0 OJIBWAY SEDIMENTS

- beige soft, pure clay

by 3.0 grey clay.

6.0-11.8 MATHESON TILL

- grey fine-med sand
- pebbles 80 % volc/seds
  20 % granitoid
- occasional cobble

11.8-13.5 BEDROCK

(mafic-ultramafic volc)

- dark green black
- fine grained
- massive, appears to be some shearing
- mod. calcareous
- <0.1 % fine grained pyrite
- generally 2-3 % qtz-carbonate veinlets, with up to 20 %
- <1 % jasper

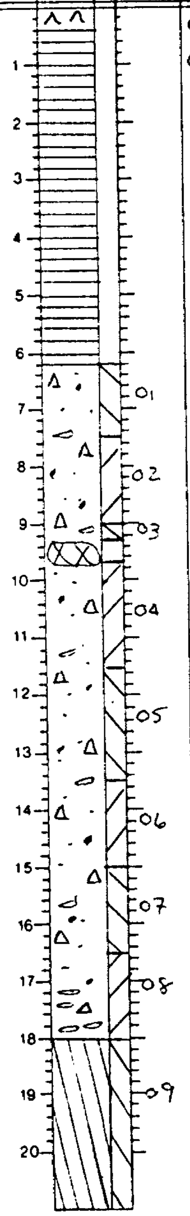
13.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 28 19 87
HOLE NO ME-87-36 LOCATION SITE #71, L31W, 2+50N; ELEV 325m
GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68673 BIT FOOTAGE 53.5-71.5m
SHIFT HOURS
_____ TO _____
MOVE TO HOLE 10.40 - 10.50
DRILL 10.50 - 13.30
TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
OTHER
MOVE TO NEXT HOLE 13.30 - 13.40

NEW BIT CB68674 18.0 -> 20.5
= 2.5m.

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-6.2 OJIBWAY SEDIMENTS
- beige, soft, slightly gritty clay

by 2.5 grey, soft, pure clay (slurry)

6.2-18.0 MATHESON TILL
- grey -> grey-beige fine-med. sand
- pebbles 80 % volc/seds
20 % granitoid
- occasional cobble

9.3-9.7 boulder (granite)

17.0-18.0 Cobbly section
100 % volc.

18.0-20.5 BEDROCK
(mafic volc)
- med-dark green.
- fine-grained
- strongly foliated, possible shearing
- 2-3 % qtz-carbonate veinlets
- <0.1 % pyrite (associated with veinlets)
- strongly calcareous
19.3-19.6 fracture filled with sand

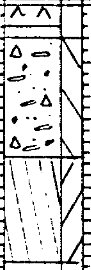
20.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 28 19 87
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ME-87-37 LOCATION SITE #72, L31W, 1+50N ; ELEV 325
GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68674 BIT FOOTAGE 2.5-6.5
MOVE TO HOLE 13.30 - 13.40
DRILL 13.40 - 15.00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 15.00 - 15.10

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.2 ORGANICS
1				0.2-0.6 <u>OJIBWAY SEDIMENTS</u>
			01	- beige, soft, slightly silty clay
2				
3				0.6 - 2.7 <u>MATHESON TILL</u> - grey beige - beige fine - med sand - pebbles 70 % volc/seds 30 % granitoid - cobbly.
4			02	
5				
6				2.7 - 4.5 <u>BEDROCK</u> (Basalt) - dark green - fine-grained - massive to slightly foliated - <0.1% pyrite (cp?) - <1% qz-carbonate veinlets - mod. calcareous - <0.1% jasper
11				4.5 E.O.H.

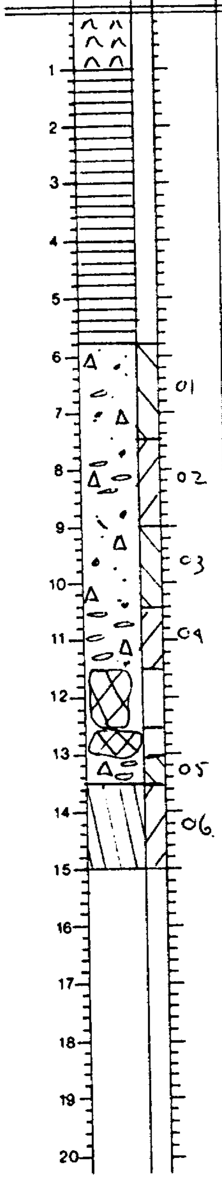


Depth scale: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 28 19 87
HOLE NO ME-87-38 LOCATION Site #73, L31W, 0+50N; ELEV 825m.
GEOLOGIST SHEIP DRILLER HALSALL BIT NO. CB68674 BIT FOOTAGE 6.5-21.5
SHIFT HOURS
_____ TO _____
MOVE TO HOLE 15.00 - 15.10
DRILL 15.10 - 16.45
TOTAL HOURS _____
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS _____
OTHER
MOVE TO NEXT HOLE 16.45-17.00

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-1.0 ORGANICS

1.0-5.8 OJIBWAY SEDIMENTS

- grey, soft, slightly gritty clay

by 3.0 grey and grey-beige varves.

5.8-13.5 MATHESON TILL

- grey-grey beige fine-med sand.
- pebbles 80 % volc/seds
20 % granitoid

7.8-8.4 cobbly section
100% volc

8.8-8.9 20 % dark grey clay

10.4-11.5 cobbly section
100% volc

11.5-12.5 boulder (ultramafic)

12.5-13.0 boulder (interm/mafic volc)

13.0-13.5 cobbly section
grey sand matrix (possible fracture in bdrx).

13.5-15.0 BEDROCK
(Basalt)
- dark green
- fine-grained
- strongly fractured.
- 2-3 % qtz-carbonate veinlets (pink)

15.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 29 19 87

HOLE NO ME-87-39 LOCATION SITE 45, L28W, 5150N; ELEV 325

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68679 BIT FOOTAGE 215-290

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

MOVE TO HOLE ____

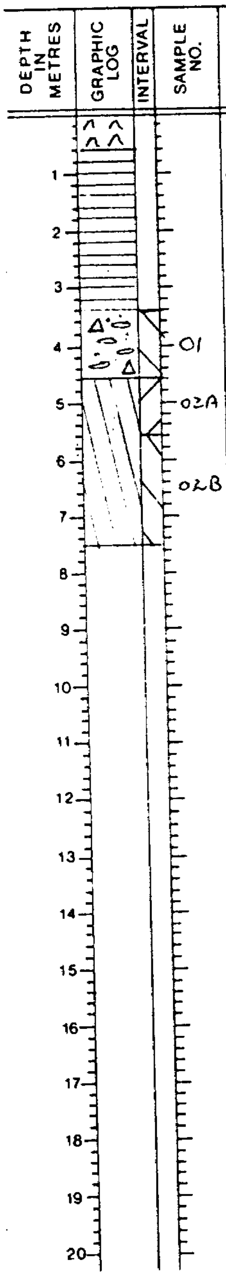
DRILL 07.30 - 0910

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER Travel 07.00 - 07.30

MOVE TO NEXT HOLE 0910 - 0930



DESCRIPTIVE LOG

0-0.5 ORGANICS

0.5-3.5 OJIBWAY SEDIMENTS
- beige, soft, slightly silty, clay

by 2.0 grey, soft, pure clay

3.5-4.6 MATHESON TILL
cobbly till
- 70 % volc/seds
30 % granitoid
- minor beige fine-med sand.

4.6-7.5 BEDROCK
(Basalt)
- dark green
- fine-grained
- 1-2 % qtz carbonate veinlets

5.6-7.5 beige to green
- strongly sheared
- 30-40 % qtz-carbonate veinlets

7.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 29 19 87

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO ME-87-40 LOCATION L27W, 5465N, ELEV - 325 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB16674 BIT FOOTAGE 290-410

MOVE TO HOLE 0910-0930

DRILL 0930-10.50

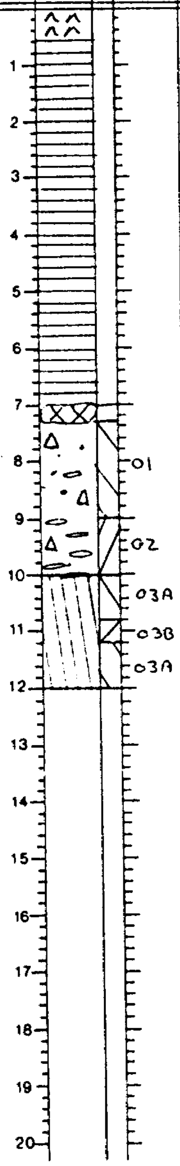
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 10.50-11.00

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.5 ORGANICS

0.5-7.0 OJIBWAY SEDIMENTS

- grey, soft, pure clay

7.0-10.0 MATHESON TILL

7.0-7.3 boulder (basalt)

7.3-8.8 - grey fine-med sand
- pebbles 80% volc/seds
20% granitoid
- occasional cobble.

8.8-10.0 cobbly section.
- 100% volc.
- matrix poor.

10.0-12.0 BEDROCK

10.0-10.8 (Basalt)
- dark green
- fine grained
- strongly foliated → strong shearing (slipplanes)
- oxidized
- 10% qtz
- <0.1% sulphides

10.8-11.2 (Granitic dyke)
- rusty colour.
- fine-med grained (mafic minerals)
- siliceous (hard)
- appears to be sheared
- <0.1% very fine-grained pyrite

11.2-12.0 same as 10.0-10.8.

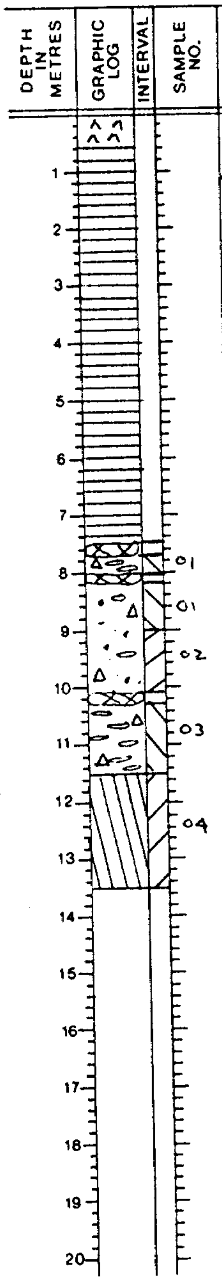
12.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 29 19 87
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO ME-87-41 LOCATION L27W, 9+90N; ELEV -325m
GEOLOGIST SHEP DRILLER HALSALL BIT NO. CB68674 BIT FOOTAGE 910-545
MOVE TO HOLE 10.50 -11.00
DRILL 1100 -13.20
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 13.20 - 13.30

NEW BIT CB68675 10.3-13.5 = 3.2m



DESCRIPTIVE LOG

0 -0.5 ORGANICS.

0.5-7.5 <u>OJIBWAY SEDIMENTS</u>
- beige soft, slightly gritty clay

7.5 - 11.5 <u>MATHESON TILL</u>
7.5-7.7 boulder (mafic volc)
7.7-8.0 cobbly section
>95% volc
- minor grey fine-med sand
8.0-8.2 boulder - (mafic volc)
8.2-10.1 grey fine-med sand
pebbles 80% volc/seds
20% granitoid
- occasional cobble
10.1-10.3 boulder (mafic volc)
10.3-11.5 Cobbly section (100% volc)

11.5-13.5 <u>BEDROCK</u>
(Basalt)
- dark green
- fine-grained
- strongly foliated and sheared
- <0.1% pyrite in shears
- strongly calcareous.
- 1-2% qtz-carbonate veinlets

13.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 2 1987

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-87-52 LOCATION L7+00, 0+50N · ELEV 323 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68676 BIT FOOTAGE 485.5-510

MOVE TO HOLE 09.30-09.45

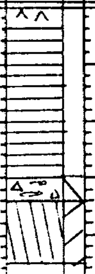
DRILL 09.45-10.50

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE 10.50-11.00



DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0.-0.2 ORGANICS
1				0.2-3.0 OJIBWAY SEDIMENTS
2				beige, mod hard, slightly gritty clay
3			01	1.2-30 grey very fine-fine sand
4			02	30-34 MATHESON TILL cobbly 80% volc/seds
5				20% granitoid beige fine-med sand
6				
7				34.-45 BEDROCK (Basalt)
8				- dark green
9				- fine-grained · foliated
10				- strongly magnetic · <0.1 % pyrite
11				
12				4.5 E.O.H
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 29 19 87

HOLE NO ME-87-43 LOCATION L27W, 1150N ; ELEV 328m.

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68675 BIT FOOTAGE 7.7-16.2m

SHIFT HOURS

_____ TO _____

MOVE TO HOLE 14.15 - 14.25

DRILL 14.25 - 15.30

TOTAL HOURS

_____

MECHANICAL DOWN TIME _____

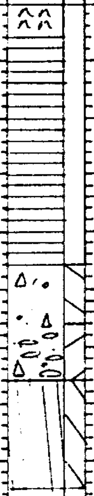
DRILLING PROBLEMS _____

CONTRACT HOURS

_____

OTHER _____

MOVE TO NEXT HOLE 15.30 - 16.00



DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.5 ORGANICS
1				0.5-4.6. OJIBWAY SEDIMENTS - beige soft, slightly gritty clay.
2				
3				by 2.0 grey, soft, pure clay
4				
5			01	4.6-6.6 MATHESON TILL
6			02	- grey fine-med sand - pebble 80% volc/seds
7				20% granitoid
8			03	5.6-6.6 cobbly section >90% volc matrix poor
9				6.6-8.5 BEDROCK (Basalt)
10				- dark green - fine-grained
11				- rubbly and ashy appearance (strongly sheared)
12				- moderately calcareous
13				- < 1% jasper - 1% qtz-carbonate veinlets
14				8.5 E.O.H.
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 29 19 87

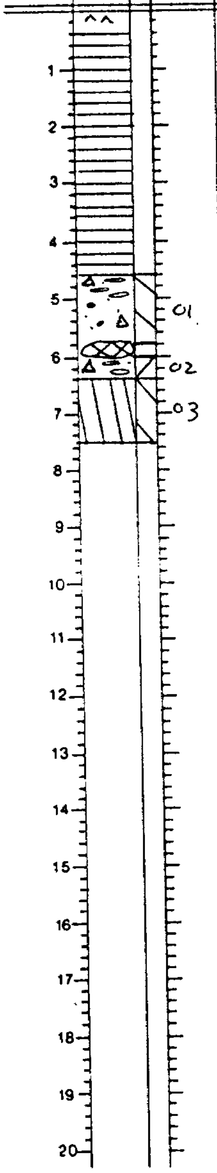
SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO ME-87-49 LOCATION SITE 67, 6240W, 6140N, ELEV 325m
GEOLOGIST SHELP. DRILLER HALSALL BIT NO. C86K675 BIT FOOTAGE 16.2-23.7m
MOVE TO HOLE 15.30-16.00
DRILL 16.00-17.10
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-4.6 OJIBWAY SEDIMENTS

- beige, soft, slightly gritty clay

4.6-6.4. MATHESON TILL

4.6-5.0 cobbly section
90% volc/seds
10% granitoid

5.0-5.8 grey beige-beige fine-med sand
pebbles 70% volc/seds
30% granitoid

5.8-6.0 boulder (gabbro)

6.0-6.4 cobbly section

6.4-7.5 BEDROCK

(Coarse-grained mafic volc or Gabbro)

- dark green
- med grained
- 30-40% qtz-carbonated veinlets
- very hard
- magnetic - coarse grained crystals
- <0.1% very fine-grained pyrite

7.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 30 19 87

HOLE NO ME-87-45 LOCATION SITE #49, L24W, 5+90N, ELEV 325m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CA6X675 BIT FOOTAGE 23.7-38.2m

SHIFT HOURS

______ TO ______

MOVE TO HOLE

DRILL 0930-10.45.

TOTAL HOURS

MECHANICAL DOWN TIME

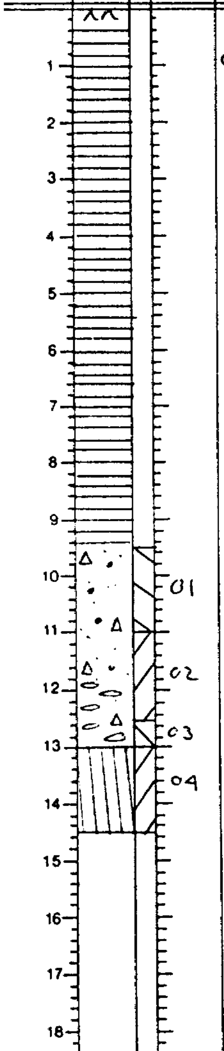
DRILLING PROBLEMS

CONTRACT HOURS

OTHER 08.00-09.30 drill maintenance.

MOVE TO NEXT HOLE 10 45-10 55

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-9.5 OJIBWAY SEDIMENTS

- beige soft, pure clay.

by 3.0 grey, soft, pure clay

9.5-13.0 MATHESON TILL

- grey fine-med sand.
- pebble 80 % volc lseds
  20 % granitoid
- occasional cobble.

11.5-13.0 cobbly section 100 % volc.

130-14.5 BEDROCK

(mafic volc)

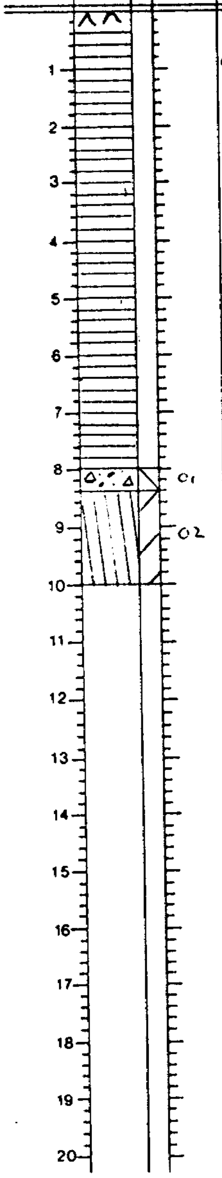
- dark green.
- fine-grained
- massive to moderately foliated
- 2-3 % qtz-carbonate veinlets
- < 1 % disseminated pyrite

14.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 30 19 87
HOLE NO ME-87-46 LOCATION L24W, 4+40N : ELEV 325m
GEOLOGIST SHELP DRILLER HALSALL BIT NO. 0868675 BIT FOOTAGE 38.2-48.2
SHIFT HOURS
_____ TO _____
MOVE TO HOLE 10.45 - 10.55
DRILL 10.55 - 12.00
TOTAL HOURS
_____
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
_____
OTHER
MOVE TO NEXT HOLE 12.00 - 12.10

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-8.0 OJIBWAY SEDIMENTS
- beige, soft, slightly gritty clay

3.0 grey, soft, pure clay

8.0-8.4 MATHESON TILL
- grey fine-med sand
- pebbles 90% volc/seds
10% granitoid

8.4-10.0 BEDROCK
(Mafic volc)
- dark green
- fine grained
- appears massive (strongly fractured)
- 5-10% qtz-carbonate veinlets
- strongly calcareous.

8.4-9.2 1-2% pyrite (arsenopyrite?)

9.2-10.0 1% qtz-carbonate veinlets
<1% massive pyrite veinlets

10.0 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 30 19 87

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO ME-87-47 LOCATION L24W , 3140 N, ELEV. 325 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO CB6x675 BIT FOOTAGE 48.2-51.7

MOVE TO HOLE 12.00-12.10

DRILL 12.10 - 12.45

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 12.45 - 13.30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20			01 02	0-0.2 ORGANICS 0.2-0.8 OJIBWAY SEDIMENTS - beige, soft, slightly gritty clay 0.8-2.0 MATHESON TILL - cobbly till. 100% volc - minor grey fine-med sand matrix. 2.0-3.5 BEDROCK (mafic volc) - dark green - fine-grained - strongly fractured - 1-2% qtz-carbonate veinlets - strongly calcareous by 3.2 - 50% qtz-carbonate veinlets - <0.1% fine-grained pyrite 3.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 30 1987

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-87-48 LOCATION SITE #74, L18W, 6100N; ELEV 321m

GEOLOGIST SHEEP DRILLER HALSALL BIT NO CB6667 BIT FOOTAGE 517-752

MOVE TO HOLE 12.45 - 13.30

DRILL 1330 - 16.10

MECHANICAL DOWN TIME ______

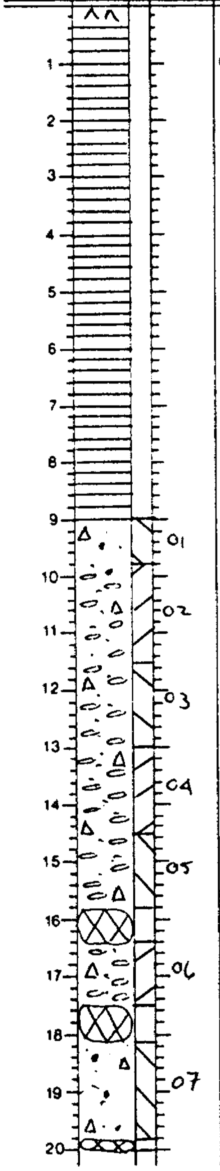
DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE 16.10 - 16.20.

Pg 1 of 2

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-9.0 OJIBWAY SEDIMENTS

- beige, soft, slightly gritty clay

by 4.0 grey, soft, pure clay

9.0-22.0 MATHESON TILL

- grey-beige fine-med sand
- pebbles 70% volc/seds 30% granitoid
- very cobbly
- up to 10% fragments containing fuchsite and fine grained pyrite

9.8-15.8 cobbly section

14.6-14.8 60% fragments containing fuchsite

15.8-16.4 boulder (mafic volc)

16.4-17.5 cobbly section

17.5-18.1 boulder (mafic volc)

18.1-19.8 gray fine-med sand. pebbles 70% volc/seds 30% granitoid

19.8-20.0 boulder (mafic volc)

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 30 1987

HOLE NO ME-87-48 LOCATION

GEOLOGIST DRILLER BIT NO. BIT FOOTAGE

SHIFT HOURS

TO

MOVE TO HOLE

DRILL

TOTAL HOURS

MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE

Pg 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				20.0-22.0 cobbly section
21			08	
22				22.0-23.5 <u>BEDROCK</u>
			09	- dark green - fine-grained
23				- rubbly appearance (sheared ?) - <0.1 % very fine-grained pyrite
24				
25				(Mafic - volc)
26				23.5 E.O.H
27				
28				
29				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 30 1987

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-87-49 LOCATION L18W, 5100N ; ELEV 321 m.

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68676 BIT FOOTAGE 0-17.0

MOVE TO HOLE 16.10 - 16.20

DRILL 16.20 - 17.10.

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

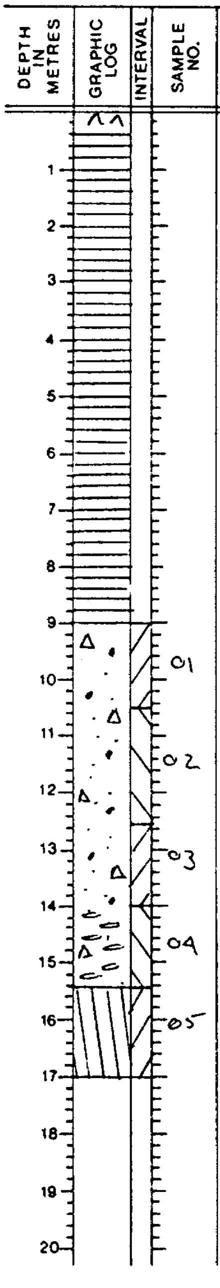
MOVE TO NEXT HOLE ______

Jan 31/87 Travel + load fuel 7.00 - 7.30

Drill 7.30 - 8.30

move 8.30 - 8.40

NEW BIT CB68676



DESCRIPTIVE LOG

0 - 0.2 ORGANICS

0.2 - 9.0 <u>OJIBWAY SEDIMENTS</u>

- biege, soft, slightly gritty clay

by 3.5 grey, soft, pure clay

9.0 - 15.4 <u>MATHESON TILL</u>

- grey fine-med sand.
- pebbles 70 % volc/seds 30 % granitoid
- cobbly

14.0 - 15.4 cobbly section

15.4 - 17.0 <u>BEDROCK</u>
(Basalt)

- dark green
- fine - med grained
- weakly -> moderately foliated
- magnetic
- 1% very fine-grained pyrite
- strongly calcareous
- 2-3 % qz-carbonate veinlets

17.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 31 19 87

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-87-50 LOCATION L18W, 3+80N, ELEV 321 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68676 BIT FOOTAGE 170-210m

MOVE TO HOLE 08.30 - 08.40

DRILL 08.40 - 10.10

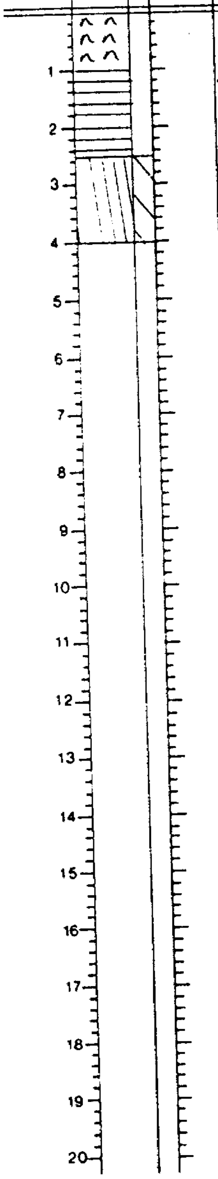
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 10.10 - 11.15

First attempt hit bedrock at 3m, no till.
(L18W, 4+00N).



DESCRIPTIVE LOG

0-1.0 ORGANICS

1.0-2.5 OJIBWAY SEDIMENTS
- grey, soft, pure clay

2.5-4.0 BEDROCK
(Basalt)
- dark green
- fine-grained
- mod - strongly foliated
- strongly calcareous
- < 1% qtz-carbonate veinlets
- 0.1% pyrite

4.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 31 19 87

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-87-51 LOCATION L0+25W, 1+00N, ELEV 322m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CBC8676 BIT FOOTAGE 21.0-46.5m

MOVE TO HOLE 10.10 - 11.15

DRILL 11.15 - 13.40

MECHANICAL DOWN TIME

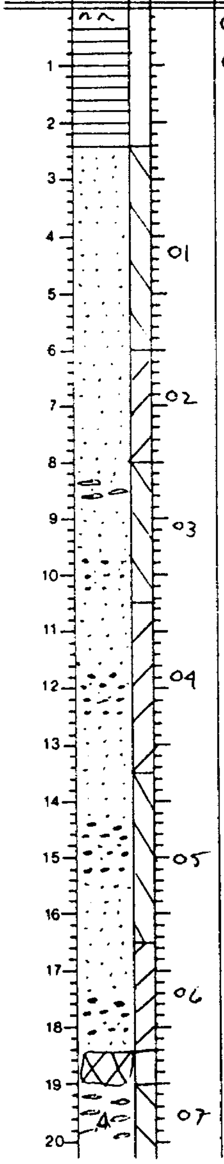
DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

Pg 1 of 2

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-22.4 OTIBWAY SEDIMENTS

0.2-2.5 beige, soft, slightly gritty clay

2.5-8.2
- beige fine-med sand
- <10% pebbles
- strongly oxidized

8.2-8.6 very cobbly section
-100% volcanics
- matrix poor

8.6-18.6 alternating layers of beige fine-med sand, med-coarse sand and pebbles (rounded)
80% volc/seds
20% granitoid
(strongly oxidized)

* Mar 24/87 19.0-22.4 Matheson Till
- examined geochems of sample 07, 08, 09

18.6-19.0 boulder (mafic volc)

19.0-22.4 possibly Matheson Till

19.0-22.4 cobbly section
80% volc/seds
20% granitoid

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE JAN 31 1987

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO ME-87-51 LOCATION ____

GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____

MOVE TO HOLE ____

DRILL ____

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

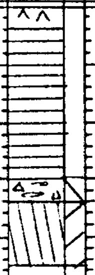
MOVE TO NEXT HOLE ____

Pg 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			07	
21			08	
22			09	21.6-27.0 boulder (mafic volc).
23			10	22.4-24.5 BEDROCK (Diorite) - med. grey - very siliceous - massive - generally fine-grained - discrete med-coarse qtz and/or feldspar crystals
24				
25				
26				
27				
28				
29				24.5 E.O.H.
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 2 19 87
HOLE NO ME-87-52 LOCATION L7100 , 0150N ; ELEV 323 m
GEOLOGIST SAVELP DRILLER HALSALL BIT NO. CB68676 BIT FOOTAGE 455-510
SHIFT HOURS
_____ TO _____
MOVE TO HOLE 09.30 - 09.45
DRILL 09.45 - 10.50
TOTAL HOURS
_____
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
CONTRACT HOURS
_____
OTHER _____
MOVE TO NEXT HOLE 10.50 - 11.00



DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0.-0.2 ORGANICS
1				0.2-3.0 *OTTAWAY SEDIMENTS*
2				beige, mod hard, slightly gritty clay
3			01	1.2-30 grey very fine-fine sand
4			02	30-34 *MATHESON TILL*
5				cobbly 80% volc/seds 20% granitoid beige fine-med sand
6				
7				34.-45 *BEDROCK* (Basalt)
8				- dark green - fine grained
9				- foliated
10				- strongly magnetic - <0.1 % pyrite
11				
12				4.5 E.O.H
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 2 19 87

HOLE NO ME-87-53 LOCATION L6W, 1+16N ; ELEV 322 m

GEOLOGIST SHELP DRILLER HILLSOLL BIT NO CB68677 BIT FOOTAGE 0-6.7m

SHIFT HOURS

_____ TO _____

MOVE TO HOLE 10.50 - 11.00

DRILL 11.00 - 12.00

TOTAL HOURS

MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS

OTHER

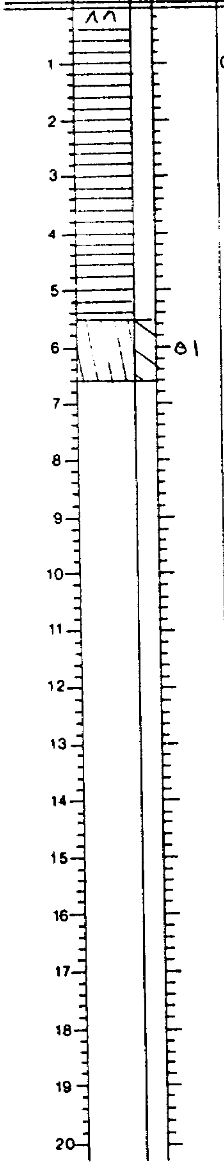
MOVE TO NEXT HOLE 12.00-12.10

Second attempt to intersect till at 0+60N

- intersected bedrock at 3m, no till

NEW BIT CB68677

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0-0.2 ORGANIC

0.2-5.5 OJIBWAY SEDIMENTS

- beige, soft, pure clay (varved).

5.5-6.6 BEDROCK

(Basalt).

- dark green
- fine-grained
- slightly foliated
- 5% qz-carbonate veinlets with associated euhedral pyrite
- 0.5% very fine disseminated pyrite

6.6 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 2 19 87

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO ME-87-54 LOCATION L5W, 1150N, ELEV 322m

GEOLOGIST SHEEP DRILLER HALSALL BIT NO. C868677 BIT FOOTAGE 6.7-21.7

MOVE TO HOLE 12.00-12.10

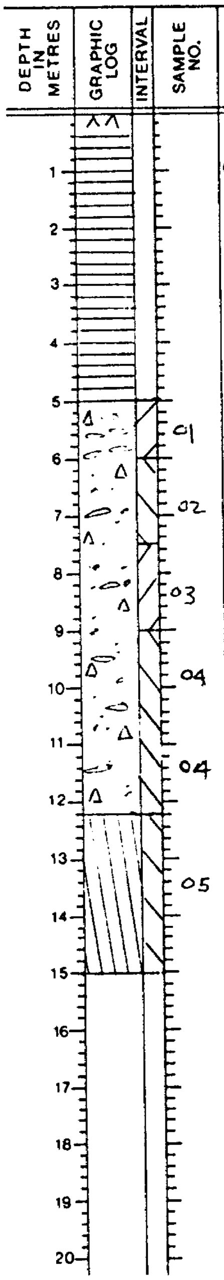
DRILL 12.10-13.20

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 13.20-13.30



DESCRIPTIVE LOG

0-0.2 ORGANICS

0.2-5.0 OJIBWAY SEDIMENTS

- grey, pure, soft clay

4.0-5.0 grey silt

5.0-12.2 MATHESON TILL

cobbly 70% volc/sed
30% granitoid

- gray fine-med sand

by 6.2 pebbles >95% ultramafic

- grey fine-med sand

- cobbly

by 11.0 pebbles 70% volc/seds
30% granitoid

12.2-15.0 BEDROCK (ultramafic)

- dark green

- fine-grained

- very soft, greasy appearance and feel (talc)

- 1% fine-grained pyrite

15.0 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 2 1987

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO ME-87-55 LOCATION L4+00 W, 2+25 N; ELEV 318m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68677 BIT FOOTAGE 217-29.2

MOVE TO HOLE 13.20 - 13.30

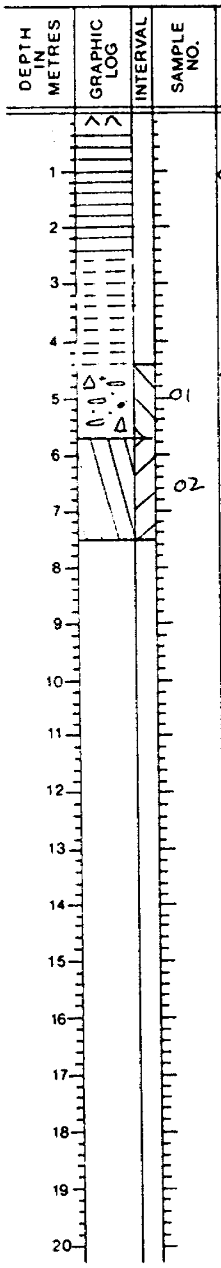
DRILL 13.30 - 13.45.

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 13.45 - 13.55



DESCRIPTIVE LOG

0-0.2 ORGANICS

0.2-4.4 OJIBWAY SEDIMENTS

0.2- grey soft pure clay

2.5-4.4 grey silt

4.4-5.7 MATHESON TILL

- grey beige fine-med sand.
- pebbles 70 % volc/seds
  30 % granitoid
- very cobbly

5.7-7.5 BEDROCK

(ultramafic)

- dark green grey.
- fine-grained
- very soft (greasy appearance + talc)
- 0.1-0.5 % fine-grained pyrite

7.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 2 1987

HOLE NO ME-87-56 LOCATION L3+00W, 2+75N; ELEV 318m

GEOLOGIST SHELP DRILLER HALSALL BIT NO CB68677 BIT FOOTAGE 292-31.2m

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

MOVE TO HOLE 13.45-13.55

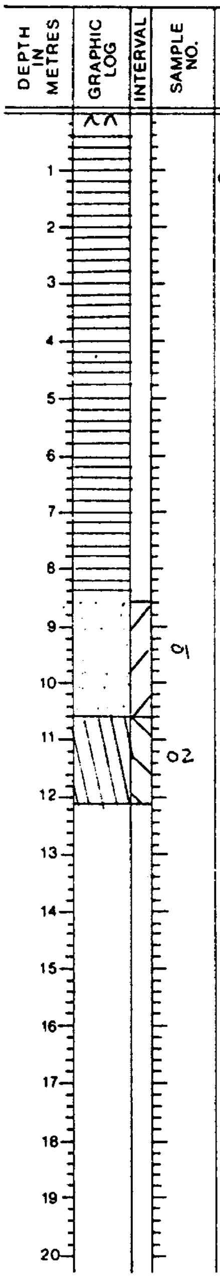
DRILL 13.55 - 14.35

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 14.35-14.45



DESCRIPTIVE LOG

0-0.2 ORGANIC.

0.2-10.6 OJIBWAY SEDIMENTS
- beige, soft, pure clay.

by 2.0 grey, soft, pure clay (slurry)

8.6-10.6 grey very fine-fine sand <5% pebbles

10.6-12.1 BEDROCK
(Granodiorite)
- dark reddish colour
- med-grained
- siliceous
- massive
- 0.1 % disseminated pyrite
- mafic minerals comprised <25%

12.1 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 2 19 87

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-87-57 LOCATION L2100 W, 2+25 N, ELEV 318m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68677 BIT FOOTAGE 31.2-50.7

MOVE TO HOLE 14.35 - 14.45

DRILL 14.45 - 15.40

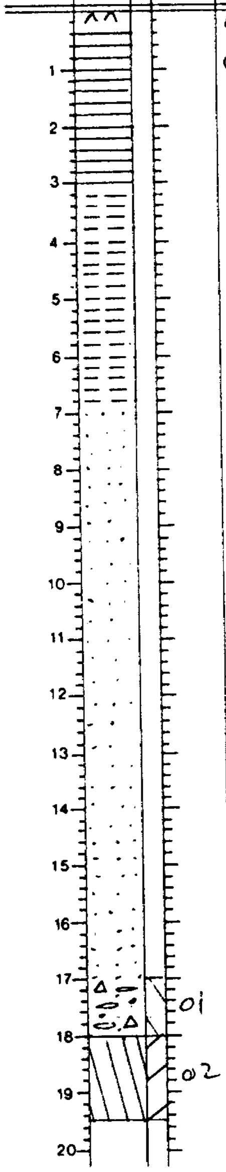
MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE 15.40 - 15.60

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-17.0 OJIBWAY SEDIMENTS

- grey, soft, pure clay

3.0-6.8 grey-beige silt to very-fine sand

6.8-17.0 grey-beige to beige fine sand.

170-180 MATHESON TILL

- grey fine-med sand
- pebble 80% volc/seds
  20% granitoid
- very cobbly

180-19.5 BEDROCK
(Basalt)

- dark green
- fine-grained
- foliated
- <0.1% pyrite
- <1% granitic veining

19.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 2 19 87

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-87-58 LOCATION L 1100 W, 2+40 N, ELEV 318m

GEOLOGIST ______ DRILLER ______ BIT NO. CB48677 BIT FOOTAGE 50.7-67.1

MOVE TO HOLE 15.40-15.50

DRILL 15.50 - 16.30

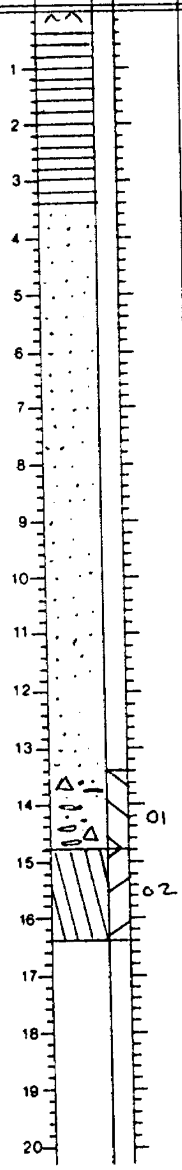
MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.2 ORGANICS

0.2-13.4. OJIBWAY SEDIMENTS

-grey, soft, pure clay

3.5-13.4 beige fine-med. sand.

13.4-14.8. MATHESON TILL

-grey fine-med sand.
-pebbles 70 % volc/seds
30 % granitoid
-very cobbly

14.8-16.4. BEDROCK

(Ultramafic)
-dark grey green.
-fine grained
-very soft (greasy appearance - talc)
-foliated

16.4 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 3 1987

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO ME-87-59 LOCATION L 1400E, 2+75N ; ELEV 318m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CR68677 BIT FOOTAGE 67.1-98.6

MOVE TO HOLE 07.00 - 08.00

DRILL 08.00 - 0920

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 09.20 - 0930

Pg 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1.5	^^ ^^ ^^ ^^			0 - 1.5 ORGANICS.
1.5–20	☰			1.5 - 25.2 OJIBWAY SEDIMENTS -grey, soft, pure clay (slurry) (varved appearance)

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19 __

HOLE NO ME-87-59 LOCATION ________

GEOLOGIST ________ DRILLER ________ BIT NO. ________ BIT FOOTAGE ________

SHIFT HOURS

________ TO ________

MOVE TO HOLE ________

DRILL ________

TOTAL HOURS

____

MECHANICAL DOWN TIME ________

DRILLING PROBLEMS ________

CONTRACT HOURS

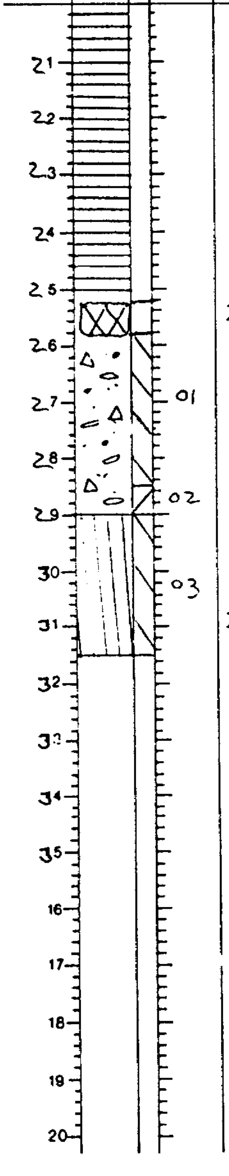
____

OTHER ________

MOVE TO NEXT HOLE ________

Pg 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



252 -29.0 MATHESON TILL

25.2 - 25.8 boulder (interm. volc).

25.8 - 29.0 grey beige fine-med sand
- pebbles 90 % volc/seds
10 % granitoid
- very cobbly

29.0 - 31.5 BEDROCK

(Ultramafic)
- dark green grey
- fine grained
- foliated
- very soft (greasy appearance - talc)
- 10 % veinlet material (soft, white, non-calcareous)

31.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 3 1987

SHIFT HOURS

______ TO ______

TOTAL HOURS

CONTRACT HOURS

HOLE NO ME-87-60 LOCATION L2100E, 3+50 N, ELEV 318 m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CR18677 BIT FOOTAGE 98.6-115.1

MOVE TO HOLE 0920-0930

DRILL 0930 - 11.20

MECHANICAL DOWN TIME

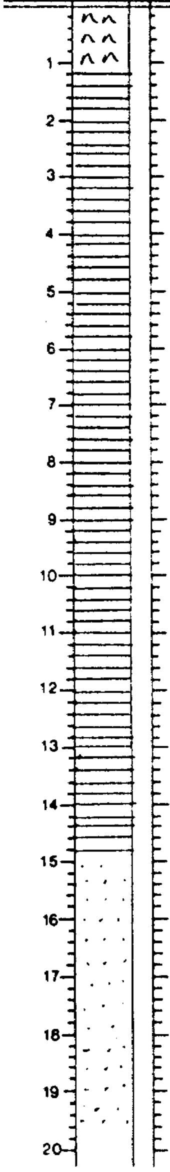
DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 11.20 - 11.30

No overburden or bedrock sample.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0-1.0 ORGANICS

1.0 - 19.5 OJIBWAY SEDIMENTS

-grey, soft, pure clay (varved)

15.0 - 19.5 grey beige fine sand

19.5 E.O.H.

3 attempts, rods plugged and cleared twice - hole abandoned.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 3 19 87

HOLE NO ME-87-61 LOCATION L3+50E, 3+50N; ELEV 318 m

GEOLOGIST SHEZ P DRILLER HALSALL BIT NO. CB65676 BIT FOOTAGE 118.1-131.6

SHIFT HOURS

______ TO ______

MOVE TO HOLE 11.20 - 11.30

DRILL 11.30 - 11.50

TOTAL HOURS

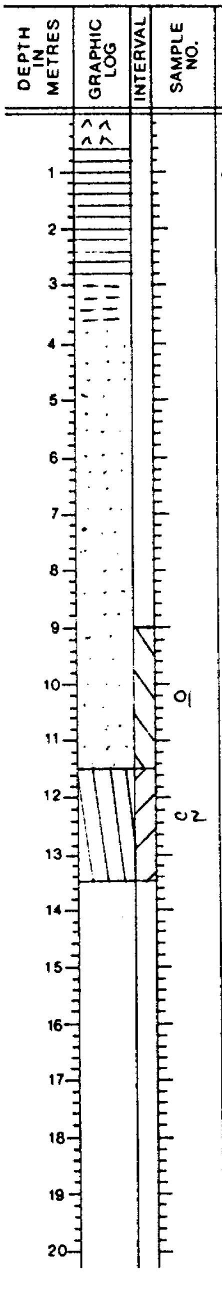
MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE 11.50 - 12.00



DESCRIPTIVE LOG

0-0.5 ORGANICS

0.5-11.5 OJIBWAY SEDIMENTS

0.5-1.5 beige, soft, slightly gritty clay

1.5-3.0 grey soft, pure clay

3.0-11.5 grey silt and very fine sand

11.5-13.5 BEDROCK

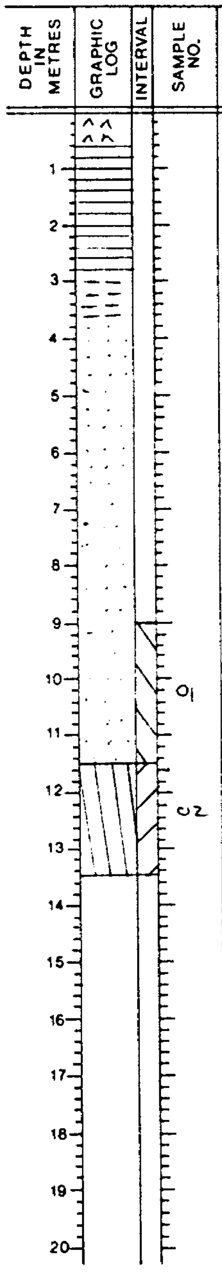
(Ultramafic)

- dark green grey
- fine grained
- foliated
- very soft (greasy appearance - talc?)
- 1% qz veining (pink)

13.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 3 19 87
HOLE NO ME-87-61 LOCATION L3+50E, 3+50N; ELEV 318 m
GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68676 BIT FOOTAGE 118.1-131.6
SHIFT HOURS
____ TO ____
MOVE TO HOLE 11.20 - 11.30
DRILL 11.30 - 11.50
TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
OTHER
MOVE TO NEXT HOLE 11.50 - 12.00



DESCRIPTIVE LOG

0-0.5 ORGANICS

0.5-11.5 OJIBWAY SEDIMENTS

0.5-1.5 beige, soft, slightly gritty clay

1.5-3.0 grey soft, pure clay

3.0-11.5 grey silt and very fine sand

11.5-13.5 BEDROCK
(Ultramafic)
- dark green grey
- fine-grained
- foliated
- very soft (greasy appearance - talc?)
- 1% qtz veining (pink).

13.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Feb 3 1987

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO ME-87-62 LOCATION L 2+50E, 3+75N, ELEV 318m

GEOLOGIST SHELP DRILLER HALSALL BIT NO. CB68677 BIT FOOTAGE 1316-1521

MOVE TO HOLE 11.50-12.00

DRILL 14.00-13.00

MECHANICAL DOWN TIME 12.00-14.00 - Muskeg track problems

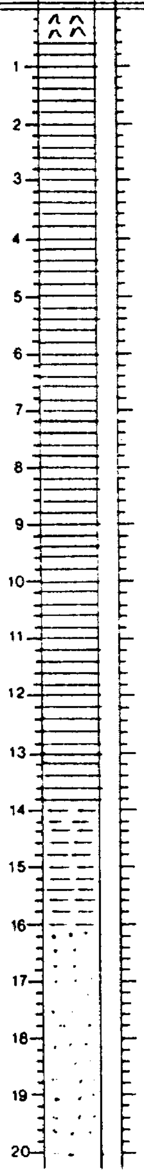
DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

Pg 1 of 2

DEPTH IN METRES | GRAPHIC LOG | INTERVAL | SAMPLE NO. | DESCRIPTIVE LOG



0-0.5 ORGANICS

0.5-25.5 OJIBWAY SEDIMENTS
-grey, soft, pure clay (varved)

14.0-16.0 grey silt -> very fine sand

16.0-25.5 grey beige fine sand.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19__

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ME-87-62 LOCATION ______

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE ______

DRILL ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

Pg 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21				
22				
23				
24				
25				
				25.5. E.O.H. Rods plugged - 2 attempts - abandon hole.
26				
27				
28				
29				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

APPENDIX B

SAMPLE WEIGHTS - HEAVY MINERAL CIRCUIT

ARME1FEB.WR1

OVERBURDEN DRILLING MANAGEMENT LIMITED

TOTAL # OF SAMPLES IN THIS REPORT = 40

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET)			WEIGHT (GRAMS DRY)					AU		DESCRIPTION											CLASS
						M. I. CONC					CLAST					MATRIX						
	TABLE SPLIT	+10 CHIPS	TABLE FEED	TABLE CONC	M.I. LIGHTS	CONC. TOTAL	NON MAG	MAG	NO. V.G.	CALC PPB	SIZE	%				S/U	SD	ST	CY	COLOR		
												V/S	GR	LS	OT					SD	CY	
ME-87																						
04-01	9.4	2.2	7.2	129.5	89.6	39.9	23.5	16.4	1	265	P	90	10	NA	C	U	Y	Y	Y	B	B	TILL
-02	9.6	2.7	6.9	149.0	99.5	49.5	23.3	26.2	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.2	1.4	6.8	111.0	69.9	41.1	26.3	14.8	4	115	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	4.7	0.4	4.3	89.8	62.8	27.0	18.1	8.9	3	1065	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	7.4	1.0	6.4	130.9	72.2	58.7	35.8	22.9	1	216	P,C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
-06	9.3	2.2	7.1	126.2	79.1	47.1	22.1	25.0	1	46	C,P	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
-07	5.4	0.6	4.8	81.4	58.1	23.3	13.3	10.0	0	NA	P,C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
03-01	9.1	1.4	7.7	127.8	85.7	42.1	26.0	16.1	1	147	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.4	1.4	8.0	119.9	76.4	43.5	24.5	19.0	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.8	1.7	8.1	134.2	87.7	46.5	22.4	24.1	1	17	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.5	1.4	8.1	113.5	67.4	46.1	24.9	21.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	10.0	2.2	7.8	186.8	130.4	56.4	27.9	28.5	3	592	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
02-01	6.8	0.6	6.2	82.1	57.7	24.4	18.0	6.4	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.7	1.4	6.3	95.3	70.2	25.1	16.0	9.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.9	1.7	7.2	155.0	114.9	40.1	26.8	13.3	1	38	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.4	1.7	7.7	107.6	71.2	36.4	24.7	11.7	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.8	1.4	7.4	112.0	76.5	35.5	23.0	12.5	5	87	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.1	0.7	8.4	134.9	77.2	57.7	34.4	23.3	14	163	P	90	10	NA	NA	U	Y	Y	Y	GG	GG	TILL
01-01	9.0	1.8	7.2	125.7	82.4	43.3	30.9	12.4	1	21	P	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.4	1.2	7.2	147.6	98.1	49.5	31.9	17.6	10	231	P	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
19-01	9.0	3.1	5.9	132.7	96.6	36.1	27.4	8.7	1	77	P,C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	6.9	1.2	5.7	141.6	109.7	31.9	23.9	8.0	1	8	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
17-01	8.6	1.0	7.6	147.0	95.1	51.9	37.5	14.4	20	730	P,C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
16-01	8.0	1.2	6.8	175.9	129.3	46.6	35.5	11.1	7	82	P,C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
15-01	9.0	1.1	7.9	204.7	149.3	55.4	41.8	13.6	10	386	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
14-01	8.2	0.9	7.3	168.9	111.2	57.7	44.5	13.2	8	438	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.9	1.6	7.3	137.7	90.3	47.4	34.1	13.3	15	4930	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
13-01	5.5	0.5	5.0	106.4	79.7	26.7	19.3	7.4	4	183	P	90	10	NA	C	U	Y	Y	Y	GB	GB	TILL
12-01	8.8	1.9	6.9	111.4	77.6	33.8	24.2	9.6	1	62	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
11-01	8.8	1.3	7.5	252.8	220.4	32.4	24.4	8.0	7	5612	P,C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	6.5	0.2	6.3	246.3	208.2	38.1	29.0	9.1	4	144	P,C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.2	1.7	6.5	339.9	304.5	35.4	26.8	8.6	5	220	P,C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.1	2.6	5.5	316.8	280.5	36.3	27.3	9.0	1	55	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.8	2.0	6.8	278.0	245.9	32.1	24.3	7.8	1	389	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
10-01	4.8	1.1	3.7	161.9	140.7	21.2	15.8	5.4	1	134	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
09-01	9.1	1.1	8.0	193.0	157.2	35.8	25.5	10.3	8	471	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.5	2.1	7.4	192.6	152.1	40.5	27.8	12.7	6	1099	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.4	0.9	7.5	169.4	135.4	34.0	23.8	10.2	5	379	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.5	1.5	7.0	124.2	86.0	38.2	26.0	12.2	5	421	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
09-05	8.8	1.5	7.3	129.2	87.4	41.8	29.4	12.4	1	13	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL

E2FEB.WR

OVERBURDEN DRILLING MANAGEMENT LIMITED

AL # OF SAMPLES IN THIS REPORT = 40

LABORATORY SAMPLE LOG

S PLE NO.	WEIGHT (KG.WET)			WEIGHT (GRAMS DRY)					AU		DESCRIPTION											CLASS
						M. I. CONC					CLAST					MATRIX						
	TABLE SPLIT	+10 CHIPS	TABLE FEED	TABLE CONC	M.I. LIGHTS	CONC. TOTAL	NON MAG	MAG	NO. V.G.	CALC PPB	SIZE	% V/S	% GR	% LS	% OT	S/U	SD	ST	CY	COLOR SD	COLOR CY	
ME-87																						
09-06	8.2	1.4	6.8	104.4	63.1	41.3	26.3	15.0	1	237	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	8.6	1.0	7.6	126.2	90.0	36.2	25.8	10.4	5	115	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.0	0.6	8.4	144.3	103.0	41.3	29.4	11.9	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.8	0.2	8.6	107.0	73.5	33.5	23.5	10.0	1	43	P,C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
01-03	9.1	1.4	7.7	113.4	73.7	39.7	28.0	11.7	1	3	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	6.5	0.2	6.3	100.9	69.4	31.5	22.3	9.2	6	201	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
03-06	9.0	1.5	7.5	128.5	82.4	46.1	30.9	15.2	10	100	P,C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.5	2.0	7.5	103.8	71.5	32.3	22.4	9.9	6	503	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
05-01	9.3	1.8	7.5	122.9	91.6	31.3	22.5	8.8	5	161	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.7	1.6	7.1	82.3	55.8	26.5	18.4	8.1	1	10	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.3	0.7	8.6	110.9	72.8	38.1	25.8	12.3	1	621	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.6	1.9	7.7	102.0	66.7	35.3	25.0	10.3	6	160	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.2	0.2	9.0	98.3	66.5	31.8	22.1	9.7	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-06	9.3	1.5	7.8	139.6	101.3	38.3	28.0	10.3	10	165	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
06-01	8.1	1.7	6.4	108.6	72.2	36.4	26.7	9.7	4	1853	P,C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.1	2.0	7.1	138.3	92.3	46.0	33.6	12.4	11	421	P,C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.4	1.8	7.6	155.7	106.0	49.7	34.6	15.1	6	67	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.0	2.0	7.0	166.9	127.3	39.6	28.2	11.4	4	209	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	5.6	1.0	4.6	104.1	78.2	25.9	19.6	6.3	3	97	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.5	2.0	6.5	168.1	134.7	33.4	25.0	8.4	1	26	P,C	95	5	NA	NA	U	Y	Y	Y	GG	GB	TILL
07-01	8.7	2.2	6.5	169.8	126.1	43.7	30.1	13.6	4	556	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.0	1.4	7.6	148.2	96.0	52.2	34.4	17.8	8	1076	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.5	1.8	7.7	173.7	113.0	60.7	38.8	21.9	7	30	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.7	1.0	7.7	177.6	101.9	75.7	36.6	39.1	9	594	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
08-01	8.9	2.5	6.4	126.4	77.1	49.3	33.7	15.6	5	1778	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.3	2.3	7.0	121.3	74.6	46.7	32.2	14.5	4	336	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.3	0.8	8.5	174.0	116.6	57.4	36.4	21.0	5	111	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.7	0.4	8.3	140.0	72.6	67.4	50.0	17.4	4	179	P	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
-05	6.1	0.5	5.6	94.6	52.9	41.7	28.3	13.4	1	3	P	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
18-01	8.1	1.2	6.9	109.5	58.9	50.6	33.8	16.8	8	183	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
20-01	8.9	2.6	6.3	151.9	102.5	49.4	33.7	15.7	5	1661	P	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.4	1.5	6.9	143.9	87.5	56.4	38.8	17.6	9	420	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
21-01	8.6	0.8	7.8	122.9	73.4	49.5	33.2	16.3	11	210	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.1	2.0	7.1	138.7	81.7	57.0	38.3	18.7	6	98	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.0	1.7	7.3	105.6	58.2	47.4	29.2	18.2	4	947	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
22-01	8.9	1.9	7.0	112.9	71.9	41.0	29.7	11.3	4	260	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.1	1.2	7.9	124.1	73.6	50.5	33.0	17.5	7	166	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
23-01	9.0	1.1	7.9	107.1	70.6	36.5	27.2	9.3	1	589	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
24-01	8.6	1.5	7.1	65.6	37.1	28.5	20.6	7.9	3	75	P	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
25-01	4.9	0.9	4.0	83.9	64.1	19.8	14.7	5.1	1	44	P	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL

ME3FEB.WRT

OVERBURDEN DRILLING MANAGEMENT LIMITED

TAL # OF SAMPLES IN THIS REPORT = 40

LABORATORY SAMPLE LOG

MPLE NO.	WEIGHT (KG.WET)			WEIGHT (GRAMS DRY)					AU		DESCRIPTION												CLASS
						M. I. CONC					CLAST					MATRIX						
	TABLE SPLIT	+10 CHIPS	TABLE FEED	TABLE CONC	M.I. LIGHTS	CONC. TOTAL	NON MAG	MAG	NO. V.G.	CALC PPB	SIZE	%				S/U	SD	ST	CY	COLOR		
												V/S	GR	LS	OT					SD	CY	
ME-87																						
25-02	9.2	1.0	8.2	142.9	94.3	48.6	28.7	19.9	1	22	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
26-01	9.5	1.5	8.0	150.4	109.1	41.3	30.0	11.3	1	21	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
27-01	8.9	1.1	7.8	117.0	84.7	32.3	22.2	10.1	1	46	P	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.0	1.7	7.3	107.4	70.7	36.7	26.4	10.3	1	57	P,C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.2	1.5	7.7	102.3	70.4	31.9	22.9	9.0	1	16	P	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.4	1.8	7.6	131.2	90.7	40.5	28.8	11.7	6	201	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.2	1.2	8.0	130.4	93.2	37.2	26.9	10.3	7	84	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	7.5	1.3	6.2	92.5	65.4	27.1	19.5	7.6	3	204	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
28-01	9.0	1.4	7.6	89.8	55.1	34.7	25.0	9.7	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.0	1.5	7.5	71.4	36.9	34.5	24.2	10.3	1	26	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
29-01	7.6	1.1	6.5	76.5	49.7	26.8	19.9	6.9	0	NA	P	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.5	1.0	7.5	83.7	52.9	30.8	21.9	8.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.2	0.7	7.5	83.6	47.5	36.1	24.6	11.5	4	168	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.5	1.1	7.4	71.7	38.2	33.5	24.0	9.5	1	63	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	7.7	0.9	6.8	83.9	52.1	31.8	22.6	9.2	8	64	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.7	1.0	7.7	87.4	50.8	36.6	24.0	12.6	8	76	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	5.6	0.5	5.1	79.5	60.6	18.9	12.1	6.8	1	7	C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
30-01	8.0	1.2	6.8	145.1	105.0	40.1	24.9	15.2	6	3887	C	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
-02	7.3	0.8	6.5	108.7	80.4	28.3	18.3	10.0	8	256	C	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.6	0.6	6.0	79.2	52.6	26.6	17.1	9.5	0	NA	C	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
-04	6.8	0.5	6.3	87.0	60.9	26.1	16.6	9.5	1	90	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
31-01	8.1	1.4	6.7	166.2	126.5	39.7	27.7	12.0	8	161	P,C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.6	1.0	7.6	114.9	78.8	36.1	24.4	11.7	4	200	P,C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.6	0.6	6.0	87.5	61.1	26.4	8.5	17.9	3	4993	P	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
32-01	8.5	0.4	8.1	111.9	76.8	35.1	25.0	10.1	5	315	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	5.6	1.0	4.6	67.0	45.6	21.4	15.2	6.2	1	99	P,C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
33-01	4.9	1.4	3.5	51.6	34.4	17.2	12.3	4.9	0	NA	P,C	90	10	NA	NA	U	Y	Y	Y	GG	GG	TILL
34-01	8.6	1.8	6.8	111.9	77.3	34.6	23.4	11.2	1	211	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.1	1.4	6.7	114.3	86.2	28.1	19.9	8.2	0	NA	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.3	1.0	7.3	125.5	94.7	30.8	21.3	9.5	6	207	P,C	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
-04	8.3	1.4	6.9	127.9	93.9	34.0	24.5	9.5	0	NA	P	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
-05	7.6	0.7	6.9	110.7	81.2	29.5	21.1	8.4	0	NA	P	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
35-01	8.1	1.7	6.4	81.7	50.6	31.1	22.5	8.6	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.5	1.6	6.9	133.6	100.5	33.1	23.6	9.5	4	765	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.6	1.6	7.0	166.7	131.3	35.4	25.6	9.8	8	396	C	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
-04	9.0	2.2	6.8	110.6	82.7	27.9	19.5	8.4	0	NA	P,C	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
36-01	8.0	1.3	6.7	116.6	84.2	32.4	22.6	9.8	9	882	P,C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.2	1.6	6.6	89.8	52.2	37.6	27.0	10.6	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	6.8	1.2	5.6	82.2	54.6	27.6	19.1	8.5	1	79	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
36-04	9.0	2.0	7.0	121.5	86.0	35.5	25.0	10.5	7	173	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL

E4FEB.WRI

OVERBURDEN DRILLING MANAGEMENT LIMITED

AL # OF SAMPLES IN THIS REPORT = 59

LABORATORY SAMPLE LOG

PLE NO.	WEIGHT (KG.WET)			WEIGHT (GRAMS DRY)					AU		DESCRIPTION											CLASS
						M. I. CONC					CLAST					MATRIX						
	TABLE SPLIT	+10 CHIPS	TABLE FEED	TABLE CONC	M.I. LIGHTS	CONC. TOTAL	NON MAG	MAG	NO. V.G.	CALC PPB	SIZE	%				S/U	SD	ST	CY	COLOR		
												V/S	GR	LS	DT					SD	CY	
ME-87																						
36-05	8.7	2.2	6.5	153.0	111.0	42.0	28.4	13.6	8	2187	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-06	8.7	1.8	6.9	165.1	121.5	43.6	29.8	13.8	5	125	P	85	15	NA	NA	U	Y	Y	Y	GG	GG	TILL
-07	8.6	2.0	6.6	165.5	116.4	49.1	32.4	16.7	8	1425	P,C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.1	0.6	8.5	191.2	131.4	59.8	35.1	24.7	15	230	C	90	10	NA	NA	U	Y	Y	Y	GG	GG	TILL
37-01	7.5	1.1	6.4	136.7	103.6	33.1	22.3	10.8	7	261	P,C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
38-01	9.3	2.4	6.9	142.1	106.7	35.4	23.8	11.6	6	114	P,C	90	10	NA	NA	U	Y	Y	Y	GG	GG	TILL
-02	9.0	1.2	7.8	162.0	122.6	39.4	23.6	15.8	8	1120	P	90	10	NA	NA	U	Y	Y	Y	GG	GG	TILL
-03	8.8	1.5	7.3	137.5	105.6	31.9	21.3	10.6	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	7.4	1.4	6.0	128.4	100.2	28.2	15.9	12.3	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-05	5.3	1.4	3.9	85.6	73.0	12.6	7.2	5.4	0	NA	P,C	99	1	NA	NA	U	Y	Y	Y	GG	GG	TILL
39-01	7.6	2.1	5.5	111.4	83.6	27.8	18.6	9.2	7	132	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
40-01	8.5	2.2	6.3	120.0	93.5	26.5	18.8	7.7	6	106	P,C	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-02	8.3	2.4	5.9	89.8	66.1	23.7	15.8	7.9	4	212	P	80	20	NA	NA	U	Y	Y	Y	GN	GN	TILL
41-01	7.7	2.2	5.5	103.9	77.1	26.8	17.8	9.0	9	185	P	85	15	NA	NA	U	Y	Y	Y	GG	GG	TILL
-02	9.2	3.2	6.0	93.2	66.7	26.5	19.2	7.3	1	19	C	80	20	NA	NA	U	Y	Y	Y	GGG	GG	TILL
-03	3.5	0.6	2.9	69.7	57.3	12.4	8.6	3.8	1	3	P	85	15	NA	NA	U	Y	Y	Y	GN	GN	TILL
42-01	6.7	1.4	5.3	136.8	113.2	23.6	16.4	7.2	6	300	C	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
43-01	8.9	1.3	7.6	102.5	70.0	32.5	22.7	9.8	9	127	C	85	15	NA	NA	U	Y	Y	Y	GG	GG	TILL
-02	9.0	1.8	7.2	126.5	91.8	34.7	20.8	13.9	1	18	C	80	20	NA	NA	U	Y	Y	Y	GB	GG	TILL
44-01	8.7	2.8	5.9	110.3	76.3	34.0	15.1	18.9	4	760	P	75	25	NA	NA	U	Y	Y	Y	GN	GN	TILL
-02	3.7	1.2	2.5	47.2	36.0	11.2	7.8	3.4	1	1212	P	80	20	NA	NA	U	Y	Y	Y	GN	GN	TILL
45-01	8.5	1.4	7.1	112.3	86.1	26.2	19.2	7.0	4	50	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-02	8.6	2.3	6.3	105.5	80.2	25.3	14.9	10.4	7	843	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-03	8.3	0.8	7.5	156.2	90.0	66.2	45.5	20.7	6	194	C	85	15	NA	NA	U	Y	Y	Y	GG	GG	TILL
46-01	5.2	1.4	3.8	87.8	74.1	13.7	10.2	3.5	7	6387	C	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
47-01	7.1	2.2	4.9	132.3	106.5	25.8	15.8	10.0	2	993	C	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
48-01	9.7	2.3	7.4	117.9	76.1	41.8	31.5	10.3	3	446	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-02	9.3	1.9	7.4	146.5	95.2	51.3	36.8	14.5	4	141	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-03	8.7	1.3	7.4	149.1	102.5	46.6	33.9	12.7	4	86	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.7	1.8	6.9	187.2	144.0	43.2	32.0	11.2	1	32	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-05	8.2	1.2	7.0	141.0	101.8	39.2	26.7	12.5	5	382	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-06	8.6	2.1	6.5	140.0	101.7	38.3	27.3	11.0	7	6431	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
-07	6.2	1.1	5.1	141.1	110.3	30.8	21.6	9.2	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GG	GG	TILL
-08	8.7	1.6	7.1	143.5	108.8	34.7	20.9	13.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GN	GN	TILL
49-01	5.2	3.2	2.0	66.4	52.2	14.2	10.5	3.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GG	GG	TILL
-02	8.4	2.5	5.9	178.5	133.5	45.0	33.4	11.6	7	1610	P	70	30	NA	NA	U	Y	Y	Y	GG	GG	TILL
-03	8.4	2.2	6.2	177.0	148.1	28.9	21.4	7.5	1	70	P	70	30	NA	NA	U	Y	Y	Y	GG	GG	TILL
-04	8.5	1.7	6.8	158.1	119.8	38.3	29.2	9.1	1	1	P	70	30	NA	NA	U	Y	Y	Y	GG	GG	TILL
51-01	8.3	0.0	8.3	153.7	121.7	32.0	23.9	8.1	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.4	1.0	7.4	153.0	122.4	30.6	22.1	8.5	0	NA	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	7.8	1.2	6.6	126.3	99.9	26.4	17.8	8.6	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GN	GN	TILL
-04	5.6	1.2	4.4	100.9	84.1	16.8	12.1	4.7	3	281	C	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
-05	8.4	0.3	8.1	105.8	76.0	29.8	21.8	8.0	0	NA	P,C	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
-06	7.1	0.0	7.1	66.8	37.5	29.3	21.0	8.3	8	1172	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL

ME4FEB.WR1

OVERBURDEN DRILLING MANAGEMENT LIMITED

TAL # OF SAMPLES IN THIS REPORT = 59

LABORATORY SAMPLE LOG

MPLE NO.	WEIGHT (KG.WET)			WEIGHT (GRAMS DRY)					AU		DESCRIPTION											CLASS
						M. I. CONC					CLAST					MATRIX						
	TABLE SPLIT	+10 CHIPS	TABLE FEED	TABLE CONC	M.I. LIGHTS	CONC. TOTAL	NON MAG	MAG	NO. V.G.	CALC PPB	SIZE	%				S/U	SD	ST	CY	COLOR		
												V/S	GR	LS	OT					SD	CY	
ME-87																						
-07	8.6	1.7	6.9	157.7	96.3	61.4	38.2	23.2	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
-08	5.4	1.3	4.1	88.2	63.0	25.2	18.6	6.6	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
-09	6.8	1.5	5.3	199.1	140.0	59.1	21.5	37.6	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
52-01	8.3	1.4	6.9	66.2	21.1	45.1	22.5	22.6	1	67	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
54-01	9.3	1.3	8.0	203.2	64.1	139.1	63.4	75.7	8	18	P	95	5	NA	NA	U	Y	Y	Y	GN	GB	TILL
-02	8.9	1.3	7.6	318.2	105.7	212.5	90.7	121.8	2	32	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
-03	9.4	2.0	7.4	303.5	102.0	201.5	101.2	100.3	1	0	P	95	5	NA	NA	U	Y	Y	Y	GN	GN	TILL
-04	7.9	1.0	6.9	394.0	96.6	297.4	103.7	193.7	2	10	P	85	15	NA	NA	U	Y	Y	Y	BBN	BBN	TILL
55-01	8.1	1.9	6.2	134.3	89.8	44.5	25.1	19.4	0	NA	P	85	15	NA	NA	U	Y	Y	Y	BBN	BBN	TILL
56-01	4.7	0.5	4.2	71.8	41.4	30.4	22.9	7.5	0	NA	C	99	1	NA	NA	U	Y	Y	Y	GB	GB	TILL
57-01	8.1	1.5	6.6	113.3	57.0	56.3	33.0	23.3	17	6574	P	95	5	NA	NA	U	Y	Y	Y	GG	GG	TILL
58-01	7.8	0.7	7.1	100.7	55.7	45.0	32.5	12.5	8	227	P.C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
59-01	9.1	1.9	7.2	127.1	94.0	33.1	24.8	8.3	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.5	2.6	5.9	104.4	70.9	33.5	20.6	12.9	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
61-01	7.8	0.0	7.8	82.4	35.6	46.8	33.3	13.5	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL

APPENDIX C

GOLD GRAIN COUNTS AND CALULATED VISIBLE GOLD ASSAYS

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

armo1feb.wr1
TOTAL # OF PANNINGS 19

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABRADED T	P	IRREGULAR T	P	DELICATE T	P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
ME-87													
04-01	N	150 X 175	31 C	1						1			
										1	23.5	265	
-02	N	NO VISIBLE GOLD											
-03	Y	25 X 100	13 C	1						1			EST. 2% PYRITE
		75 X 75	15 C	1						1			
		75 X 100	18 C	1	1					2			
										4	26.3	115	
-04	Y	25 X 75	10 C		1					1			EST. 1% PYRITE
		50 X 75	13 C	1						1			
		175 X 300	44 C	1						1			
										3	18.1	1065	
-05	N	125 X 225	34 C	1						1			
										1	35.8	216	
-06	N	75 X 100	18 C	1						1			
										1	22.1	46	
-07	N	NO VISIBLE GOLD											
03-01	N	125 X 150	27 C	1						1			
										1	26.0	147	
-02	N	NO VISIBLE GOLD											
-03	N	50 X 75	13 C	1						1			
										1	22.4	17	
-04	N	NO VISIBLE GOLD											
-05	Y	25 X 75	10 C		1					1			EST. 2% PYRITE
		100 X 200	29 C	1						1			
		175 X 225	38 C	1						1			
										3	27.9	592	
02-01	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

armolfeb.wr1
TOTAL # OF PANNINGS 19

NUMBER OF GRAINS

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABRADED		IRREGULAR		DELICATE		TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
				T	P	T	P	T	P				
ME-87													
-02	N	NO VISIBLE GOLD											
-03	N	75 X 100	18 C	1						1			
										1	26.8	38	
-04	N	NO VISIBLE GOLD											
-05	Y	25 X 25	5 C		1					1			EST. 2% PYRITE
		25 X 50	8 C		1					1			
		25 X 75	10 C				1			1			
		50 X 50	10 C	1						1			
		75 X 125	20 C	1						1			
										5	23.0	87	
-06	Y	25 X 25	5 C		4		2			6			EST. 2% PYRITE
		25 X 50	8 C		2					2			
		50 X 75	13 C	1						1			
		50 X 100	15 C		3					3			
		75 X 125	20 C	1	1					2			
										14	34.4	163	
01-01	N	75 X 75	15 C	1						1			
										1	30.9	21	
-02	Y	25 X 25	5 C		2					2			EST. 0.5% PYRITE
		25 X 75	10 C		2					2			200 GRAINS ARSENOPYRITE (FINE)
		50 X 50	10 C		1					1			
		50 X 75	13 C		1					1			
		75 X 75	15 C		1					1			
		75 X 125	20 C	1						1			
		100 X 125	22 C	2						2			
										10	31.9	231	
19-01	N	100 X 125	22 C	1						1			
										1	27.4	77	
-02	N	50 X 50	10 C	1						1			
										1	23.9	8	

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

armo1feb.wr1

TOTAL # OF PANNINGS 19

NUMBER OF GRAINS

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABRADED		IRREGULAR		DELICATE		TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
				T	P	T	P	T	P				
ME-87													
17-01	Y	25 X 50	8 C		4					4			EST. 1% PYRITE
		25 X 75	10 C	3	1					4			
		50 X 50	10 C	1						1			
		50 X 75	13 C	1	2					3			
		50 X 100	15 C		1					1			
		50 X 150	20 C	1						1			
		75 X 100	18 C	1	1					2			
		75 X 125	20 C	1						1			
		100 X 125	22 C	1						1			
		125 X 225	34 C	1						1			
		150 X 225	36 C	1						1			
										20	37.5	730	
16-01	Y	25 X 25	5 C						1	1			EST. 1% PYRITE
		25 X 50	8 C	1	1					2			
		50 X 50	10 C		1					1			
		50 X 75	13 C	1						1			
		50 X 100	15 C		1					1			
		75 X 125	20 C	1						1			
										7	35.5	82	
15-01	Y	25 X 75	10 C	1						1			EST. 1% PYRITE
		50 X 50	10 C	1						1			
		50 X 75	13 C	2						2			
		50 X 100	15 C		1					1			
		75 X 75	15 C	2						2			
		75 X 125	20 C	1						1			
		100 X 125	22 C		1					1			
		150 X 225	36 C	1						1			
										10	41.8	386	
14-01	Y	25 X 25	5 C		1					1			EST. 1% PYRITE
		25 X 75	10 C		1					1			
		75 X 175	25 C	1						1			
		100 X 100	20 C	1						1			
		100 X 125	22 C	1						1			
		125 X 125	25 C	1						1			
		125 X 175	29 C	1						1			
		150 X 150	29 C	1						1			
										8	44.5	438	
-02	Y	25 X 50	8 C	1	1					2			EST. 1% PYRITE
		25 X 75	10 C	1	1					2			

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

armolfeb.wr1
TOTAL # OF PANNINGS 19

				NUMBER OF GRAINS									
				ABRADED		IRREGULAR		DELICATE		TOTAL	NON MAG	CALC V.G. ASSAY	
SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	T	P	T	P	T	P		GMS	PPB	REMARKS
ME-87													
		50 X 50	10 C	3						3			
		50 X 125	18 C	3						3			
		75 X 75	15 C	1						1			
		75 X 100	18 C	2	1					3			
		300 X 725	81 C	1						1			
										15	34.1	4930	
13-01	Y	25 X 25	5 C		1					1			EST. 1% PYRITE
		50 X 75	13 C	1						1			
		75 X 100	18 C	1						1			
		100 X 125	22 C	1						1			
										4	19.3	183	
12-01	N	75 X 125	20 C	1						1			
										1	24.2	62	
11-01	Y	25 X 50	8 C		2					2			EST. 1% PYRITE
		50 X 50	10 C		1					1			
		50 X 100	15 C		1					1			
		75 X 125	20 C	1						1			
		100 X 175	27 C	1						1			
		375 X 575	77 C	1						1			
										7	24.4	5612	
-02	Y	25 X 25	5 C		1					1			EST. 1% PYRITE
		50 X 125	18 C		1					1			250 GRAINS ARSENOPYRITE (FINE)
		75 X 100	18 C	1						1			
		100 X 125	22 C	1						1			
										4	29.0	144	
-03	Y	50 X 50	10 C		3					3			EST. 1% PYRITE
		100 X 100	20 C	1						1			200 GRAINS ARSENOPYRITE (FINE)
		125 X 150	27 C	1						1			
										5	26.8	220	
-04	N	75 X 125	20 C	1						1			
										1	27.3	55	
-05	N	125 X 250	36 C			1				1			

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

armo1feb.wr1
TOTAL # OF PANNINGS 19

NUMBER OF GRAINS

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABRADED		IRREGULAR		DELICATE		TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
				T	P	T	P	T	P				
ME-87													
										1	24.3	389	
10-01	N	100 X 125	22 C	1						1			
										1	15.8	134	
09-01	Y	25 X 25	5 C		1					1			EST. 1% PYRITE
		25 X 50	8 C		2					2			150 GRAINS ARSENOPYRITE (FINE)
		50 X 50	10 C		1					1			
		75 X 100	18 C	1						1			
		75 X 125	20 C	1						1			
		100 X 150	25 C		1					1			
		150 X 175	31 C	1						1			
										8	25.5	471	
-02	Y	25 X 25	5 C		2					2			EST. 1% PYRITE
		50 X 50	10 C						1	1			
		150 X 225	36 C	2						2			
		150 X 250	38 C	1						1			
										6	27.8	1099	
-03	Y	25 X 50	8 C		1					1			EST. 1% PYRITE
		25 X 75	10 C		1					1			
		75 X 100	18 C	1						1			
		75 X 125	20 C	1						1			
		150 X 175	31 C	1						1			
										5	23.8	379	
-04	Y	25 X 25	5 C		1					1			EST. 1% PYRITE
		25 X 75	10 C	1						1			200 GRAINS ARSENOPYRITE (FINE)
		75 X 125	20 C		1					1			
		100 X 100	20 C	1						1			
		100 X 250	34 C		1					1			
										5	26.0	421	
09-05	N	50 X 75	13 C	1						1			
										1	29.4	13	

```
D CLASSIFICATION
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SIBLE GOLD FROM SHAKING TABLE AND PANNING

ME2FEB.WR1                                        NUMBER OF GRAINS
TAL # OF PANNINGS      29                ------------------------------------
                                         ABRADED   IRREGULAR  DELICATE TOTAL NON    CALC V.G.
MPLE # PANNED                            ========  =========  ======== ===== MAG     ASSAY
      Y/N    DIAMETER   THICKNESS      T    P    T    P     T    P          GMS      PPB     REMARKS

ME-87
09-06  N     150 X  175      31 C      1                                1

                                                                     ----------------------
                                                                        1   26.3      237

 -07   Y      25 X   50       8 C           1                           1                    EST. 1% PYRITE
              50 X   50      10 C           2                           2
              50 X  125      18 C      1                                1
              75 X  125      20 C      1                                1
                                                                     ----------------------
                                                                        5   25.8      115

 -08   N    NO VISIBLE GOLD

 -09   N      75 X  100      18 C      1                                1
                                                                     ----------------------
                                                                        1   23.5       43

01-03  N      25 X   50       8 C      1                                1
                                                                     ----------------------
                                                                        1   28.0        3

 -04   Y      25 X   25       5 C                              1        1                    EST. 1% PYRITE
              25 X   50       8 C                     1                 1                         400 GRAINS ARSENOPYRITE (FINE)
              50 X   75      13 C           1                           1
              75 X  100      18 C           1                           1
              75 X  125      20 C      2                                2
                                                                     ----------------------
                                                                        6   22.3      201

03-06  Y      25 X   25       5 C           2                  1        3                    EST. 1% PYRITE
              25 X   50       8 C           3                           3
              25 X  100      13 C                          1            1
              50 X   75      13 C      1                                1
              50 X  125      18 C           1                           1
              75 X  100      18 C      1                                1
                                                                     ----------------------
                                                                       10   30.9      100

 -07   Y      25 X   50       8 C      1                                1                    EST. 2% PYRITE
              50 X   50      10 C                                  1    1
              50 X  100      15 C           1                           1
              75 X  100      18 C      1                                1
             100 X  175      27 C      1                                1
             125 X  175      29 C      1                                1
                                                                     ----------------------
                                                                        6   22.4      503
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LD CLASSIFICATION
=================
ISIBLE GOLD FROM SHAKING TABLE AND PANNING

ME2FEB.WR1                                  NUMBER OF GRAINS
OTAL # OF PANNINGS      29          --------------------------------
                                      ABRADED IRREGULAR  DELICATE TOTAL    NON  CALC V.G.
MPLE #  PANNED                        ======= =========  ======== =====    MAG   ASSAY
          Y/N  DIAMETER  THICKNESS      T    P    T    P    T    P          GMS     PPB  REMARKS

ME-87
05-01     Y     25 X   25      5 C                             1    1                  EST. 1% PYRITE
                25 X   75     10 C                    1                   1
                50 X  100     15 C      1    1                        2
               100 X  125     22 C      1                             1
                                                                  --------------------
                                                                      5   22.5     161

  -02     N     50 X   50     10 C      1                             1
                                                                  --------------------
                                                                      1   18.4      10

  -03     N    225 X  225     42 C      1                             1
                                                                  --------------------
                                                                      1   25.8     621

  -04     Y     50 X   75     13 C      2    1    1                   4                  EST. 1% PYRITE
                75 X  100     18 C      1                             1
                75 X  125     20 C           1                        1
                                                                  --------------------
                                                                      6   25.0     160

  -05     N   NO VISIBLE GOLD

  -06     Y     25 X   25      5 C           1         3              4                  EST. 1% PYRITE
                25 X   50      8 C           1              1         2
                50 X   75     13 C      1    1                        2
                75 X  125     27 C           1                        1
                75 X  150     22 C      1                             1
                                                                  --------------------
                                                                     10   28.0     165

06-01     Y     50 X  100     15 C      1                             1                  EST. 2% PYRITE
                50 X  125     18 C      1                             1
                75 X  150     22 C      1                             1
               250 X  400     58 C      1                             1
                                                                  --------------------
                                                                      4   26.7    1853

  -02     Y     25 X   50      8 C           1                        1                  EST. 2% PYRITE
                50 X   50     10 C      1                             1
                50 X   75     13 C      2                             2
                50 X  100     15 C      1                             1
                75 X   75     15 C      1                             1
                75 X  125     20 C                             1    1
                75 X  200     27 C      1                             1
               100 X  100     20 C      1                             1
               100 X  125     22 C      1                             1
```

LD CLASSIFICATION

SIBLE GOLD FROM SHAKING TABLE AND PANNING

ME2FEB.WR1

TAL # OF PANNINGS 29

MPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABRADED		IRREGULAR		DELICATE		TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
				T	P	T	P	T	P				
ME-87		100 X 150	25 C	1						1			
										11	33.6	421	
-03	Y	25 X 25	5 C		1					1			EST. 2% PYRITE
		25 X 50	8 C	1						1			
		25 X 75	10 C				1			1			
		50 X 75	13 C	1						1			
		50 X 125	18 C			1				1			
		75 X 75	15 C	1						1			
										6	34.6	67	
-04	Y	75 X 75	15 C	1						1			EST. 1% PYRITE
		75 X 100	18 C	1						1			
		75 X 150	22 C	1		1				2			
										4	28.2	209	
-05	Y	25 X 25	5 C		1					1			EST. 1% PYRITE
		50 X 75	13 C	1						1			
		75 X 125	20 C	1						1			
										3	19.6	97	
-06	N	75 X 75	15 C	1						1			
										1	25.0	26	
07-01	Y	50 X 100	15 C	1						1			EST. 2% PYRITE
		50 X 150	20 C				1			1			
		75 X 100	18 C	1						1			
		175 X 250	40 C	1						1			
										4	30.1	556	
-02	Y	25 X 75	10 C		1					1			EST. 1% PYRITE
		50 X 100	15 C		1					1			
		75 X 125	20 C		1					1			
		75 X 175	25 C	1						1			
		100 X 200	29 C		1					1			
		125 X 150	27 C	1						1			
		150 X 225	36 C	1						1			
		175 X 250	40 C	1						1			
										8	34.4	1076	

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

ARME2FEB.WR1

TOTAL # OF PANNINGS 29

NUMBER OF GRAINS

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABRADED		IRREGULAR		DELICATE		TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
				T	P	T	P	T	P				
ME-87													
-03	Y	25 X 25	5 C		3					3			EST. 1% PYRITE
		25 X 50	8 C		1					1			
		25 X 75	10 C		1					1			
		50 X 50	10 C	1						1			
		50 X 100	15 C	1						1			
										7	38.8	30	
-04	Y	25 X 25	5 C		3					3			EST. 1% PYRITE
		25 X 50	8 C	1						1			150 GRAINS ARSENOPYRITE (FINE)
		25 X 100	13 C		1					1			
		50 X 75	13 C				1			1			
		75 X 75	15 C		1					1			
		75 X 125	20 C	1						1			
		225 X 250	44 C	1						1			
										9	36.6	594	
08-01	Y	25 X 75	10 C	1	1					2			EST. 2% PYRITE
		50 X 75	13 C		1					1			
		125 X 125	25 C	1						1			
		200 X 500	61 C	1						1			
										5	33.7	1778	
-02	Y	25 X 75	10 C		1					1			EST. 1% PYRITE
		50 X 150	20 C		1					1			
		100 X 150	25 C	1						1			
		150 X 175	31 C	1						1			
										4	32.2	336	
-03	Y	25 X 25	5 C		2					2			EST. 1% PYRITE
		25 X 50	8 C		1					1			
		75 X 100	18 C	1						1			
		100 X 150	25 C	1						1			
										5	36.4	111	
-04	Y	25 X 75	10 C		1					1			EST. 1% PYRITE
		50 X 75	13 C	1						1			
		50 X 100	15 C	1						1			
		150 X 200	34 C	1						1			
										4	50.0	179	
-05	N	25 X 50	8 C	1						1			

```
OLD CLASSIFICATION
==================
ISIBLE GOLD FROM SHAKING TABLE AND PANNING

RME2FEB.WR1                                 NUMBER OF GRAINS
TOTAL # OF PANNINGS       29
                                   -----------------------------------
                                   ABRADED  IRREGULAR  DELICATE TOTAL NON      CALC V.G.
AMPLE #  PANNED                    ======== =========  ======== ===== MAG      ASSAY
         Y/N    DIAMETER THICKNESS   T    P    T    P    T    P       GMS      PPB    REMARKS

  ME-87
                                                              ---------------------
                                                                  1  28.3       3

  18-01  Y      25 X  50      8 C    1                            1                 EST. 2% PYRITE
                25 X  75     10 C         1                       1
                50 X  75     13 C         1                       1
                50 X 100     15 C    1                            1
                75 X  75     15 C    2                            2
               100 X 100     20 C    1                            1
               100 X 125     22 C    1                            1
                                                              ---------------------
                                                                  8  33.8     183

  20-01  Y      50 X 125     18 C    1    1                       2                 EST. 2% PYRITE
                75 X 100     18 C    1                            1
               100 X 125     22 C         1                       1
               225 X 450     59 C    1                            1
                                                              ---------------------
                                                                  5  33.7    1661

    -02  Y      25 X  25      5 C         2                       2                 EST. 2% PYRITE
                50 X 100     15 C    1                            1
                50 X 125     18 C    1                            1
                75 X 100     18 C    3                            3
               100 X 125     22 C    1                            1
               125 X 250     36 C    1                            1
                                                              ---------------------
                                                                  9  38.8     420

  21-01  Y      25 X  25      5 C         1                       1                 EST. 1% PYRITE
                25 X  50      8 C         1                       1
                25 X  75     10 C         1         1             2
                50 X  50     10 C         1                       1
                50 X  75     13 C    1                            1
                50 X 100     15 C    1    1                       2
                75 X 100     18 C    1                            1
                75 X 125     20 C    1                            1
                75 X 150     22 C    1                            1
                                                              ---------------------
                                                                 11  33.2     210

    -02  Y      25 X  75     10 C    1         1                  2                 EST. 1% PYRITE
                50 X  50     10 C    1    1                       2
                75 X 125     20 C         1                       1
               100 X 100     20 C    1                            1
                                                              ---------------------
                                                                  6  38.3      98
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OLD CLASSIFICATION
=================
ISIBLE GOLD FROM SHAKING TABLE AND PANNING

RME2FEB.WR1                                          NUMBER OF GRAINS
OTAL # OF PANNINGS       29              ----------------------------------
                                         ABRADED   IRREGULAR  DELICATE TOTAL NON    CALC V.G.
AMPLE #  PANNED                          =======   ========   ======== ===== MAG     ASSAY
         Y/N    DIAMETER   THICKNESS      T    P    T    P     T    P        GMS      PPB    REMARKS

 ME-87

   -03   Y       25 X  75      10 C       1                                1                 EST. 2% PYRITE
                 75 X 100      18 C       1                                1
                150 X 200      34 C       1                                1
                200 X 275      44 C       1                                1
                                                                         ____________________
                                                                           4  29.2       947

  22-01  Y       50 X 100      15 C       2                                2                 EST. 1% PYRITE
                 75 X 125      20 C       1                                1
                150 X 150      29 C       1                                1
                                                                         ____________________
                                                                           4  29.7       260

   -02   Y       25 X  50       8 C                      1                 1                 EST. 1% PYRITE
                 25 X  75      10 C            1                           1
                 50 X  50      10 C       1                                1
                 50 X  75      13 C       1                                1
                 75 X 100      18 C       1                                1
                 75 X 125      20 C       1                                1
                100 X 125      22 C            1                           1
                                                                         ____________________
                                                                           7  33.0       166

  23-01  N      150 X 300      42 C       1                                1
                                                                         ____________________
                                                                           1  27.2       589

  24-01  Y       25 X  25       5 C            2                           2                 EST. 1% PYRITE
                100 X 100      20 C            1                           1
                                                                         ____________________
                                                                           3  20.6        75

  25-01  N       75 X  75      15 C       1                                1
                                                                         ____________________
                                                                           1  14.7        44
```

LD CLASSIFICATION

SIBLE GOLD FROM SHAKING TABLE AND PANNING

ME3FEB.WR1
TAL # OF PANNINGS 17

NUMBER OF GRAINS

AMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
ME-87													
25-02	N	50 X 100	15 C	1						1			
										1	28.7	22	
26-01	N	50 X 100	15 C	1						1			
										1	30.0	21	
27-01	N	75 X 100	18 C	1						1			
										1	22.2	46	
-02	N	75 X 125	20 C	1						1			
										1	26.4	57	
-03	N	50 X 75	13 C	1						1			
										1	22.9	16	
-04	Y	50 X 50	10 C	1	1					2			EST. 1% PYRITE
		50 X 75	13 C	1						1			
		75 X 75	15 C	1						1			
		75 X 125	20 C	1						1			
		100 X 150	25 C	1						1			
										6	28.8	201	
-05	Y	25 X 50	8 C	1	3					4			EST. 1% PYRITE
		50 X 100	15 C			1				1			
		75 X 75	15 C		2					2			
										7	26.9	84	
-06	Y	25 X 50	8 C		1					1			EST. 1% PYRITE
		75 X 100	18 C	1						1			
		125 X 125	25 C	1						1			
										3	19.5	204	
28-01	N	NO VISIBLE GOLD											
-02	N	50 X 100	15 C	1						1			
										1	24.2	26	
29-01	N	NO VISIBLE GOLD											

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OLD CLASSIFICATION
==================
ISIBLE GOLD FROM SHAKING TABLE AND PANNING

RME3FEB.WR1                                      NUMBER OF GRAINS
OTAL # OF PANNINGS      17            -------------------------------
                                      ABRADED   IRREGULAR DELICATE TOTAL NON   CALC V.G.
AMPLE #  PANNED                       ========  ========= ======== ===== MAG     ASSAY
           Y/N   DIAMETER   THICKNESS   T    P    T    P    T    P       GMS       PPB  REMARKS

 ME-87

  -02      N   NO VISIBLE GOLD

  -03      Y     25 X   25       5 C         1                        1                 EST. 1% PYRITE
                 50 X   50      10 C         1                        1
                 50 X  125      18 C    1                             1
                100 X  150      25 C    1                             1
                                                                     -----------------
                                                                      4  24.6      168

  -04      N     75 X  125      20 C    1                             1
                                                                     -----------------
                                                                      1  24.0       63

  -05      Y     25 X   25       5 C         3                        3                 EST. 1% PYRITE
                 25 X   50       8 C         2                        2
                 50 X   50      10 C    1                             1
                 50 X   75      13 C         1                        1
                 75 X   75      15 C    1                             1
                                                                     -----------------
                                                                      8  22.6       64

  -06      Y     25 X   25       5 C         4                        4                 EST. 1% PYRITE
                 25 X   50       8 C              1                   1
                 25 X  100      13 C         1                        1
                 75 X   75      15 C    1                             1
                 50 X  100      15 C    1                             1
                                                                     -----------------
                                                                      8  24.0       76

  -07      N     25 X   50       8 C    1                             1
                                                                     -----------------
                                                                      1  12.1        7

 30-01     Y     25 X   25       5 C         2                   1    3                 EST. 1% PYRITE
                 25 X   50       8 C         1                        1
                 50 X   50      10 C    1                             1
                250 X  600      71 C    1                             1
                                                                     -----------------
                                                                      6  24.9     3887

  -02      Y     25 X   25       5 C         1                   1    2                 EST. 1% PYRITE
                 25 X   50       8 C    1    2                        3
                 50 X   50      10 C         1                        1
                 50 X   75      13 C         1                        1
                125 X  150      27 C    1                             1
                                                                     -----------------
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OLD CLASSIFICATION
=================
SIBLE GOLD FROM SHAKING TABLE AND PANNING

ME3FEB.WR1                                       NUMBER OF GRAINS
TAL # OF PANNINGS       17                 ----------------------------------
                                           ABRADED   IRREGULAR  DELICATE  TOTAL NON    CALC V.G.
AMPLE #  PANNED                            ========  =========  ========  ===== MAG      ASSAY
          Y/N    DIAMETER   THICKNESS        T    P    T    P    T    P         GMS      PPB    REMARKS

  ME-87
                                                                         8   18.3      256

    -03    N   NO VISIBLE GOLD

    -04    N     100 X  100      20 C        1                               1
                                                                       _________________
                                                                         1   16.6       90

  31-01    Y      25 X   25       5 C             2                          2                 EST. 1% PYRITE
                  50 X   75      13 C        1              1                2
                  75 X   75      15 C        1                               1
                  75 X  100      18 C        1    2                          3
                                                                       _________________
                                                                         8   27.7      161

    -02    Y      25 X   25       5 C             2                          2                 EST. 1% PYRITE
                  75 X  100      18 C        1                               1
                 125 X  150      27 C        1                               1
                                                                       _________________
                                                                         4   24.4      200

    -03    Y      25 X   25       5 C                       1                1                 EST. 1% PYRITE
                 100 X  100      20 C        1                               1
                 125 X  500      56 C        1                               1
                                                                       _________________
                                                                         3    8.5     4993

  32-01    Y      25 X   25       5 C             2                          2                 EST. 1% PYRITE
                  25 X   50       8 C                       1                1
                 100 X  100      20 C        1                               1
                 150 X  175      31 C        1                               1
                                                                       _________________
                                                                         5   25.0      315

    -02    N      75 X  125      20 C        1                               1
                                                                       _________________
                                                                         1   15.2       99

  33-01    N   NO VISIBLE GOLD

  34-01    N     100 X  200      29 C        1                               1
                                                                       _________________
                                                                         1   23.4      211

    -02    N   NO VISIBLE GOLD

    -03    Y      25 X   25       5 C             1                          1                 EST. 1% PYRITE
```

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GOLD CLASSIFICATION
==================
SIBLE GOLD FROM SHAKING TABLE AND PANNING

RME3FEB.WR1                                NUMBER OF GRAINS
TAL # OF PANNINGS      17        -----------------------------------
                                 ABRADED   IRREGULAR DELICATE TOTAL NON   CALC V.G.
SAMPLE # PANNED                  ========  ========= ======== ===== MAG     ASSAY
         Y/N DIAMETER THICKNESS      T    P    T    P    T    P         GMS       PPB  REMARKS

 ME-87
               50 X   75   13 C      1    1                        2
               75 X   75   15 C      1                             1
              100 X  100   20 C      1              1              2
                                                               ----------------------
                                                                   6     21.3     207

  -04     N  NO VISIBLE GOLD

  -05     N  NO VISIBLE GOLD

35-01     N  NO VISIBLE GOLD

  -02     Y    25 X   25    5 C                              1    1                   EST. 1% PYRITE
               75 X  100   18 C      2                             2
              200 X  250   42 C      1                             1
                                                               ----------------------
                                                                   4     23.6     765

  -03     Y    25 X   25    5 C           1                        1                   EST. 1% PYRITE
               25 X   50    8 C           1         1              2
               50 X   50   10 C           1                        1
               50 X  125   18 C           2                        2
               50 X  300   34 C      1                             1
              250 X  300   50 C      1                             1
                                                               ----------------------
                                                                   8     25.6     396

  -04     N  NO VISIBLE GOLD

36-01     Y    25 X   25    5 C           1                        1                   EST. 1% PYRITE
               25 X   75   10 C           1                        1
               50 X   75   13 C      1                             1
               75 X   75   15 C      1                             1
              100 X  125   22 C      2                             2
              100 X  150   25 C           1                        1
              125 X  150   27 C      1                             1
              150 X  200   34 C      1                             1
                                                               ----------------------
                                                                   9     22.6     882

  -02     N  NO VISIBLE GOLD

  -03     N   100 X  100   20 C      1                             1
                                                               ----------------------
                                                                   1     19.1      79

36-04     Y    25 X   25    5 C           3                        3                   EST. 1% PYRITE
```

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GOLD CLASSIFICATION
==================
ISIBLE GOLD FROM SHAKING TABLE AND PANNING

ARME3FEB.WR1                                   NUMBER OF GRAINS
OTAL # OF PANNINGS      17             ------------------------------------
                                       ABRADED   IRREGULAR  DELICATE TOTAL NON    CALC V.G.
SAMPLE #  PANNED                       ========  =========  ======== ===== MAG      ASSAY
          Y/N    DIAMETER   THICKNESS   T    P    T    P     T    P        GMS      PPB    REMARKS

  ME-87

                  25 X  50       8 C                   1                1
                  50 X 100      15 C    2                               2
                  75 X 175      25 C         1                          1
                                                                      ----------------------
                                                                        7   25.0      173
```

LD CLASS[illegible]CATION

SIBLE GOLD FROM SHAKING TABLE AND PANNING

ME4FEB.WR1

TAL # OF PANNINGS 35

NUMBER OF GRAINS

AMPLE #	PANNED			ABRADED		IRREGULAR		DELICATE		TOTAL	NON MAG	CALC V.G. ASSAY	
	Y/N	DIAMETER	THICKNESS	T	P	T	P	T	P		GMS	PPB	REMARKS
ME-87													
36-05	Y	25 X 25	5 C		2					2			EST. 1% PYRITE
		25 X 50	8 C				1			1			
		50 X 50	10 C		1					1			
		50 X 75	13 C	1						1			
		75 X 75	15 C	1						1			
		175 X 400	52 C	1						1			
		225 X 325	50 C	1						1			
										8	28.4	2187	
-06	Y	25 X 25	5 C		1					1			EST. 1% PYRITE
		25 X 50	8 C		2					2			
		50 X 100	15 C	1						1			
		125 X 125	25 C	1						1			
										5	29.8	125	
-07	Y	25 X 50	8 C		1					1			EST. 2% PYRITE
		25 X 75	10 C		1					1			
		75 X 100	18 C	1						1			
		100 X 175	27 C		1					1			
		125 X 150	27 C	2						2			
		150 X 150	29 C	1						1			
		250 X 300	50 C	1						1			
										8	32.4	1425	
-08	Y	25 X 25	5 C		4					4			EST. 2% PYRITE
		25 X 50	8 C		2					2			
		50 X 50	10 C		2					2			
		50 X 75	13 C		2					2			
		50 X 100	15 C	1						1			
		75 X 75	15 C	1						1			
		75 X 100	18 C		1					1			
		75 X 125	20 C		1					1			
		100 X 150	25 C	1						1			
										15	35.1	230	
37-01	Y	25 X 25	5 C		3					3			EST. 1% PYRITE
		50 X 75	13 C	1						1			
		75 X 100	18 C	1						1			
		100 X 125	22 C	2						2			
										7	22.3	261	

OLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

RME4FEB.WR1

OTAL # OF PANNINGS 35

NUMBER OF GRAINS

				ABRADED		IRREGULAR		DELICATE		TOTAL	NON MAG	CALC V.G. ASSAY	
AMPLE #	PANNED Y/N	DIAMETER	THICKNESS	T	P	T	P	T	P		GMS	PPB	REMARKS
ME-87													
38-01	Y	25 X 25	5 C		2					2			EST. 2% PYRITE
		50 X 75	13 C	1						1			
		50 X 100	15 C		1					1			
		75 X 75	15 C		1					1			
		75 X 100	18 C	1						1			
										6	23.8	114	
-02	Y	25 X 25	5 C		3					3			EST. 2% PYRITE
		25 X 75	10 C		1					1			
		50 X 125	18 C	1						1			
		75 X 125	20 C		1					1			
		125 X 175	29 C		1					1			
		150 X 325	44 C	1						1			
										8	23.6	1120	
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
39-01	Y	25 X 25	5 C		2					2			EST. 2% PYRITE
		50 X 50	10 C		1		1			2			
		50 X 75	13 C		1					1			
		75 X 75	15 C	1						1			
		75 X 100	18 C	1						1			
										7	18.6	132	
40-01	Y	25 X 25	5 C		1					1			EST. 2% PYRITED
		25 X 75	10 C	1						1			
		50 X 50	10 C	1	1					2			
		50 X 75	13 C	1						1			
		75 X 100	18 C	1						1			
										6	18.8	106	
-02	Y	50 X 50	10 C		1					1			EST. 3% PYRITE
		75 X 75	15 C		1					1			
		75 X 100	18 C	1						1			
		75 X 125	20 C	1						1			
										4	15.8	212	
41-01	Y	25 X 25	5 C		3					3			EST. 3% PYRITE

LD CLASSIFICATION

SIBLE GOLD FROM SHAKING TABLE AND PANNING

RME4FEB.WR1

TAL # OF PANNINGS 35

MPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
ME-87													
		25 X 50	8 C		2					2			
		25 X 100	13 C			1				1			
		50 X 50	10 C		1					1			
		50 X 75	13 C		1					1			
		75 X 150	22 C			1				1			
										9	17.8	185	
-02	N	50 X 75	13 C	1						1			
										1	19.2	19	
-03	Y	25 X 25	5 C		1					1			EST. 15% PYRITE
										1	8.6	2.827489	
42-01	Y	25 X 50	8 C		2					2			EST. 1% PYRITE
		50 X 50	10 C	1						1			
		50 X 75	13 C	1	1					2			
		125 X 150	27 C	1						1			
										6	16.4	300	
43-01	Y	25 X 25	5 C		2					2			EST. 1% PYRITE
		25 X 50	8 C		1		1			2			
		50 X 50	10 C	2						2			
		50 X 100	15 C	1						1			
		75 X 75	15 C	1						1			
		75 X 100	18 C		1					1			
										9	22.7	127	
-02	N	50 X 75	13 C	1						1			
										1	20.8	18	
44-01	Y	25 X 100	13 C		1					1			EST. 3% PYRITE
		50 X 100	15 C	1						1			
		50 X 125	18 C		1					1			
		150 X 225	36 C	1						1			
										4	15.1	760	
-02	N	100 X 275	36 C	1						1			
										1	7.8	1212	

LD CLASSIFICATION

SIBLE GOLD FROM SHAKING TABLE AND PANNING

RME4FEB.WR1

TAL # OF PANNINGS 35

AMPLE #	PANNED			NUMBER OF GRAINS							NON	CALC V.G.	
				ABRADED		IRREGULAR		DELICATE		TOTAL	MAG	ASSAY	
	Y/N	DIAMETER	THICKNESS	T	P	T	P	T	P		GMS	PPB	REMARKS
ME-87 45-01	Y	25 X 25	5 C		1					1			EST. 3% PYRITE
		50 X 50	10 C		1					1			
		50 X 75	13 C	2						2			
										4	19.2	50	
-02	Y	25 X 25	5 C		2					2			EST. 2% PYRITE
		50 X 50	10 C		1					1			
		50 X 75	13 C		1		1			2			
		100 X 125	22 C	1						1			
		125 X 250	36 C	1						1			
										7	14.9	843	
-03	Y	50 X 75	13 C		2					2			EST. 7% PYRITE
		50 X 100	15 C	1						1			
		50 X 175	22 C	1						1			
		75 X 125	20 C	1						1			
		100 X 175	27 C	1						1			
										6	45.5	194	
46-01	Y	25 X 25	5 C		1					1			EST. 10% PYRITE
		25 X 50	8 C		1				1	2			
		50 X 75	13 C	1						1			
		75 X 100	18 C	1						1			
		100 X 100	20 C	1						1			
		325 X 400	63 C	1						1			
										7	10.2	6387	
47-01	Y	125 X 200	31 C	1						1			EST. 1% PYRITE
		175 X 200	36 C	1						1			
										2	15.8	993	
48-01	Y	25 X 50	8 C		1					1			EST. 20% PYRITE
		125 X 200	31 C		1					1			
		125 X 225	34 C		1					1			
										3	31.5	446	
-02	Y	25 X 50	8 C		2					2			EST. 20% PYRITE
		100 X 125	22 C		1					1			
		100 X 150	25 C		1					1			
										4	36.8	141	

OLD CLASSIFICATION
==================
ISIBLE GOLD FROM SHAKING TABLE AND PANNING

RME4FEB.WR1
OTAL # OF PANNINGS 35

AMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABRADED T	P	IRREGULAR T	P	DELICATE T	P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
ME-87													
-03	Y	25 X 25	5 C		1					1			EST. 10% PYRITE
		50 X 75	13 C	1						1			
		50 X 125	18 C	1						1			
		100 X 100	20 C	1						1			
										4	33.9	86	
-04	N	75 X 100	18 C	1						1			
										1	32.0	32	
-05	Y	50 X 75	13 C	1						1			EST. 10% PYRITE
		50 X 100	15 C		1					1			
		100 X 125	22 C	2						2			
		100 X 200	29 C	1						1			
										5	26.7	382	
-06	Y	25 X 25	5 C		1					1			EST. 5% PYRITE
		25 X 100	13 C	1						1			
		50 X 75	13 C	1						1			
		75 X 100	18 C	1						1			
		100 X 125	22 C		1					1			
		200 X 200	38 C		1					1			
		275 X 750	81 C	1						1			
										7	27.3	6431	
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
49-01	N	NO VISIBLE GOLD											
-02	Y	25 X 50	8 C		1					1			EST. 20% PYRITE
		25 X 75	10 C				1			1			
		50 X 50	10 C		2					2			
		75 X 75	15 C		1					1			
		150 X 300	42 C	1						1			
		250 X 350	54 C	1						1			
										7	33.4	1610	
-03	N	75 X 125	20 C	1						1			
										1	21.4	70	

LD CLASSIFICATION
=================
SIBLE GOLD FROM SHAKING TABLE AND PANNING

ME4FEB.WR1
TAL # OF PANNINGS 35

MPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABRADED T	P	IRREGULAR T	P	DELICATE T	P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
ME-87													
-04	Y	25 X 25	5 C		1					1			EST. 20% PYRITE
										1	29.2	1	
51-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	Y	50 X 100	15 C						1	1			EST. 1% PYRITE
		75 X 75	15 C			1				1			
		100 X 125	22 C	1						1			
										3	12.1	281	
-05	N	NO VISIBLE GOLD											
-06	Y	25 X 25	5 C						1	1			EST. 2% PYRITE
		25 X 50	8 C		2				1	3			
		50 X 100	15 C						1	1			
		75 X 100	18 C				1			1			
		100 X 150	25 C	1						1			
		125 X 200	100 M	1						1			
										8	21.0	1172	
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
52-01	N	100 X 100	20 C	1						1			
										1	22.5	67	
54-01	Y	25 X 25	5 C				1		1	2			EST. 30% PYRITE
		25 X 50	8 C		1		1			2			25% SPECULAR HEMATITE
		25 X 75	10 C				1			1			
		50 X 50	10 C		2					2			
		50 X 75	13 C				1			1			
										8	63.4	18	
-02	Y	25 X 25	5 C						1	1			EST. 25% PYRITE

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OLD CLASSIFICATION
==================
ISIBLE GOLD FROM SHAKING TABLE AND PANNING

RME4FEB.WR1                                     NUMBER OF GRAINS
OTAL # OF PANNINGS       35             ------------------------------------
                                       ABRADED   IRREGULAR  DELICATE TOTAL NON    CALC V.G.
AMPLE #  PANNED                        ========  =========  ======== ===== MAG      ASSAY
            Y/N   DIAMETER   THICKNESS    T    P    T    P    T    P       GMS      FPB    REMARKS

    ME-87
                   75 X 175        25 C                             1     1                     55% SPECULAR HEMATITE
                                                                      ____________________
                                                                          2  90.7       32

      -03    Y     25 X  25         5 C          1                         1                EST. 25% PYRITE
                                                                                                60% SPECULAR HEMATITE
                                                                      ____________________
                                                                          1 101.2        0

      -04    Y     25 X  25         5 C          1                         1                EST. 20% PYRITE
                   50 X 125        18 C          1                         1                     EST. 25% SPECULAR HEMATITE
                                                                      ____________________
                                                                          2 103.7       10

    55-01    N   NO VISIBLE GOLD

    56-01    N   NO VISIBLE GOLD

    57-01    Y     25 X  25         5 C          1                   3     4                EST. 5% PYRITE
                   25 X  50         8 C          1                   1     2
                   25 X  75        10 C          1                         1
                   50 X  50        10 C          1         1               2
                   50 X  75        13 C          2                         2
                   75 X  75        15 C          2                         2
                   75 X 125        20 C          2                         2
                  300 X 375        59 C     1                              1
                  400 X 625        81 C               1                    1
                                                                      ____________________
                                                                         17  33.0     6574

    58-01    Y     25 X  25         5 C          2         1               3                EST. 15% PYRITE
                   25 X  50         8 C                              1     1
                   75 X  75        15 C     2                              2
                   75 X 200        27 C          1                         1
                  100 X 125        22 C          1                         1
                                                                      ____________________
                                                                          8  32.5      227

    59-01    N   NO VISIBLE GOLD

      -02    N   NO VISIBLE GOLD

    61-01    N   NO VISIBLE GOLD
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APPENDIX D

BINOCULAR LOGS - BEDROCK CHIP SAMPLES

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 01-05				All pebbles and cobble cuttings including 10% Cobalt sediments					TILL
02-07	Medium green	Massive	0.1 to 0.15	Interlocking	35% plagioclase with 40% chloritized pyroxene and 10% chlorite. Trace quartz	10% calcite veinlets Trace dissem. calcite	NIL	5% scattered leucoxene	MAFIC VOLC.
03-08	Medium green	Massive	0.1 to 0.2	Interlocking	35% plagioclase with 40% chloritized pyroxene and 10% chlorite. Trace quartz	2% calcite veinlets 10% dissem. calcite	Trace pyrite patches in vein only	3% scattered leucoxene	MAFIC VOLC.
04-08 A	Medium green 10% chips ochre (weathered)	Massive Locally sheared	0.1 to 0.15	Interlocking	35% plagioclase with 50% chloritized pyroxene. 5% chlorite, 2% quartz 1% sericite.	3% calcite veinlets 2% dissem. calcite.	Trace pyrite in veins only	2% scattered leucoxene	MAFIC VOLC.
04·08 B	Pale buff (bleached)	Massive Locally sheared	0.1 to 0.15	Interlocking locally texture masked by bleaching	Mafic minerals completely bleached 35% plagioclase 10% sericite 5% quartz Rare trace fuchite	Carbonatised 15% dissem. calcite 35% dissem. Mg. carb. (slow reacting to HCl)	NIL		MAFIC VOLC

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 05-07	Medium to dark green	Massive 10% vein; epidote/quartz veining.	0.3 to 0.5	Interlocking	30% plagioclase with 40% pyroxene and 15% chlorite 10% epidote veining and 2% in adjacent wall rock. Trace quartz.	1% fracture calcite	Trace dissem. calcite.	2% leucoxene Trace hematite and red hematite staining. Mostly in thin fractures and adjacent to epidote vein.	MAFIC VOLC.
06-07	Dark green	Massive 5% quartz/epidote veinlets.	0.1 to 0.2	Interlocking	40% plagioclase with 50% partly chloritized (locally) pyroxene and 5% chlorite.	Trace fracture calcite	NIL	Trace dissem. hematite and magnetite	MAFIC VOLC.
07-05	Dark gray-green	Massive	0.3 to 0.7	Interlocking Ophitic	40% plagioclase with 45% chlorite from pyroxene. 3% epidote 5% chlorite Trace quartz	2% fracture calcite	NIL	5% dissem. magnetite Red hematite staining on plagioclase laths (patchely)	DIABASE
08-06	Medium green	Massive 10% fractures	<0.05	Interlocking to aphanitic	Plagioclase and chloritized pyroxene proportion unknown 10% epidotized fracture surfaces.	NIL	NIL		MAFIC VOLC.
09-10	Medium green	Massive 5% vein; qtz/carb. 5% fractures	<0.05	Interlocking to aphanitic.	Plagioclase and chloritized pyroxene proportions unknown 5% quartz/carbonate veins (stained pale pink by hematite)	5% calcite in hairline fractures	Trace pyrite in vein	2% hematite in vein and fractures	MAFIC VOLC.

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 10-02	Medium green	Massive	0.1 to 0.2	Interlocking	40% plagioclase with 50% pyroxene (partly chloritized) and 5% chlorite	5% fracture calcite	Trace dissem. pyrite		MAFIC VOLC.
11-06	Medium green	Massive 25% sample shows cooling fractures	<0.1 to glass	Interlocking; locally Hypocrystalline	50 60% soft pale green chloritized px, 40% plag, 1-2% qtz, 3% fracture chlorite	5% fracture calcite 3% dissem. calcite.	Trace dissem. pyrite		MAFIC VOLC.
12-02	Dark green	Massive	0.05 to 0.15	Interlocking	35% plagioclase with 55% pyroxene (chloritized) and 5% chlorite. 1% qtz 1% saussurite.	3% vein calcite Trace dissem calcite locally up to 5%	Trace dissem pyrite		MAFIC VOLC.
13-02	Varicoloured - matrix pale gy.-gn. to ochre (weath) Clasts gn (volc) to pink (porphyry	Matrix well foliated; sand grains stretched 2:1	Matrix 0.2-1.0 Clasts 5.0 to cobble size	Gravelly - 40%. Sand matrix of 0.2-1.0 mm, 60%. clasts of 5mm to cobble size (several 1cm cuttings of identical lithology)	Matrix: 90% pale gn. bleached int-maf. volc., 5% qtz, tr. jasper; Also 5% gn. chl.: Clasts: 80% volc. as above; 20% qtz + feld por.	Average 3% Fe/Mg carb (occurs only in certain volc. clasts and grains)	Matrix only contains 0.5% dissem. pyrite		CONGLOMERATE
14-03	Varicoloured. - matrix pale gy-gn. to bleached buff Clasts pale gy-gn. (volc) to pink (gran. por.	Matrix sheared + crushed Volc. clasts stretched 5:1 Granitic clasts undeformed to brecciated	Matrix 0.2-1.0 but crushed Clasts 5mm to cobbles	Gravelly - 50%. pebbles and cobbles, 50% med-coarse sand matrix	Matrix: 60% pale gn. volc., 5% qtz, 1% jasper, tr. mass py; also 5-10% gn. chl. + 20 bleached chl. or ser. Clasts: 50% pale gn. volc., 50% pink granitic + porphyry	Average 10%. Fe/Mg carb; conc. in matrix and selected clasts	Matrix contains 0.1% dissem. py. and py		CONGLOMERATE

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 15-02	Purple (hematite-stained)	Well foliated, crushed. 20% till pebble contam.	Matrix: 0.5-1.0 Pebbles 0.3-0.5	Gravelly. 90% coarse sand matrix 10% granules + pebbles (any coarser clasts obscured by till pebble contam).	Matrix sand is 80% gn. int-mafic volc., 10-20% gran. + por., <5% qtz., 2% jasper-hematite, also 15% gn. chl. Too few pebbles to establish comp.	5% dissem Fe/Mg carb.	Nil (hematized)	2-3% finely dissem spec. hem. (hydro-thermal) imparts purple colour to rock	CONGLOM-ERATE
16-02	Med. gy.-gn to buff yellow	Severely deformed. 30% buff sericite seams (shears) 40% qtz-carb. veins + assoc. silicified wallrock Only 30% host	Host 0.2-0.5	Host is mainly med. sand grains	Host consists of 70% pale gn. volc. lithics, 10-15% qtz sand and 15% gy-gn. matrix chlorite	10% dissem Fe/Mg carb except sericitic shears are carbonate free	<0.1% irregularly dissem. py.	Sericite seams locally contain trace fuchsite	GRAY-WACKE
17-02	Dk. gn.	Moderate foliation superimposed on strong primary fluidal structure. Hyaloclastic - 2% rounded fragments. 5% amygdules		Rounded fragments in glass shard matrix with strong fluidal alignment of shards.	Fragments aphanitic and matrix glassy and hard - can't discern minerals. Texture, structure + colour indicate basaltic composition	5% vein calcite	Tr. dissem cubic py.		MAFIC VOLC. (hyalo-clastite)
18-02A	Green pink to buff	20% till pebbles, 50% bleached f.g. amygdaloidal-flow-top basalt (classified on basis of texture and structure; mineral percentages masked by bleaching), 30% granodiorite as #02B below but finer grained (chilled), indicating granodiorite is intrusive and bleached basalt is wallrock, not contamination from till boulder				20% dissem. Fe/Mg carb. in basalt, 5% fracture Fe/Mg carb. in granodiorite	Tr. dissem. py. in both basalt + granodiorite	Granodiorite contains 3-5% leucoxene after sphene	MAFIC VOLC. + GRANO-DIORITE
-02B	Pale pink	Massive to weakly foliated 2% qtz.-carb. veins	Phenos 1.0-3.0 G. mass 0.05-0.2	Porphyritic with equigran. interlocking groundmass	50% white to pink feld. phenos Groundmass: -60% gray plag -20% chl. -30% saussurite	3% vein + fracture Fe/Mg carb.	Tr. dissem. py.		GRANO-DIORITE

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 19-03	Pale pink to buff	Very similar feldspar phenos.	to #18-02B crushed	but all of matrix to buff sericitic	and many of mylonite.	5% fracture + dissem. Fe/Mg carb	Rare trace pyrite		GRANO-DIORITE
20-03		Sample contains ≥ 50% are of many phases	a Timiskaming to be	variety of pebbles sediments bedrock.	and cuttings; but of too				TILL
21-04	Buff (bleached) matrix; pink grano-diorite clasts	Matrix sheared and crushed; ≥ 40% of sample. Clasts fractured and veined with qtz-carb.	Matrix 0.5-1.0 Clasts	Gravelly with coarse sand matrix and clasts probably to coarse pebble or cobble size (relationships obscured by deformation)	Matrix: Bleached volc. and porphyry sand (indistinguishable) 5-10% qtz. sand, tr. jasper, Clasts: Some bleached volc; >50% granodiorite por. as #18-2B	10% dissem. + fracture Fe/Mg carb. throughout ← 1% chl, 20% sericite, tr. fuchsite	Tr. dissem. cubic py.		CONGLOM-ERATE
22-03	Dark green	Massive 10% calcite veins + 1% fe-carbonate	0.05 to 0.2	Interlocking	35% plagioclase with 35% chloritized pyroxene and 15% chlorite 2% quartz	< 1% dissem. calcite	Nil	1% scattered leucoxene 1% saussurite along fractures	MAFIC VOLC.
23-02	Medium to Dark green	Massive 2% calcite veins	0.2 to 0.5	Interlocking	40% plagioclase with 40% chloritized pyroxene and 10% chlorite 5% quartz	< 1% dissem. calcite	< 1% dissem. pyrite	2% scattered white leucoxene < 1% dissem. hematite 1% epidote	MAFIC VOLC.

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 24-02	Dark green to black	Massive with 1% calcite vein, rare amygdules, 1% fractures	0.05 to 0.1	Interlocking	40% plagioclase with 45% chloritized pyroxene 1% quartz	< 1% dissem. calcite	<1% dissem. pyrite	< 1% dissem. hematite with 2-5% dissem. magnetite	MAFIC VOLC.
25-03	Dark green	Massive with fractures	0.3 to 1.2	Interlocking to Diabasic	40% plagioclase with 40% fresh pyroxene and 10% chlorite 1-2% quartz 5% epidote & chlorite vein and fracture	Nil	< 1% dissem. pyrite	1-2% dissem. magnetite 1% leucoxene	GABBRO (DIABASE)
26-02	Dark green	Massive	0.2 to 0.8	Interlocking to Diabasic	40% plagioclase with 40% fresh pyroxene and 15% chlorite, 2% rutile-ilmenite 1% epidote 1% quartz	Nil	<1% dissem pyrite	1% magnetite <1% leucoxene	GABBRO (DIABASE)
27-07	Variable dk. gn. to buff	Highly dismembered -20% sericite shears especially in matrix and 15-20% chlorite-filled fractures esp. in clasts	Where apparent, sand size is 0.2 -1.0 mm. Clasts probably to cobble size	Mostly obscured by deformation. Gravelly, probably clast-supported, coarse sand matrix	Both sand + clasts are mainly bleached, silicified (?-hard) volc. lithics ≥5% qtz in matrix ≥10% por. gran. clasts 15-20% each secondary hydrothermal chl. and sericite	5% fracture calcite	Tr. pyrite also tr. fuchsite		CONGLOM -ERATE
28-03	Pale gn. to orange -pink	Moderately fol. and fractured 10% matrix, 90% clasts	Matrix 0.2-1.5 Clasts >1cm	Clast-supported cobbly gravel with coarse sand matrix	Sand lithics 99% f.g. volc., 1% jasper; also 5% qtz grains and 5% chlorite. Clasts all f.g. volc.; often stained orange-red	2-3% fracture Fe/Mg carb.	Tr. pyrite		CONGLOM-ERATE

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 29-08	Medium gy.-gn. to brick red	Massive to weakly foliated	Matrix 0.2-0.5 Clasts 2.0-10.0	Matrix-suppated gravel -- 70% med. sand matrix, 30% clasts of granule to fine pebble size	Pebbles + 85% of sand are pale gray-green volc. lithics -- lithics are often stained brick red + resemble granite. 1% qtz sand, 15% chlorite	5% fracture calcite	Nil		CONGLOM-ERATE
30-05	Bleached pale gray to buff	Completely macro to micro-brecciated and sheared. 10% qtz.-carb. veins	<0.05 where preserved	Equigranular interlocking where preserved (Typical f.g. basalt)	70% sample completely replaced by cherty silica + carbonate Mafic minerals partly to entirely bleached from remaining chips	30% dissem. vein + especially fracture calcite	1% pyrite as breccia infill clusters		MAFIC VOLC.
31-04	Medium green	Massive	<0.1 to 0.1	Interlocking	55% saussuritized plagioclase 40% chloritized pyroxene	5% dissem. calcite	0.1% dissem. pyrite	0.5% dissem. magnetite	MAFIC VOLC.
32-03	Medium green-grey to buff where bleached	Massive 10% qtz-carb. veins	0.05 to 0.1	Equigranular interlocking	50-60% light green pyroxene 10-15% dk. green chlorite 30% light grey-green plagioclase	10% dissem. vein and fracture calcite	0.5% dissem. pyrite		MAFIC VOLC.
33-02	Medium to dark green	Massive Few chloritic shears	0.1 to 0.2	Interlocking	50% partly saussuritized plagioclase 40-45% chloritized pyroxene 5% quartz	3% dissem calcite	Trace dissem. pyrite	Trace dissem. leucoxene	MAFIC VOLC.

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 34-06	Medium grey-green to buff where bleached	Massive with occasional amygdules, Few chloritic shears 10% carbonate vein and fracture infilling	0.05 to 0.1	Interlocking	40% light green px 10% dk gn. chlorite 50% plagioclase - partly saussuritized	2% dissem. calcite 10% vein and fracture qtz-calcite	0.5% dissem. pyrite associated with fractures and amygdules		MAFIC VOLC.
35-05	Dark green.	Massive having 3% calcite/epidote veinlets.	0.1 to 0.2	Interlocking.	40-45% partly saussuritized plagioclase 45-50% chloritized pyroxene.	1% dissem. Calcite	0.1% hairline fractures pyrite infilling and trace dissem. pyrite.	5% very finelly dissem. magnetite	MAFIC VOLC.
36-09	Medium green	Sheared 1% quartz/carbonate veins.	<0.1 to 0.1	Interlocking	50-55% partly saussuritized plagioclase 40% chloritized pyroxene	5% fracture and 2% dissem. Calcite	Trace dissem. pyrite		MAFIC VOLC,
37-02	Medium to dark green	Massive	0.1 to 0.2	Interlocking	45% plagioclase 35% pyroxene 10% chloritized pyroxene 5% quartz	3% fracture and 2% dissem. Calcite	Trace dissem. pyrite	0.5% very finelly dissem. magnetite	MAFIC VOLC.
38-06	Medium green	Massive	<0.1 to 0.1	Interlocking	25-30% plagioclase partly saussuritized 20% scattered saussurite 20-25% pyroxene partly chloritized 20% chlorite 6% quartz	3% fracture and trace dissem. calcite.	NIL		MAFIC VOLC.

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 39-02A	Medium green	Massive having a few chloritic fractures and shears 5% qtz-carbonate vein	0.05 to 0.1	Equigranular Interlocking	40% light gn px, partly chloritized 10% dark gn chlorite 50% partly saussuritized plagioclase	5% quartz-calcit vein and fractu infilling (white/pink 2% dissem. calcit	Nil		MAFIC VOLC.
39-02B	Medium green to yellow-green	Extensive shears upto 15% of sample with 5 to 10% qtz-carbonate veins frequently displaying brecciation	0.05 to 0.1	Interlocking equigranular texture where preserved	Mafic minerals partly to entirely bleached pyroxene, chlorite, plagioclase chlorite/sericite 10-15% in shears	5 to 50% average 20% Fe Mg carbonate primarily in veins	< 1% dissem. pyrite with trace chalcopyrite associated with qtz carbonate veins	<0.05% specular hematite associated with qtz.-carbonate veins	MAFIC VOLC.
40-03A	medium to dark green	Massive having a few chloritic shears	0.1 to 0.15	Interlocking	30-35% partly saussuritized plag. 35-40% partly chloritized pyroxene 15-20% chlorite 2% quartz.	4% dissem. and 1% fracture calcite	Trace dissem. pyrite	5% leucoxene	MAFIC VOLC.
40-03B	Pink speckled black	Weakly foliated with 5% chloritic shears	Ground-mass: 0.1-0.2 Phenos 0.5-1.0	Porphyrytic 20% indistinct phenos 80% equigran., interlocking g.mass.	20% pink to gray feld. phenos Groundmass: 60-70% pink to gray feld 20% qtz 15% chloritized bt.	15% dissem Fe/Mg carb. 3% Fe/Mg carb (± quartz) veins assoc. w. chloritic shears	Tr. py. in host/ 1% py in qtz-carb veins		GRANO-DIORITE
41-04	Medium to dark green	Massive 2% qtz/carb veinlets sheared: few chloritic shears	0.1	Interlocking	25-30% saussuritized plagioclase. 5% saussurite 30% partly chloritized pyroxene 30% chlorite 2%	5% dissem. and 1% fracture calcite	Trace dissem. pyrite		MAFIC VOLC

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 42-02	Dark green	Massive 1% quartz/calcite veinlets.	0.1 to 0.2	Interlocking	35-40% plagioclase 25-30% partly chloritized pyroxene 20% chlorite 2% quartz	5-10% (variable) dissem. calcite 1% fracture calcite	NIL	4% leucoxene scattered	MAFIC VOLC.
43-03	Dark green	Massive	0.1 to 0.2	Interlocking	45% saussuritized plagioclase 50% completely chloritized pyroxene 3-5% quartz	1% calcite infilling hairline fractures and trace dissem.	NIL	Trace dissem. hematite and magnetite	MAFIC VOLC
44-03	Dark green	Massive 5% epidote/calcite veins. locally sheared.	0.1 to 0.15	Interlocking	30% completely saussuritized plagioclase 55% completely chloritized pyroxene 10% epidote	Trace dissem. calcite	Trace dissem. pyrite	0.1% dissem. magnetite	MAFIC VOLC.
45-04	Dark green	Massive with 10% chlorite/calcite shears	0.05 to 0.1	Interlocking	30-35% plagioclase saussuritized. 10% saussurite 25-30% partly chloritized pyroxene 25-30% chlorite	Trace dissem. calcite	Trace dissem. pyrite	Trace dissem. magnetite	MAFIC VOLC.
46-02	Medium to dark green	Massive	0.05 to 0.1	Interlocking	15% saussuritized plagioclase 15% scattered saussurite 25-30% chloritized pyroxene 25-30% chlorite	5% dissem. and 2% fracture Calcite	0.3% dissem. pyrite	0.1% finelly dissem. magnetite	MAFIC VOLC.

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 47-02	Dark green to buff colour where bleached	Massive with micro and macro brecciation, 10% quartz-carbonate stringers 2% amygdules infilled with quartz-carbonate	0.05 to 0.1	Equigranular interlocking	40% fresh pale gn. px., 10% dk. gn. chlorite, 40% light grey-green plagioclase	10% quart-calcite veins 10% dissem. calcite	Nil	0.05% specular hematite	MAFIC VOLC. (Basalt)
48-09	Dark green	Massive	0.05 to 0.3	Equigranular interlocking	50% fresh pale gn. px., 15-20% dk. gn. chlorite, 30% plag.	1% dissem. calcite	Nil	5-10% fine to coarse dissem octahedral mag., locally leucoxene and ochre oxidation stain	MAFIC VOLC. (Basalt)
49-05	Dark green	Massive	0.1 to 0.2	Equigranular interlocking to sub-diabasic.	50-60% fresh pale gn px., 15% dk. gn. chlorite, 30% plag.	2% disseminated calcite 5% calcite stringers	0.5% dissem. cubic pyrite	5% fine to coarse dissem. octahedral magnetite	MAFIC VOLC. (Basalt)
50-01	Dark green	Massive 1% amygdules infilled with calcite and quartz	0.05 to 0.2	Equigranular interlocking	30% fresh pale gn px., 15-20% dark gn. chlorite, 40-50% light grey plag.	5-10% dissem. calcite	0.05% dissem. cubic pyrite		MAFIC VOLC. (Basalt)
51-10	Medium gy.-pink	Well foliated with 10-20%. shear-crush zone	Ground mass: 0.1-0.2 Phenos: 2.0-3.0	Strongly porphyrytic 70% phenos, 30%. groundmass having equigran. interlocking text	70% pale gray pink plag. phenos. Groundmass: 50% plag., 30% chl, 10% qtz.	Phenocrysts only contain 20% dissem Fe/Mg carb	1% coarse py. cube clusters	Groundmass contains 10%. spec. hem. 1% coarse octa-hedral mt. 1% coarse dissem. cubic py.	SYENITE

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 52-02	Dark green	Massive	0.3	Equigranular, interlocking to sub-diabasic	60% fresh pale gn. px., 15% dk. gn. chlorite, 30% plag. (partly hem. stained red), 1% qtz	3% dissem. dolomite	0.2% coarse dissem. cubic py.	10% coarse interstitial iron oxides – mainly mt. locally hem; leucoxene	MAFIC VOLC. (Basalt)
53-01	Dark green	Massive except for weak chloritic shears + 10% associated carb. stringers	Variable 0.025 to 0.1	Equigranular, interlocking	50-60% fresh pale gn. px., 15% dk. gn. chl., 30% plag.	2% dissem. calcite 10% calcite stringers, locally w/ red hematite-stained wallrock	0.1% dissem. cubic py. mostly occurring in red wall-rock of calcite strs.	3% fine to coarse dissem octahedral magnetite. Calcite strs. locally have 10% dissem. spec. hem	MAFIC VOLC. (Basalt)
54-05	Mottled dk. gn. and white	Well foliated to sub-schistose	Masked by fabric – probably 0.2-0.3	Masked by fabric	70 % pale gn. to white talc., 15% dk. gn. chl.	10% very slow-reacting Fe/Mg carb.	0.05% coarse dissem. cubic py.	7% finely divided to octahedral magnetite	ULTRAMAFIC VOLC. (komatiite)
55-02	Mottled dk. gn., gray-white + buff (weath. carb.)	Well foliated to schistose	Masked by fabric – probably 0.2-0.3	Masked by fabric	50-60% pale gn. to white talc., 10% dk. gn. chlorite	25% very slow reacting Fe/Mg carb.	Trace fine to coarse cubic pyrite	10% finely divided magnetite, partly alt. to spec. hematite	ULTRAMAFIC VOLC. (komatiite)
56-03	Brick red	Mod. foliated. 1% komatiite (talc-chl. schist) xenoliths of 1-5 mm.	Groundmass: 0.1-0.15 Phenos	Porphyritic with equigran. interlocking groundmass	2% chloritized bt./phlogopite phenos. Groundmass: 80% red-stained feld, 10% chloritized bt., 5% qtz	8% dissem. calcite	Tr. dissem. cubic py.	5% specular hem. in groundmass (causes red feld. stain)	SYENITE

SAMPLE NUMBER	COLOUR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
ME-87 -57-02	Dk. gn.	Massive with 3% chloritic shears and 1% qtz-carb. veins.	Phenos 1-5 G. mass 0.1	Spinifex	30% pale gn. to rarely dk. gn. px. phenos. Groundmass: ~80% pale gn. px., 20% plag.	5% dissem. calcite 1% veinlet calcite	10% py. in calcite veinlets only	3% dissem. octahedral magnetite	ULTRA-MAFIC VOLC. (pyroxenitic komatiite)
-58-02	Dk. gn.	Well fol. to schistose. 10% qtz-carb. veins	0.15	Equigran. interlocking overprinted by alt. and schistosity	30-40% dk. gn. chl., 30% pale gn. talc, 10% harder plag.	20% dissem Fe/Mg. carb. 5-10% vein calcite	Tr. coarse dissem. cubic py.	0.1% dissem magnetite Qtz.-carb. veins contain 3% spec. hem	ULTRA-MAFIC VOLC (Komatiite)
-59-03	Dk. gn.	Well foliated to schistose	Masked by fabric; probably 0.1-0.3	Masked by fabric	60-70% pale gn. to white talc, 30% dk. gn. chlorite	5-10% dissem Fe/Mg carb	Tr. dissem. cubic py.	0.1% dissem. magnetite	ULTRA-MAFIC VOLC. (Komatiite)
-60									
-61-02	Dk. gn. -black	Well foliated to shistose	0.2 - largely masked by schistosity	Equigranular, interlocking (largely masked by schistosity)	50% dk. gn. chlorite, 20-30% pale gn. to white talc, 10-20% harder plag.	10% dissem. calcite	Tr. dissem. cubic py.	Tr. dissem. magnetite	ULTRAMAFIC VOLC. (Komatiite)

APPENDIX E

SWASTIKA BEDROCK ANALYSES

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 65495

Date: February 2, 1987

Received Jan.23, 1987 12 Samples of Bedrock Chips

Submitted by Mary Ellen Resources, Kirkland Lake, Ontario.

SAMPLE NO.	GOLD PPB	SILVER PPM	COPPER PPM
ME-87			
01-05	Nil	Nil	69
02-07	Nil	Nil	31
03-08	Nil	Nil	109
04-08A	Nil/Nil	Nil	139
04-08B	Nil	Nil	29
05-07	Nil	Nil	96
06-07	Nil	Nil	83
07-05	Nil	Nil	139
08-06	Nil	Nil	85
09-10	Nil/Nil	Nil	183
10-02	Nil	Nil	127
11-06	Nil	Nil	95

Per G. Lebel
G. Lebel - Manager

ESTABLISHED 1928

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 65554

Date: February 10, 1987

Received Jan. 29, 1987 36 Samples of Bedrock Chips

Submitted by Mary Ellen Resources Ltd., Kirkland Lake, Ontario.

SAMPLE NO.	GOLD PPB	COPPER PPM	SAMPLE NO.	GOLD PPB	COPPER PPM
ME-87			ME-87		
12-02	Nil	96	31-04	Nil	109
13-02	120/230	14	32-03	Nil	60
14-03	Nil	77	33-02	Nil	88
15-02	Nil	5	34-06	Nil	85
16-02	Nil	49	35-05	Nil	90
17-02	Nil	17	36-09	Nil	107
18-02A	Nil	10	37-02	Nil	94
18-02B	Nil	2	38-06	Nil	6
19-03	Nil	58	39-02A	Nil	9
20-03	Nil	39	39-02B	Nil	83
21-04	Nil	14	40-03A	Nil	86
22-03	Nil	1	40-03B	Nil	107
23-02	Nil	32	41-04	Nil	98
24-02	Nil	111	42-02	Nil/Nil	103
25-03	Nil/Nil	142	43-03	Nil	102
26-02	Nil	119	44-03	Nil	105
27-07	Nil	85			
28-03	Nil	73			
29-08	Nil	52			
30-05	Nil	96			

TE: Arsenic results to follow.

Per G. Lebel
G. Lebel - Manager

ESTABLISHED 1928

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 65604 Date: Feb. 11, 1987

Received Feb. 2 & 3, 1987 16 Samples of bedrock chips

Submitted by Mary Ellen Resources Limited, Kirkland Lake, Ontario

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SAMPLE NO.	GOLD PPB	COPPER PPM
ME-87		
45-04	Nil	105
46-02	Nil	156
47-02	Nil	63
48-09	Nil	84
49-05	Nil	146
50-01	Nil	116
51-10	Nil	70
52-02	10/Nil	160
53-01	Nil	77
54-05	Nil	8
55-02	Nil	14
56-02	Nil	38
57-02	Nil	79
58-02	10	56
59-03	Nil	47
61-02	Nil	73

NOTE: Arsenic results to follow.

G. Lebel

Per G. Lebel, Manager

ESTABLISHED 1928

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 65495 - A

Date: February 17, 1987

Received Jan.23, 1987 12 Samples of Bedrock Chip

Submitted by Mary Ellen Resources Ltd., Kirkland Lake, Ontario.

SAMPLE NO.	ARSENIC PPM
ME-87	
01-05	<1
02-07	<1
03-08	<1
04-08A	8
04-08B	64
05-07	4
06-07	<1
07-05	<1
08-06	<1
09-10	<1
10-02	<1
11-06	<1

Per G. Lebel
G. Lebel - Manager

ESTABLISHED 1928

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 65554 - A Date: February 17, 1987

Received Jan.29, 1987 36 Samples of Bedrock Chip

Submitted by Mary Ellen Resources Ltd., Kirkland Lake, Ontario.

SAMPLE NO.	ARSENIC PPM	SAMPLE NO.	ARSENIC PPM
ME-87		ME-87	
12-02	< 1	31-04	5
13-02	44	32-03	< 1
14-03	51	33-02	< 1
15-02	68	34-06	< 1
16-02	32	35-05	< 1
17-02	16	36-09	< 1
18-02A	33	37-02	< 1
18-02B	22	38-06	< 1
19-03	1	39-02A	< 1
20-03	40	39-02B	25
21-04	61	40-03A	< 1
22-03	< 1	40-03B	64
23-02	4	41-04	66
24-02	39	42-02	< 1
25-03	7	43-03	< 1
26-02	< 1	44-03	14
27-07	20		
28-03	54		
29-08	52		
30-05	61		

Per G. Lebel
G. Lebel - Manager

ESTABLISHED 1928

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 65604 - A

Date: February 20, 1987

Received Feb. 2 & 3, 1987 16 Samples of Bedrock

Submitted by Mary Ellen Resources Ltd., Kirkland Lake, Ontario.

SAMPLE NO.	ARSENIC PPM
ME-87	
45-04	<1
46-02	28
47-02	<1
48-09	4
49-05	33
50-01	<1
51-10	51
52-02	31
53-01	<1
54-05	54
55-02	73
56-02	27
57-02	56
58-02	15
59-03	49
61-02	<1

Per G. Lebel
G. Lebel - Manager

ESTABLISHED 1928

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 TELEPHONE (416) 239-3527

Certificate of Analysis

Certificate No. ODM-13/02/6015 Date February 27, 1987

Received Feb. 23/87 59 Samples of Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb
For Argentex Resources Exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm	Zn ppm
ME-87-44-02	100	1115	54	54
45-01	181	556	80	37
02	605	282	98	26
45-03	306	307	126	28
46-01	1349	2319	90	54
47-01	895	320	<1	31
48-01	1749	778	152	56
02	380	907	167	61
03	378	178	118	34
04	289	511	14	40
05	301	357	99	43
06	7750	296	134	35
07	74	145	<1	40
48-08	313	388	116	46
49-01	265	581	147	112
02	2214	982	54	52
03	577	631	128	44
49-04	539	481	96	44
51-01	95	15	44	19
ME-87-51-02	160	13	68	19

J. van Engelen Mgr.

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33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 TELEPHONE (416) 239-3527

Certificate of Analysis

Certificate No. ODM-13/03/6015

Date: February 27, 1987

Received Feb. 23/87 59 Samples of Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb

For Argentex Resources exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm	Zn ppm	Co ppm
ME-87-51-03	198	72	34	25	
04	368	96	44	23	
05	113	15	59	14	5
06	2090	53	68	19	148
07	237	23240	97	119	660
08	29	762	303	26	280
51-09	42	564	<1	28	185
52-01	287	194	195	38	275
54-01	252	714	<1	39	1375
02	85	1089	178	29	1228
03	30	701	105	27	974
54-04	14	375	141	37	2040
55-01	125	146	156	25	307
56-01	267	245	101	45	140
57-01	5938	391	118	48	137
58-01	438	280	65	59	374
59-01	58	239	128	42	362
59-02	16	1116	85	88	76
ME-87-61-01	134	40	105	28	426

[illegible] LIMITED

Per

J. van Engelen Mgr.

ANALYTICAL CHEMISTS • ASSAYERS [illegible] REPRESENTATION

APPENDIX F

ASSAYERS HEAVY MINERAL ANALYSES

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

RECEIVED FEB 2 3 1987

Certificate of Analysis

Certificate No. ODM-10/01/5929

Date: February 17, 1987

Received Feb. 4/87 40 **Samples of** MI - Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb
For Argentex Resources Exploration Corp.

	Sample No.	Au ppb	Cu ppm	As ppm	Zn ppm	Co ppm
ME	01-01	554	26	45	14	19
	01-02	312	1026	41	67	21
	02-01	328	20	16	12	15
	02	143	153	51	52	64
	03	298	123	63	54	78
	04	44	109	57	280	60
	05	105	206	26	52	53
	02-06	72	125	25	25	64
	03-01	306	79	36	25	84
	02	183	136	54	38	122
	03	420	95	64	28	76
	04	56	128	43	24	70
	03-05	<5	205	68	30	118
	04-01	270	42	15	13	23
	02	52	106	28	17	49
	03	184	107	53	41	72
	04	2166	152	40	25	43
	05	449	514	100	90	112
	06	154	554	91	258	158
	04-07	25000	116	66	25	69

ASSAYERS (ONTARIO) LIMITED

Per

J. van Engelen Mgr.

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

RECEIVED FEB 27 1987

Certificate of Analysis

Certificate No. ODM-11/01/5951

Date: February 20, 1987

Received Feb. 11/87 40 Samples of Heavy Mineral Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb
For Argentex Resources Exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm
01-03	129	138	16
01-04	565	614	<1
03-06	230	168	22
03-07	1035	168	29
05-01	374	88	36
05-02	31	106	31
05-03	1068	138	16
05-04	40	206	26
05-05	20	72	21
05-06	275	135	28
06-01	2157	128	23
06-02	856	145	35
06-03	222	98	44
06-04	331	85	25
06-05	41	120	54
06-06	223	76	<1
07-01	914	244	41
07-02	747	96	38
07-03	152	115	<1
07-04	2332	138	8

ASSAYERS (ONTARIO) LIMITED

Per ______________________
J. van Engelen Mgr.

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ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

Certificate of Analysis

Certificate No. ODM-10/02/5929 Date: February 17, 1987

Received Feb. 4/87 40 Samples of MI-Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb
For Argentex Resources Exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm	Zn ppm	Co ppm
09-01	456	16	44	9	13
02	2747	59	53	20	45
03	352	92	31	54	72
04	206	96	39	23	51
09-05	198	300	60	54	68
10-01	448	45	30	12	16
11-01	9096	127	64	25	63
02	172	109	37	21	52
03	148	139	38	24	79
04	857	221	72	54	185
11-05	1364	265	41	41	79
12-01	224	183	53	28	98
13-01	92	27	43	13	18
14-01	587	37	49	14	48
14-02	4168	53	51	23	91
15-01	694	91	50	14	56
16-01	275	68	71	25	86
17-01	1159	55	39	25	52
19-01	103	108	46	25	76
19-02	209	64	58	17	47

ASSAYERS (ONTARIO) LIMITED

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J. van Engelen Mgr.

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

REC'ED
FEB 27 [illegible]

Certificate of Analysis

Certificate No. ODM-11/02/5051

Date: February 20, 1987

Received Feb. 11/87 40 Samples of Heavy Mineral Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb
For Argentex Resources Exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm
08-01	1427	115	<1
08-02	741	206	6
08-03	397	45	<1
08-04	366	20	28
08-05	242	22	<1
09-06	281	3175	<1
09-07	196	387	<1
09-08	195	302	27
09-09	174	365	12
18-01	323	218	27
20-01	2718	125	30
20-02	1025	93	16
21-01	428	78	31
21-02	250	76	17
21-03	2751	254	31
22-01	280	148	<1
22-02	839	150	19
23-01	790	138	31
24-01	270	164	17
25-01	435	125	<1

ASSAYERS (ONTARIO) LIMITED

Per ____________________
J. van Engelen Mgr.

ANALYTICAL CHEMISTS · ASSAYING · CONSULTING · ORE DRESSING · REPRESENTATION

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

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Certificate No. ODM-12/01/5990

Date: February 27, 1987

Received Feb. 18/87 40 Samples of Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb
For Argentex Resources Exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm	Zn ppm
ME-87-25-02	6491	104	21	65
26-01	208	109	15	87
27-01	159	159	8	52
02	370	100	2	52
03	280	79	28	101
04	360	69	34	65
05	178	47	43	56
27-06	100	195	25	48
28-01	219	95	<1	50
28-02	110	99	22	304
29-01	487	35	49	44
02	927	104	101	53
03	318	77	<1	44
04	136	93	19	41
05	290	122	6	150
06	116	69	31	36
29-07	461	263	109	63
30-01	6507	57	23	32
02	986	29	30	32
ME-87-30-03	139	122	<1	44

ASSAYERS (ONTARIO) LIMITED

Per

J. van Engelen Mgr.

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

Certificate of Analysis

Certificate No. ODM-12/02/5990

Date: February 27, 1987

Received Feb. 18/87 40 **Samples of** Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. E.comb
For Argentex Resources Exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm	Zn ppm
ME-87-30-04	317	69	39	55
31-01	506	75	116	53
02	369	46	122	44
31-03	23	57	95	59
32-01	819	55	126	53
32-02	594	196	205	71
33-01	1002	89	339	66
34-01	322	98	142	118
02	117	97	5360	204
03	770	111	220	113
04	236	38	155	76
34-05	376	38	262	100
35-01	154	33	199	81
02	281	31	337	80
03	181	32	75	66
35-04	219	28	18	37
36-01	1360	21	42	60
02	367	27	<1	58
03	542	30	78	76
ME-87-36-04	274	28	77	74

ASSAYERS (ONTARIO) LIMITED

Per

J. van Engelen Mgr.

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

Certificate of Analysis

Certificate No. ODM-12/02/5990
Date: February 27, 1987
Received Feb. 18/87 40 **Samples of** Concentrates
Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. E.comb
For Argentex Resources Exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm	Zn ppm
ME-87-30-04	317	69	39	55
31-01	506	75	116	53
02	369	46	122	44
31-03	23	57	95	59
32-01	819	55	126	53
32-02	594	196	205	71
33-01	1002	89	339	66
34-01	322	98	142	118
02	117	97	5360	204
03	770	111	220	113
04	236	38	155	76
34-05	376	38	262	100
35-01	154	33	199	81
02	281	31	337	80
03	181	32	75	66
35-04	219	28	18	37
36-01	1360	21	42	60
02	367	27	<1	58
03	542	30	78	76
ME-87-36-04	274	28	77	74

ASSAYERS (ONTARIO) LIMITED

Per ______________________

J. van Engelen Mgr.

ANALYTICAL CHEMISTS · ASSAYING · CONSULTING · ORE DRESSING · REPRESENTATION

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 · TELEPHONE (416) 239-3527

RECEIVED MAR 1 6 1987

Certificate of Analysis

Certificate No. ODM-13/01/6015 Date February 27, 1987

Received Feb. 23/87 59 Samples of Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb

For Argentex Resources Exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm	Zn ppm
ME-87-36-05	858	90	59	28
06	76	56	75	40
07	1028	73	37	59
36-08	306	216	<1	36
37-01	258	41	38	21
38-01	224	197	64	60
02	2086	211	<1	44
03	33	153	78	29
04	<5	246	14	34
38-05	<5	88	38	20
39-01	257	931	18	31
40-01	158	470	119	52
40-02	868	1208	7	48
41-01	340	595	68	54
02	623	660	86	49
41-03	126	1136	165	58
42-01	320	126	59	37
43-01	326	297	181	71
43-02	39	772	164	74
ME-87-44-01	1908	97	59	40

J. van Engelen Mgr.

ANALYTICAL CHEMISTS · ASSAY [illegible] SENTATION

APPENDIX G

HEAVY MINERAL GOLD ANOMALY THEORY

(Authors, figures and tables referenced in this appendix are located in the main body of the report)

1. Regional Gold Background

Most gold occurrences in the Abitibi belt are of the free gold type. Even in Casa-Berardi or Hemlo-type deposits having a high pyrite/arsenopyrite content, most of the gold is free although very fine grained (50 microns). Thus, all tills over the Abitibi belt contain scattered free gold particles. Due to the nugget effect -- the chance occurrence of a coarse gold particle in a given sample -- the gold backgrounds of small till samples collected at the same site will vary by several orders of magnitude.

The nugget effect can be overcome if a sample of sufficient size is collected and all of the gold is concentrated into a small heavy mineral fraction that is then analyzed in its entirety (Clifton et. al., 1967). We have found that at least 50 kg of till would be needed to overcome the nugget effect. However, it is impractical to collect, process or analyze samples of this size. We have standardized to 7-9 kg samples because reverse circulation drills deliver this quantity of material during one metre of advance.

Rather than trying to eliminate the nugget effect, we have developed procedures for recognizing and discounting anomalies that are caused by it. Specifically we measure the dimensions of all gold grains sighted on the table or recovered by panning and use these dimensions to calculate the expected contribution of each gold grain to the concentrate assay. In this way, the cause of each high assay is identified and nugget anomalies are screened out.

Most gold particles occur as thin flakes and it is difficult to position these flakes on edge to measure their thickness. However, we have found that each flake can be treated as a disc in which the thickness is a function of the diameter. For flakes of less than 1000 microns diameter, this relationship is expressed by the following equation:

$$t = 0.2d - 0.01\frac{(d-100)\ d}{100}$$

Thus, by simply measuring the diameters of the gold flakes that separate from the samples during tabling, it is possible to calculate the relative volume of gold in a given flake and from this relative volume to calculate the geochemical assay that the flake would produce in a sample of specific size. Clifton (1967) showed that a 100-micron flake will produce a value of approximately 100 ppb in a 15-gram sample. Conveniently, the analyzed 3/4 concentrates of reverse circulation samples also weigh about 15 grams. The range of assays produced in a concentrate of this size by a single gold flake of varying size is shown in Table 5.

It is apparent from the figures in Table 5 that till concentrates that contain no free gold will assay less than 10 ppb provided occluded gold is also absent. Concentrates containing a single gold particle will assay from 10 ppb to more than 55,000 ppb depending on the size of the gold particle. Thus the normal background for till concentrates ranges from less than 10 ppb to more than 55,000 ppb.

We have found that fewer than 30 percent of till concentrates from the Abitibi region yield gold assays lower than 10 ppb. Most samples give assays of 20 to 500 ppb, because they contain one to five gold particles in the 25 to 150 micron range. Erratic clustering of these fine grains occasionally results in an assay over 1000 ppb. Another five to fifteen percent of samples contain a coarser gold grain that produces an assay over 1000 ppb. Occluded gold is rarely present.

2. Gold and Base Metal Anomaly Threshold Levels

Gray (1983) observed that heavy mineral gold assays in a number of dispersion trains tested by Asarco were 3000 ppb or higher. We have arrived at the same 3000 ppb threshold figure in a different manner. As early as 1976, we recognized that the grade of our concentrates within 1 km of source on base metal and uranium dispersion trains was similar to the grade of the source provided the source was of normal width (5 to 10 metres) and was oriented perpendicular to the direction of glacial ice advance. We have since proved that the same relationship applies to gold dispersion trains. Thus, assuming that gold mineralization must grade a minimum of 3 g/tonne (3000 ppb) to be significant, the anomaly threshold level in our concentrates is 3000 ppb.

It is not uncommon for gold deposits in the Abitibi belt to have a subcropping strike length of only 100 metres. Most of these deposits strike sub-parallel to bedrock stratigraphy and sub-perpendicular to glaciation. Using the 3000 ppb anomaly threshold level, a cross-ice reverse circulation drill hole separation of 100 metres would be needed to detect the deposits. However, most of the deposits occur in anomalous horizons that are much larger than the deposits themselves. If a low anomaly threshold is used and careful gold grain counts are made, the anomalous horizons can be detected with confidence using a 300-400 metre hole separation. This greatly reduces exploration costs. We therefore consider any gold values over 1000 ppb to be potentially anomalous.

3. Stratigraphic Properties of a Dispersion Train

Glacial processes are systematic and heavy mineral dispersion trains in tills have specific configurations (Averill, 1978). For example, dispersed material tends to be sheeted progressively upward in the ice with increasing distance from source, causing the trains to rise in the till and thicken down-ice. Lateral spreading, in contrast, is minimal and most trains are tapered ribbons rather than fans.

ODM has traced nine gold dispersion trains (Table 4) and several base metal and uranium trains to source on both new discoveries and known deposits. These trains have had the following properties:

1. At a specific distance from source, the mineralization was confined to a specific level within a specific till unit.

2. The train was at least two samples (2-3 m) thick unless:

   (a) The host till was very thin;

   or (b) The train was intersected within 100 m of source.

3. The width of the train was not more than twice the cross-ice length of the source mineralization.

4. The maximum length of the train for deposits oriented perpendicular to glaciation was 1 km (gold) to 5 km (base metals/uranium).

4. Properties of a Visible Gold Dispersion Train

Five to fifteen percent of background till samples over the Abitibi belt produce heavy mineral gold anomalies higher than our 1000 ppb threshold due to the nugget effect. For the reverse circulation/heavy mineral method to be effective, significant free gold dispersion trains, which are relatively rare, must be differentiated with confidence from the numerous nugget anomalies. This is done on the basis of the gold grain counts rather than the assays. We have found that the gold particles in significant dispersion trains have the following properties:

1. At least 10 gold particles are present per 7 kg of till matrix.

2. The gold particles are of a common size, reflecting the size of crystallization at source.

3. The gold particles are of a common shape, reflecting a common distance of transport from source.

4. Since most gold dispersion trains are traceable for less than one km (Table 4) and gold particles become abraded after one km of ice transport (Fig. 6), the shape of the gold particles is usually irregular or delicate.

Background nugget anomalies, unlike dispersion trains, do not normally repeat vertically or horizontally in the section, although with 10 to 15 percent of samples containing anomalies of this type, chance repetition does occur. Another property common to some gold dispersion trains is the presence of pathfinder minerals because many gold deposits are polymetallic. Even deposits that are considered to be strictly free gold occurrences often have alteration halos containing sufficient pyrite, arsenopyrite, galena, chalcopyrite or molybdenite for a pathfinder association to be evident in the dispersion train. Nugget anomalies have no pathfinder association.

5. Properties of an Occluded Gold Dispersion Train

We have encountered only one occluded gold dispersion train among nine gold trains tested. In one other train, the gold was very fine and more was recovered as composite gold/sulphide grains than as free grains.

In occluded gold trains it is not possible to use gold particle shape to predict distance to source. The distance must be gauged from the vertical positions of the anomaly in the host till and of the till in the stratigraphic succession. In several other respects, however, occluded gold dispersion trains are easier to trace than free gold dispersion trains, especially if the gold is occluded in sulphide minerals. The following specific advantages are cited:

1. A pathfinder mineral association is generally present.

2. The pathfinder minerals often occur in sufficient concentrations that they can be seen in pebbles as well as in the heavy mineral fraction, and the host rock can therefore be determined.

3. The source mineralization is often conductive and can be located by geophysical methods.

4. Gold/pathfinder metal ratios in the concentrates are relatively constant, and any interference from background nuggets is readily recognized.

5. The dispersion trains are longer and more uniform than free gold trains.

Some of these advantages apply only to unoxidized till samples from drill holes. Occluded gold is chemically reconstituted into the clay fraction if the host sulphides are destroyed by oxidation. Thus, in surface pit sampling programs, heavy mineral analysis will detect only the visible gold. Conventional geochemical analysis should be used if occluded gold targets are expected.

E4FEB.WR1

OVERBURDEN DRILLING MANAGEMENT LIMITED

OTAL # OF SAMPLES IN THIS REPORT = 59

LABORATORY SAMPLE LOG

MPLE NO.	WEIGHT (KG.WET)			WEIGHT (GRAMS DRY)					AU		DESCRIPTION											CLASS
						M. I. CONC					CLAST					MATRIX						
	TABLE SPLIT	+10 CHIPS	TABLE FEED	TABLE CONC	M.I. LIGHTS	CONC. TOTAL	NON MAG	MAG	NO. V.G.	CALC PPB	SIZE	%				S/U	SD	ST	CY	COLOR		
												V/S	GR	LS	OT					SD	CY	
ME-87																						
-07	8.6	1.7	6.9	157.7	96.3	61.4	38.2	23.2	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
-08	5.4	1.3	4.1	88.2	63.0	25.2	18.6	6.6	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
-09	6.8	1.5	5.3	199.1	140.0	59.1	21.5	37.6	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
52-01	8.3	1.4	6.9	66.2	21.1	45.1	22.5	22.6	1	67	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
54-01	9.3	1.3	8.0	203.2	64.1	139.1	63.4	75.7	8	18	P	95	5	NA	NA	U	Y	Y	Y	GN	GB	TILL
-02	8.9	1.3	7.6	318.2	105.7	212.5	90.7	121.8	2	32	P	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
-03	9.4	2.0	7.4	303.5	102.0	201.5	101.2	100.3	1	0	P	95	5	NA	NA	U	Y	Y	Y	GN	GN	TILL
-04	7.9	1.0	6.9	394.0	96.6	297.4	103.7	193.7	2	10	P	85	15	NA	NA	U	Y	Y	Y	BBN	BBN	TILL
55-01	8.1	1.9	6.2	134.3	89.8	44.5	25.1	19.4	0	NA	P	85	15	NA	NA	U	Y	Y	Y	BBN	BBN	TILL
56-01	4.7	0.5	4.2	71.8	41.4	30.4	22.9	7.5	0	NA	C	99	1	NA	NA	U	Y	Y	Y	GB	GB	TILL
57-01	8.1	1.5	6.6	113.3	57.0	56.3	33.0	23.3	17	6574	P	95	5	NA	NA	U	Y	Y	Y	GG	GG	TILL
58-01	7.8	0.7	7.1	100.7	55.7	45.0	32.5	12.5	8	227	P,C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
59-01	9.1	1.9	7.2	127.1	94.0	33.1	24.8	8.3	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.5	2.6	5.9	104.4	70.9	33.5	20.6	12.9	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
61-01	7.8	0.0	7.8	82.4	35.6	46.8	33.3	13.5	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL

OM86-6-C-101

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 TELEPHONE (416) 239-3527

OM86-6-C-091

Certificate of Analysis

Certificate No. ODM-13/02/6015

Date: February 27, 1987

Received Feb. 23/87 59 Samples of Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb
For Argentex Resources Exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm	Zn ppm
ME-87-44-02	100	1115	54	54
45-01	181	556	80	37
02	605	282	98	26
45-03	306	307	126	28
46-01	1349	2319	90	54
47-01	895	320	<1	31
48-01	1749	778	152	56
02	380	907	167	61
03	378	178	118	34
04	289	511	14	40
05	301	357	99	43
06	7750	296	134	35
07	74	145	<1	40
48-08	313	388	116	46
49-01	265	581	147	112
02	2214	982	54	52
03	577	631	128	44
49-04	539	481	96	44
51-01	95	15	44	19
ME-87-51-02	160	13	68	19

ASSAYERS (ONTARIO) LIMITED

J. van Engelen Mgr.

ASSAYERS (ONTARIO) LIMITED
33 CHAUNCEY AVENUE TORONTO, ONTARIO M8Z 2Z2 TELEPHONE (416) 239-3527

0M86-6-C-091

Certificate of Analysis

Certificate No. ODM-13/03/6015

Date: February 27, 1987

Received Feb. 23/87 59 Samples of Concentrates

Submitted by Overburden Drilling Management Ltd. c.c. Mr. K. Elcomb
For Argentex Resources exploration Corp.

Sample No.	Au ppb	Cu ppm	As ppm	Zn.ppm	Co ppm
ME-87-51-03	198	72	34	25	
04	368	96	44	23	
05	113	15	59	14	5
06	2090	53	68	19	148
07	237	23240	97	119	660
08	29	762	303	26	280
51-09	42	564	<1	28	185
52-01	287	194	195	38	275
54-01	252	714	<1	39	1375
02	85	1089	178	29	1228
03	30	701	105	27	974
54-04	14	375	141	37	2040
55-01	125	146	156	25	307
56-01	267	245	101	45	140
57-01	5938	391	118	48	137
58-01	438	280	65	59	374
59-01	58	239	128	42	362
59-02	16	1116	85	88	76
ME-87-61-01	134	40	105	28	426

ASSAYERS (ONTARIO) LIMITED

Per

J. van Engelen Mgr.

NOTE: Laboratory Sample log (1 page) and Certificate of Analysis (2 pages) were added from OM86-6-C-091 August 1989. Additions located at back of report.

Ministry of Northern Affairs and Mines
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

2.10303 ①

#336/87

W8708.336

Mining Act

Instructions:
- Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.

Note:
- Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

Type of Survey(s): Reverse Circulation Drilling
Township or Area: Eby Twp. Dist. of Timiskaming
Claim Holder(s): Mary Ellen Resources Expl. Corp.
Prospector's Licence No.: T-1566
Address: P.O. Box 546, Kirkland Lake, Ont. P2N 3L1
Survey Company: Overburden Drilling Management
Date of Survey (from & to): 19 Day | 01 Mo. | 87 Yr. | 03 Day | 02 Mo. | 87 Yr.
Total Miles of line Cut:
Name and Address of Author (of Geo-Technical report): ~~Overburden D~~ G.S. Shelp, S.A. Averill, O.D.M., 107-15 Capella Ct., Nepean Ont., K2E 7X1

RECEIVED
SEP 16 1987
MINING LANDS SECTION

AUG 25 198
Recorded

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days	**Geophysical**	**Days per Claim**
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits		**Days per Claim**
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Expenditures (excludes power stripping)
Type of Work Performed (SEC 77-19.): Reverse Circulation Drilling
Performed on Claim(s): L-640965, 640962, 640903, 640966, 640964
L-640904 640901, 640902, 640900, 640899

Calculation of Expenditure Days Credits
Total Expenditures: $ 55,438.04 ÷ 15 = Total Days Credits: 3696

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Date: Aug. 19/87
Recorded Holder or Agent (Signature): S. J. Carmichael

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	618673	~~65~~60	L	640896	~~65~~60
	618674	~~65~~60		640897	~~65~~60
	618675	~~65~~60		640898	~~65~~60
	618676	~~65~~60		640899	~~65~~60
	618677	~~65~~60		640900	~~65~~60
	618678	~~65~~60		640901	~~65~~60
	620743	~~65~~60		640903	~~65~~60
	620744	~~65~~60		640904	~~65~~60
	620745	~~65~~60		640905	~~65~~60
	620746	~~65~~60		640906	~~65~~60
	620747	~~65~~60		640908	~~65~~60
	620748	~~65~~60		640938	~~65~~60
	620750	~~65~~60		640939	~~65~~60
	620751	~~65~~60		640940	~~65~~60
	620752	~~65~~60		640941	~~65~~60
	620753	~~65~~60		640942	~~65~~60
	620754	~~65~~60		640943	~~65~~60
	620755	~~65~~60		640944	~~65~~60
	620756	~~65~~60		640945	~~65~~60
	620757	~~65~~60		640946	~~65~~60
	640893	~~65~~60		640947	~~65~~60
	640894	~~65~~60		640948	~~65~~60
	640895	~~65~~60		640949	~~65~~60

Max credits allowed is 60 days per claim

Total number of mining claims covered by this report of work. 57

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
3420	Aug 25, 1987	W. C. Wilkins
	Date Approved as Recorded: 1987.10.02 R.M.	Branch Director: M Chanesky

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 Postal Address of Person Certifying
S.J. Carmichael, B.Sc., Mary Ellen Resources Expl. Corp.
P.O. Box 546, Kirkland Lake, Ont
Date Certified: Aug. 21/87
Certified by (Signature): S. J. Carmichael

1362 (85/9)

Ministry of Northern Affairs and Mines
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

Mining Act

(2)

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s)

Township or Area

Claim Holder(s)

Prospector's Licence No. T-1566

Address

Survey Company

Date of Survey (from & to) Day | Mo. | Yr. | Day | Mo. | Yr.

Total Miles of line Cut

Name and Address of Author (of Geo-Technical report)

RECEIVED
SEP 1 6 1987
MINING LANDS SECTION

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

RECEIVED
AUG 25 1987
12.00 noon

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Expenditures (excludes power stripping)

Type of Work Performed
Reverse Circulation Drilling

Performed on Claim(s)
640890, 618673, 618674

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Date | Recorded Holder or Agent (Signature)

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.
L	640950	~~65~~60
	640951	~~65~~60
	640452	~~65~~60
	640960	~~65~~60
	640961	~~65~~60
	640962	~~65~~60
	640963	~~65~~60
	640964	~~65~~60
	640965	~~65~~60
	640966	~~65~~60
	760582	~~65~~60

Total number of mining claims covered by this report of work.

For Office Use Only

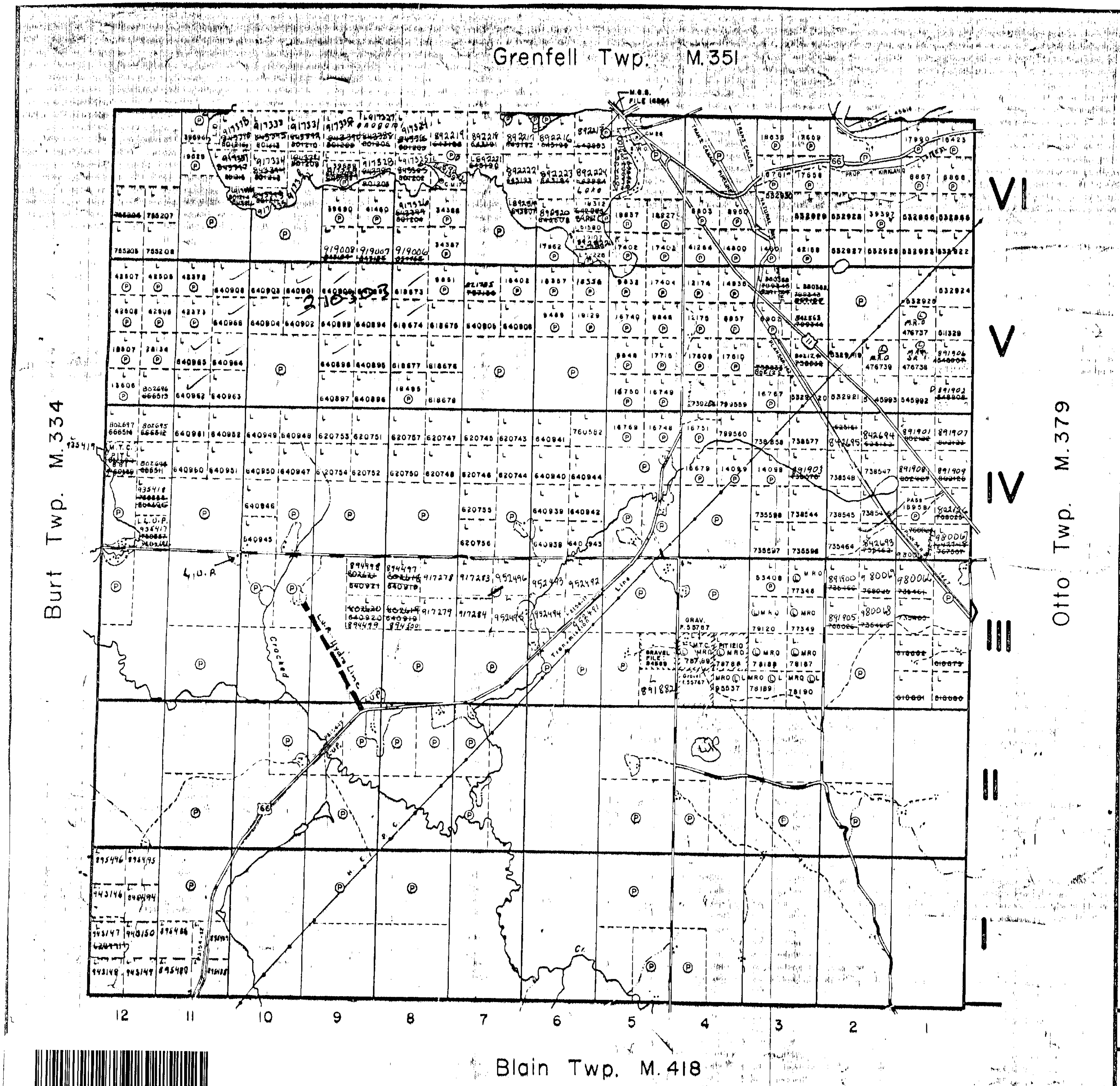
Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded 1987.10.02 R.M	Branch Director MKharnesky

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 Postal Address of Person Certifying

Date Certified | Certified by (Signature)



THE TOWNSHIP OF 2.10303

EBY

DISTRICT OF TIMISKAMING

LARDER LAKE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	⚒
CANCELLED	C.

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

AREAS WITHDRAWN FROM STAKING under Sec. 43 of The Mining Act (R.S.O. 1970).

Order No.	File	Date	Disposition

Nte Lot 7, Con. 3 - Cert. of Forfeiture - Sept 17/85

DATE OF ISSUE
JUL 17 1987
LARDER LAKE
MINING RECORDER'S OFFICE

PLAN NO.- M-345

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

42A01SE0179 2.10303 EBY

200

LIST OF BEDROCK ANOMALIES

Hole No.	Au	As
04b	No	64
13	175	No
14	No	51
15	No	68
28	No	54
30	No	61
40b	No	64
41	No	66
54	No	54
55	No	73
57	No	56
58	10	No

MARY ELLEN LEGEND

Cenozoic Pleistocene and Recent silt, sand, clay, till
Unconformity
Proterozoic Huronian Cobalt Group Sediments ☐ Hu (arg) argillite
Unconformity
Archean Intrusive Contact ☐ I(d) diabase
☐ I(l) lamprophyre
☐ I(sm) mafic syenite
☐ I(sq) quartz syenite
☐ I(g) gabbro
Timiskaming Series Sediments ☐ Ti (congl.) conglomerate, (tr) trachyte
Unconformity
Interflow Sedimentary Units ☐ S(ch) chert, S(if) banded iron formation
☐ S(carb) green carbonate, dolomite
Volcanics
Kinojevis and Larder Lake Group Fe Tholeiites ☐ V7 (undivided), (a) massive, (b) fractured or sheared, (c) pillowed, (d) tuffaceous, (e) flow brecciated,
Kinojevis and Larder Lake Group Mg Tholeiites ☐ V6 (undivided), (a) massive, (b) fractured or sheared, (c) pillowed, (d) tuffaceous, (e) flow brecciated
Larder Lake Group Komatiites ☐ V5 (undivided), (a) with spinifex, (b) with polygonal jointing

MARY ELLEN LEGEND

Outcrop boundary
x Small outcrop, station
⊗ Float
Geological contact, defined, assumed
Strike and dip of bedding, inclined, vertical, with tops determination
Strike of volcanic flows, with tops determination
Strike of volcanics or bedding, no tops determined
Strike and dip of shearing, inclined, vertical, no dip determined
Anticline
Syncline
Fault
Drag folding
Pit
Trench
Shaft with depth in meters
Silicification
Tectonic breccia
py pyrite
cs calcite stringers
qs quartz stringers
qv quartz vein with width in meters
ves vesicular basalt
spher spherulites
mag magnetic attraction
carbonatization
drill hole location
cabin
● claim post
claim line
cabin
swamp
stream
trail
road
(66) Kings highway
xxxxx beaver dam
boundary of slash, gravel pit, stripped area

NORTH SHEET

ODM LEGEND

Bedrock Lithology

6	Diabase
5	Syenite
4	Granodiorite
3	Metasediments (conglomerate (3a); graywacke (3b))
2	Mafic volcanics (basalt)
1	Ultramafic volcanics (komatiite flows)

Symbols

$^{12}\bigcirc_2$ Reverse circulation drill hole no. ME-87-12 with bedrock intersection of Unit 2
Major lithologic contact identified or confirmed by reverse circulation drilling
—10— % Fe/Mg carbonate; contours at 1, 10, 20 and 30 percent
Kirkland Lake - Larder Lake Fault
Bedrock gold anomaly (≥10 ppb)
Bedrock arsenic anomaly (≥ 50 ppm)

210303

MARY ELLEN RESOURCES LTD.

EBY PROPERTY

Eby Twp.

Plan 1

BEDROCK GEOLOGY, ALTERATION AND MINERALIZATION

BY OVERBURDEN DRILLING MANAGEMENT LIMITED JUNE 1987

0 100 200 300 400 500
SCALE 1:5.000

210

MARY ELLEN LEGEND

Cenozoic Pleistocene and Recent silt, sand, clay, till		
Unconformity		
Proterozoic Huronian Cobalt Group Sediments	▭	Hu (arg) argillite
Unconformity		
Archean Intrusive Contact	▭	I(d) diabase
	▭	I(l) lamprophyre
	▭	I(sm) mafic syenite
	▭	I(sq) quartz syenite
	▭	I(g) gabbro
Timiskaming Series Sediments	▭	Ti (congl) conglomerate, (tr) trachyte
Unconformity		
Interflow Sedimentary Units	▭	S(ch) chert, S(if) banded iron formation
	▭	S(carb) green carbonate, dolomite
Volcanics		
Kinojevis and Larder Lake Group Fe Tholeiites	▭	V7 (undivided), (a) massive, (b) fractured or sheared, (c) pillowed, (d) tuffaceous, (e) flow brecciated,
Kinojevis and Larder Lake Group Mg Tholeiites	▭	V6 (undivided), (a) massive, (b) fractured or sheared, (c) pillowed, (d) tuffaceous, (e) flow brecciated
Larder Lake Group Komatiites	▭	V5 (undivided), (a) with spinifex, (b) with polygonal jointing

MARY ELLEN LEGEND

Outcrop boundary

x Small outcrop, station

⊗ Float

Geological contact, defined, assumed

Strike and dip of bedding, inclined, vertical, with tops determination

Strike of volcanic flows, with tops determination

⟷ Strike of volcanics or bedding, no tops determined

Strike and dip of shearing, inclined, vertical, no dip determined

Anticline

Syncline

Fault

Drag folding

□	Pit
	Trench
	Shaft with depth in meters
△	Silicification
▽	Tectonic breccia
py	pyrite
cs	calcite stringers
qs	quartz stringers
Jv	quartz vein with width in meters
ves	vesicular basalt
spher	spherulites
mag	magnetic attraction
...	carbonatization
⊙	drill hole location
	cabin
●	claim post
	claim line
■	cabin
	swamp
	stream
	trail
	road
66	Kings highway
xxxxx	beaver dam
	boundary of slash, gravel pit, stripped area

NORTH SHEET

ODM LEGEND

Bedrock Lithology

6	Diabase
5	Syenite
4	Granodiorite
3	Metasediments (conglomerate (3a); graywacke (3b))
2	Mafic volcanics (basalt)
1	Ultramafic volcanics (komatiite flows)

Symbols

12○2 Reverse circulation drill hole no. ME-87-12 with bedrock intersection of Unit 2

Major lithologic contact identified or confirmed by reverse circulation drilling

Kirkland Lake - Larder Lake Fault

C◀▶C′ Location of Quaternary Section C-C′

Gold Anomalies

Greater than 1,000 ppb gold

Greater than 10 visible gold grains

Stratigraphic continuity

Pathfinder elements

Potentially significant gold anomaly

2.10303

MARY ELLEN RESOURCES LTD.

EBY PROPERTY

Eby Twp.

Plan 2

HEAVY MINERAL GOLD ANOMALIES

BY OVERBURDEN DRILLING MANAGEMENT LIMITED JUNE 1987

0 100 200 300 400 500

SCALE 1:5000