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REVERSE CIRCULATION OVERBURDEN DRILLING AND HEAVY MINERAL GEOCHEMICAL SAMPLING, CHAPAIS WEST PROJECT

CORPORATION FALCONBRIDGE COPPER

CHAPAIS WEST PROJECT

LA RIBOURDE, SAUSSURE AND DOLOMIEU TOWNSHIPS, QUEBEC

REVERSE CIRCULATION OVERBURDEN DRILLING

AND HEAVY MINERAL GEOCHEMICAL SAMPLING

BY

T.E. BURNS, K.A. MacNEIL and S.A. AVERILL

OVERBURDEN DRILLING MANAGEMENT LTD.

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1. SUMMARY

The report describes the findings of a 227-hole, reconnaissance-scale, reverse circulation overburden drilling/heavy mineral geochemical sampling program that was conducted by Corporation Falconbridge Copper in La Ribourde, Saussure and Dolomieu Townships west of Chapais, Quebec. The drilling was perfomed with the objective of identifying properties suitable for acquisition in an area of open lands having swarms of Input conductors. A syngenetic Cu-Zn-Ag-Au deposit had previously been outlined in the area by Umex but the main target of the Falconbridge program was epigenetic gold mineralization.

The area is underlain by Archean rocks of the Matagami - Chibougamau greenstone belt. Intermediate to mafic volcanics and comagmatic gabbro sills correlating with the Gilman and Blondeau Formations predominate in the east. They are separated by the Lamarck Fault Zone from a calc-alkalic pile of Scorpio Formation (?) intermediate to felsic volcanics, tuffs and sediments in the west. Conductive strata are rare, indicating that the Input Survey is unreliable. Metamorphic grade is greenschist facies increasing to amphibolite facies near granitoid intrusives of Lapparent Massif on the south margin of the area.

The only significant bedrock base metal anomaly is 3,600 ppm Zn, 240 ppm Cu and 2.1 ppm Ag in Hole 14. This anomaly occurs in siltstone on the east flank of the intermediate to felsic volcanic pile, indicating a significant potential there for syngenetic base metal massive sulphide mineralization. Elevated gold values ranging from 10 to 90 ppb and locally accompanied by Cu, Zn, and As were obtained from highly sheared, veined and carbonatized rocks in Holes 35, 36, 37 and 57 in the thickest part of the pile where it is cut by the west branch of the Lamarck Fault. The mineralization here is probably epigenetic.

Overburden depth in the area averages 11.6 metres and drill operating costs averaged \$69.72/metre (\$21.00/foot). Quaternary strata from two successive glaciations of Illinoian and Wisconsinan age and from the Sangamonian interglacial period were intersected. Both glaciers moved in a southwesterly direction, scoured

the local bedrock extensively and deposited tills that are suitable for heavy mineral geochemical sampling. Lower Till from the Illinoian period is preserved only in protected bedrock valleys. Chibougamau Till from the Wisconsinan period tends to be abnormally thin and sandy because the area lay in the shallows of Lake Ojibway I during ice transgression and Lake Ojibway II during ice regression. During the lowering of Lake Ojibway II, all till was removed from a scour channel along an early course of the Chibougamau River and the channel was refilled with fluvial sand and gravel.

Numerous heavy mineral gold anomalies were encountered but all are nugget anomalies produced by free gold grains that form part of the normal till background. A weak Cu-Zn-Ag till anomaly in Holes 08/09/15 extends the Hole 14 bedrock anomaly and enhances the potential for syngenetic base metal massive sulphide mineralization in the sediments on the east flank of the intermediate to felsic volcanic pile east of the Umex property. A stronger Cu-Zn anomaly in Hole 36 corroborates the bedrock gold-base metal anomaly from the same hole and enhances the potential for epigenetic mineralization in the sheared core of the pile.

2.0 INTRODUCTION

2.1 Project Background

From November 07, 1985 to January 20th, 1986 Corporation Falconbridge Copper conducted a program of reverse circulation overburden drilling/heavy mineral geochemical sampling in the Chapais-Desmaraisville area of northern Quebec (Figs. 1 and 2). The area is underlain by a variety of Abitibi belt Archean metavolcanic, metasedimentary and intrusive rocks (Fig. 3). The primary emphasis of the program was to establish the gold potential of the region although a sub-economic base metal massive sulphide deposit had been found in the same stratigraphy by Umex in 1969.

Bedrock in the area is obscured by varying thicknesses of Quaternary overburden and as a result geologic interpretations of the region are inferred from widely spaced outcrops. An airborne INPUT and magnetic survey commissioned by the Quebec Department of Energy and Resources in 1979 and regional mapping studies in 1980-81 (Charbonneau, et al) indicates the area is underlain by generally east-west trending metavolcanic and metasedimentary rock units intruded by large plutons (Fig. 3).

Swarms of four to six channel electomagnetic anomalies were delineated throughout the area of interest by the INPUT survey, and Falconbridge Copper decided to use the reverse circulation overburden drilling/heavy mineral geochemical sampling method to isolate mineralized conductors. Overburden Drilling Management Limited (ODM), a Nepean, Ontario company was retained by Falconbridge Copper to manage the program.

ODM collected samples from Quaternary till, sand and gravel sections and from a 1.5 metre bedrock section, where possible, at two hundred and twenty-seven reverse circulation drill hole sites. Heavy mineral concentrates were prepared from the Quaternary samples and a gold particle count was made. The concentrates and bedrock samples were analyzed for copper, zinc, silver, arsenic and gold. The Quaternary and Archean stratigraphy were deciphered, and the

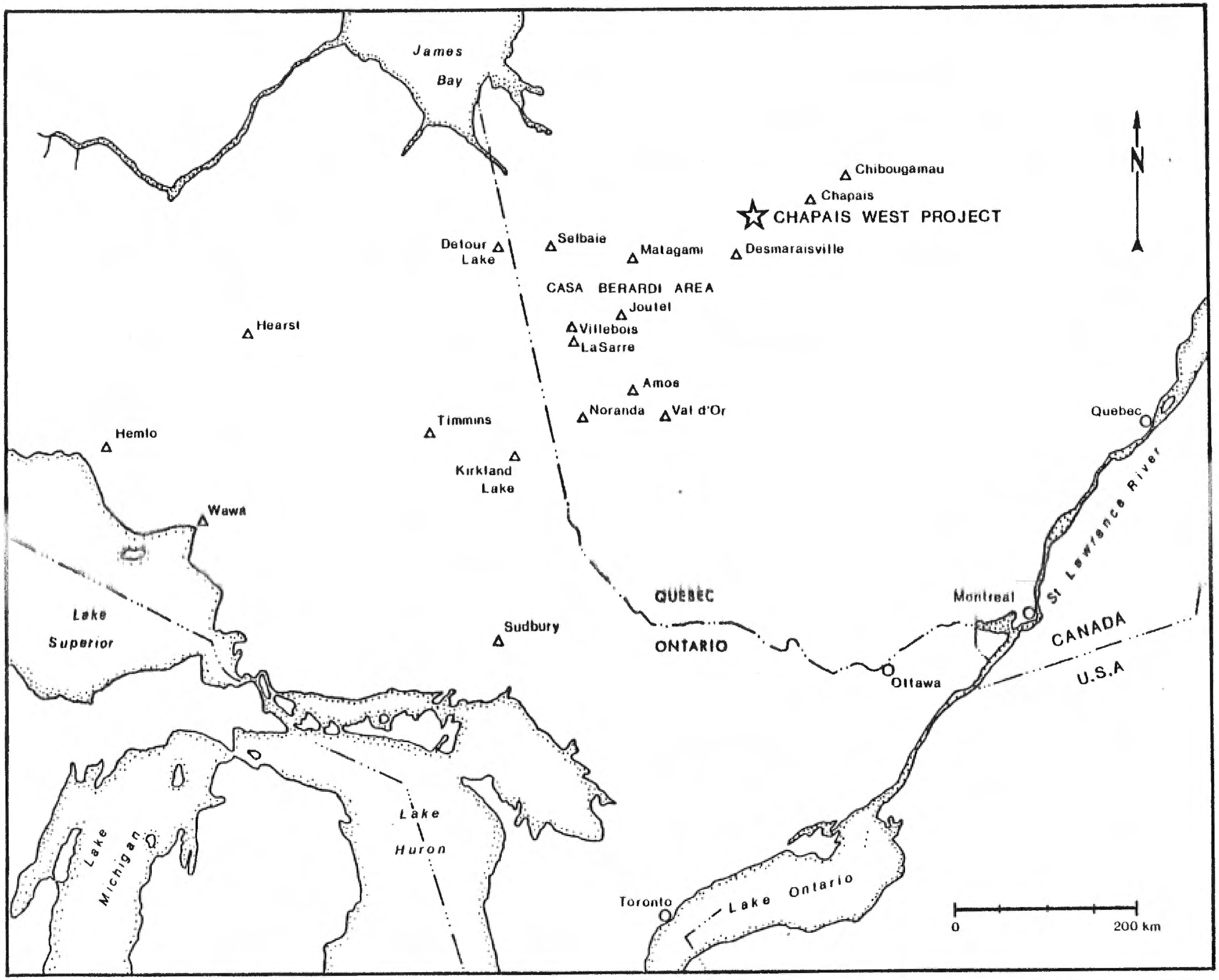


Figure 1 - Chapais West Location Map

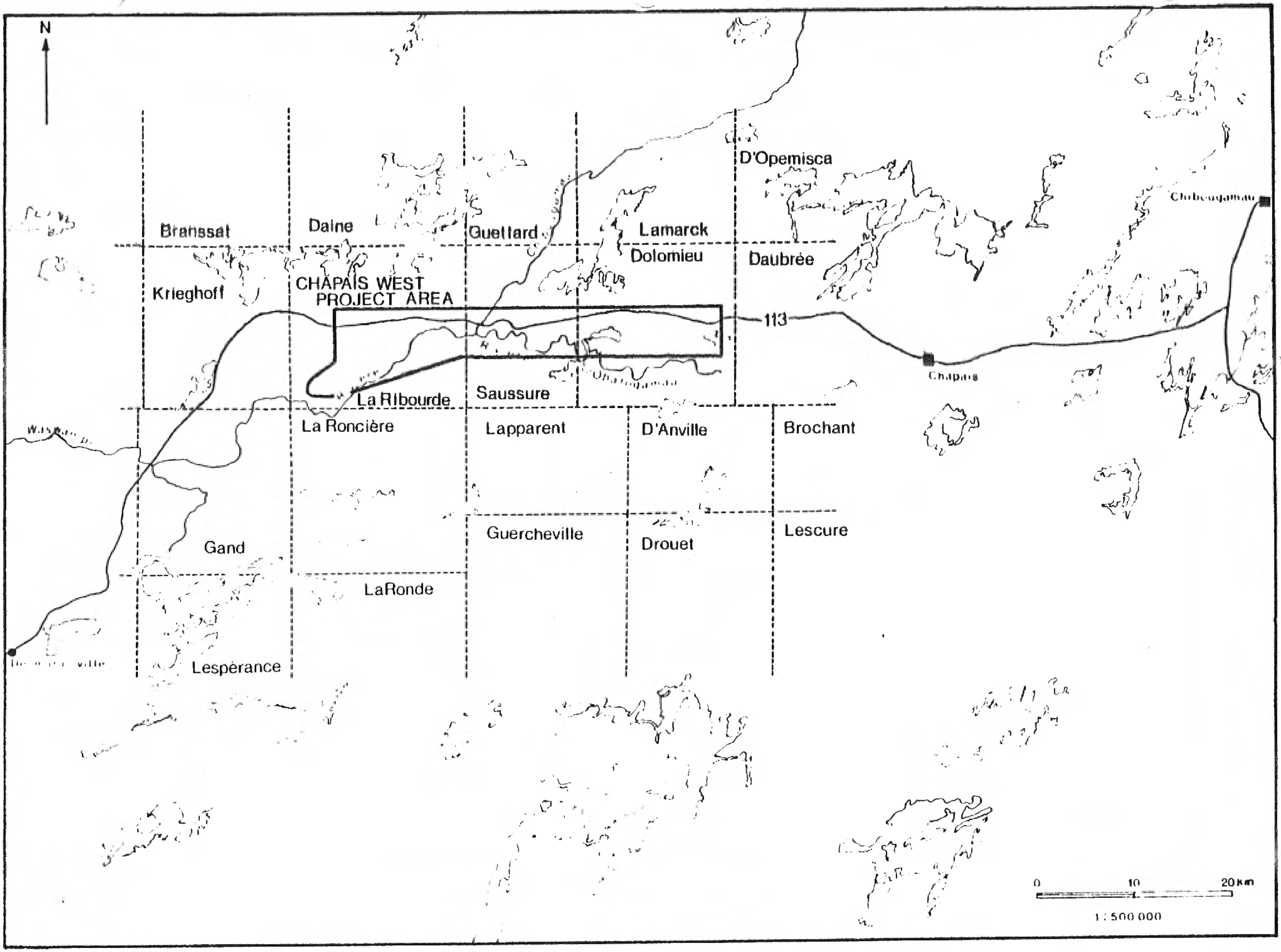


Figure 2 - Chapais West Project Location Map

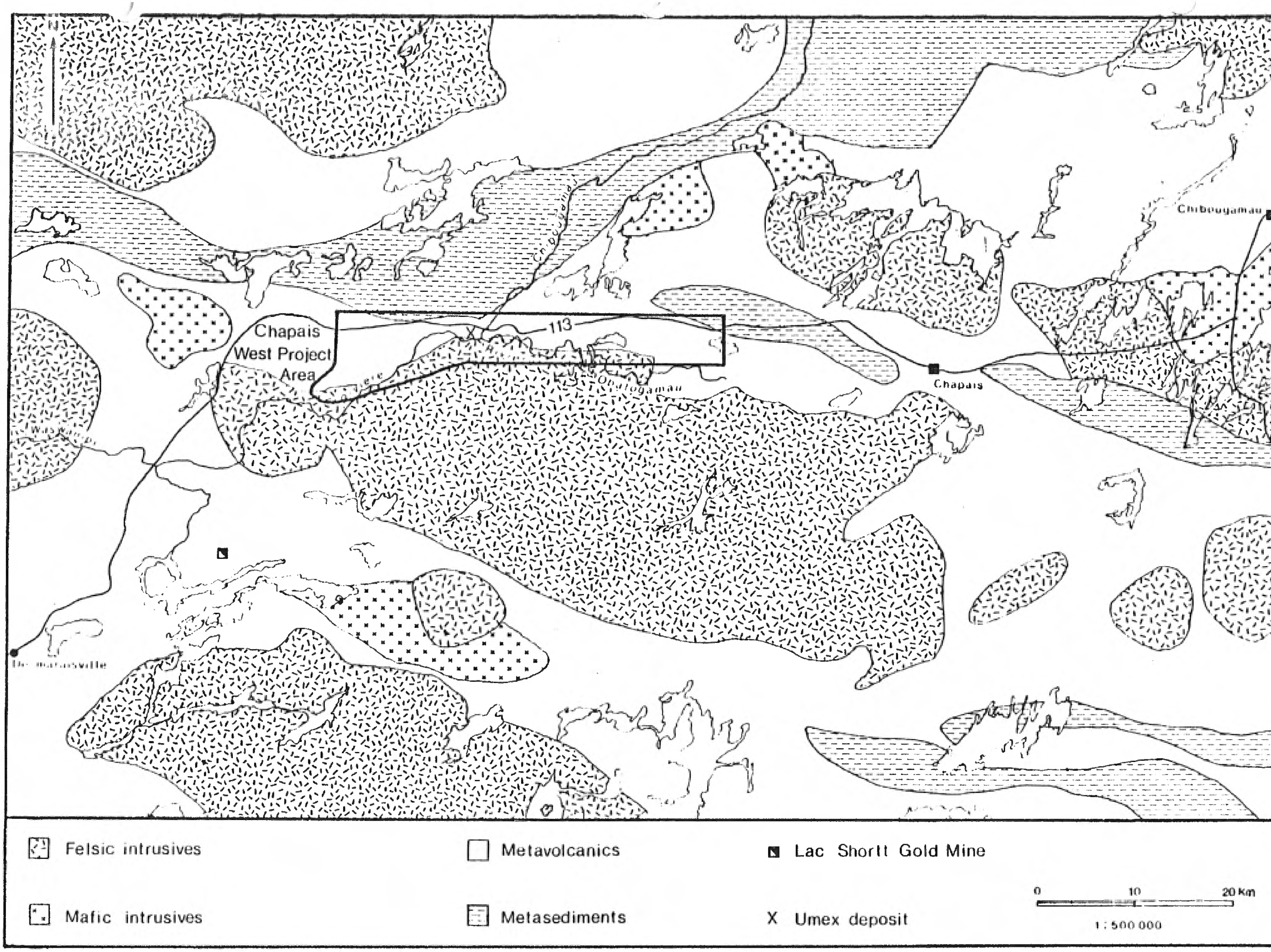


Figure 3 - Regional Geology

heavy mineral and bedrock geochemistry were interpreted in relation to this stratigraphy.

2.2 Location and Access

The Chapais West project area is located in La Ribourde, Saussure and west-central Dolomieu Townships in the Chibougamau mining area of northern Quebec. The area is forty-three kilometres long, five kilometres wide in the east and central regions and ten kilometres wide in the west covering approximately 65,500 acres or one hundred and two square miles. It surrounds the Umex property and consists mostly of unstaked Crown land. The center of the area is 680 road kilometres north of Ottawa. The nearest settlements are the town of Chapais 50 km to the east and the village of Desmaraisville 65 kilometres to the southwest. Highway 113 connecting Chapais-Chibougamau to southern Quebec passes through the project area. Numerous logging roads allow reasonably good access into the area but it was necessary to clear bush trails to most of the overburden drill hole sites.

2.3 Physiography and Vegetation

The Chapais West project area lies within the eastern portion of the physiographic region known as the Abitibi Uplands, the southern boundary of which approximates the Hudson Bay/St. Lawrence River drainage divide (Bostock, 1967).

Overburden thickness varies across the area but it is relatively thin compared to other regions in the Abitibi greenstone belt. Bedrock topgoraphy and structure are the main factors controlling surface topography. The north-central to southwest portion of the area is traversed by the south-flowing Chibougamau River which is the surficial expression of the Lamarck fault. The westward flowing Obatogamau River is a major tributary to the Chibougamau River and provides drainage along the southern boundary in the central and eastern regions. The area north of the Obatogamau River and west of the Chibougamau River is gently rolling with relief varying from a high of 350m to a low of 320m ASL near the Chibougamau River.

Moderate to good drainage throughout most of the project area has allowed the extensive development of boreal forest consisting of a dense cover of black spruce that reaches a maximum diameter of 30 cm and is suitable for lumber and pulpwood. Clear-cut harvesting has removed large tracts of forest in the southwest and central regions of the project area. The only large area of swamp is near the Saussure-Dolomieu Township boundary just north of the Obatogamau River. It consists of stunted black spruce and spongy moss separated by small open grassy areas. This is the only area inacessible in summer due to insufficient root mat to support heavy drilling equipment.

2.4 Previous Work

A contributing factor in Corporation Falconbridge Copper's decision to evaluate the Chapais West project area was the paucity of previous mineral exploration. The earliest known work is a 1968 airborne electromagnetic survey flown by Umex. In 1969 a promising target area, 52 kilometres west of Chapais in La Ribourde township, was staked, a grid was cut and vertical field magnetic and vertical loop EM surveys were performed. Subsequent diamond drilling by Umex led to the discovery of a sub-economic copper, zinc, silver massive sulphide deposit with significant associated gold. Additional diamond drilling was conducted by Soquem in 1973-74 under an option agreement but reserves could not be expanded (Riverin 1981).

An airborne INPUT and magnetic susceptibility survey, commissioned by the Quebec Department of Natural Resources in 1979, outlined hundreds of electromagnetic anomalies in La Ribourde, Saussure and Dolomieu townships. Several small claim blocks in the eastern and west-central portions of the project area (Plan 1, in pocket) were probably staked based on this information. In order to efficiently evaluate the swarms of airborne conductors Falconbridge decided to employ the reverse circulation overburden drilling/heavy mineral geochemical sampling method.

3. DRILLING AND SAMPLING

3.1 The Principles of Overburden Exploration 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 and 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 such as Casa-Berardi, 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.

The reverse circulation rotary system was selected for the Chapais West program. This system employs 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. 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 meters of the hole until a sediment seal is made around the outer rod.

Reverse circulation holes are normally extended 1.5 meters into bedrock. Cuttings of maximum 1 cm size are obtained. The bedrock samples are used to determine overburden provenance (and, hence, the precise directions of glacial transport), and the interrelated bedrock and overburden data provide exceptionally comprehensive exploration coverage.

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.

3.2 Drill Hole Pattern

Overburden holes are ideally drilled along profiles oriented parallel to the strike of the mineralization and perpendicular to the direction of Quaternary ice advance. The hole spacing along the profile is determined primarily by the expected cross-ice subcropping strike length of the target mineralization. Profile separation is determined by the length of the dispersion train that can be expected for the type of mineralization sought, and is generally greater than hole separation.

ODM has participated in Abitibi belt reverse circulation and rotasonic drilling programs totalling more than 5,000 holes, including over one thousand holes from the Casa-Berardi region west of Chapais. From this work, it was known that two tills with similar azimuths of ice transport would be present in the Chapais West project area:

1. Lower Till - 225 to 240 degrees
2. Chibougamau Till - 210 to 220 degrees

The Lower and Chibougamau Till both contact bedrock sufficiently to be useful sampling media. Both flow directions intersect most of the Chapais West bedrock stratigraphy at a high angle because the general stratigraphic trend is east-west. Therefore the drill profiles were laid out in an east-west direction parallel to the bedrock stratigraphy (Plan 1).

Till dispersion trains are often called fans but are actually ribbon-shaped. Therefore the hole spacing along a drill profile should be similar to the expected cross-ice subcropping length of the target mineralization. For the Chapais West program, it was assumed that mineralization of interest would have an ore-grade subcrop at least 100 m long and would be stratigraphically and structurally controlled. Such deposits typically have 100-200 m sub-ore extensions along strike in either direction, and this weak mineralization can be detected with the sensitive heavy mineral method, giving the target a total strike length of 300-400 m. Thus a 400 m hole separation was used. An orientation geochemical survey south of the Umex Cu-Zn-Ag deposit used a closer hole spacing of 200 metres to more accurately delineate any glacial dispersion.

ODM has identified and traced to source a total of nine gold dispersion trains (Table 1). The train length for deposits oriented perpendicular to the ice flow direction ranges from 300 to 1000 m. Therefore a drill profile separation of 300 m would be needed to ensure detection of all subcropping gold mineralization. Base metal massive sulphide dispersion trains are generally more than 1,000 m long. Budget and accessibility considerations on the Chapais West program resulted in a 1000-1500 m profile separation, but the profiles were positioned 100-200 m down-ice from promising airborne conductors and magnetic anomalies. This positioning is well within the 300 m gold dispersion train minimum length and also allows for the fact that many conductors occur in protected bedrock valleys that are lined with Lower Till remnants, making the conductors blind to the Chibougamau glaciation. To detect mineralization in buried valleys of this type, holes must be drilled to intersect Lower Till on the valley floor. Shallower holes drilled down-ice from the valleys where the Chibougamau Till extends to bedrock will give misleading negative results.

PROVINCE	GOLD DEPOSIT	TRAIN LENGTH[1] (m) 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 1 - Heavy Mineral Gold Dispersion Trains identified by Overburden Drilling Management Limited Laboratory

3.3 Drilling Equipment

During the course of the Chapais West program two reverse circulation rotary rigs were contracted from Heath and Sherwood Limited of Kirkland Lake, Ontario. Both the main Model 160 Nodwell mounted rig and the second Timberjack mounted rig employed Acker MP drill heads with 3 m feed cylinders. All ancillary equipment including the air compressor, water pump and logging and sampling facilities was unitized and enclosed on the Nodwell and Timberjack carriers for all-weather operation. The Timberjack-mounted drill was used along some sections of Highway 113 where shallow ditches permitted access off the road, along existing timber access roads and along some bush trails where good drainage provided sufficient ground support. The lack of the Nodwell's all-terrain mobility was offset by the shortened travel time between drill holes.

The Nodwell employed a larger air compressor (300 c.f.m. at 160 p.s.i. versus 185 c.f.m. at 100 p.s.i.). Both rigs employed water pumps having a capacity of 20 g.p.m. at 600 p.s.i. although water flow was normally maintained at 3-5 g.p.m. Both were equipped with 110 volt generators and Cool White fluorescent fixtures that simulate natural sunlight for accurate sample logging. All equipment except the air compressors and the carriers was operated hydrostatically by a transfer case on the carrier engines.

The holes were logged in metres and each drill carried twenty 2.5 metre drill rods.

The Nodwell rig was supported by a smaller Nodwell (Model GT-1000) and the Timberjack rig by a second Timberjack. Both support vehicles were equipped with 300 gallon exhaust-heated water tanks.

Road clearing was done well in advance of drilling and was supervised by Falconbridge Copper. Roads were tramped to one dozer width (3 meters), leaving the fallen trees and root mat for rig support. Where possible, roads were routed through sparsely treed muskeg, leaving the boreal forest undisturbed for future harvesting. Swamp areas with no supporting root mat were avoided.

3.4 Drill Performance

Drilling on the Chapais West project started on November 07, 1985 with the Nodwell drill. The Timberjack started on November 23rd. Drilling was completed by January 20, 1986 for a total of 87 drill days. The drills usually operated on one 10-hour shift per day but the shift was lengthened or shortened at the discretion of the field geologist. Major delays included loss of the steering brakes and differential in both the large and small Nodwells, a broken drive shaft in the large Nodwell, seized fuel injectors on the Timberjack drill and the loss of the water tank off the support Timberjack. Minor delays included ruptured hydraulic hoses, clogged fuel filters, frozen fuel lines and a seized hydraulic pump.

Two hundred and twenty-seven reverse circulation holes were drilled for a total of 2760.4 metres of overburden and 335 metres of bedrock. Two hundred and twenty-five of these holes reached bedrock after intersecting an average of 11.6 metres of overburden. Production averaged 31.7 metres per day. Chargeable (productive) drill hours amounted to 574 and mechanical downtime to 77 hours or 12 percent (Table 2). Penetration during operating hours averaged 5.4 metres per hour. Drilling costs exclusive of road clearing averaged $69.72/metre ($21.00/foot).

3.5 Logging and Sampling

ODM logged and sampled the Chapais West drill holes (Appendix A) and provided all necessary logging and sampling equipment. The ODM field crew comprised a logger and sampler for each rig. Field personnel involved were geologists T. Burns, M. Edwards and D. Holmes, and geotechnicians S. Hutchings, D. Routliffe and K. Strank.

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

Hole Number	Site Number	Meters Drilled		Hole Depth (metres)	Samples Collected	
		Overburden	Bedrock		Overburden	Bedrock
CW-85-01	103	7.6	1.4	9.0	2	1
02	104	9.6	2.4	12.0	3	1
03	105	2.8	0.7	3.5	2	1
04	106	9.6	1.2	10.8	2	1
05	107	22.5	1.0	23.5	10	1
06	108	43.3	1.2	44.5	25	1
07	109	31.7	1.8	33.5	16	1
08	120	19.7	1.3	21.0	11	1
09	119	32.1	1.4	33.5	20	1
10	118	13.6	1.1	14.7	6	1
11	117	16.6	1.9	18.5	11	1
12	116	12.5	1.5	14.0	7	1
13	115	2.0	1.5	3.5	1	1
14	114	0.7	1.8	2.5	-	1
15	113	2.3	1.2	3.5	1	1
16	112	3.7	1.5	5.2	1	1
17	111	0.2	1.8	2.0	-	1
18	110	2.5	1.0	3.5	1	1
19	102	22.2	1.3	23.5	14	1
20	01	13.4	1.2	14.6	6	1
21	02	14.0	1.0	15.0	7	1
22	03	12.2	1.3	13.5	7	1
23	04	4.9	2.1	7.0	1	1
24	05	32.0	1.5	33.5	15	1
25	06	12.8	1.7	14.5	1	1
26	07	21.3	1.2	22.5	13	1
27	08	40.7	1.3	42.0	24	1
28	09	55.0	-	55.0	35	-
29	10	41.4	2.1	43.5	24	1
30	11	36.6	1.5	38.1	23	1
31	12	27.7	2.3	30.0	17	1
32	13	16.2	1.8	18.0	4	1
32A	13	13.5	-	13.5	4	-
33	14	57.5	1.0	58.5	12	1
34	15	23.6	1.9	25.5	3	1
35	16	2.6	1.4	4.0	1	1
36	17	2.7	1.8	4.5	1	1
37	18	4.1	1.4	5.5	1	1
38	19	5.2	1.8	7.0	3	1
39	20	9.4	1.6	11.0	2	1
40	97	7.0	1.5	8.5	2	1
41	98	1.8	1.7	3.5	1	1
42	99	0.5	2.0	2.5	-	1
43	100	5.0	1.5	6.5	2	1
44	101	10.1	2.4	12.5	2	1
45	80	13.3	1.2	14.5	8	1
46	35	41.0	-	41.0	17	-
46A	35	52.4	1.1	53.5	9	1
47	78	6.6	1.5	8.1	2	1

Table 2: Drilling Statistics

Hole Number	Site Number	Meters Drilled		Hole Depth (metres)	Samples Collected	
		Overburden	Bedrock		Overburden	Bedrock
CW-85-48	77	4.5	1.5	6.0	1	1
49	76	5.9	1.6	7.5	2	1
50	21	3.1	1.4	4.5	1	1
51	22	4.4	1.6	6.0	1	1
52	23	11.6	0.9	12.5	2	1
53	24	11.9	0.8	12.7	2	1
54	25	13.8	1.2	15.0	3	1
55	26	5.8	1.7	7.5	2	1
56	27	6.5	1.0	7.5	3	1
57	28	6.5	1.5	8.0	3	1
58	29	12.1	1.0	13.1	7	1
59	30	14.2	1.3	15.5	8	1
60	75	4.3	1.5	5.8	1	1
61	74	5.0	1.5	6.5	1	1
62	73	7.8	1.2	9.0	2	1
63	72	8.6	1.2	9.8	4	1
64	71	3.1	1.5	4.6	1	1
65	70	0.9	1.6	2.5	-	1
66	69	4.2	1.8	6.0	2	1
67	79	14.8	2.2	17.0	4	1
68	36	28.6	1.9	30.5	6	1
69	95	0.4	1.6	2.0	-	1
70	31	29.1	1.4	30.5	17	1
71	32	23.5	1.0	24.5	12	1
72	33	21.1	1.5	22.6	12	1
73	34	2.8	1.7	4.5	1	1
74	81	8.9	1.6	10.5	2	1
75	82	14.5	1.5	16.0	6	1
76	83	6.6	1.4	8.0	2	1
77	84	7.6	0.9	8.5	2	1
78	85	2.8	0.7	3.5	1	1
79	86	8.6	1.4	10.0	1	1
80	87	2.6	1.4	4.0	1	1
81	88	15.9	2.1	18.0	8	1
82	89	2.5	2.0	4.5	1	1
83	90	4.8	1.2	6.0	1	1
84	91	1.6	2.9	4.5	-	1
85	92	7.2	1.3	8.5	1	1
86	93	5.5	1.5	7.0	1	1
87	94	4.2	0.8	5.0	1	1
88	94a	13.0	1.5	14.5	3	1
89	37	33.3	1.2	34.5	15	1
90	38	32.7	1.3	34.0	11	1
91	39	24.2	1.0	25.2	5	1
92	40	17.1	1.4	18.5	3	1
93	41	23.0	1.0	24.0	12	1
94	42	15.2	1.3	16.5	5	1
95	43	16.5	1.5	18.0	3	1
96	44	22.3	1.2	23.5	6	1

Table 2: Drilling Statistics

Hole Number	Site Number	Meters Drilled		Hole Depth (metres)	Samples Collected	
		Overburden	Bedrock		Overburden	Bedrock
CW-85-97	45	36.7	1.8	38.5	3	1
98	46	47.3	1.0	48.3	3	1
99	47	3.7	1.3	5.0	1	1
100	96	0.8	1.7	2.5	-	1
101	121	15.4	1.4	16.5	9	1
102	124	1.8	2.2	4.0	-	1
103	186	10.5	1.5	12.0	5	1
104	185	1.6	1.9	3.5	-	1
105	184	4.2	1.3	5.5	1	1
106	183	5.0	1.5	6.5	1	1
107	182	4.4	1.6	6.0	2	1
108	181	3.1	1.4	4.5	1	1
109	180	0.7	1.5	2.2	-	1
110	134	17.7	1.8	19.5	10	1
111	133	7.3	1.2	8.5	1	1
112	132	9.5	1.5	11.0	3	1
113	131	14.8	1.2	16.0	5	1
114	193	9.7	1.3	11.0	4	1
115	194	13.2	0.8	14.0	7	1
116	195	28.4	1.6	30.0	16	1
117	139	13.6	1.4	15.0	7	1
118	138	10.6	1.4	12.0	5	1
119	140	3.2	2.3	5.5	1	1
120	48	2.6	1.4	4.0	1	1
121	49	4.7	1.3	6.0	1	1
122	50	4.0	1.8	5.8	1	1
123	51	7.8	1.2	9.0	1	1
124	52	3.4	1.6	5.0	1	1
125	53	4.1	1.4	5.5	1	1
126	54	3.3	1.5	4.8	1	1
127	55	11.3	2.7	14.0	6	1
128	56	4.0	1.0	5.0	1	1
129	57	5.7	2.8	8.5	3	1
130	58	8.0	1.3	9.3	4	1
131	63	6.7	1.3	8.0	1	1
132	62	5.1	1.4	6.5	2	1
133	61	7.7	1.8	9.5	2	1
134	60	12.5	2.0	14.5	6	1
135	59	8.4	1.2	9.6	3	1
136	64	8.6	1.4	10.0	2	1
137	65	2.0	1.5	3.5	-	1
138	66	12.0	1.0	13.0	5	1
139	68	39.9	2.1	42.0	13	1
140	141	11.6	1.4	13.0	4	1
141	142	27.0	1.5	28.5	11	1
142	143	34.1	1.4	25.5	16	1
143	144	23.6	1.4	25.0	11	1
144	145	5.8	1.3	7.0	1	1

Table 2: Drilling Statistics

Hole Number	Site Number	Meters Drilled		Hole Depth (metres)	Samples Collected	
		Overburden	Bedrock		Overburden	Bedrock
CW-85-145	197	8.8	1.5	10.3	3	1
146	196	3.7	1.5	5.2	1	1
147	198	3.6	1.5	5.1	1	1
148	199	7.6	1.4	9.0	3	1
149	50m W of 201	1.1	1.5	2.6	-	1
150	midway between 201 and 202	2.5	1.5	4.0	1	1
151	203	3.2	1.8	5.0	1	1
152	204	5.0	1.5	6.5	2	1
153	205	4.5	1.0	5.5	2	1
154 154A	206	6.0	1.1	7.1	2	1
155	207	0.7	1.5	2.3	-	1
156	208	9.6	1.8	11.4	5	1
157	50m E of 209	3.2	1.5	4.7	1	1
158	210	7.8	2.2	10.0	1	1
159	211	2.7	1.3	4.0	1	1
160	67	4.9	1.1	6.0	1	1
161	68A	27.8	1.5	29.3	15	1
162	130	12.8	1.0	13.8	2	1
163	129	16.5	1.5	18.0	7	1
164	128	13.2	1.0	14.2	4	1
165	127	6.4	1.1	7.5	2	1
166	126	20.3	1.0	21.3	11	1
167	125	3.0	1.5	4.5	1	1
168	123	26.5	1.0	27.5	11	1
169	122	21.4	1.1	22.5	9	1
170	135	13.1	1.0	14.1	4	1
171	136	16.8	1.7	18.5	5	1
172	138	11.6	1.5	13.1	3	1
173	137	8.7	2.3	11.0	1	1
174	187	5.3	1.5	6.8	1	1
175	188	2.4	2.6	5.0	1	1
176	190	39.5	-	39.5	20	-
177	191	12.3	1.9	14.2	5	1
178	192	14.7	1.2	15.9	7	1
179	189	0.7	2.8	3.5	-	1
180	212	12.5	1.5	14.0	6	1
181	163	19.7	1.3	21.0	7	1
182	164	4.8	1.7	6.5	1	1
183	165	11.2	1.5	12.7	3	1
184	166	13.2	0.9	14.1	5	1
185	170	1.5	2.5	4.0	-	1
186	169	2.0	1.5	3.5	-	1
187	171	3.9	1.5	5.4	1	1
188	172	1.2	1.3	2.5	-	1
189	173	0.9	1.1	2.0	-	1
190	174	9.9	1.4	11.3	3	1

Table 2 - Drilling Statistics

Hole Number	Site Number	Meters Drilled		Hole Depth (metres)	Samples Collected	
		Overburden	Bedrock		Overburden	Bedrock
CW-85-191	175	11.5	1.3	12.8	3	1
192	25m N of 176	21.0	1.5	22.5	7	1
193	177	8.6	1.4	10.0	3	1
194	178	8.0	1.3	9.3	2	1
195	147	15.0	1.5	16.5	7	1
196	148	3.8	1.7	5.5	1	1
197	149	21.6	1.5	23.1	11	1
198	150	27.0	1.3	28.3	14	1
199	151	33.6	1.4	35.0	20	1
200	146	19.1	1.5	20.6	10	1
201	152	33.6	1.4	35.0	17	1
202	153	15.8	1.5	17.3	7	1
203	154	4.9	1.6	6.5	1	1
204	155	3.7	1.5	5.2	1	1
205	156	5.5	1.5	7.0	2	1
206	157	12.1	1.4	13.5	5	1
207	158	17.0	1.5	18.5	9	1
208	50m W of 159	14.3	1.5	15.8	7	1
209	160	20.3	1.5	21.8	9	1
210	161	17.6	1.7	19.3	7	1
211	162	9.5	1.5	11.0	1	1
212	168	1.9	1.6	3.5	1	1
213	167	13.5	1.5	15.0	6	1
214	220	13.2	1.5	14.7	5	1
215	219	12.3	1.6	13.9	4	1
216	218	6.2	1.8	8.0	2	1
217	217	8.9	1.6	10.5	4	1
218	213	6.8	1.7	8.5	3	1
219	214	4.7	1.3	6.0	1	1
220	215	7.2	1.3	8.5	2	1
221	216	7.0	1.5	8.5	3	1
222	226	2.3	1.7	4.0	1	1
223	225	9.9	1.6	11.5	2	1
224	224	2.0	1.5	3.5	1	1
225	223	9.1	1.4	10.5	1	1
226	222	8.8	1.5	10.3	3	1
227	221	22.0	1.5	23.5	11	1
TOTALS		2760.4	335.0	3095.4	1106	225

Table 2: Drilling Statistics

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 quartz and feldspar because the flake shape rather than high density of fine gold is the primary factor controlling the rate of settling.

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.

The Lower and Chibougamau Tills were sampled continuously using an average sample interval of 1.5 meters. Fluvial and glaciofluvial sand and gravel were sampled over longer 3 to 5 meter intervals because they are far-travelled and thus generally ineffective for mineral tracing. Glaciolacustrine clay, silt and sand were not sampled because they are of no exploration value.

One thousand one hundred and six overburden samples and two hundred and twenty-five bedrock samples were collected (Table 2). 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 Nepean.

3.6 Sample Processing

Heavy mineral concentrates were prepared from the 1,106 overburden samples using the procedures shown in the flow sheet of Figure 4. These procedures may be summarized as follows:

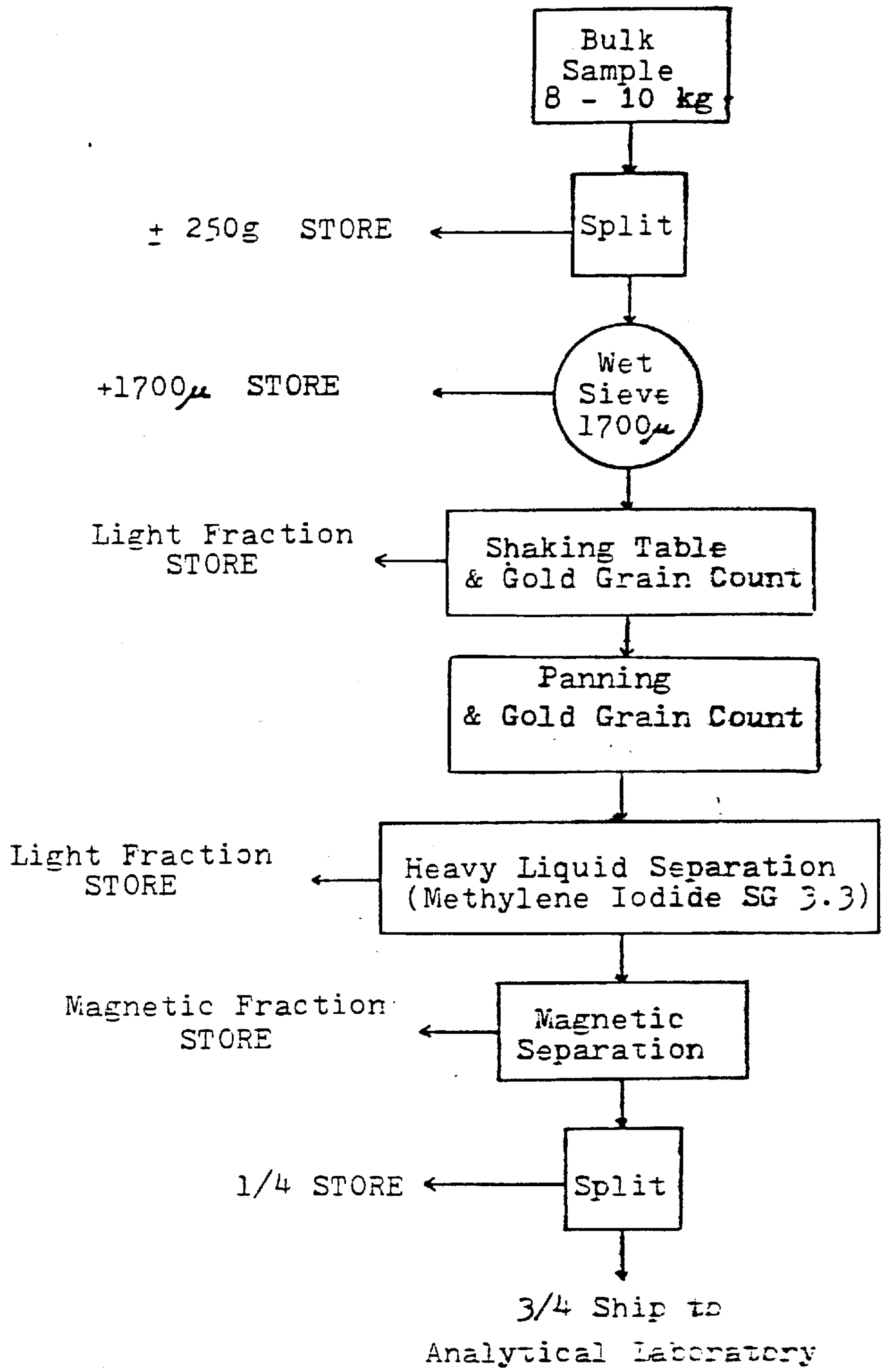


Figure 4. Sample Processing Flow Sheet.

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 programs, its minus 250 mesh fraction is separated and analyzed to allow comparison with the heavy mineral analyses.

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 Chapais West 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, and classified as delicate, irregular or abraded (Fig. 5) 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 Chapais West table and pan gold counts are listed in Appendix C.

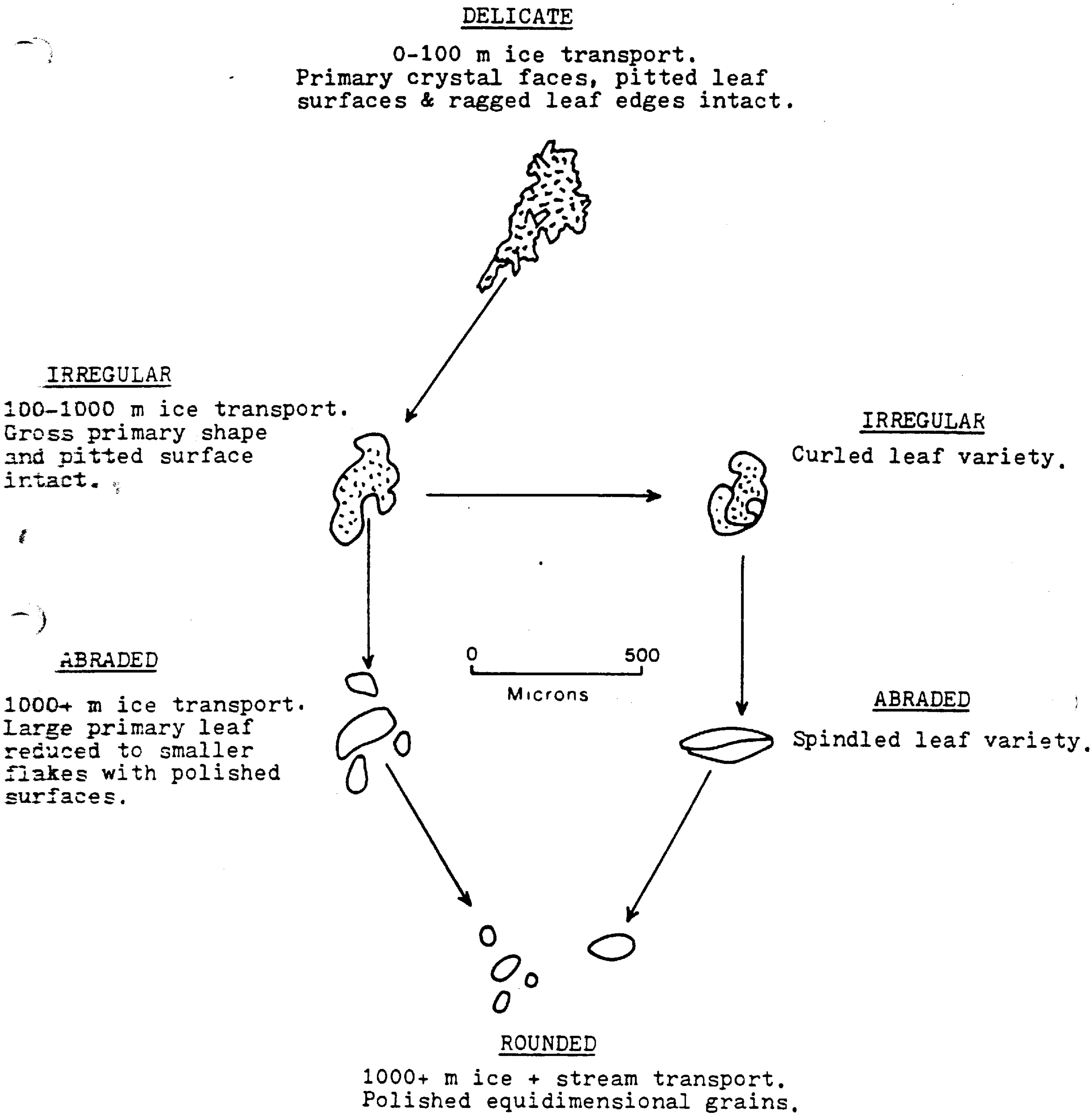


Figure 5 - Effects of glacial transport on gold particle size and shape.
(Developed by Overburden Drilling Management Ltd.)

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 Chapais West magnetic separates were checked to ensure that they contained not more than five percent pyrrhotite.

3.7 Sample Analysis

The non-magnetic heavy mineral fraction is used for mineralogical and geochemical studies. If the analysis is by chemical methods that involve pulping, a 3/4 split is analyzed and a 1/4 split is retained for the mineralogical work. On gold programs it is desirable to analyze the whole concentrate to minimize the nugget effect that is caused by the particulate nature of most till gold.

The whole concentrate can be analyzed without damaging its mineralogy by employing the instrumental neutron activation (INA) technique which requires no sample preparation (pulping). However the INA procedure is slow for the following reasons:

1. The analysis is not made until ten days after the concentrate has been irradiated.

2. Radiation levels remain too high to allow sample handling within four months of analysis.

These problems were considered to outweigh the benefits of a whole concentrate anlaysis for the Chapais West samples and 3/4 concentrates were therefore assayed by the conventional fire assay method using an atomic absorption finish.

In the sample preparation circuit, pulping time was reduced to minimize the potential for smearing of malleable gold grains. As a result, most pulps contained about 5 percent +150 mesh material that was not evenly distributed through the fines. It is well known that free gold tends to congregate as flattened metallics in the coarse fraction of a pulp. Therefore samples that were known to contain gold grains over 150 microns in diameter were screened to 150 mesh after pulping, and separate determinations were made on the +150 mesh metallics and on a 20-gram (if available) subsample of the homogenized -150 mesh pulp. A weighted average assay was then calculated. A small subsample of the pulp was analysed for Cu, Zn and Ag by atomic absorption and for arsenic by the colourimetric method (Appendix D). Bedrock samples were analyzed for the same metals (Appendix E) and whole rock compositions were determined (Appendix F). All assaying was done at the Ottawa laboratory of Bondar-Clegg and Company Limited.

4. BEDROCK GEOLOGY

4.1 General Geology

The Chapais area lies within the Matagami-Chibougamau section of the Archean, Abitibi orogenic belt (MERQ-OGS-1983). The area is underlain by mafic to felsic rocks of two-volcanic cycles (Roy Group), a younger sedimentary sequence (Opemisca Group), and pre- to post-kinematic plutons and stocks. Roy Group volcanics are intruded by numerous coeval and comagmatic, differentiated mafic sills. The Dore Lake Complex, a major layered intrusive, is found within the first volcanic cycle of the Roy Group. Three distinct differentiated sills of the Cummings Complex (from lower to upper, the Roberge, Ventures, and Bourbeau Sills) are found within the second, younger volcanic cycle. The presence of layered sills and lack of komatiitic volcanic rocks serve to distinguish the "Matagami-Chibougamau greenstone belt" from the Abitibi belt proper (Allard, Gobeil, 1984).

The Chapais West drill area is underlain by rocks of the second volcanic cycle of the Roy Group (Fig 6; Charbonneau, et al, 1980, 1981; Picard, Piboule, 1986).

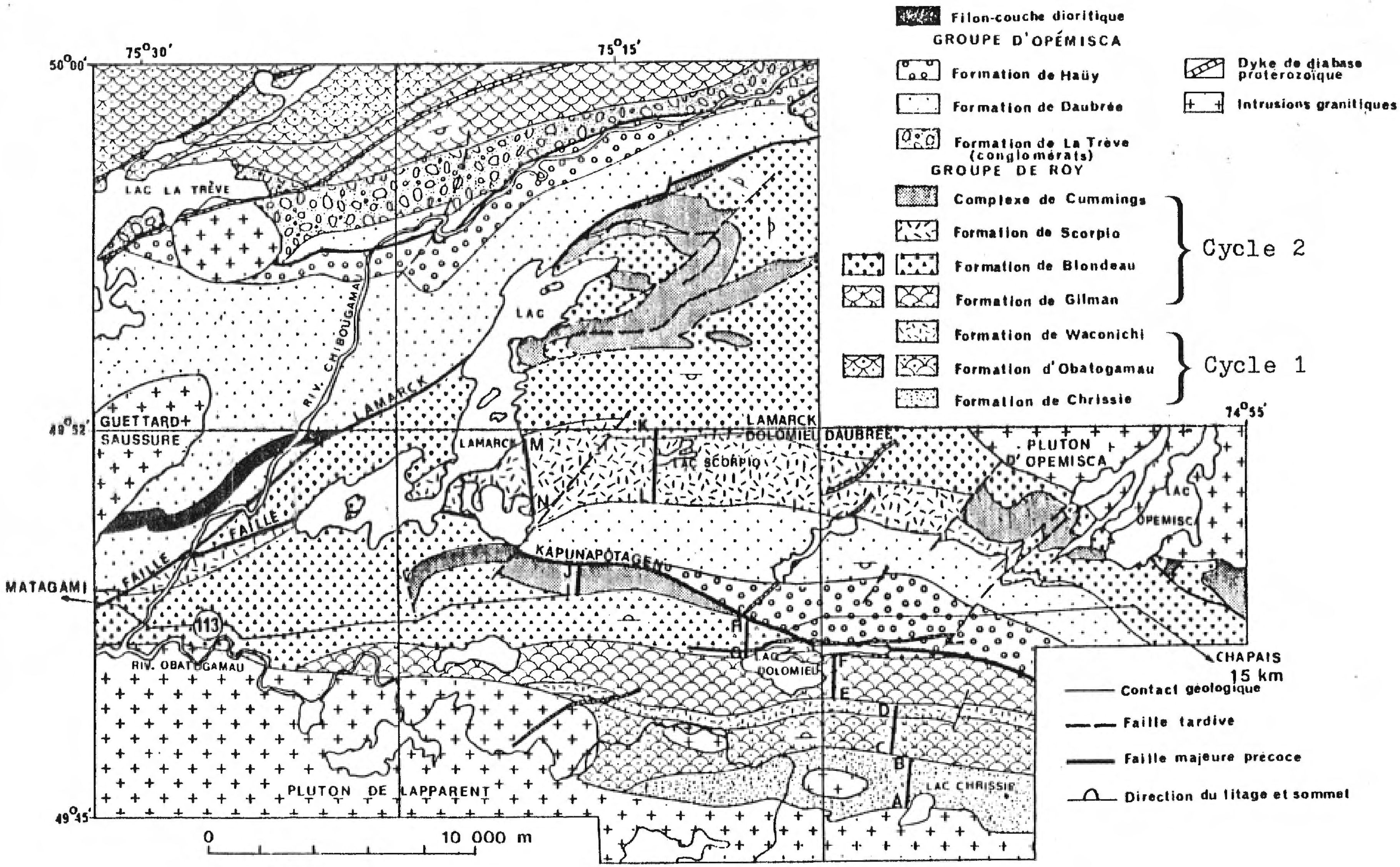


Figure 6. Geology of the eastern portion of the Chapais West Project Area. (after Picard, Piboule, 1986)

This sequence includes mafic volcanics and comagmatic gabbro sills of the Gilman Formation, volcano-sedimentary assemblages of the Blondeau Formation including differentiated sills of the Cummings Complex, and Scorpio Formation intermediate-felsic tuffs and volcanics. In the western portion of the area and to the south intrusive rocks related to the Lapparent Massif (Racicot, Chown, Hanel, 1984) intrude the Roy Group with contact metamorphism resulting in overprinting of the regional lower greenschist metamorphic grade to produce amphibolite grade and gneissic rocks for up to 1.5 km from the contact.

Structurally, the area is complex and poorly understood. The northeast trending Lamarck Fault zone appears to separate the east-west trending Blondeau and Gilman Formations to the east from the southeast to northeast trending (folded?) sedimentary, volcanic and pyroclastic units to the west (Blondeau and Scorpio equivalents?). In the east, the Kapunapotagen Fault trends east-southwest through Lac Kapunapotagen and Lac Landing immediately north of the drill area. Numerous small scale faults are locally present which attest to the complex structural history. These faults complicate stratigraphic, and possibly lithologic, interpretation.

Only a single mineral deposit is known in the area. This is the Umex Cu-Zn-Ag deposit in east-central La Ribourde Township. The deposit consists of a stratabound, exhalative massive sulfide lens located within tuffs, argillites and sediments. Total reserves are 615,000 tons of 1.09% Cu, 2.51% Zn, 0.98 oz./ton Ag and 0.03 oz./ton Au (Riverin, 1981).

4.2 Bedrock Logging Procedures

A binocular microscopic log of all bedrock samples was prepared (Appendix G) 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 mafic volcanics and graywacke rather than metamorphic names such as amphibolite and biotite 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 gray-brown and gray-green pyroxene where the grain size is less than 0.2 mm as in most volcanic rocks. This effectively precludes differentiation of intermediate volcanics from mafic volcanics in extensive areas of the Abitibi belt where primary pyroxene has survived the zeolite facies metamorphism. In greenschist facies areas where pyroxene has been largely converted to 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.

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

4.3 Bedrock Stratigraphy of the Chapais West Drill Area

Table 3 lists the bedrock lithologies of the Chapais West drill area. Regional mapping (Charbonneau et al, 1980, 1981) indicates complex interfingering of units and rapid lithologic variations across strike. The wide hole spacing chosen for the reverse circulation drilling program often precludes correlation of rock units intersected in drill holes with those mapped on surface and major discrepancies are

ARCHEAN

7	Syenite (7a), granodiorite (7b), quartz diorite (7c)
6	Feldspar porphyry (6a), quartz-feldspar porphyry (6b), felsite (6c)
5	Gabbro (5a), quartz gabbro (5b), pyroxenite (5c)
4	Graywacke (4a), siltstone (4b), mudstone (4c)
3	Fragmental intermediate - felsic volcanics
2	Felsic volcanics
1	Intermediate (1a) to mafic (1b) volcanics

Table 3 - Table of Bedrock Formations

apparent. Also, the differentiation of some formations (i.e. Blondeau and Gilman) is not possible from logging of bedrock chip samples or whole rock geochemistry. Therefore we have chosen to produce a geology map based essentially on lithologies encountered in drill the holes and not to attempt correlation between various maps and interpretations.

As an adjunct to this, conductor swarms in the drill area show no correlation with specific rock units or formations. Concentrations of sulfides or graphite are insufficient to produce the plethora of 5 and 6 channel anomalies suggesting problems in screening of the Input data.

4.3.1 Intermediate to Mafic Volcanics (Unit 1)

Intermediate to mafic volcanic rocks are present throughout the drill area (Plan 2). They occur in the west as a sequence that appears to wrap around a small granitoid stock between intermediate fragmentals to the north and a sedimentary sequence to the south. Within, and proximal to, the fault zone defined by the Lamarck Fault and its western branch, a porphyrytic volcanic unit is present which is not apparent elsewhere on the property. It appears to be separated from the "main" east-west trending volcanic-gabbroic sequence north of the Obatagamau River and Lapparent Massif by graywackes which continue eastward from the Chibougamau River to a northeast trending fault in the area of the Lamarck River. Minor proportions of intermediate-mafic volcanic rocks are also present as intercalations within sedimentary rocks of the drill area.

Unit 1 rocks are predominantly mafic in character (basalts) with lesser proportions of intermediate volcanics (andesite, dacite). On the Jensen Cation Plot (Figs. 7, 8) the majority of the mafic volcanics plot in the high iron tholeiitic field, while those rocks described as intermediate fall into the calc-alkalic andesite and dacite fields. The volcanic trends show a close correspondence with the plotted positions of other rock types in the area (Figs. 9 to 13). Specifically, gabbroic intrusives are chemically equivalent to the mafic volcanics indicating their comagmatic character, and felsic volcanics, intermediate tuffs, porphyries, and

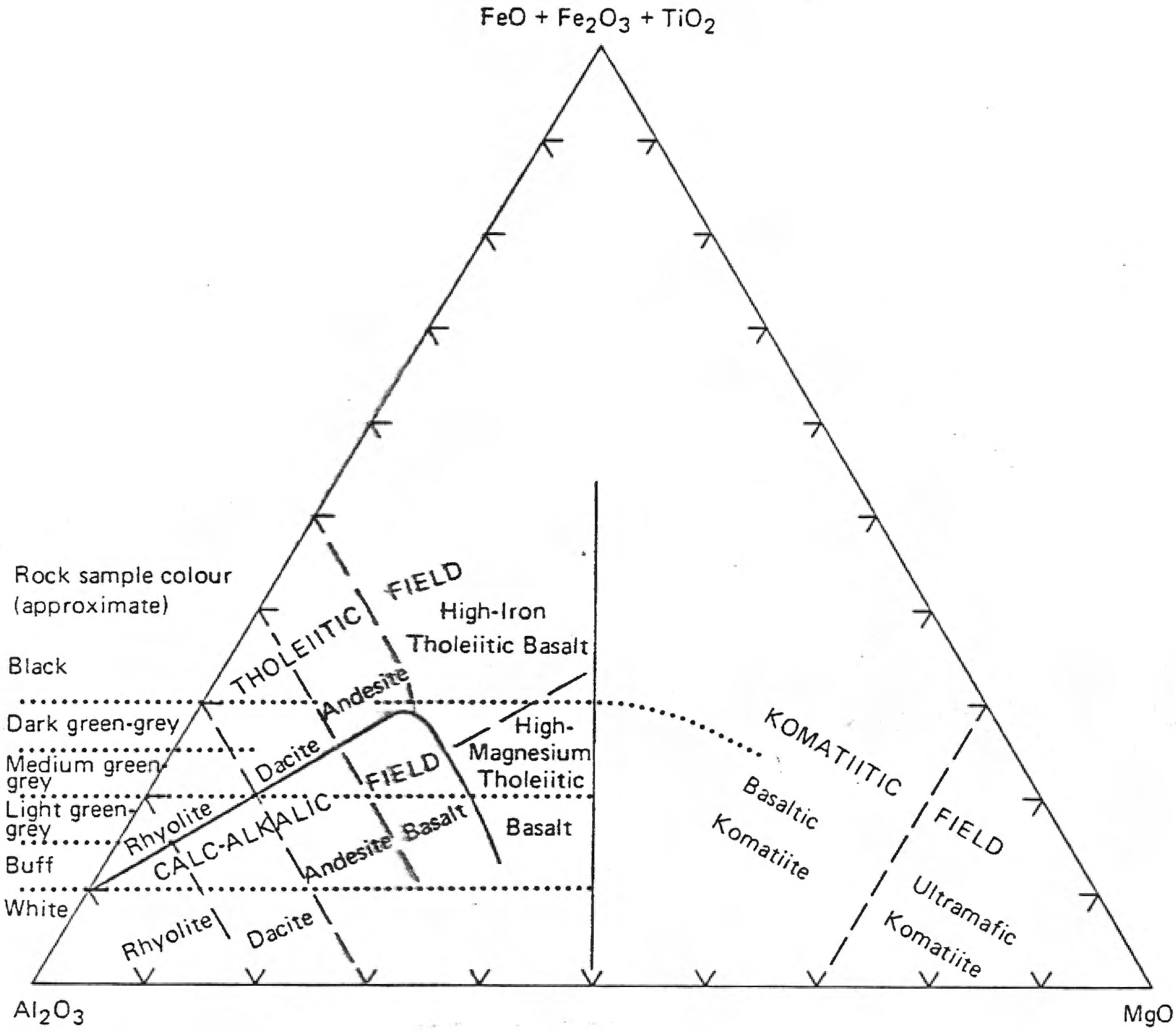


Figure 7 - Jensen Cation Plot Legend

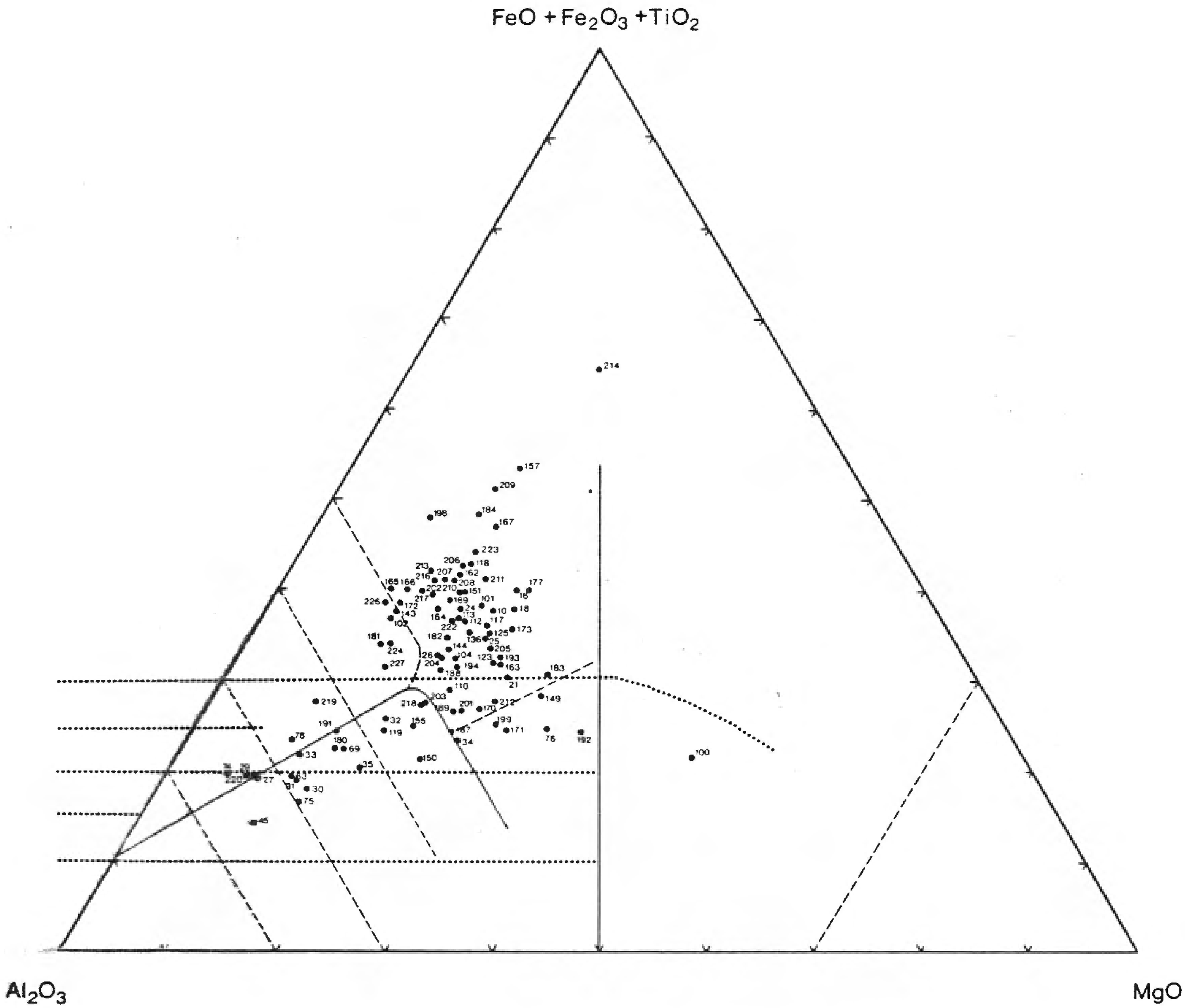


Figure 8 - Jensen Cation Plot - Intermediate to Mafic Volcanics

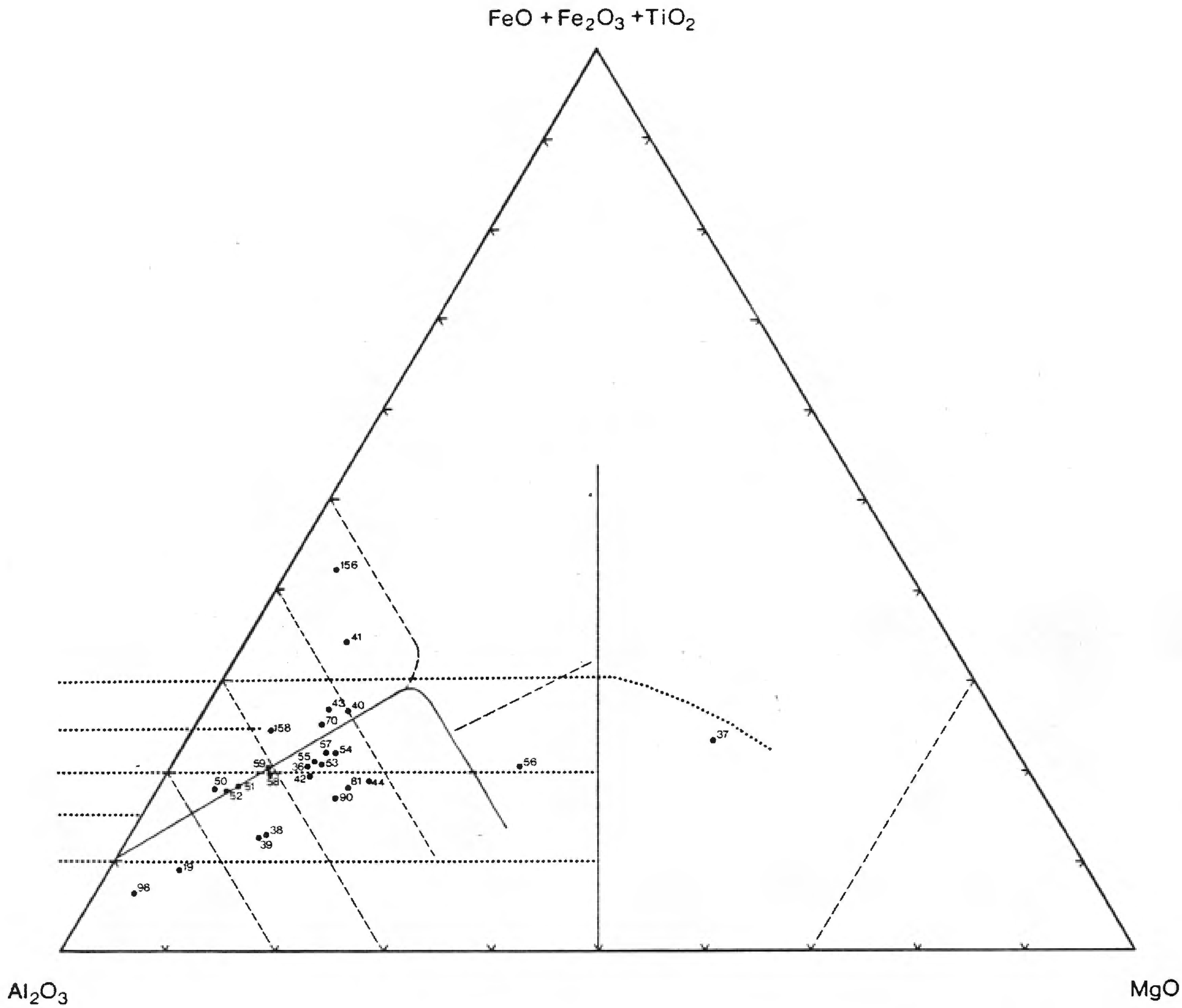


Figure 9 - Jensen Cation Plot - Intermediate to Felsic Tuffs and Felsic Volcanics

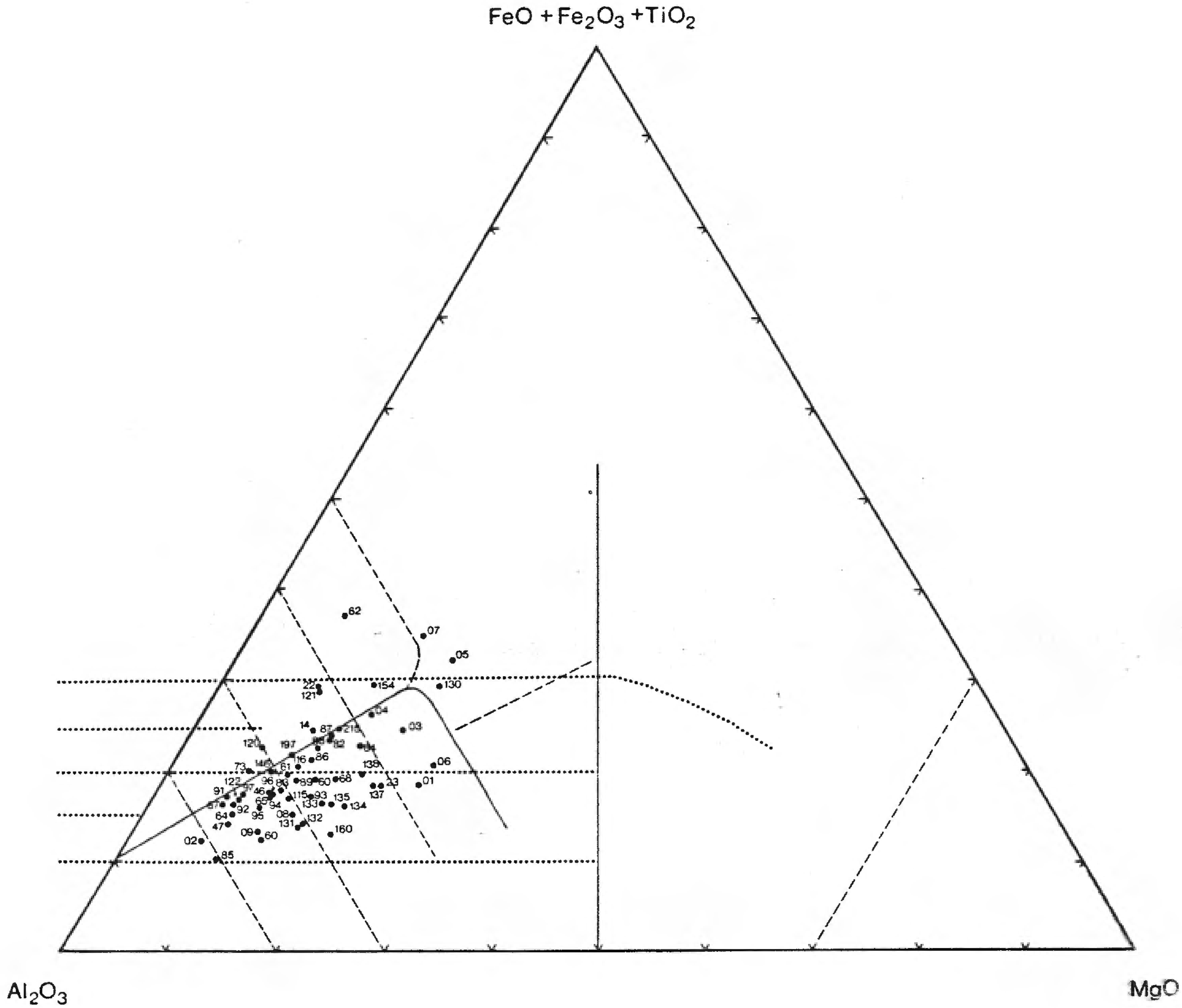


Figure 10 - Jensen Cation Plot - Sedimentary Rocks

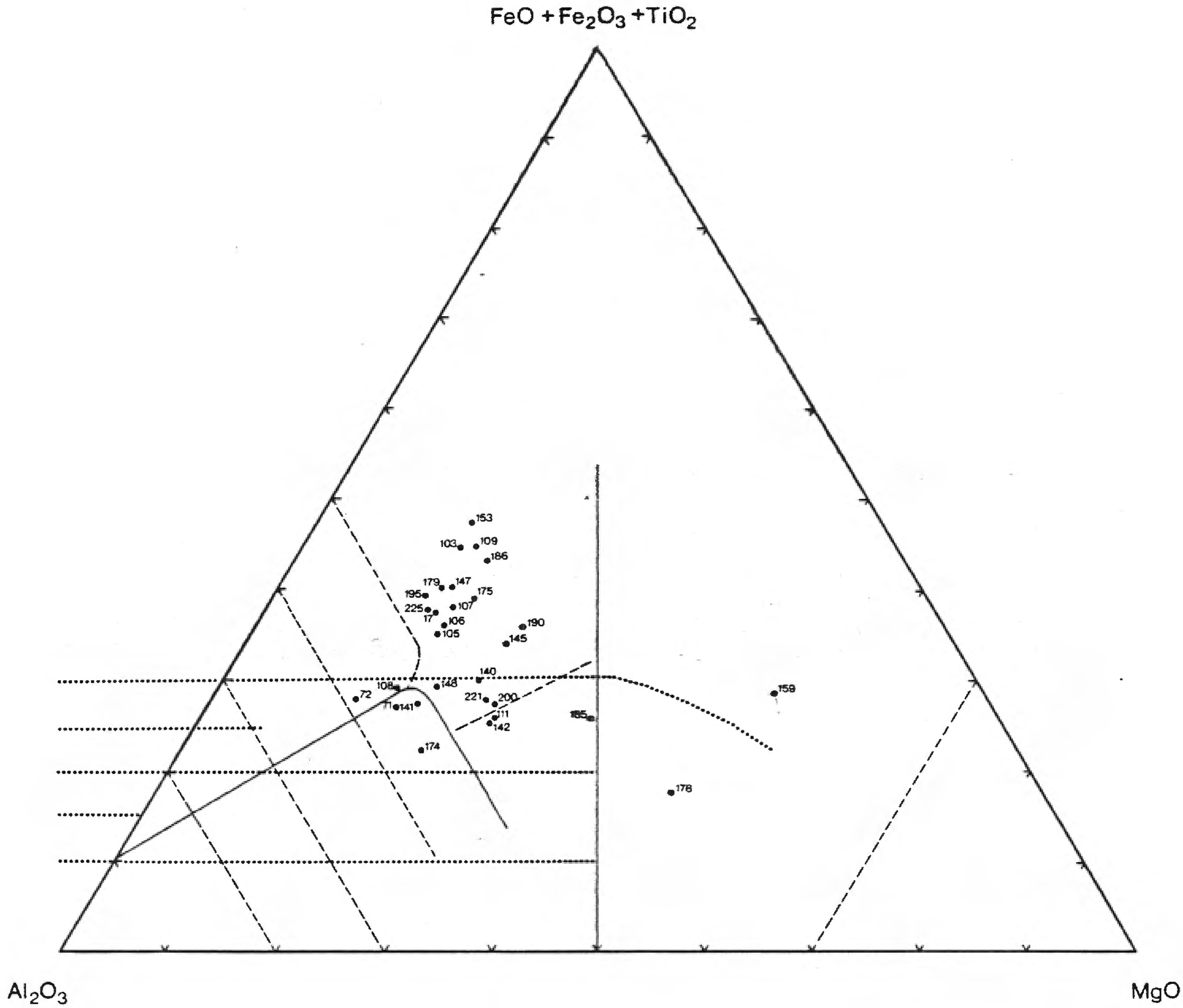


Figure 11 - Jensen Cation Plot - Gabbroic Rocks

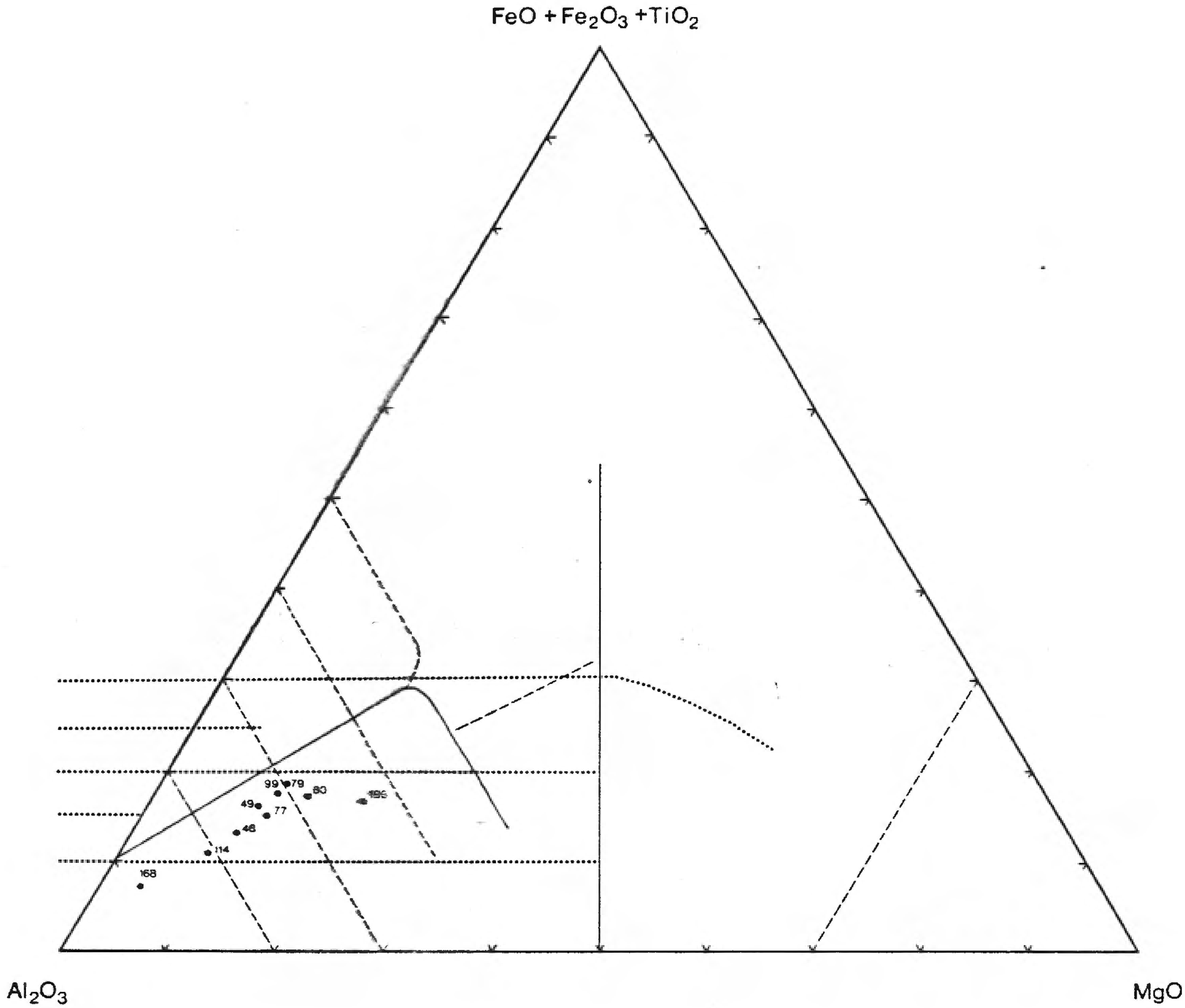


Figure 12 - Jensen Cation Plot - Sub-Volcanic Porphyries

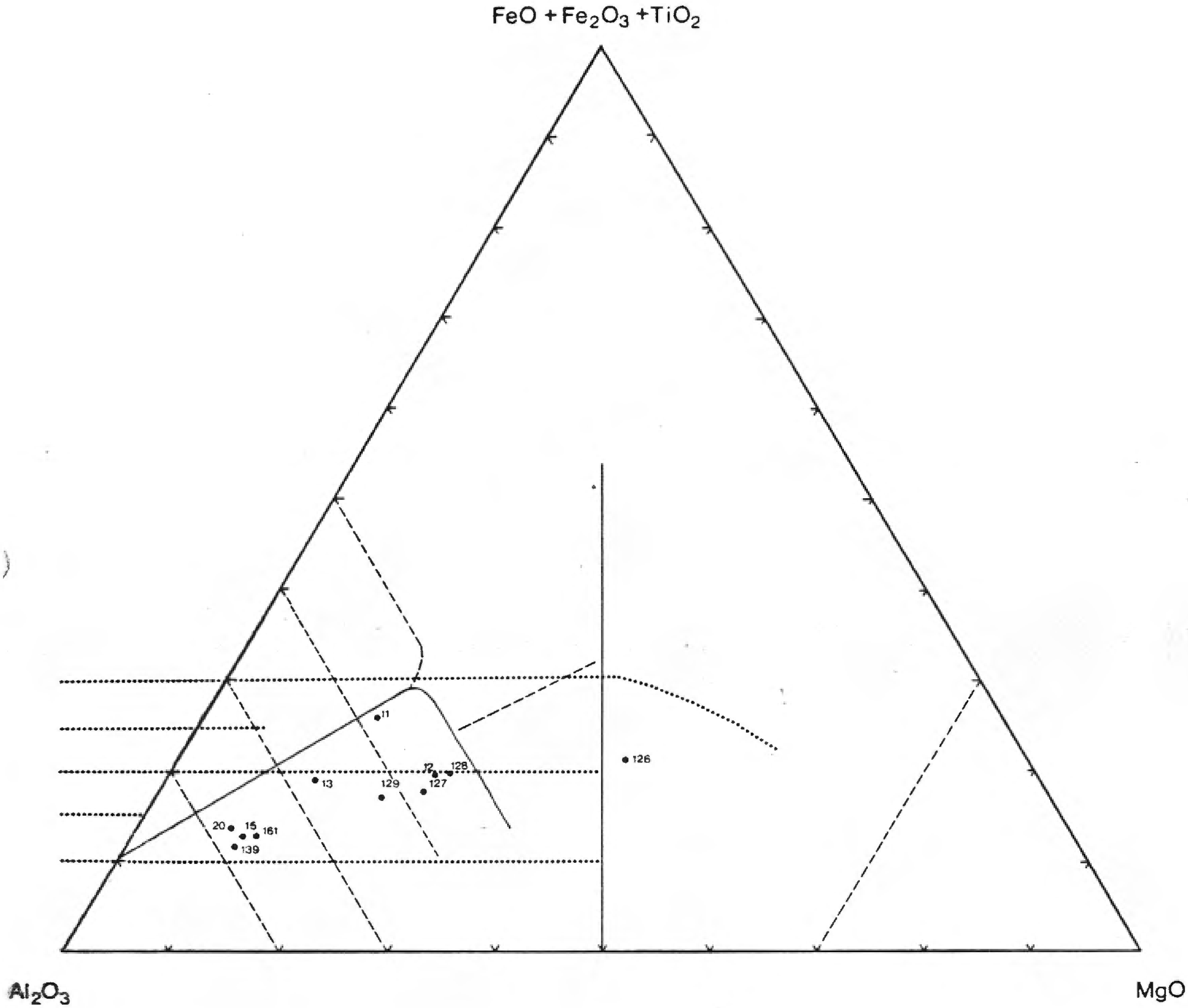


Figure 13 - Jensen Cation Plot - Granitoid Intrusive Rocks

sediments plot in the calc-alkalic field with the intermediate volcanics. Considering relative hole locations and bedrock types versus the graphical representation of the bedrock samples on the Jensen plots, it appears that volcanic rocks east to the Chibougamau River represent a tholeiitic suite which corresponds to the Blondeau and Gilman Formations. To the west of the Chibougamau River, predominantly calc-alkalic volcanics, pyroclastics and sediments represent the remnants of an intermediate-felsic volcanic pile and are probably correlative with the Scorpio Formation.

Intermediate and mafic volcanics in the drill area are differentiated on the basis of mafic mineral content with less than 30 percent in the intermediate variety and 30-70 percent (usually greater than 40%) in the mafic variety. Where fine grain size precludes differentiation of minerals, color may be a useful indicator of composition. These features are directly related to rock chemistry as evidenced by the close correspondence between binocular names and rock geochemistry in Figures 7 and 8.

Grain size of the intermediate to mafic volcanic rocks ranges from aphanitic to 0.5 mm but averages approximately 0.1mm. The coarser samples (0.2-0.5 mm) are restricted to an area east of the Obatagamau River to Lac des Misérables. Color ranges from medium to dark green and black with variations due to alteration and metamorphic rank. Structurally, the volcanics are foliated to strongly schistose. Shearing/slickensides are evident in many bedrock samples in the eastern half of the drill area;gabbroic rocks present in this area are also commonly sheared.

Marginal to the intrusives of the Lapparent Massif, the volcanics have been metamorphosed to amphibolite grade with local development of gneissic banding. Mafic minerals have been converted to hornblende and plagioclase has often been recrystallized as cloudy to clear, sugary, equigranular grains. In some samples, retrograde alteration of hornblende to chlorite (± actinolite) and varying degrees of saussuritization of plagiocalse are apparent.

Less metamorphosed intermediate-mafic volcanics are composed of an equigranular intergrowth of plagioclase (locally saussuritized) and chlorite. Amphibole/actinolite locally accompanies the chlorite. Quartz is observed locally in amounts of less than five percent. Amygdules are present in a few relatively undeformed and unaltered samples.

The intermediate volcanics of Holes 27, 29, 30, 31, 32, 33 and 35 contain 5-50 percent plagioclase phenocrysts to 2.0 mm and 0-5 percent quartz phenocrysts to 1.0 mm, set in a fine plagioclase + chlorite ± amphibole/actinolite matrix. Only rarely are porphyrytic volcanics seen elsewhere within the drill area.

Veining and carbonate alteration are common features of the intermediate to mafic volcanic rocks. The most pervasive carbonitization occurs in the eastern portion of the drill area where many samples contain five to twenty percent, or greater, carbonate. Calcite is most prevalent but a moderately to slowly reactive Fe or Mg rich carbonate occurs in Holes 149, 150, 209, 213, 214, 216, 217, 218 and 219. Much of the carbonate occurs disseminated in the rock but most samples in the east also contain one to five precent quartz-carbonate vein material, with a maximum of sixty percent in Hole 223.

In the western half of the drill area less carbonate and less, more localized veining is present. Exceptions to this are samples of Holes 30, 69, 76, and 100 which contain ten to twenty percent disseminated carbonate and five to fifteen percent quartz carbonate veining. Calcite is the predominant carbonate. One to two percent of a moderately reactive variety is present in Hole 26.

Sulfide concentrations in intermediate-mafic volcanic samples are consistently less than two percent and often less than 0.5 percent. Exceptions are Holes 223 with three to four percent pyrite (mostly in the 50-60 percent vein material) and Hole 155 with eight to ten percent pyrrhotite, minor pyrite and 0.1% chalcopyrite. The only other sulfides noted are less than 0.1% arsenopyrite in Hole 226 and trace amounts of bornite in a quartz-veined sample from Hole 32. Minor (less than 1%) tourmaline is also present in the vein material of Hole 32. Fuchsite occurs in trace amounts in pervasively calcite-altered rock in Hole 192 and also in veined, Fe or Mg carbonated rock in Hole 149. Magnetite, in concentrations of 0.5 to 8%, is present in approximately fifteen percent of the samples. Ilmenite and leucoxene are locally present but do not exceed two percent of any intermediate to mafic volcanic sample.

4.3.2 Felsic Volcanics (Unit 2)

Felsic volcanic rocks are not abundant in the drill area. They occur mainly in the west associated with intermediate-felsic pyroclastic rocks (Unit 3). Good examples of rhyolitic felsic volcanics (69.3 to 70.7% SiO_2) are present in Holes 19, 39 and 52. They are light grey to black in colour, very fine grained to aphanitic, and poorly foliated. Faint color/compositional variations which may reflect flow banding are observable in Holes 39 and 52. Trace to two percent carbonate is present in the samples - generally as fracture plane coatings. Calcite is present in Holes 19 and 39 and a slowly reactive variety of carbonate is found in Hole 52. Pyrite is present in concentrations of less than 0.5 percent. Five percent vein quartz is present in Hole 52.

Holes 38, 51 and 56 are also termed felsic volcanics. The sample from Hole 38 is similar to those described above but has a SiO_2 content of 66.8% and may be more correctly termed a rhyodacite. The samples from Holes 51 and 56 are highly veined (greater than 50% vein quartz), obscuring textures. Hosting the vein material is light green to yellowish-green, very fine grained to aphanitic, schistose to sheared, sericitic material. Considering the abundant vein quartz, relatively low SiO_2 contents of 77% and 71.6% may indicate the host rocks had an initial, more mafic composition with secondary veining and alteration imparting a felsic-like appearance. A primary mafic composition for the Hole 56 sample is further suggested by its position on the Jensen cation plot (Fig. 9).

Hole 51 contains one percent slowly reactive carbonate and 0.5% pyrite + pyrrhotite as disseminations and local concentrations on foliation surfaces. No carbonate or sulfides were noted in Hole 56. Traces of fuchsite were observed in samples from both holes and traces of tourmaline in the vein quartz of Hole 56.

4.3.3 Fragmental Intermediate-Felsic Volcanics (Unit 3)

Fragmental intermediate-felsic volcanics occur predominantly in the northwestern portion of the drill area west of the Lamarck Fault zone. Isolated intersections elsewhere (CW-85-90, 156, 158) probably represent small fragmental lenses within other units.

The fragmentals are light to medium grey-green (locally bleached or oxidized), strongly foliated/schistose and locally crenulated or sheared rocks with a grain size of 0.1 mm or less. They are predominantly ash tuffs and with the exception of approximately fifteen percent grey-blue aphanitic cherty fragments in Hole 50, any coarse fragments are similar to the matrix and could not be recognized. In samples from Holes 53, 54, 55, and 58 visible quartz eyes in concentrations of less than five percent are present. Most samples appear to be composed essentially of thin bands of feldspathic to quartzo-feldspathic material separated by sericite, chlorite, or sericite-chlorite rich foliation planes. A few samples also contain thin segregations of quartzose material parallel to the schistosity.

The samples are variably veined and carbonated. Holes 40 to 43, with the exception of ten percent veinlet and stringer carbonate in Hole 41, are not veined but each contains ten to fifteen percent pervasive interstitial calcite. Remaining fragmental samples contain 0-5% quartz $\pm$ carbonate veining, and the one from Hole 57 contains twenty to twenty-five percent quartz-calcite vein material with quartz predominating on a 3 to 5:1 ratio. Irrespective of the intensity of the veining, an additional 0.5 to 5 percent carbonate is present within the samples - usually represented by highly reactive calcite although moderately to slowly reactive varieties are present in Holes 53, 54, 81 and 90. Pyrite, as disseminations and local stringer-like concentrations, is present in the fragmental samples in amounts of less than 0.5 percent.

As displayed by the Jensen Cation Plot (Fig 9), most fragmental samples plot in, or marginal to, the calc-alkalic field corresponding to Jensen's dacite and andesite sub-groups. This agrees in general with whole rock SiO_2 proportions of 47 to 68 percent (uncorrected for loss on ignition).

Holes 36 and 37 on the west branch of the Lamarck Fault have been included with the fragmental unit as they occur in the area where fragmentals and felsic volcanics predominate. However, deformation, veining and alteration (silicification, carbonitization) have destroyed original rock textures and minerals and the parent rock is unknown. Only remnants of schistose, sericitic and/or chloritic material remain to give vague clues to the primary lithology. Approximately twenty to twenty-five percent vein material that is readily identifiable as such is present in each sample. The remainder of each sample is so altered that a determination of host versus vein-alteration material is not possible. Although the two samples have a similar visual appearance they have vastly different SiO_2 contents and their positions on the Jensen plot (Fig. 9) reveal no similarities. This may not be significant in determining the primary lithologies as Mg and/or Fe concentrations have been altered by the introduction of varying proportions (ten to twenty percent, or greater) of poorly reactive Mg and/or Fe rich carbonate, and silica. Minor pyrite (less than 1%) is present in both samples as disseminations and local concentrations. Very minor amounts of graphite may be present along some schistosity surfaces.

4.3.4 Greywacke, Siltstone, Mudstone (Unit 4)

A sedimentary unit with lesser intercalations of volcanic material, gabbro, and porphyry is present west of the Lamarck Fault and immediately north of the intrusive rocks of the Lapparent Massif. A thinner sedimentary horizon is present in the same stratigraphic position east of the Lamarck Fault and the unit appears to continue eastward to the Lamarck River. Elsewhere, single hole intersections of sediments are present in the tholeiitic volcanic-gabbroic terrain.

Sediments intersected include greywacke, siltstone, and mudstone in approximately a 7:3:1 ratio. The sediments, like the mafic volcanics, are variably metamorphosed — ranging from lower greenschist to amphibolite grade with a corresponding schistose to gneissic structure. As with the volcanics, the contact effects of the marginal granitoid intrusives are responsible for increases in metamorphic grade.

Moorhouse states (1959, p. 441) that graywacke at the slate/phyllite/greenstone (lower greenschist) facies is little changed from its primary condition except for some loss of H_2O and CO_2. "Primary" graywacke in the Abitibi belt is an inequigranular rock consisting of quartz and plagioclase grit thinly scattered through an unsorted matrix of fine sand (less than 0.15 mm), silt and clay. Bedding is occasionally evident from variations in the percentage of grit. The matrix minerals cannot be discerned with the binocular but presumably (Moorhouse, 1960; p. 257) comprise plagioclase, quartz, illite and chlorite. No primary graywacke was intersected in the Chapais West drill area; the least metamorphosed samples contain 0.5 mm chlorite metacrysts that have formed from original fine matrix chlorite and illite. These metacrysts impart a weak foliation to the rock. Quartz: plagioclase ratios are not readily apparent in the graywacke samples due to the fine grain size and dark color. Together, quartz and plagioclase form 60-85 percent of the graywacke samples with the remainder of the rock composed of chlorite and/or biotite.

With increasing metamorphic grade as granitoid intrusives are approached, primary quartz and plagioclase have been recrystallized to an aggregate of clear, sugary grains while matrix chlorite has been largely converted to biotite flakes. Locally, relict grit is preserved. Close to the intrusives, a gneissic texture is produced with thin laminae of mafic-rich and felsic-rich material. No sedimentary textures are preserved. In some samples an incipient growth of feldspar porphyroblasts is observed. The mafic-felsic mineral ratios are generally similar to those noted in less metamorphosed rocks. Some of the gneissic samples contain 5-20% hornblende/amphibole suggesting carbonate enrichment in the sediments prior to metamorphism (Moorhouse, ibid).

Siltstone is similar in appearance and mineralogy to graywacke but is finer grained (less than 0.1 mm) with no apparent grit. It is finely schistose to fissile. Minor sericite is locally present and some samples are slightly graphitic. Mudstone, when present, is dark grey to black in colour, aphanitic, fissile and contains minor amounts of graphite (less than 2%). The sample from Hole 215 also contains dark grey inclusions that appear to be sericitized andalusite metacrysts.

Trace to fifteen percent carbonate is present in the sedimentary samples. Where more than one percent carbonate is present, the samples are commonly of lower greenschist metamorphic grade. Higher grade samples contain less carbonate. Calcite is the most common carbonate and occurs as stringers along foliation planes and fractures, disseminated within the rock, and associated with quartz in vein material that constitutes 0 to 15 percent of the samples. Moderately to slowly reactive Fe or Mg rich carbonate is present in samples from Holes 22, 82, 86, 116, 121, 146, and 215 in amounts of 0.5 to 5 percent.

Trace to two percent sulfides are invariably present as disseminations, as minor stringer-like concentrations along foliation planes and as local concentrations in vein material. Pyrite is most abundant with pyrrhotite present in Holes 02 and 134. Traces of chalcopyrite and 0.5-1% sphalerite are associated with veinlet quartz and stringer and disseminated pyrite in graphitic siltstone of Hole 14. Trace amounts of tourmaline are present in Hole 215.

Fig. 10 illustrates the chemical affinity of the sedimentary samples. The vast majority of the samples plot in the calc-alkalic andesite and dacite fields suggesting derivation from primary calc-alkalic volcanic rocks.

4.3.5 Gabbro, Quartz Gabbro, Pyroxenite (Unit 5)

Gabbroic intrusive rocks are present as sills throughout the Chapais West drill area. They are most abundant in the central and eastern portion of the area.

Here, along the northernmost profile of drill holes, numerous mafic intrusive intersections appear to define the southern margin of a large sill. Further to the south and in the southeast several gabbroic intersections in adjacent holes appear to define single sills of limited thickness but with significant lateral continuity. Elsewhere, gabbroic intersections are generally restricted to a single hole or share composite samples with other rock types, suggesting sills of restricted strike length and thickness.

Mafic intrusives include gabbro, quartz gabbro and pyroxenite. Pyroxenite is present in only one hole (CW-85-159) and consists of eighty percent green, translucent pyroxene and twenty percent plagioclase. Gabbro samples are differentiated on the basis of quartz content with gabbro containing less than five percent quartz, and quartz gabbro from five to fifteen percent quartz. Hole locations are such that the relative positions of each intrusive type within the sills are not known. Thus it is not known whether tops face north or south.

The gabbroic rocks range from massive to schistose and often display shear planes and slickensides. This is particularly noticeable east of the Lamarck Fault zone, and it is in this area that many intermediate-mafic volcanic rocks also display shearing effects. Grain size varies from 0.2 to 3.0 mm with shearing and chloritization often resulting in a masking or destruction of the original coarse minerals. In may cases only relict quartz or plagioclase cyrstals remain to give some indication of original grain size. Less altered and sheared samples invariably have a grain size in excess of one millimetre.

Irrespective of quartz content, plagioclase: mafic mineral ratios in the gabbroic samples are in the range of 50-60:40-50. The least altered and sheared samples commonly contain hornblende or partially chloritized hornblende. Actinolite is locally present, probably as an alteration product of hornblende. In some samples such as CW-85-174-02, significant proportions of green pyroxene appear to be present, but chlorite-actinolite alteration precludes determining whether pyroxene or hornblende was initially the most abundant mafic mineral. Increasing alteration and shearing results in mafic minerals being wholly represented by chlorite ($\pm$ actinolite). Locally, chlorite pseudomorphs of euhedral hornblende indicate the original mafic mineral.

Plagioclase also displays alteration effects. All plagioclase is cloudy and is assumed to be saussuritized. Coarser saussurite visible under the binocular is restricted to samples from Holes 72, 107, 109, 140, 141, 142, 152, 190, and 195. Many samples displaying saussurite alteration are also sheared and chloritized, but samples from Holes 140, 141 and 142 are essentially massive and display only minor chloritic alteration.

Carbonate content of the gabbroic rocks ranges from nil to approximately fifteen percent. The carbonate occurs mostly as interstitial disseminations or locally as stringers or foliation and shear plane coatings. Concentrations of carbonate also occur with quartz in veinlets that constitute less than one to seven percent of the rock. The sample from Hole 145 contains an anomalously high fifty percent quartz-carbonate vein material. As with chlorite, the greatest concentrations of carbonate occur in sheared samples. Calcite is most prevalent, but five to ten percent moderately reactive carbonate is found in Hole 221. The highly veined gabbro of Hole 145 contains two to five percent slowly reactive carbonate in the host rock and eight to ten percent slowly reactive carbonate associated with the vein material itself.

Disseminated magnetite is present in approximately thirty-five percent of the samples in concentrations of less than two percent. Approximately fifteen percent of the samples contain ilmenite (1-4%), and forty percent contain one to three percent leucoxene pseudomorphs of ilmenite. These minerals show no preference for either gabbro or quartz gabbro.

Sulfide proportions range from 0-3 percent in the gabbroic samples but are normally less than one percent. Pyrite is most common but pyrrhotite is noted in fifteen percent of the samples. The sulfides occur as disseminations and local stringer-like concentrations along foliation planes. Traces of chalcopyrite are present in Holes 71 and 190.

Gabbroic samples are represented graphically on the Jensen Cation Plot of Fig 11. The samples plot essentially in the same fields as the mafic volcanics (Unit 1b) indicating their comagmatic character. A fairly wide scatter is attributed to the effects of shearing and alteration, and to magmatic differentiation.

4.3.6 Feldspar Porphyry, Quartz-Feldspar Porphyry, Felsite (Unit 7)

Subvolcanic porphyries were intersected in nine holes. These rocks have a fine grained matrix (less than 0.1 to 0.2 mm) and contain ten to fifty percent subhedral feldspar phenocrysts to 3 mm in size and lesser proportions of quartz phenocrysts. If more than five percent quartz phenocrysts are present the rock has been termed quartz-feldspar porphyry (Holes 114, 168).

The matrix of the porphyries is quartzo-feldspathic in character with less than twenty percent chlorite and/or biotite. Felsite described in Hole 99 contains no phenocrysts and is essentially identical to the matrix of the porphyries. In addition to the major minerals, trace to four percent interstitial calcite and up to one percent epidote is present. The samples contain less than 0.5% disseminated pyrite.

The porphyry intersections occur as dykes or sills and are most prevalent in the western portion of the drill area in close proximity to the main intermediate to felsic volcanic fragmental pile. Here, intersections in Holes 48 and 49, and those of 77, 79 and 80 appear to define discrete bodies of significant extent whereas only single hole intersections were obtained elsewhere in the project area. The position of Holes 77, 79 and 80 near a small granitoid stock mapped by the Quebec Ministry of Energy and Resources west of the drill area suggests a genetic relationship between the stock and the porphyry.

Chemically, the porphyry samples plot in the calc-alkalic rhyolite, dacite, and andesite fields on the Jensen Cation Plot (Fig. 12). The quartz-feldspar porphyry is restricted to the rhyolite field while the feldspar porphyry displays a slightly less felsic character. The position of the porphyries on the Jensen diagram is similar to that of the sediments, intermediate and felsic volcanics, and intermediate-felsic fragmentals.

4.3.7 Syenite, Granodiorite, Quartz Diorite (Unit 7)

Granitoid intrusive rocks in the southern part of the drill area are related to the Lapparent Massif - an elongate dome of remobilized basement rocks penetrated (chiefly along the contacts) by synkinematic and post kinematic intrusions (Racicot, et al 1984). Intrusive rocks intersected in the reverse circulation drill holes belong to the marginal stocks and comprise syenite, granodiorite and quartz diorite. Rock names used are based essentially on binocular microscope identification and the names used many not correspond to strict petrographic or chemical definitions (Fig. 13).

The intrusive rocks have a grain size of 0.5 to 2 mm. Shear deformation imparts a distinct foliation to the syenite of Hole 13, but syenite in Holes 11 and 12 is massive and hypidiomorphic as are other granitoid samples. Syenite is a quartz-poor (less than 10%) rock with fifteen to twenty-five percent hornblende (locally chloritic) and sixty-five to seventy-five percent feldspar. With the exception of the sheared, dark coloured syenite of Hole 13, the samples have pink (K-spar?) to white (plagioclase) feldspar ratios of only 1:1 or 3:1. If the pink coloration is due to hydrothermal alteration or iron staining of primary plagioclase, the samples may be monzonites to diorites rather than syenites.

Granodiorite contains twenty to thirty-five percent quartz, ten to twenty-five percent hornblende (locally chloritic) and forty to seventy percent feldspar. In two of the four granodiorite samples the pink: white feldspar ratio is 1:3 while the remaining two samples contain only white feldspar.

Quartz diorite contains five to twenty percent quartz and either white feldspar alone, or pink:white feldspar in ratios of 1:2 to 1:4 - the pink feldspar, however, is believed to be due to iron staining as the colour appears more intense marginal to micro-fractures. The mafic mineral content of the quartz diorite is twenty-five to fifty percent - chiefly hornblende but with common chlorite and local actinolite alteration (Hole 126).

Variable amounts (0-5%) of epidote occur in all intrusive rocks where it is associated with altered hornblende. Minor calcite (0-2%) is found infilling cyrstal interstices or with altered hornblende. Pyrite is rare or absent and sphene is present in concentrations of 1 percent or less.

4.4 Gold and Base Metal Bedrock Geochemistry

Base and precious metal bedrock geochemistry are presented in Appendix E. Background metal levels are maintained in most of the samples with copper, zinc and arsenic ranging up to 200 ppm and silver and gold consistently being less than 0.2 ppm and less than 5 ppb, respectively.

Elevated levels of copper (260, 251, 231, 552 and 456 ppm) are present in Holes 17, 71, 72, 125 and 152. Holes 17, 71, and 72 intersected gabbro while Hole 125 intersected a mafic volcanic. A trace of disseminated chalcopyrite was noted in Hole 71 and similar mineralization is assumed to be present in the other holes. The bedrock chips of Hole 152 are of both mafic volcanics and gabbro. Traces of chalcopyrite occur associated with 8-10 percent pyrite/pyrrhotite in the mafic volcanic portion of the sample.

Elevated zinc values of 225, 380, 600, 650 and 520 ppm were reported for bedrock of Holes 44, 104, 137, 157 and 197, respectively. The lithology in Holes 137 and 197 is greywacke. Intermediate tuff and mafic volcanics were intersected in Holes 44 and 157, respectively. Sphalerite was not noted in these four samples but is probably present in very low concentrations. The bedrock of Hole 104 is a mafic volcanic with approximately 10 percent black graphitic mudstone. This mudstone contains 1-2% pyrite as fine disseminations and thin (1 mm, or less), semi-massive bands. As with other samples having elevated levels of zinc, no sphalerite was observed in binocular logging.

An anomalous zinc assay of 3,600 ppm, along with elevated copper (240 ppm) and silver (2.1 ppm), was obtained from the bedrock of Hole 14. The sample is a very fine grained, slightly graphitic siltstone. Approximately 1-2 percent disseminated and stringer pyrite, traces of chalcopyrite, and 0.5-1 percent sphalerite were identified in the sample. The sphalerite variably occurs with the stringer pyrite, as disseminations, and also with an estimated 1-2 percent veinlet quartz.

Seven samples in two groups gave elevated gold values. In the first group, the samples from Holes 35, 36, 37 and 57 contain 90, 20, 10, and 15 ppb Au, respectively. Weakly elevated arsenic (150, 100, 376, 114 ppm, respectively) accompanies the gold and the Hole 36 sample also contains 359 ppm Cu and 600 ppm Zn. Holes 35, 36 and 37 were drilled proximal to the west branch of the Lamarck Fault. The sample from Hole 35 is a porphyrytic intermediate volcanic, but those from Hole 36 and 37 are so completely altered that the original rock cannot be identified with confidence. These samples contain 20-25 percent vein quartz plus 10-20 percent slowly reactive carbonate and are highly sheared, suggesting that the metal enrichment is related to faulting. Hole 57 intersected intermediate tuff that is also sheared and veined (20-25% quartz-calcite) but this hole is approximately four kilometres removed from the Holes 35-37 area. However, all four intersections occur in the main pile of intermediate-felsic fragmentals and volcanics and/or are proximal to major fault zones and therefore are of interest for epigenetic gold mineralization.

The second group of elevated gold assays include 10, 15 and 45 ppb in Holes 26, 153 and 226, respectively. These occurences have variable lithologies and metal associations. Mafic volcanics were intersected in Hole 26 and sheared quartz gabbro in Hole 153. Base metals and silver in these two holes are at background levels. Hole 226 contains mafic volcanic bedrock, and along with the 45 ppb Au, an elevated arsenic value of 274 ppm was obtained. The sample contains seven percent quartz-calcite vein material and eight percent interstitial calcite. Traces of disseminated arsenopyrite account for the arsenic value.

5. OVERBURDEN GEOLOGY

5.1 Quaternary History and Stratigraphy

The Quaternary history of the Abitibi region is poorly documented and is a subject of considerable controversy. Published accounts (e.g. Baker, 1984; Boissoneault, 1966; Hughes, 1959) are based on surficial mapping and on drill holes from a handful of localities. They are invariably simple and generally assume that:

1. All preserved strata were deposited during the Wisconsinan period.
2. The direction of ice advance was similar for all till horizons.
3. All sedimentation occurred during periods of ice recession.

ODM accepted these interpretations for almost ten years. After drilling more than 5,000 holes in the Abitibi region, however, we now recognize the following additional events (Fig. 14):

1. Two pre-Wisconsinan glaciations involving ice flow directions different from those in the Wisconsinan.
2. A Wisconsinan/Illinoian (Sangamonian) interglacial period.
3. Two periods of Wisconsinan sedimentation that occurred during ice advance rather than ice recession.

The recognition of these events has modified our interpretation of heavy mineral anomalies. Some of the events were previously recorded by Skinner (1973) in the Moose River basin 200 km north of the Abitibi area, and we have retained his stratigraphic names where possible. However, it has been necessary to coin new names for some previously unrecognized or unnamed units and events.

To date, only one pre-Wisconsinan glaciation has been recognized in the Abitibi-east area. All known Quaternary strata from the entire Abitibi region are listed in Table 4 and are described in detail below starting with the oldest units. The distribution of the Chapais West units is illustrated in Sections A-A' to N-N'.

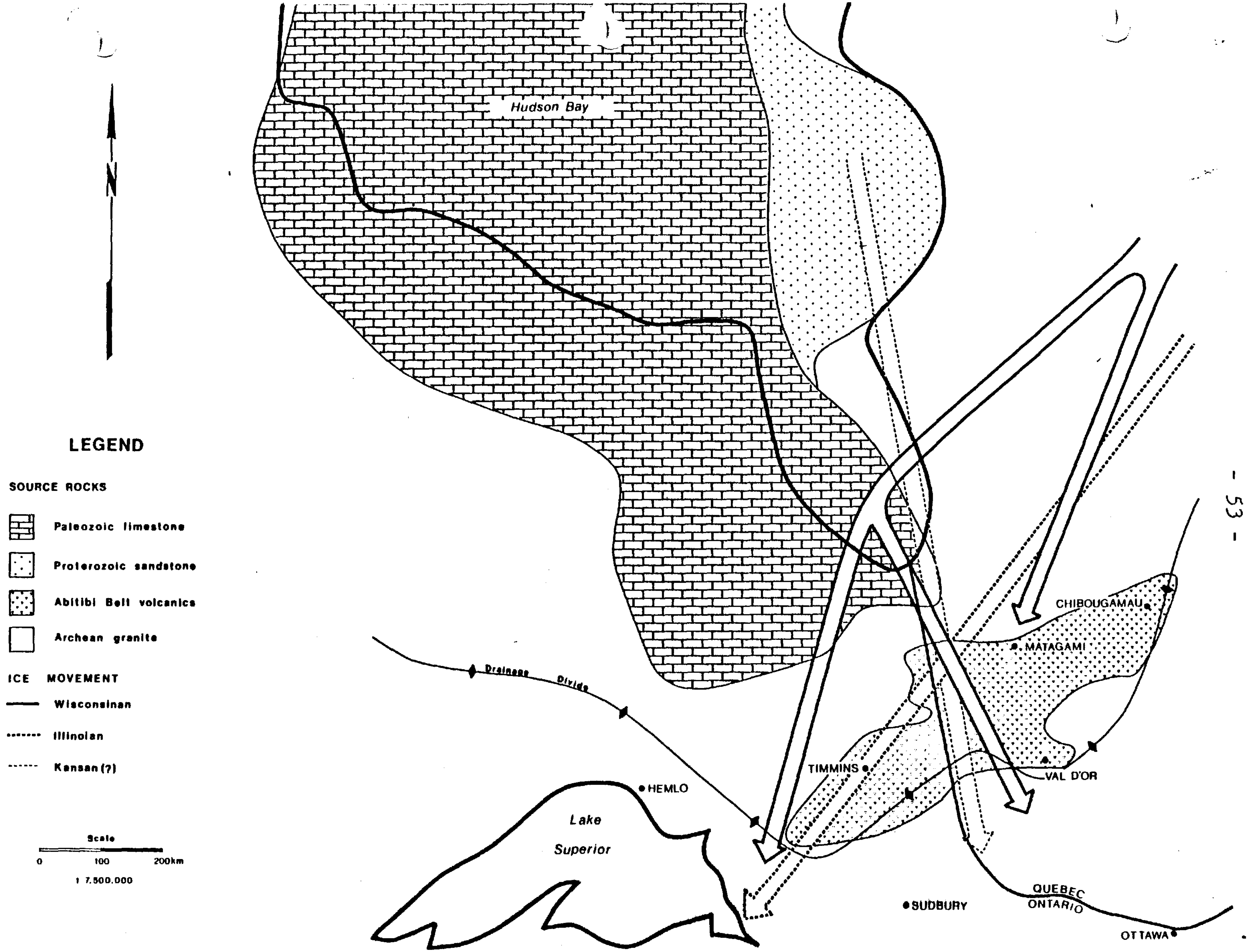


Figure 14 - Glacial History

LEGEND

Quaternary Stratigraphy

LATE WISCONSINAN

7	Cochrane Sediments 7a - glaciofluvial/morainal member 7b - glaciolacustrine member
6	Cochrane Till

WISCONSINAN AND LATE WISCONSINAN

5	Ojibway Sediments 5a - glaciofluvial member 5b - glaciolacustrine clay member 5c - glaciolacustrine sand member 5d - fluvial member
4	Chibougamau/Matheson Till

SANGAMONIAN

3	Missinaibi Sediments 3a - Illinoian glaciofluvial member 3b - Illinoian glaciolacustrine member 3c - Sangamonian interglacial member 3d - Wisconsinan proglacial member

ILLINOIAN

2	Lower Till

KANSAN (?)

1	Older Till and Sediments

Table 4 - Table of Quaternary Formations

Microfilm

PAGE DE DIMENSION HORS STANDARD MICROFILMÉE SUR 35 MM ET POSITIONNÉE À LA SUITE DES PRÉSENTES PAGES STANDARDS

Numérique

PAGE DE DIMENSION HORS STANDARD NUMÉRISÉE ET POSITIONNÉE À LA SUITE DES PRÉSENTES PAGES STANDARDS

5.1.1 Older Till and Sediments (Unit 1)

These pre-Wisconsinan units were not intersected within the Chapais West test area, but do occur in the Casa-Berardi area. They are related to an early glaciation, possibly Kansan, that dispersed Paleozoic limestone and Proterozoic sandstone southward from Hudson Bay into Quebec.

5.1.2 Lower Till (Unit 2)

The name "Lower Till" has been so widely used to describe the oldest till known in the Abitibi region prior to the discovery of the older and still lower unit in the Casa-Berardi area that we have chosen to retain it. Most authors (e.g. Baker, 1984) consider the Lower Till to be of Wisconsinan age but it is overlain by sediments that are partly interglacial and occur in the same relative stratigraphic position as Skinner's (1973) Missinaibi Formation of probable Sangamonian age. We therefore consider the Lower Till to be of Illinoian age.

It has been difficult to establish the direction of Illinoian ice transport because the Lower Till is preserved only as buried lenses in bedrock valleys where it was protected from erosion in the Wisconsinan period. However, reliable measurements have been obtained from two dispersion trains (Selbaie Mine, Quebec and Bowman Township, Ontario) and from striae at three localities (one outcrop south of the Golden Pond deposit and two open pit mines at Owl Creek and Maude Lake, Ontario). These measurements are consistently between 225 and 240 degrees, indicating regular southwesterly ice flow from a Nouveau Quebec centre (Averill, 1986; Fig. 14).

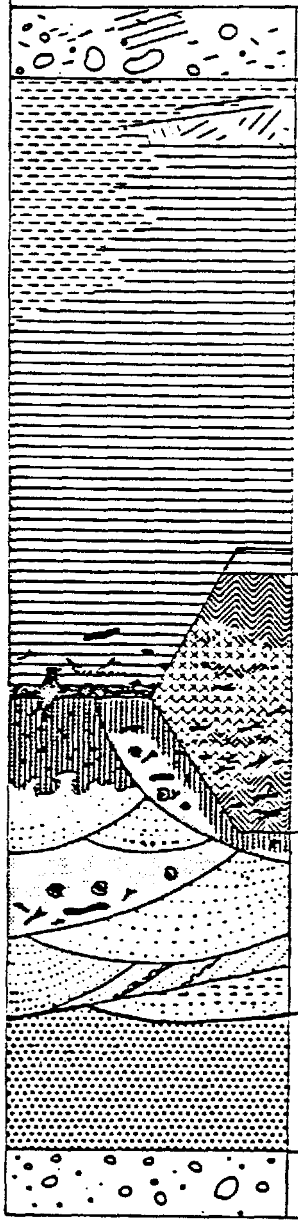
Lower Till throughout the Abitibi region is characteristically thin and contains a high proportion of clasts eroded from Abitibi belt formations. Its matrix consists mainly of fine sand and silty rock flour. Gray clay is not an important matrix constituent and is rarely present as beds in the till or between the till and the oxidized interglacial member of the overlying Missinaibi succession. Taken together, these features indicate that the till developed with the ice in direct contact with bedrock and therefore is an excellent sampling medium. They also indicate that most of the sediment-laden meltwater flowing off the glacier during both ice advance and recession immediately drained northward down the Hudson Bay slope. Unimpeded northward drainage would be expected since the Illinoian ice front trended north-northwest. Wisconsinan melt water, in contrast, became ponded in Lake Ojibway between an east-west trending ice front and the Hudson Bay/St. Lawrence River drainage divide and drained southward over the divide.

Lower Till remnants within the Chapais West test area occur in Holes CW-85-06, 07, 19, 27, 28, 93, 139, 141, 168 and 199 where they are closely associated with Missinaibi Sediments. In all cases Lower Till occurs in bedrock depressions. The majority of the intersections are limited to one hole and they occur across the test area. Lower Till intersections in the central region north of Highway 113 are more laterally extensive (Plan 3). The depression containing Lower Till intersected in Holes 19, 27 and 28 probably resulted from erosion of sheared bedrock associated with the Lamarck Fault. The extent of Lower Till intersected in Holes 06 and 07 is unknown at present due to a lack of drill hole data to the east.

Lower Till intersections range from 0.5 to 6.0 metres in thickness. The till is generally cobbly, exhibits no stratification and contains no clay beds indicating that Illinoian ice did not stand in water during melt-out. The till matrix consists of gray to gray-beige fine sand and silt. Gray-green fine sand and clay in Hole 27 was probably derived from the abrasion of soft, weathered bedrock rather than gray lacustrine clay. Till clast percentages are generally greater than 75% local material. Exceptions are found in the upper half of Lower Till intersections in Holes 07, 19 and 141 where local lithologies only account for 60 to 75 percent of the clasts.

5.1.3 Missinaibi Sediments (Unit 3)

The name "Missinaibi Formation" was applied by Skinner (1973) to a distinctive sedimentary succession (Table 5) occurring between "Adam Till" and



SEDIMENTS	INTERPRETATION	ROCK STRATIGRAPHIC UNITS	
TILL	GLACIATION	ADAM TILL	
NON- TO SLIGHTLY ORGANIC, VERY CALCAREOUS SILT-CLAY RHYTHMITES COMMONLY SHEARED AND FOLDED VERY ORGANIC, LAMINATED TO MASSIVE SILT, SLIGHTLY OR NON-CALCAREOUS	GLACIAL OVERRIDING LITTLE OR NO REWORKING OF FOREST-PEAT-BED. GLACIER PROBABLY AN IMPORTANT SEDIMENT SOURCE REWORKING OF FOREST-PEAT-BED TRANSGRESSION OF PROGLACIAL LAKE	LACUSTRINE MEMBER	MISSINAIBI FORMATION
LAYER OF MOSS, STUMPS, STICKS, AND OTHER PLANT FRAGMENTS BARELY FIBROUS PEAT	↑ PEAT AND FOREST GROWTH ↑	FOREST-PEAT-BED MEMBER	
ZONE OF WEATHERING (VERTICAL LINES) AFFECTS LOWER UNITS AS WELL SAND, SILT, GRAVEL COMMONLY CROSS-STRATIFIED IN PLACES WITH LENSES OF FOSSILIFEROUS SEDIMENT	WEATHERING, SOIL FORMATION STREAM INCISION AND DEPOSITION	FLUVIAL MEMBER	
SAND SILT AND CLAY CONTAINS MARINE FOSSILS.	↑ OFF-LAP OF BELL SEA MARINE INCURSION (BELL SEA) GLACIAL RETREAT	MARINE MEMBER	
TILL	GLACIATION	LOWER TILL	

Table 5 - Stratigraphy of Missinaibi Formation Moose River Basin (after Skinner, 1973)

"Lower Till" in the Moose River Basin. If one counts down in the stratigraphic succession, Skinner's Adam and Lower Tills correlate, respectively, with the Matheson/Chibougamau and Lower Tills of the Abitibi region. If the Missinaibi Formation is present in the Abitibi area, therefore, it should overlie the Lower Till and underlie the Matheson/Chibougamau Till. Twenty percent of Abitibi drill holes have intersected a Missinaibi-like unit in the expected position. We use the informal name "Missinaibi Sediments" for this unit.

The complete Missinaibi section at the Moose River type locality comprises four members:

1. A basal marine clay unit related to the incursion of the Bell Sea (i.e. glacial Hudson Bay) in the interval between Illinoian (?) ice withdrawal and isostatic rebound.

2. An overlying fluvial (not glaciofluvial) sand and gravel unit that was deposited by streams flowing northward down the Hudson Bay slope in an interglacial period, presumably the Sangamon.

3. A weathered soil profile and forest-peat horizon from the same interglacial period.

4. An upper glaciolacustrine varved clay/silt/sand unit that was deposited by Wisconsinan ice advancing through Lake Ojibway I which was dammed proglacially on the Hudson Bay slope.

The marine member at Moose River is thin and has generally been eroded. Its former existence is inferred mainly from marine shells that have been reworked into younger members. The fluvial member is up to 8 m thick but is discontinuous. It is generally oxidized and often contains detrital wood. The peat layer in the forest-peat horizon is up to 2 m thick, similar to modern peat bogs, while the forest layer is typically 2 to 5 cm thick and contains stumps up to 12 cm diameter, similar to much of the modern forest layer in the area.

All of the Moose River members except the basal marine clay are present in the Abitibi region. The marine member is absent because the Bell Sea did not extend this far south and east. In its place should be discontinuous glaciofluvial and glaciolacustrine members associated with the Illinoian recession, although these units have not been recognized in any drill holes.

The forest-peat member is rare in Abitibi intersections because the sediments are preserved mostly in buried valleys that were probably occupied by small lakes rather than forests and peat bogs in the Sangamonian interglacial. Most preserved examples are at higher elevations on the protected lee (down-ice) slopes of bedrock highs.

The upper glaciolacustrine member of Lake Ojibway I is much more prominent, with up to 30 m remaining after overriding by the Wisconsinan glacier. In terms of its thickness, it is similar to the Ojibway II sediments that were deposited during the recession of the same glacier. However, the overriden clays are tough, dry, compact and platy while the Ojibway II clays remain soft even at the base of thick sections.

Missinaibi Sediments on Chapais West are coincident with all intersections of Lower Till and locally rest on bedrock where Lower Till is absent (Holes 26, 209, 210). Intersections of Missinaibi Sediments within younger Chibougamau Till, indicating dislocation of coherent sheets, occur in Holes 139 and 141.

Missinaibi Sediments vary from 0.5 to 7.5 m in thickness and typically average 3 m. Within the Chapais West test area the full Casa-Berardi type succession of Missinaibi Sediments -- oxidized sand and gravel overlain by unoxidized, upward coarsening clay, silt and sand — is not evident in any one drill hole. The intersections here consist of either interbedded sand and gravel (Holes 07 and 19) or sand alone (Holes 06, 26, 27, 28 141 and 210) or interbedded sand and clay (Holes 139 and 209) or clay alone (Holes 93, 168 and 199).

The interbedded sand and gravel sections are probably fluvial interglacial rather than glaciofluvial. Their irregular interbedded nature is typical of a fluctuating interglacial environment whereas esker sediments normally coarsen systematically downward. Sample concentrates from these sections are slightly oxidized and lack sulphides. For similar sections in the Casa-Berardi area the dissolved pyrite has often been reprecipitated as marcasite. The paucity of marcasite at Chapais West could result from a well drained interglacial fluvial environment and thus is not evidence of a glaciofluvial origin. The clay, sand and interbedded clay and sand units are Skinner's upper glaciolacustrine member marking the onset of the Wisconsinan period. The sand sections are unoxidized and contain no organics but do contain fresh pyrite. Where present, the clay unit is typical of the upper glaciolacustrine member of the Missinaibi throughout the Abitibi region, being dry, compact and platy. The clay is so tough that it is known as "super clay" in the drilling industry. Its dry, compact condition reflects burial under thousands of meters of ice, and is the principal evidence that the overlying Chibougamau Till was deposited in the main glaciation of the Wisconsinan period.

5.1.4 Chibougamau Till (Unit 4)

The thick glaciolacustrine member of the Missinaibi Sediments in the Casa-Berardi area was able to accumulate because the front of the approaching Wisconsinan glacier 100,000 years ago trended east-west, damming the natural northward drainage of meltwater and causing a major proglacial lake -- Lake Ojibway I -- to form between the ice and the Hudson Bay/St. Lawrence River drainage divide. The glacier then advanced through the lake, overriding and eroding the bottom sediments. In Late Wisconsinan time, 10,000 years ago, the glacier melted northward. The orientation of the ice front remained east-west as the ice crossed the drainage divide and meltwater was again ponded on the Hudson Bay slope, forming lake Ojibway II. Once in the lake, the receding glacier separated into two distinct lobes along a north-south line passing through the approximate sites of the present towns of Val d'Or and Matagami. The esker-like Harricana Moraine (Dyke et al, 1982) was deposited between the two lobes. The eastern lobe involved southwestward ice movement and deposited Chibougamau Till. The western lobe involved southeastward ice movement and deposited Matheson Till (Fig. 14).

The Chapais West area was on the southwest edge of Lakes Ojibway I and II where the water was very shallow and thin sandy sediments were deposited. The Casa-Berardi area was in the middle of the lakes where the water was more than 100 metres deep and thick ice-proximal sands and ice-distal clays were deposited. This results in several significant differences between the Chibougamau Till at Chapais West and the Matheson Till at Casa-Berardi:

1. Chibougamau Till is relatively thin, averaging 1 to 5 m whereas Matheson Till is typically 10 to 20 m thick reflecting the availability of thick easily eroded Ojibway I bottom sediments.

2. Sheets of super clay and sand ripped up from the lake bottom are much more common in the Matheson Till than in the Chibougamau Till.

3. Sheets in the Chibougamau Till are sand whereas those in the Matheson Till are mostly clay.

4. The character of the Matheson Till matrix oscillates rapidly from clay-rich to sandy. The Chibougamau Till is consistently sandy.

5. The upper half of the Matheson Till section is often bedded, consisting of alternating layers of water laid, clast-poor till-turbidite, soft glaciolacustrine clay and glaciofluvial/glaciolacustrine sand. No stratification was observed in Chibougamau Till.

The Chibougamau Till in the eastern portion of the project area (Dolomieu Twp) is relatively thin and discontinuous, forming a thin surface veneer between small sporadically scattered outcrops especially in the extreme southeast where bedrock exposure averages approximately 10 percent (Plan 2). Its thickness averages 2 to 3 metres with individual intersections up to 17 metres. Of the 83 reverse circulation drill holes in Dolomieu Township, eight (10 percent) did not intersect till. Portions of the this area therefore were not adequately tested for subcropping mineralization.

To the west, in Saussure Township, south of Highway 113, the average till thickness increases to approximately 10 metres but the till is still discontinuous due to undulations in the bedrock surface. Till was not intersected in 6 of 49 reverse circulation drill holes (12 percent). These holes are evenly distributed across the area and do not significantly diminish the effectiveness of the exploration coverage. Exposures of till are less frequent as a thin surface veneer of sand and clay is present. North of Highway 113 the thickest intersections of Chibougamau Till are found (Plan 3), reaching a maximum of 49 metres (Hole 28) and averaging approximately 35 metres (Sections B"-C and C'-C"). A drumlinoid profile is evident in the till surface in Hole 06 (Section C'-C") where the till is underlain by Missinaibi Sediments. ODM has observed that drumlins will not form over folded, Archean rocks if intervening horizontally bedded Quaternary sediments are not present.

In the La Ribourde Township portion of the project area, Chibougamau Till has been completely removed or considerably thinned by a northeast-southwest trending fluvial scour channel (Plan 3). Of the 95 reverse circulation drill holes in this township, thirteen did not intersect Chibougamau Till and seven of these are within the scour channel. The remaining 6 holes are north of the scour channel and are associated with bedrock highs. The complete removal or severe thinning of till over a wide area (Sections A-A', E-E") limits the effectiveness of the exploration coverage.

The Chibougamau Till north of the scour channel is extensively exposed at surface and averages approximately 10 metres in thickness with individual intersections of up to 28 metres (Hole 70). Surface exposure of the till is also evident just north of the project area where drumlins indicate regional ice flow along a 213 degree azimuth (Plan 3). The presence of the drumlins suggests extensive preservation of older Missinaibi Sediments in this area.

South of the scour channel, Chibougamau Till is covered by a thin veneer of clay. Till thickness averages approximately 10 metres with individual intersections of up to 19 metres. The till horizon is more laterally continuous than in the north.

The till matrix material consists largely of beige to gray-beige fine grained sand and silt rather than clay, reflecting the shallow depth of Lake Ojbway I in this area. Abundant matrix clay occurs only in Hole 81 and alternating sections of clay-rich and sandy till occur only in Hole 209 where the till is underlain by Missinaibi superclay (Plan 3). Intersections of dislocated sediment sheets within the till are found only in Holes 06, 139 and 141. The only example of clay sheeting is a 0.5 metre section of gray compact clay near the top of the till in Hole 06. Sand sheeting occurs in Holes 139 and 141 where respective thicknesses of 4 and 1 metres of fine-grained beige sand occur within a thick section of Chibougamau Till underlain by Missinaibi sand.

The Chibougamau Till contacts bedrock in 192 of the 200 holes (96%) in which it was intersected. The relative thinness and sandy character of the till indicate that it was derived more from the direct erosion of bedrock than from recycling of Missinaibi Sediments, making it an effective medium for heavy mineral geochemical exploration. The ratio of Abitibi belt to granitic clasts averages 60:40 in the upper portion of the till and rises to 85:15 within 1 to 5 metres of the bedrock surface.

5.1.5 Ojibway Sediments (Unit 5)

Sediments related to Lake Ojibway II on Chapais West (Unit 5) include the following subunits:

- 5a Glaciofluvial De Geer moraine sand, gravel and melt-out till deposited concurrently with Chibougamau Till.
- 5c The lower proximal sand member of the Ojibway II lake bed.
- 5b The upper distal clay-silt member of the Ojibway II lake bed.
- 5d A fluvial, upward fining sand and gravel sequence deposited during the draining of Lake Ojibway II.

The glaciofluvial member (Subunit 5a) forms numerous De Geer moraines across the project area. These moraines are best exposed in the eastern region where they form a series of sinuous semi-continuous ridges trending northwest-southeast (Plan 3). The ridges are 0.5 to 1.0 kilometre in length and average 5 to 7 metres in height with a base of 30 to 40 metres and a consistent ridge separation of 150 to 200 metres.

The current theory is that De Geer moraines are recessional ice-front features formed by annual ice calving (Fairbridge, 1968). Crevasses formed during ice calving were infilled with sand and gravel and lesser amounts of melt-out till. In low lying areas De Geer moraines would be covered by glaciolacustrine clays and sands making their identification difficult from reverse circulation drill hole data.

The lower portion of the glaciolacustrine sequence (Subunit 5c) is a sand section found intermittently throughout the project area but not as extensively as the overlying clay-silt member (Subunit 5b). Surface exposures are limited but occur extensively in the extreme eastern portion of the area and to a limited extent in the west-central region (Plan 3). Both of these areas are closely associated with De Geer moraines (Subunit 5a) and the sand probably includes some glaciofluvial component. The sand is exclusively underlain by Chibougamau Till with the exception of Hole 40 where it rests directly on bedrock. Its average thickness is 2 metres with individual intersections of up to seven metres. The sand is beige and fine-grained with localized thin clay beds and grades conformably into the overlying clay and silt subunit.

The most extensive exposures of the upper clay-silt member (Subunit 5b) are in the central and western regions south of the fluvial scour channel where the clay floors small swamps. The surface topography here is lower than in other parts of the project area, and Lake Ojibway II was deeper. Approximately 30 percent of the clay intersections are conformably underlain by sand (Subunit 5c) and 70 percent are conformably underlain by Chigougamau Till. The clay subunit averages 1-2 metres in thickness with a maximum intersection of 7 metres (Hole 91) and consists of a downward coarsening sequence of gray-beige, soft, smooth distal clay grading into more proximal beige silt.

The fluvial member (Subunit 5d) represents an earlier phase of the present Chibougamau River and is the final major depositional event to occur within the project area. It forms a 1 kilometer wide, northeast-southwest trending ribbon that alternately coincides with the diverges from the present course of the Chibougamau River in the north-central region (Plan 3) and coincides with Ruisseau Alouettes in the southwest.

The present Chibougamau River follows the bedrock depression of the Lamarck fault and it is speculated that a pre-Wisconsinan river carved the channel. Flow is southwestward through the drill area, thence northward down the Hudson Bay slope. Late Wisconsinan till melt out resulted in damming of the narrow gap between the bedrock walls of this channel just south of the mouth of the Ruisseau Alouette. Remnants of this dam till are clearly visible on air photo stereo-pairs of the area. When the receding Wisconsinan ice front reached Hudson Bay, the southward outlet of Lake Ojibway II between Noranda and Kirkland Lake was abandoned in favour of northward channels and the lake level fell catastrophically. Drainage across the emerging lake bottom in the Chapais West area was via the Chibougamau River along the early scour channel route. As the water supply diminished, the scour channel was infilled with fluvial sediments. Eventually the till dam on the south edge of the channel was breached and the Chibougamau River began to follow its present course. In the beheaded southwestern part of the of the old channel, the drainage direction was reversed and the modern northeast-flowing Ruisseau Alouettes was formed.

The lower portion of the scour channel section consists of alternating coarse sand and gravel beds gradually fining upwards to fine beige sand. Chibougamau Till has been completely removed in Holes 32, 34, 62, 65, 68, 97 and 98 and thinned to less than 2 metres in Holes 46, 89, 90, 91, 92, 94, 95 and 96. Any dispersion trains emanating from the north-northeast would also have been partly or completely removed.

5.1.6 Cochrane Till (Unit 6) and Cochrane Sediments (Unit 7)

The final glacial event in the Abitibi, before the draining of Lake Ojibway II, was a minor southeastward readvance of the Matheson lobe into the northern part of the lake. This event is known as the Cochrane Stage (Prest, 1964). Clay eroded from the lake bottom was redeposited as Cochrane Till and a new layer of glaciolacustrine clay and sand that we call Cochrane Sediments was deposited over the till. The Cochrane advance terminated in the Joutel-Matagami area and Cochrane Till and Cochrane Sediments therefore are not present at Chapais West.

6. OVERBURDEN GEOCHEMISTRY

6.1 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, 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 (Appendix C). 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. Thus the range of assays produced in a "standard" reverse circulation concentrate by a single gold flake of varying size is as follows:

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+

It is apparent from the above figures that till concentrates that contain no free gold will assay less than 10 ppb provided auriferous sulphides are 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, suggesting the presence of one to five gold particles in the 50 to 150 micron range or/and of auriferous sulphide minerals. Ten to fifteen percent of samples contain a coarser gold grain that produces an assay over 1000 ppb.

Thick gold particles do not separate well from magnetite on the table, and in more than 80 percent of the cases where a high assay has been reported for a sample in which we did not see gold, the assay was caused by a single thick gold particle coarser than 150 microns. This is relatively easy to prove by panning the retained 1/4 concentrate and assaying it (the 3/4 concentrate either is destroyed or is not available for four months after analysis), preferably by the non-destructive neutron activation method. If the 3/4 concentrate assay was caused by a single gold grain, the 1/4 assay will be low. If the assay was caused by fine gold, a large number of grains would be required. Several such grains will be visible when the 1/4 pan concentrate is panned and this concentrate should assay the same as the 3/4 concentrate . If the 3/4 assay was caused by invisible gold in sulphides, the 1/4 concentrate will normally contain more than 10 percent pyrite plus elevated levels of another sulphide mineral such as arsenopyrite, galena, chalcopyrite or molybdenite, and will assay the same as the 3/4 concentrate.

6.2 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 reverse circulation drill hole separation of 100 metres would be needed to detect the deposits. However, most of the deposits have sub-ore strike extensions that increase the total mineralized length to three to four times the deposit length. If a low anomaly threshold is used and careful gold grain counts are made, the mineralized zones 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, and we prefer to pan concentrates in which any gold is seen or in which pyrite levels are sufficient (+20 percent) to interfere with the table gold count.

The base metal background of a heavy mineral concentrate, and particularly of a high-density methylene iodide concentrate, is higher than that of a whole 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 700 ppm. Because methylene iodide 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 same deposits average 35 ppm (1 ounce/ton) silver, and the silver anomaly threshold corresponding to 700 ppm Cu or Zn is about 2 ppm. The anomaly threshold level for arsenic is about the same as for Cu and Zn but only those anomalies having a gold association are significant.

6.3 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 1) 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 in adjacent drill holes was at 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).

6.4 Properties of a Free Gold Dispersion Train

Ten 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, 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 1) and gold particles become abraded after one km of ice transport (Fig. 5), the shape of the gold particles is either irregular or delicate.

Background nugget anomalies, unlike dispersion trains, do not normally repeat in the section, although with 15 percent of samples containing anomalies of this type, chance repetition does occur. Another property common to dispersion trains of all types is the presence of pathfinder minerals because most mineralized zones are multi-metallic. Even deposits that are considered to be strictly free gold occurrences generally have 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.

6.5 Properties of an Invisible Gold Dispersion Train

We have encountered only one invisible 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 invisible 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 most other respects, however, invisible gold dispersion trains are easier to trace than free gold dispersion trains. The following specific advantages are citec:

1. A pathfinder mineral association is always present.

2. The pathfinder minerals 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 generally 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. Invisible 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 free gold. Conventional geochemical analysis should be used if sulphide gold targets are expected.

6.6 Chapais West Heavy Mineral Gold Anomalies

Forty-five of the one thousand one hundred and six overburden samples (4.1 percent) produced gold assays over the 1,000 ppb anomaly threshold compared to the 10-15 percent Abitibi norm. Eleven additional samples containing visible gold would have given assays over 1,000 ppb if the coarsest gold grain had entered the 3/4 analytical split of the concentrate. No samples yielded more than the minimum 10 grains required for a free gold dispersion train. Forty-four drill holes (19 percent) contain anomalous samples, and gold grains were observed in eighty-nine of the samples (8 percent). These statistics alone suggest that most of the anomalies are due to background nugget noise. Most of the anomalies are clustered in the east-central part of the drill area where the Chibougamau Till is thin.

Fig. 15 is a diagrammatic representation of the Chapais West overburden gold anomalies. In this figure the forty-four holes that contain anomalous levels of gold are plotted INPUT-fashion. Where two or more anomalies are present in a hole, the best anomaly is shown. The cross-hair indicates a gold content greater than or equal to the 1,000 ppb (measured or calculated) or 10 grain/sample anomaly threshold levels. 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, greater than 50 percent of the visible gold being delicate and stratigraphic continuity, 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 6. In some cases anomalies are discounted for more than one reason.

One screening method is to eliminate anomalies which have no stratigraphic continuity. In this regard, anomalies at the base of a till horizon are assumed to have stratigraphic continuity as are anomalies in single sample till horizons. 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 lack of stratigraphic continuity may be due to the presence of a single nugget or an erratic, high concentration of gold grains, especially in placer beds in Missinaibi gravels or at the washed surfaces of till horizons.

A second phase of anomaly screening is the calculation of assays (Appendix C) using the formula/parameters discussed in a previous chapter. 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

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Gold Anomalies				Grains V.G. (*Not Panned)	1st Phase Screening (No. Strat. Cont.)	2nd Phase Screening (Good Corr./ Low Assay)	3rd Phase Screening (Inferred Nugget)	Remarks
Hole No.	Sample No.	Au Assay (ppb) Meas.	Calc.					
CW-85 06	08	1,260	1,592	1*	X	X	-	
	24	30	4,291	1*	X	X	-	Pulp and metallics assay, check panned, no V.G., nugget lost.
07	09	3,530	1,719	1*	X	X	-	
09	02	2,380	731	1*	X	High	X	Check panned, no V.G.
	04	10,880	4,086	1*	X	High	X	Check panned, no V.G.
	08	1,720	129	1*	X	High	X	Check panned, V.G., 1A @ 50 x 75
10	03	4,430	NA	0*	X	High	X	Check panned, no V.G., 5% py.
12	03	1,250	1,299	2	X	X	-	
21	01	1,120	NA	0*	X	High	X	Check panned, no V.G., conc. 10.0 g
22	03	1,170	NA	0*	X	High	X	Check panned, no V.G.
27	12	3,920	NA	0*	X	High	X	Check panned, no V.G., 10% py.
	19	1,600	6	1	X	High	X	Check panned, no V.G., 15% py., no pathfinder.
28	14	2,155	NA	0*	X	High	-	Check panned, no V.G., 5% py.
30	01	20	2,931	1*	X	X	-	Pulp and metallics assay, check panned, no V.G., 3% py.
	13	1,030	NA	0*	X	High	X	Check panned, no V.G., 3% py.
47	02	160	5,024	1*	X	X	Found	Pulp and metallics, check panned, original 1A @ 400 x 400 grain found
49	02	4,270	3,360	3	X	X	-	
54	03	13,210	5,329	4	Basal	High	X	Pulp and metallics assay, check panned, no V.G., 15% py.
88	03	2,040	1,060	3	Basal	X	-	
89	07	1,290	311	1*	X	High	X	Check panned, no V.G., conc. 8 g.
	13	3,660	1,413	1*	X	X	-	
101	05	5,930	2,584	1*	Chance	High		Check panned, no V.G.
	06	6,730	4,297	2	Chance	X	-	
103	02	1,080	263	1*	X	High	X	Check panned, no V.G.
105	01	7,040	3,567	1*	Basal	X	-	
110	09	1,000,000	NA	0*	X	High	X	Check panned, no V.G., 5-10% py.
111	01	6,050	NA	0*	Basal	High	X	Check panned, no V.G., 20% py., no pathfinder.
112	01	15,425	NA	0*	X	High	X	Check panned, no V.G., 5-10% py., conc. 5 g.
	03	11,380	13,339	1	Basal	X	-	
113	01	2,680	1,178	1*	Chance	High	-	Check panned, no V.G., conc. 9 g.
	02	1,300	144	1*	Chance	High	X	Check panned, original 1A @ 125 x 125, 3% py.
115	03	20	1,768	1*	Chance	X	-	Pulp and metallics assay, check panned, no V.G. or sulph., only nugget lost
	04	3,620	NA	0*	Chance	High	X	Check panned, no V.G., 1% py., 11 g conc.
138	05	50	37,534	1	Basal	X	-	Check panned, no V.G., 8 gm conc.
140	03	2,070	83	1*	Basal	High	X	Check panned, no V.G.
141	09	20,830	10,812	1*	X	X	-	
142	10	290	1,297	3	X	X	Found	Pulp and metallics assay, check panned, original 1A @ 250x250 grain found
143	06	1,980	197	1	X	High	X	Check panned, no V.G., 15% py., no pathfinder.
146	01	2,185	NA	0*	Basal	High	X	Check panned, no V.G., conc. 6 g.
157	01	1,310	81	1*	Basal	High	X	Check panned, original 1A @ 150x75 grain found
161	09	1,340	860	1	X	X	-	
163	02	1,005	NA	0*	X	High	X	Check panned, no V.G., 10% py.
170	04	1,480	611	1	Basal	High	X	Check panned, no V.G., 25% py., no pathfinder.
176	18	1,260	631	1	X	X	-	

Table 6 - Gold Anomaly Discrimination for Samples with Calculated or/and Measured Assays over 1000 ppb or/and More than 10 Grains Visible Gold

Gold Anomalies				Grains V.G. (*Not Panned)	1st Phase Screening (No. Strat. Cont.)	2nd Phase Screening (Good Corr./ Low Assay)	3rd Phase Screening (Inferred Nugget)	Remarks
Hole No.	Sample No.	Au Assay (ppb) Meas.	Calc.					
CW-85- 181	03	170	2,264	1	X	X	-	Pulp and metallics assay, check panned, no V.G. or sulph., nugget lost.
191	03	1,750	2,081	2	Basal	X	-	
192	07	1,680	1,701	1	Basal	X	-	
195	07	850	3,328	1	Basal	X	Found	Pulp and metallics assay, check panned, original 1A @ 300x400 grain found
197	02	1,080	2,405	1	X	X		Pulp and metallics , check panned, no V.G.
	09	4,700	NA	0*	X	High	X	Check panned, 1A @ 75 x 100 found
199	03	5,290	NA	0*	Chance	High	X	Check panned, no V.G., conc. 10 g.
	04	30	3,370	1	Chance	X	-	Pulp and metallics assay, check panned, no V.G., conc. 6 gms
205	01	50	1,613	1*	X	X	X	Pulp and metallics assay, check panned, no V.G., 1% py.
206	02	3,690	270	1*	X	High	X	Check panned, no V.G., conc. 7.2 g.
218	02	290	10,941	2	X	X	Found	Pulp and metallics, check panned, original 1A @ 400 x 950 grain found
222	01	1,190	NA	0*	Basal	High	X	Check panned, no V.G., conc. 3.7 g.

Table 6 - Gold Anomaly Discrimination for Samples with Calculated or/and Measured Assays over 1000 ppb or/and More than 10 Grains Visible Gold

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 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 indirect elimination of nugget anomalies. Table 6, 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.

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 (Table 7). An absence or minimal amount of fine visible gold or less than ten percent sulfides in the 1/4 concentrate 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.

Using the screening processes described, the majority of Chapais West anomalies can be confidently discounted. Single sample anomalies are most easily discounted. If three adjacent anomalous samples in a thick overburden section are considered, more difficulty may be encountered in relegating the results because of their apparent stratigraphic continuity. However, one anomaly may be due entirely to a single nugget observed initially. Another may be due to five or six background grains with a good correlation of measured and calculated assays. This leaves a single sample anomaly now having no stratigraphic continuity. The high frequency of background gold grains makes chance repetition of nugget anomalies in adjacent samples common. For multiple sample anomalies to be considered dispersion from a unique source, each anomalous sample must have the same parameters (i.e. type, size and shape of gold, pathfinder elements, etc.).

6.6.1 Visible Gold Anomalies

Sufficient visible gold was seen in twenty-six (46 percent) of the fifty-six anomalous samples to explain the assays obtained (Good Correlation or Low Assays in Table 6).

Fourteen of the anomalies show Good Correlation; nine of these have only one gold grain present and are clearly of the background nugget type. Six of the one-grain occurences also have no stratigraphic continuity and three are from basal samples. None have a pathfinder mineral or element association.

Hole No.	Sample No.	Strat. Cont.	3/4 H pulp (grams)	V.G.+ Sulp. in 1/4 conc.	Remarks
		GROUP 1: TABLE GOLD PRESENT			
CW-85- 09	02	No	12.0	No V.G.	Missed nugget
	04	No	12.8	No V.G.	Missed nugget
	08	No	16.8	1A @ 75 x 50	Probable nugget
27	19	No	11.1	No V.G., 15% py.	Sulp. gold/missed nugget
54	03	Basal	31.2	No V.G., 15% py.	Sulp. gold/missed nugget
89	07	No	9.2	No V.G.	Missed nugget
101	05	Chance	18.5	No V.G.	Missed nugget
103	02	No	16.3	No V.G.	Missed nugget
113	01	Chance	9.9	No V.G.	Missed nugget
	02	Chance	7.8	1A @ 125x125	Probable nugget
140	03	Basal	21.0	No V.G.	Missed nugget
143	06	No	18.8	No V.G., 15% py.	Sulp. gold/missed nugget
157	01	Basal	19.6	1A @ 150x75	Probable nugget
170	04	Basal	36.4	No V.G., 25% py.	Sulp. gold/missed nugget
206	02	No	8.0	No V.G.	Missed nugget
		GROUP 2: NO TABLE GOLD PRESENT			
10	03	No	18.3	No V.G.	Missed nugget
21	01	No	11.6	No V.G.	Missed nugget
22	03	No	16.1	No V.G.	Missed nugget
27	12	No	19.3	No V.G., 10% py.	Sulp. gold/missed nugget
28	14	No	22.7	No V.G.	Missed nugget
30	13	No	16.5	No V.G.	Missed nugget
110	09	No	11.9	No V.G.	Missed nugget
111	01	Basal	14.9	No V.G., 20% py.	Sulp. gold/missed nugget
112	01	No	7.6	No V.G.	Missed nugget
115	04	Chance	12.7	No V.G.	Missed nugget
146	01	Basal	14.3	No V.G.	Missed nugget
163	02	No	21.5	No V.G., 10% py.	Sulp. gold/missed nugget
197	09	No	10.5	1A @ 100x75	Missed nugget
199	03	Chance	12.6	No V.G.	Missed nugget
222	01	Basal	3.7	No V.G.	Missed nugget

TABLE 7: Visible Gold With or Without Sulphides in Panned 1/4 Concentrates of Samples With High Measured Assays

Of the remaining five anamalous samples with Good Correlation, three contain two gold grains and two contain three gold grains. In all cases the gold is abraded, vari-sized and does not have any pathfinder association. In addition, two of these multi-grain anomalies have no stratigraphic continuity, one shows chance continuity with another anomaly and two are from basal samples.

Twelve of the samples in which sufficient visible gold was seen to account for the anomalies have Low Assays suggesting that not all of the observed gold was in the analyzed 3/4 concentrate. In all twelve samples one or more gold nuggets over 150 microns was observed during initial processing and a pulp and metallics assay was made to allow for the problem of nugget smearing during pulping. In Sample 197-02 the difference between the calculated and measured assays is just over the limit for good correlation indicating that the sighted nugget was thinner than normal. Check panning of the 1/4 concentrates of four other samples produced the original nuggets. In the remaining seven samples, the original nuggets -- one in each sample -- must have been lost at some point during sample processing. This could have occurred at any one of three stages.

1. While ODM was studying the grains under the microscope.
2. While Bondar-Clegg was screening the coarse metallics from the pulped 3/4 concentrate.
3. While ODM was check panning the 1/4 concentrates.

There is no evidence for loss during microscope examination as all the nuggets are coarse and not difficult to handle.

Loss during check panning is considered improbable because the pan rejects were re-panned as many as three times if the nuggest could not be found on the first attempt.

There is considerable evidence that most of the loss occurred during pulp and metallics processing. Bondar-Clegg is supposed to use a very short pulping time that would normally reduce only 10 to 20 percent of any nugget gold to -150 mesh and leave 80 to 90 percent of it as flattened metallics in the +150 mesh fraction. Very low +150 mesh weights for Samples 30-01 (0.01 grams) and 115-03 (0.18 grams) indicate a much longer pulping time was used. This would probably smear the gold nugget on the sides of the shatter box and possibly carry it over into the next sample. A 40,000 ppb assay was reported for the +150 mesh fraction of Sample 30-01, confirming the presence of coarse gold, but a 65 micron flake would produce this assay since the +150 mesh portion is so small. A much larger 125 x 650 micron nugget was seen in the original sample.

For Samples 06-24, 138-05, 181-03, 199-04 and 205-01 the expected 20 percent of the gold is in the fines but little or no gold is present in the +150 mesh fraction. This suggests that the metallics were somehow lost while being transferred from the pulping and sieving equipment to analytical vessels.

6.6.2 Unexpected Gold Anomalies

Little or no gold was seen while processing thirty samples that gave assays over 1,000 ppb (High Assay category). Fire assay/atomic absorption analysis precludes check panning of the 3/4 concentrates. Check panning results of the retained 1/4 splits are summarized in Table 7.

Visible gold was observed during initial processing of fifteen of the High Assay samples (Group 1). No additional visible gold or sulphide values over ten percent were noted during 1/4 concentrate check pannings of eight of these samples clearly indicating the presence of a nugget missed during processing.

Four of the remaining seven 1/4 concentrates (Samples 27-19, 54-03, 143-06 and 170-04) did not contain visible gold but sulphide values are fifteen percent and over. Samples 27-19 and 143-06 have no stratigraphic continuity and the anomalies therefore are not significant. Samples 54-03 and 170-04 are from the basal portion of the Chibougamau Till and could theoretically represent dispersion of invisible sulphide gold from nearby sources. However, neutron activation check analysis of the 1/4 concentrates returned low gold values of 210 and 90 ppb respectively, indicating that the anomalies were caused by missed nuggets. Each of the three remaining samples (09-08, 113-02 and 157-01) contained one abraded gold grain in the 1/4 concentrate -- insufficient for a significant dispersion train. In addition, Samples 09-08 and 113-02 can be discounted due to a lack of stratigraphic continuity. Sample 157-01 has basal continuity but only a low sulphide concentration (5 percent) and no pathfinder association.

No visible gold was observed during the initial processing of fifteen of the High Assay samples (Group 2). No visible gold or sulphide values over ten percent were noted during 1/4 concentrate check pannings of eleven of these samples, clearly indicating the presence of a nugget that was missed during processing. In addition, seven of these samples have 3/4 concentrate weights under fifteen grams. One small gold grain in a small concentrate can produce a large measured assay.

Three of the remaining four 1/4 concentrates (Samples 27-12, 111-01 and 163-02) did not contain visible gold but sulphide values are between ten and twenty percent. Samples 27-12 and 163-02 have no stratigraphic continuity and therefore are not considered significant. Sample 111-01 is from the basal portion of the Chibougamau Till and the anomaly could theoretically represent dispersion of invisible sulphide gold from a local source. However, neutron activation check analysis of the 1/4 concentrate returned a low gold value (250 ppb) indicating that the anomaly was caused by an unsighted nugget.

The 1/4 concentrate of Sample 197-09 did contain one abraded gold grain but this anomaly can be discounted due to the abraded nature of the gold and a lack of stratigraphic continuity.

6.7 Chapais West Heavy Mineral Arsenic, Silver and Base Metal Anomalies

Twenty-eight of the 1,106 overburden samples (2.4 percent) from twenty-one overburden drill holes (9.3 percent) produced assays over anomaly threshold levels for arsenic, copper, zinc (all 700 ppm) or silver (2 ppm). Fig. 16 is a diagrammatic representation of these anomalies. In this figure the twenty-one holes that contain anomalies are plotted INPUT - fashion. Where two or more anomalies are present in a hole, the best anomaly is shown. Quadrants one through four (clockwise from upper right) represent greater than or equal to 700 ppm Cu, Zn and As and greater than or equal to 2 ppm Ag respectively.

As numerous anomalous samples and holes are present, a limited screening process, similar to that previously used for gold anomalies, can be employed to separate background noise from those anomalies which are, or may be, related to significant mineralized sources. The screening process and discredited anomalies are listed in Table 8, and the remaining anomalies are shown in Fig. 17. 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. Seven of the arsenic, silver and base metal anomalies have no stratigraphic continuity. All of these anomalies are weak with the exception of a 30 ppm silver spike in Sample 110-09. However, this sample also assayed over 1,000 ppm (1,000,000 ppb) gold and it is normal for gold to contain up to 20 percent alloyed silver.

A second screening method is the direct mineralogical elimination of anomalies. The retained 1/4 concentrates were visually examined under a binocular microscope to ascertain the percentages of copper, zinc, silver and arsenic minerals present relative to the percentage 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. Anomalies can be eliminated where the percentage of iron sulphide is greater than ten percent and the percentage of copper or zinc minerals is less than 0.1 percent. Nine of the twenty-eight anomalies are in this category.

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Hole No.		mple No.	Strat. Cont.	Strat. Unit	Assay Values (pp				1/4 H. M.C.	Remarks
					Cu	Zn	Ag	As		
CW-85-	05	10	Basal	C. Till	2,980	90	1.1	134	35% cubic py., 0.5% cpy.	Poss. train
	06	20	No	C. Till	776	70	0.4	832	-	-
	08	08	Yes	C. Till	735	1,600	0.6	165	10% py., L0.1% cpy., 1-2% qtz.-py. vein cuttings with 10% f.g. red sphal.	Weak train
		09	Yes	C. Till	881	310	0.6	254	10% py., 0.1 cpy.	Weak train
		10	Yes	C. Till	787	380	0.4	206	10% py., 0.1 cpy.	Weak train
		11	Yes	C. Till	1,346	240	0.7	162	20% py., 10% mar., 0.2% cpy.	Weak train
	11	10	No	C. Till	579	1,162	1.3	127	-	-
	15	01	Basal	C. Till	276	1,688	0.8	3	10-15% mass. py.-gf., L0.1% cpy., no sphal.	Weak train
	24	11	No	C. Till	121	1,700	0.2	L2	-	-
	27	24	Basal	L. Till	830	510	1.2	472	35% py., 5% po., L0.1% cpy.	No train
	36	01	Basal	C. Till	2,900	9,470	2.5	496	10% py., 0.7% sphal, 0.5 cpy.	Weak train
	103	05	Basal	C. Till	1,450	100	0.7	294	30% py., L0.1% cpy.	No train
	110	09	No	C. Till	184	82	39.0	304	-	-
	144	01	Basal	C. Till	716	110	0.2	212	10% py., L0.1% cpy.	No train
	158	01	Basal	C. Till	752	140	0.6	394	10%py., 10% mar., L0.1% cpy.	No train
	171	05	Basal	C. Till	985	148	0.8	284	35% py., 1% po., L0.1% cpy.	No train
	177	05	Basal	C. Till	2,084	290	0.6	352	25% py., 0.5 cpy.	No train
	199	12	Yes	C. Till	790	521	1.0	440	25% py., 0.5% cpy.	Weak train
		13	Yes	C. Till	1,120	579	1.1	568	35% py., 0.5% cpy.	Weak train
		14	Yes	C. Till	730	502	0.8	520	35% py., 0.2% cpy.	Weak train
		17	No	L. Till	760	476	1.2	472	-	-
	201	16	No	C. Till	1,336	63	0.9	176	-	-
	202	07	Basal	C. Till	784	20	0.3	22	40% py.	No train
	203	01	Basal	C. Till	866	33	0.2	139	10% py.	No train
	204	01	Basal	C. Till	999	28	0.4	92	10% py., L0.1% cpy.	No train
	207	07	No	C. Till	1,350	93	0.6	278	-	-
		09	Basal	C. Till	935	103	0.8	191	20% py., L0.1% cpy.	No train
	209	09	Basal	C. Till	1,850	126	0.6	130	No 1/4 split	Small conc.

Table 8: Heavy Mineral Arsenic, Silver and Base Metal Anomaly Summary

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Two stronger anomalies in Samples 05-10 and 177-05 can also be mineralogically eliminated because the mineralization is of a non-economic variety. In Sample 05-10, a 2,980 ppm copper assay correlates with a chalcopyrite concentration of 0.5 percent. The sample also contains 35 percent pyrite. The chalcopyrite occurs as discrete crystalline grains and all of the pyrite is of the cubic variety, precluding a massive sulphide type source. In Sample 177-05, a 2,084 ppm copper assay correlates with a chalcopyrite concentration of 0.5 percent. The sample is of basal Chibougamau Till containing a 0.5 metre boulder similar to the underlying mafic volcanic bedrock which is slightly anomalous in copper (155 ppm) and zinc (112 ppm). The chalcopyrite in the till concentrate occurs in quartz-pyrite rock chips and was probably milled from the bedrock or boulder by the drill bit rather than by glacial ice.

For concentrates weighing less than 5 grams, a 1/4 split was not retained and the mineralogy could not be checked. This was the case for Sample 209-09 which assayed 1,850 ppm copper. However, the copper value is not accompanied by anomalous zinc or silver, suggesting a vein source. Only a small amount of chalcopyrite would be needed to produce the weak anomaly in the small concentrate.

The remaining base metal anomalies encompassing nine samples in four holes (No. 08, 15, 36 and 199) are suggestive of dispersion from low grade but potentially significant subcropping mineralization. These anomalies are discussed below in numerical order.

6.7.1 Hole 08 Anomaly

The overburden section in Hole 08 consists of 3 metres of Ojibway lake clay overlying 17 metres of sandy to clay-rich Chibougamau Till. The basal 5 metres of till (Samples 09, 10 and 11) are anomalous in copper while Sample 08 is anomalous in both zinc and copper. Copper values range from 735 ppm at the top of the anomalous zone to 1,346 ppm at the base. Elevated values of copper also extend upward from Sample 08 to within 4 metres of the top of the Chibougamau Till section. Zinc values show a generally decreasing trend from an anomalous value of 1,600 ppm (Sample 08) at the top to an elevated value of 240 ppm at the base of the section. Silver and arsenic values range from 0.4 to 0.7 ppm and 162 to 254 ppm, respectively. These values are elevated but not anomalous with no apparent trends.

The 1/4 concentrate splits of Samples 08, 09 and 10 contain 10 percent pyrite. Sample 11 contains 20 percent pyrite and 10 percent marcasite. The marcasite occurs as a growth of finer grains producing a botryoidal texture.

Chalcopyrite was identified as the copper mineral with concentrations ranging from 0.1 to 0.2 percent. There is good correlation between observed chalcopyrite concentrations and copper values.

The chalcopyrite in Samples 08, 09 and 10 occur as discrete grains. Sample 11 contains less than 0.1 percent quartz-pyrite-chalcopyrite rock chips indicating a probable vein-hosted bedrock source. Sample 08 contains 1-2 percent quartz-pyrite-sphalerite vein chips.

Hole 09, approximately 400 metres west of Hole 08, contains a 30 metre section of Chibougamau Till. Samples from the lower 14 metres of the section contain elevated values of copper bordering the anomalous threshold level. This would give the dispersion horizontal as well as vertical continuity. Although the magnitude of all the base metal analyses in Holes 08 and 09 is low compared to base metal dispersion trains from known ore bodies, the degree of horizontal and vertical continuity and the copper-zinc association signify anomalous bedrock stratigraphy that could host a significant deposit. The anomalous strata are probably in the southern part of graywacke-siltstone-mudstone unit that extends 1 km northward from Holes 08 and 09.

6.7.2 Hole 15 Anomaly

The overburden section in Hole 15 consists of 1.5 metres of sandy Chibougamau Till resting on bedrock (Section G-G'). The only till sample (15-01) yielded an anomalous zinc value of 1688 ppm and a slightly elevated copper value of 276 ppm.

The 1/4 concentrate of Sample 01 contains 10-15 percent earthy, massive pyrite-graphite. Sphalerite was not recongized but is probably present in a black earthy form that is masked by the similarly coloured graphite.

Hole 15 was drilled along strike from Holes 08 and 09, and as in those holes the dispersion in the till probably signifies anomalous base metal stratigraphy within the southern part of the graywacke-siltstone-mudstone sequence to the north. Interestingly Hole 14 between Holes 15 and 09/10 did not encounter any till but did intersect slightly graphitic siltstone that contains 0.5-1 percent sphalerite and assayed 3600 ppm zinc.

6.7.3 Hole 36 Anomaly

The overburden section in Hole 36 consists of 2.5 metres of sandy Chibougamau Till resting on bedrock (Section B'-C). The only till sample (36-01) returned anomalous values of copper (2,900 ppm), zinc (9,470 ppm) and silver (2.5 ppm) and an elevated arsenic value of 496 ppm.

The 1/4 heavy mineral concentrate split contains 10 percent pyrite. The copper mineral is chalcopyrite and occurs in an estimated concentration of 0.5 percent which matches the copper assay. Sphalerite was identified as the source of the zinc mineralization but the 0.7 percent concentration is about half the amount necessary to produce the reported assay. The sphalerite occurs partly as coarse grains (greater than 250 microns) comprising 0.2 percent of the concentrate. The remaining 0.5 percent occurs as fine to very fine grains (less than 50 microns). The additional 0.7 percent sphalerite required to produce the reported assay is assumed to occur in the very fine fraction, making identification difficult.

No silver minerals were identified but identification would not be expected at a concentration of only 2.5 ppm. As previously described, it is normal to have base metal to silver ratios of 2,000:1 in volcanogenic massive base metal sulphide deposits, where the silver occurs in several forms associated with either sphalerite or chalcopyrite. Thus the 9,470 ppm Zn and 2.5 ppm silver values obtained from Sample 36-01 are compatible.

The coarse chalcopyrite and sphalerite grains in the 1/4 concentrate are associated with pyrite-quartz-chlorite rock chips indicating a vein-hosted source that is nearby based on the thinness of the till section and on the presence of anomalous copper (359 ppm), zinc (600 ppm) and gold (20 ppb) in the underlying bedrock. As previously discussed, the bedrock here is highly sheared, veined and carbonitized and the mineralization is probably epigenetically controlled by the Lamarck Fault.

6.7.4 Hole 199 Anomaly

The overburden section in Hole 199 consists of three metres of clay and sand on top of twenty-three metres of sandy-pebbly Chibougamau Till overlying two metres of Missinaibi clay overlying five metres of sandy-pebbly Lower Till. Three anomalous samples (No. 12, 13, 14) occur over a 5.1 metre section, 2.6 metres from the base of the Chibougamau Till (Section J-J').

Only the copper values are above the anomalous threshold level but the corresponding zinc, silver and arsenic results are sharply higher than in the upper part of the Chibougamau Till section. Elevated copper, zinc, silver and arsenic values also extend to the base of the till in Samples 15 and 16.

The retained 1/4 heavy mineral concentrates for Samples 12, 13 and 14 contain 25 to 35 percent pyrite. Chalcopyrite is the copper mineral, occurring in concentrations between 0.1 and 0.5 percent that accurately correspond with the 700-1100 ppm copper assays. A few coarse grains of sphalerite and arsenopyrite explain the elevated values of zinc and arsenic in Sample 14. The majority of the chalcopyrite grains in the three anomalous samples are associated with quartz-pyrite rock chips, indicating a probable vein-hosted source.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 Property Mineral Potential From the Bedrock Perspective

Base metal and gold levels in the bedrock samples from the reverse circulation drill holes are consistent with the variety of rock types intersected. Elevated to poorly anomalous values for copper, zinc and gold occur sporadically. In most cases the lack of detailed information on bedrock stratigraphy and structure in the immediately surrounding areas precludes a confident assessment of the geochemistry. However, some areas outlined by the reverse circulation work do show geochemical and/or geological conditions that warrant further investigation.

Of prime importance is the area underlain by calc-alkalic intermediate to felsic tuffs and volcanics northwest of the Lamarck Fault. Elevated gold-arsenic values (10 to 90 ppb Au, 100 to 376 ppm As) and locally elevated copper and zinc are present in Holes 35, 36 and 37 proximal to the western branch of the Lamarck Fault. The high degree of veining and alteration (quartz-Fe/Mg carbonate) in Holes 36 and 37 suggests a structural, epigenetic constraint on the veining and "mineralization". Other holes in the area such as CW-85-51, 56 and 57 are also highly veined (20-95% vein quartz-calcite). Only Hole 57 contains elevated levels of gold (15 ppb Au) but Holes 51 and 56 contain very minor amounts of fuchsite and fuchsite-tourmaline, respectively, and these minerals are common gold associates. The abundance of calc-alkalic intermediate-felsic tuffs and felsic volcanics also indicates potential for sygenetic base metal mineralization. No evidence of such mineralization was obtained from the limited amount of reverse circulation work performed but the Umex deposit is on the eastern flank of the calc-alkalic pile.

Elsewhere in the drill area, elevated base metal or gold geochemical results occur in isolated holes in various rock types. Of these, the Zn-Cu-Ag values in siltstone of calc-alkalic affinity in Hole 14 (3600 ppm Zn, 240 ppm Cu, 2.1 ppm Ag) are the most highly anomalous and are also the only example of the Zn-Cu-Ag association that characterizes base metal massive sulphide deposits. Remaining "anomalous" samples are generally single element types with low grade base metal (200 to 650 ppm Cu or Zn) or gold (10 to 45 ppb Au) levels and may simply represent normal geochemical variation in the area rocks. The significiance of these geochemical values to further exploration is questionable.

The presence of the same tholeiitic gabbro-basalt rock units (Blondeau Formation and Cummings Complex) in the eastern part of Chapais West area as in the Chapais Au-Cu belt and the high degree of alteration (particularly carbonate) and shearing in these rocks add to the potential for epigenetic Au-deposits. The geology and geochemistry of bedrock chips samples from widely spaced, reconnaissance holes is not adequate, in itself, to rigorously assess this potential.

7.2 Property Mineral Potential From the Overburden Perspective

The mineral potential of the west central and extreme northwestern and eastern portions of the Chapais West drill area cannot be adequately assessed from the overburden geochemistry due to erosional or depositional thinning of the principal sampling medium — the Chibougamau Till horizon. This problem is most severe in the west-central area for the following reasons:

1. The till thinning here is due to erosion by the early Chibougamau River scour channel.

2. The scour channel crosses two of the prime bedrock targets — The Umex Cu-Zn-Ag stratigraphy and the Lamarck gold-arsenic structure.

In the northwestern and eastern areas, the till thinning is a depositional feature related to a rise in bedrock topography and the discontinuous till geochemistry is largely offset by increased bedrock exposure.

In the remainder of the area, good reconnaissance-level coverage was obtained and the till geochemistry basically mirrors the bedrock geochemistry, with most gold and base metal values at the lower end of Abitibi background. Gold anomalies in particular appear to be all of the background nugget type rather than of the dispersion train type. The greater frequency of these anomalies in the east is probably due to till thinning and consequent enrichment in the Abitibi belt component rather than to any real increase in gold potential.

With respect to base metals, the paucity of even one-sample anomalies in the eastern tholeiitic gabbro-basalt terrane and the southwestern graywacke terrane indicates that these areas have a negligible potential for base metal massive sulphide deposits. Copper dispersion in Hole 199 in the east is of limited interest because the copper is contributed by chalcopyrite from quartz veins. The copper source is probably along the eastern extension of the gabbro sill that was intersected in Hole 195 to the northwest. Unfortunately gold does not accompany the copper as in the gabbro-hosted deposits at Chapais.

Significant base metal dispersion at Chapais West is restricted to Cu-Zn-Ag in Holes 08/09/15 and Cu-Zn in Hole 36 in the calc-alkalic terrane on opposite sides of the Umex property. The Cu-Zn-Ag dispersion in Holes 08/09/15 is indicative of anomalous base metal stratigraphy in the southern part of the sedimentary horizon that extends eastward from the Umex deposit. Confirmation is provided by the nearby bedrock Cu-Zn-Ag anomaly in Hole 14 where no till is present. The Cu-Zn anomaly in Hole 36 is clearly related to the elevated Cu-Zn-Au-As geochemistry of the bedrock that underlies the till. The intersected bedrock mineralization appears to be controlled by shearing along the Lamarck Fault but the Cu-Zn association could record an earlier episode of syngenetic mineralization.

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APPENDICES

APPENDIX A

REVERSE CIRCULATION DRILL HOLE LOGS

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 7th 19__

HOLE NO CW-85-01 LOCATION Formerly CW-103

GEOLOGIST I. Burns DRILLER G. Hoag BIT NO. CBC7409 BIT FOOTAGE 0-290

SHIFT HOURS ____ TO ____

MOVE TO HOLE 11.30 -> 12.30

DRILL 12.30 -> 2.00

TOTAL HOURS ____

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

CONTRACT HOURS ____

OTHER ____

MOVE TO NEXT HOLE ____

New bit
New sub
New starter rod.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0->1.0 No Return
1				1.0->3.3 clay dark brown to gray to gray-beige soft smooth.
2				dark brown 1.0->1.5
3				gray to gray-beige 1.5->3.3.
4				3.3.->7.6 Till (Chibougamau)
5			01	- no return 3.3->4.5
6				- gray, fine sand matrix pebbly below ≈ 4.5 clasts
7			02	65% mafic volcanic and sediments 35% granitic
8			03	- high percentage of fine sand matrix
9				
10				7.6->9.0 Bedrock Meta-sediment
11				gray-white to black, poor
12				to moderate foliation, fine to medium grained, occasional
13				coarse crystals of biotite
14				- locally graphitic, abundant below ≈ 8.6.
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 7 19 85

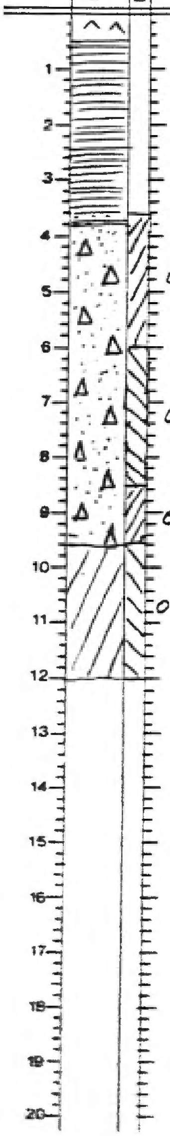
SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-02 LOCATION Formerly 104
GEOLOGIST Holmes DRILLER Houg BIT NO. CB67409 BIT FOOTAGE 9.0-21.0
MOVE TO HOLE 2:00 - 2:15
DRILL 2:15 - 4:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS 3:00 - 3:15 pressure test rods - bit plugged
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 - 0.5 Organics

0.5 - 3.8 SEDIMENTS (OJIBWAY)
- dark brown, moderately compact, very smooth clay
- clay becomes grey and soft after 1.0

01 3.8 - 9.6 TILL (CHIBOUGAMAU)
- abrupt and distinct change to very sandy, very pebbly till
- 3.8 - 3.9 Fine gray sand
- 3.9 - 9.6 till matrix Fine gray-beige sand; pebble composition approximately
65 % volcanics/sediments
35 % granites

02

03

04 Bedrock

9.6 - 12.0 BEDROCK
- dark grey to black colour
- very schistose, thinly foliated
- very soft (easy to drill)
- very fine grained
- graphite rich
- Argillite (slate)

12.0 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 7th 1985

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-03 LOCATION Formerly 105
GEOLOGIST T. Burns DRILLER G. Houg BIT NO. CBG7410 BIT FOOTAGE 0->3.5
MOVE TO HOLE 4.00->4.15
DRILL 4.15->5.00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

* New sub
* New bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0->0.5 No Return
1			01	0.5->0.9 clay beige to rusty-beige soft smooth
2			02	0.9->1.0 Sand beige, fine grained
3			03	1.0->2.8 Till (Chibougamau) gray to gray-beige, fine sand matrix, pebbly clasts 65% mafic volcanic and sediments, 35% granitic - boulder mafic volcanic 1.4->1.7
				2.8->3.5 Bedrock meta-sediments dark gray to black to dark green, very fine grained very well developed foliation - dark green to black sections more massive possibly mafic volcanic or more argillaceous sections - small calcite veinlets below 3.3.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 7 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-04 LOCATION Formerly 106

GEOLOGIST Holmes DRILLER Howg BIT NO. CB67410 BIT FOOTAGE 3.5 - 14.3

MOVE TO HOLE 5:00 - 5:30

DRILL 5.30 - 6:15

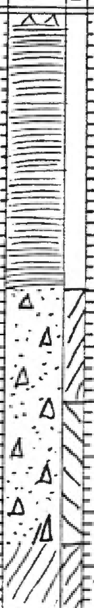
MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER travel GT 6:15 - 6:30 pick up 6.30 - 7:15

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–5				0 - 0.2 ORGANICS 0.2 - 5.0 SEDIMENTS (OJIBWAY) - dark brown moderately compact, smooth clay - clay becomes grey, very soft and very smooth after 2.5
5–6			01	5.0 - 9.6 TILL (CHIBOUGAMAU) - distinct abrupt change to very sandy, very pebbly till 5.0 - 5.1 Fine gray sand 5.1 - 9.5 till matrix Fine gray sand; pebble composition approximately 60% volcanics/seds 40% granites
8–9			02	
10			03 BEDROCK	- 9.5 - 9.6 till contains small gritty clay lumps
11–20				9.6 - 10.8 BEDROCK - dark grey (some white mottling) - very fine grained - very schistose, thinly foliated - minor calcite veins after 10.1 - Argillite (slate 10.8 EOH.



Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE *Nov 8th* 19 *85*

SHIFT HOURS

_______ TO _______

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO *CW-85-05* LOCATION *Formerly CW-107*

GEOLOGIST *I. Burns* DRILLER *G. Hauge* BIT NO. *CB67410* / *CB67411* BIT FOOTAGE *14.3 → 21.8* / *0 → 23.5*

MOVE TO HOLE *8.00 → 8.15*

DRILL *8.15 → 11.00*

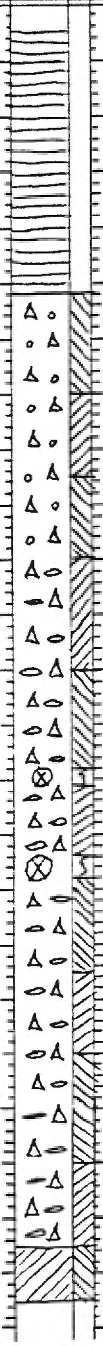
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

** New bit CB67411*

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–24			01 (≈6), 02 (≈8), 03 (≈9), 04 (≈11), 05 (≈13), 06 (≈14.7), 07 (≈16.6), 08 (≈18.2), 09 (≈19.5), 10 (≈21.8), 11 (≈23.1)	see below

0 → 0.5 No Return

0.5 → 5.2 Clay dark brown, soft ~~smooth~~, gray below ≈ 3.0

5.2 → 22.5 Till (Chibougamau)
gray to gray-beige, fine sand matrix pebbly clasts 60% mafic volcanics and sediments 40% granites
- cobbly below ≈ 9.5
- boulders meta sediment 13.8 → 14.1
  mafic volcanic 15.4 → 15.8
- clasts below 15.8 are 80% mafic volcanics and sediments 20% granites

22.5 → 23.5 Bedrock meta-sediment (Volcaniclastic?)
medium to dark gray, very fine grained, very finely laminated, well developed foliation (tuff?)

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 8 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-06 LOCATION Formerly -108

GEOLOGIST Holmes DRILLER Howg BIT NO CB67411 / CB67412 BIT FOOTAGE 16.0 - 36.0 / 0 - 24.5

MOVE TO HOLE 11:00 - 11:15

DRILL 11:15 - 5:30

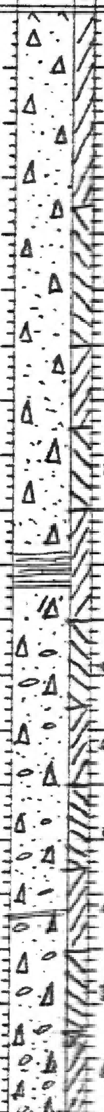
MECHANICAL DOWN TIME

DRILLING PROBLEMS pull rods at 1:00 - 1:15

OTHER Travel 5:45 - 6:15 by GT and walking (GT broke track), 6:15 - 7:00 pickup

MOVE TO NEXT HOLE 5:30 - 5:45

* NEW BIT CB67412



DEPTH IN METRES	SAMPLE NO.
1	
2	01
3	
4	
5	02
6	
7	03
8	04
9	
10	05
11	
12	06
13	07
14	
15	08
16	09
17	
18	10
19	11
20	

DESCRIPTIVE LOG

0 - 0.1 ORGANICS

0.1 - 37.5 TILL (CHIBOUGAMAU)

- very sandy, very pebbly till
- beige clay at surface

0.1-9.8 - Fine beige sand matrix, pebble composition approximately 50% volcanics/sediments 50% granitos

- poor return 1.0 - 2.0

9.8 - 10.4 - compact, smooth grey clay, Few pebbles, appears as irregular chunks

10.4-35.5 till, very sandy, very pebbly

- Fine and very Fine gray sand matrix
- pebble and cobble composition approximately 60% volcanics/sediments 40% granitos
- some small clay lumps up to 1.0
- pull rods at 1:00 - 1:15 From 20.0, replace bit; cones pushed together

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 8 19 85

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-06 LOCATION ______

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE ______

DRILL ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21			12	
22				
23			13	
24				
25			14	-33.5-33.7 boulder - Argillite
26			15	-33.7-36.5 till becomes very cobbly, Fine gray sand matrix, clast composition approximately 80% volcanics 20% granites
27				
28			16	
29			17	-36.5-37.0 till as above includes moderately compact gritty spherical gray clay lumps
30				
31			18	-37.0-37.2 boulder - intermediate mafic volcanic
32			19	-37.2-37.5 till as above
33			20	37.5-42.1 SEDIMENTS (MISSINABI)
34			20	-37.5-41.3 Fine gray-beige sand occasional thin pebble-granule layer
35			21	
36			22	
37				
38			23	
39				
40			24	

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 8 19 85

HOLE NO CW-85-06 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

Page 3 of 3

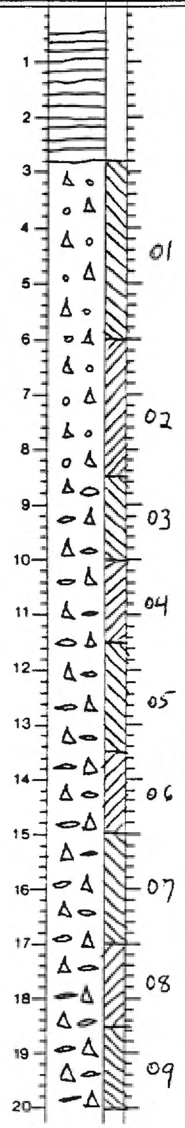
DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
41			24	41.3 - 42.1 gravel, pebbles, granules and small cobbles, clast composition approximately 75% argillite 25% granites
42			25	
43				
44			26 Bedrock	42.1 - 43.3 TILL (LOWER)
45				- very sandy, very pebbly, few small cobbles
46				- fine beige sand matrix 42.1 - 42.8, gray-beige 42.8 - 43.3
47				
48				. pebble and cobble composition approximately 75% argillite 25% granite
49				- 43.0 - 43.3 till as above but very cobbly, % argillite increases with depth
50				
11				
12				43.3 - 44.5 BEDROCK
13				- dark gray to black colour
14				- very fine grained - very schistose, thinly foliated
15				- appears shiny - trace pyrite
16				. thin band of light green, very fine grained rock quartzite (?)
17				- Argillite (slate)
18				
19				44.5 E.O.H.
20				Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 9th 1985
HOLE NO CW-85-07 LOCATION Formerly CW-109
GEOLOGIST T. Burns DRILLER G Howy BIT NO CB67412 / CB67413 BIT FOOTAGE 24.5 → 44.5 / 0 → 35.5

SHIFT HOURS
______ TO ______
MOVE TO HOLE
DRILL 8.00 → 1.00
TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
OTHER 7.00 → 9.00 travel
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0 → 0.5				No Return
0.5 → 2.8				Clay (Ojibway sediments) dark brown above to 2.5 gray below, soft smooth.
2.8 → 20.8			01, 02, 03, 04, 05, 06, 07, 08, 09	Till (Chibougamau) beige to rusty beige above 4.5, gray - beige below 4.5, fine sand matrix pebbly, clasts 60% mafic volcanic and sediments 40% granitic - cobbly below 8.8



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 9th 1985

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-07 LOCATION ______
GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______
MOVE TO HOLE ______
DRILL ______
MECHANICAL DOWN TIME ______
DRILLING PROBLEMS ______
OTHER ______
MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21			10	20.8 -> 28.3 Sand (Missinaibi sediments) gray - beige to gray, fine grained localized pebbly beds
22				
23			11	- coarse sand from 25.2 to 28.3
24				
25			12	28.3 -> 31.7 Till (lower)
26				gray, fine sand matrix cobbly clasts 60% mafic volcanics and sediments 40% granitic above ±30.0
27			13	80% mafic volcanic and sediments, 20% granitic
28				
29			14	- increasing percentage of meta-sediments down hole
30			15	
31			16	- till and bedrock or rubbly bedrock from 30.8 to 31.7
32				
33			17	31.7 -> 33.5 Bedrock (meta-sediments)
34				dark gray to black, very fine grained, fine very well developed foliation (argillaceous)
35				
36				
37				- 10 to 15% of chips contain rusty seams parallel to foliation
38				
39				
40				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 9 19 95

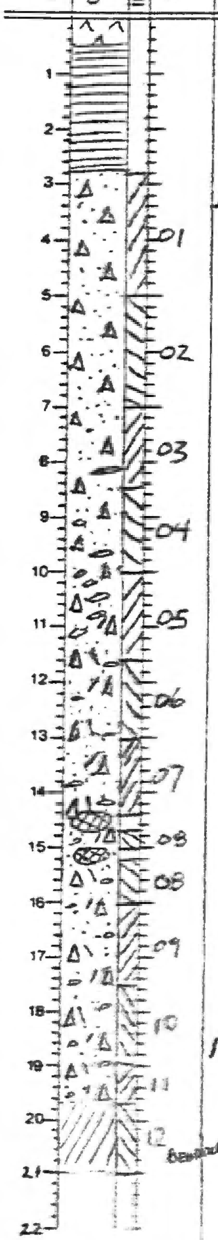
SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-08 LOCATION Formerly 120
GEOLOGIST HOLMES DRILLER HOWG BIT NO CB67413 BIT FOOTAGE 33.5 - 54.5
MOVE TO HOLE 1:00 - 1:45
DRILL 1.45 - 4:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 - 0.5 ORGANICS

0.5 - 2.8 SEDIMENTS (OJIBWAY)
- dark brown, moderately compact very smooth clay

2.8 - 19.7 TILL (CHIBOUGAMAU)
- very sandy, very pebbly till
- 2.8 - 8.1 - fine gray sand matrix pebbles approximately
60% volcanics/sediments
40% granites
- 8.1 - 9.5 till as above with occasional cobbles, clast composition contains larger % volcanics and sediments with depth
- 9.5 - 11.0 - till becomes very cobbly
- matrix fine gray, gray-beige sand pebble and cobble composition approximately 98% volcanics/sediments
2% granites
- 11.0 - 14.4 till as above with addition of small, rounded, moderately compact gritty dark brown-gray clay lumps, 3-5% of till 11.0-12.0, 20-40% of till 12.0 to 14.4
- 14.4 - 14.7 - boulder - intermediate/mafic volcanic
14.7 - 15.0 till as above 14.4
15.0 - 15.2 - boulder - intermediate/mafic volcanic
15.2 - 19.7 - till as above 15.0

19.7 - 21.0 BEDROCK
- dark gray to black
- fine grained
- slightly schistose
- sugary texture
- soft to drill
- minor graphite
- trace pyrite
- Meta - sediment (graywacke)

21.0 EOH

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 9th, 10th 1985

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-09 LOCATION Formerly CW-119

GEOLOGIST T. Burns DRILLER G. Houg BIT NO. CB67413 BIT FOOTAGE 54.5 → 88.0

MOVE TO HOLE 4.00 → 4.15

DRILL 4.15 → 6.00 / 10th 8.00 → 10.15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER 6.00 → 7.00 travel / 10th 7.00 → 8.00.

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
0–20			01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12	0 → 0.5 No Return 0.5 → 1.1 Clay dark brown, soft, smooth 1.1 → Till (Chibougamau) gray-beige, fine sand matrix pebbly clasts 65% mafic volcanic and sediments, 35% granitic - cobbly clasts below 6.8 - very stoney low percentage of fine sand matrix clast composition 75% mafic volcanics and sediments 25% granitic from 11.6 to 12.8 - sandy matrix below 12.8 - lump of calcite - cemented till at 16.0 - boulder mafic volcanic 16.3 → 16.5						

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 9th 1985

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO GW-85-09 LOCATION _____
GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____
MOVE TO HOLE _____
DRILL _____
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE _____

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
	12	- very stony, low percentage of fine sand matrix from 20.5 → 26.5
21		
22	13	
23	14	- clasts below ≈ 28.0 are 85% mafic volcanics and sediments 15% granitic
24	15	
25		
26	16	
27		
28	17	
29	18	
30		
31	19	
32	20	32.1 → 33.5 Bedrock Meta-Sediment (Greywacke) dark green to black, fine grained, well developed foliation, abundant biotite <0.5% disseminated pyrite
33	21	
34		
35		
36		
37		
38		
39		
40		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 19 95

HOLE NO CW-85-10 LOCATION Formerly 11B

GEOLOGIST Holmes DRILLER Houg BIT NO CB67414 BIT FOOTAGE 0 - 14.7

SHIFT HOURS ______ TO ______

MOVE TO HOLE 10:15 - 10:30

DRILL 10:30 - 12:00

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

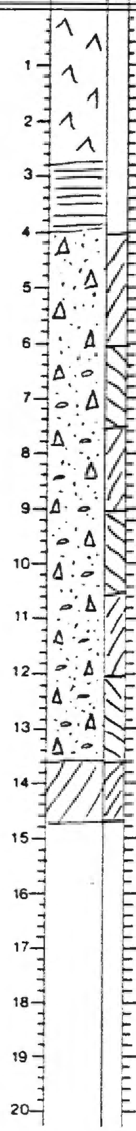
CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE ______

* NEW BIT
NEW SUB

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



Sample nos.: 01, 02, 03, 04, 05, 06, 07 BEDROCK

0 - 2.8 ORGANICS

2.8 - 4.0 SEDIMENTS (OJIBWAY)
- gray smooth, moderately compact clay

4.0 - 13.6 TILL (CHIBOUGAMAU)
- very sandy, pebbly till
- Fine gray sand matrix
- pebbles composition approximately 60% volcanics/sediments 40% granites
- after 6.5 till as above includes occasional cobbles

13.6 - 14.7 BEDROCK
- dark gray to black
- Fine grained
- schistose structure
- shiny
- minor graphite
- trace pyrite
- meta-sediment (graywacke)

14.7 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 10th 19 85

SHIFT HOURS
____ TO ____

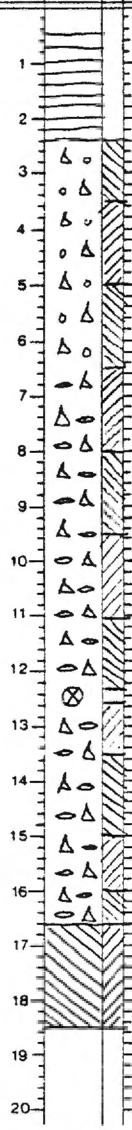
TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-11 LOCATION Formerly CW-117
GEOLOGIST T. Burns DRILLER G. Hoang BIT NO. CB67414 / CB67415 BIT FOOTAGE 14.7 -> 30.7 / 0 -> 18.5
MOVE TO HOLE 12.00 -> 12.15
DRILL 12.15 -> 2.00 2.30 -> 4.30
MECHANICAL DOWN TIME 2.00 -> 2.30
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



Sample numbers: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12

0 -> 0.5 No Return

0.5 -> 2.4 Clay (Ojibway Sediments)
beige, soft, smooth.

2.4 -> 16.6 Till (Chibougamau)
gray to gray-beige, fine sand matrix pebbly clasts 60% mafic volcanics and sediments 40% granitic

- cobbly below 6.7

- very stony, low percentage fine sand matrix below ≈ 8.0

- boulder mafic volcanic 12.3 -> 12.5

16.6 -> 18.5 Bedrock Intrusive (Granite)
pink - white, medium to coarse grained, massive consists of pink K-spar dark mafics and lesser amounts of quartz.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 10 19 95

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-12 LOCATION Formerly 116

GEOLOGIST HOLMES DRILLER HOWG BIT NO CB67415 BIT FOOTAGE 18.5 - 32.5

MOVE TO HOLE 4:30 - 4:45

DRILL 4:45 - 6:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER travel by GT 6:00-6:30 ; travel by pickup 6:30-7:30

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.8 ORGANICS
1				0.8 - 2.5 SEDIMENTS (OJIBWAY)
2				- gray, compact, smooth clay - poor return in this unit
3			01	2.5 - 12.5 TILL (CHIBOUGAMAU)
4				- very pebbly, very sandy till - Fine gray-beige sand matrix
5			02	- pebble composition approximately 50% volcanics/sediments 50% granites
6			03	
7				- 4.5 - 11.4 till matrix fine gray sand, pebble composition approximately
8			04	60% volcanics/sediments 40% granites
9			05	- occasional cobble
10				- 11.4 - 12.5 - till becomes very cobbly, composition
11			06	approximately 75% volcanics/sediments 25% granites
12			07	
13			08 BEDROCK	12.5 - 14.0 BEDROCK - reddish-pink, black specks ~10% trace light-green
14				
15				- medium - coarse grained - potassic-feldspar, amphibole, quartz, trace epidote
16				- soft to drill
17				- Granite - intrusive rock
18				
19				14.0 E.O.H.
20				Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE April 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-13 LOCATION Formerly CW-115

GEOLOGIST I. Burns DRILLER G. Houy BIT NO LBL7415 BIT FOOTAGE 32.5 -> 36.0

MOVE TO HOLE 8.00 -> 8.15

DRILL 8.15 -> 9.15

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER 7.00 -> 8.00 travel

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
0–0.5				0 -> 0.5 No Return						
0.5–2.0			01	0.5 -> 2.0 Till (Chibougamau) gray-beige, fine sand matrix pebbly clasts 60% mafic volcanic and sediments 40% granitic						
2.0–3.5			02	2.0 -> 3.5 Bedrock meta-sediment (Graywacke) dark green to black, fine grained, well developed foliation, abundant biotite						

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 November 11 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-14 LOCATION Formerly 114

GEOLOGIST Holmes DRILLER Howg BIT NO. CB67415 BIT FOOTAGE 36.0 - 38.5

MOVE TO HOLE 9:15 - 9:30

DRILL 9:30 - 10:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.5 ORGANICS
1				0.5 - 0.7 TILL (CHIBOUGAMAU)
2			01	- gray sand matrix - pebble composition approximately 75% volcanics/sediments 25% granites
3				
4				
5				0.7 - 2.5 BEDROCK
6				- dark gray, mostly black - very fine grained
7				- schistose - graphite rich
8				- contains biotite - trace pyrite
9				- occasional reddish-brown oxidation along foliation faces
10				- Graywacke (meta-sediment)
11				2.5 E.O.H.
12				Don Holmes
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 11 1985

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-15 LOCATION Formaly CW-113

GEOLOGIST T. Burns DRILLER G. Houg BIT NO. CB67415 BIT FOOTAGE 38.5 → 40.5

CB67416 0 → 3.5

MOVE TO HOLE 10.00 → 10.45

DRILL 10.45 → 12.00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0 – 0.5				0 → 0.5 N. Return
0.5 – 2.3	Δ o		01	0.5 → 2.3 Till (Chibougamau) gray - beige, fine sand ~~matrix~~ pebbly clasts 60% volcanics and sediments 40% granites
2.3 – 3.5			02	2.3 → 3.5 Bedrock Intrusive (Granite) pink - white, medium to coarse grained, massive, abundant pink K- feldspar with lesser amounts of quartz and mafics.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 11 19 95

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-16 LOCATION Formerly 112

GEOLOGIST Holmes DRILLER Howg BIT NO. CB67416 BIT FOOTAGE 3.5 - 8.7

MOVE TO HOLE 12:00 - 12:15

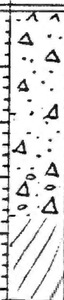
DRILL 12:15 - 1:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–20			01	0 - 0.2 ORGANICS
			02 BEDROCK	0.2-3.7 TILL (CHIBOUGAMAU)
				- very sandy, very pebbly till
				0.2 - 1.0 - Fine ochre-beige sand matrix Few pebbles, composition approximately 50% volcanics/sediments 50% granites
				1.0-3.0 Fine gray-beige sand matrix, very pebbly till, same composition as above
				3.0 - 3.7 Fine gray sand matrix, pebbles and occasional cobbles, composition approximately 60% volcanics/sediments 40% granites
				3.7 - 5.2 BEDROCK
				- black, some white veins
				- very Fine grained
				- schistose
				- contains biotite
				- minor quartz veins
				- occasional reddish-brown oxidation along foliation Faces
				- Graywacke (Meta-sediment)
				5.2 EOH.
				Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 11 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO GW-85-17 LOCATION Formerly CW-111

GEOLOGIST T. Burns DRILLER G. Haug BIT NO SB67416 BIT FOOTAGE 82→107.7

MOVE TO HOLE 1.00 → 1.30

DRILL 1.30 → 2.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 0.3 No Return
1			01	0.2 → 2.0 Bedrock Meta-sediment (Graywacke) dark green to gray-white fine to medium grained poor to moderate foliation - 20-30% rounded quartz grains - <0.5% oxidized sulphides (limonite)
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 November 11 1985

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-18 LOCATION formerly 110
GEOLOGIST Holmes DRILLER HowG BIT NO. CB67416 BIT FOOTAGE 19.7-14.2
MOVE TO HOLE 2:30 - 2:45
DRILL 2:45 - 3.45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER Travel by GT 5:30 - 6:00, Travel by pickups 6:00 - 6:45
MOVE TO NEXT HOLE 3.45 - 5:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0				0 - 0.2 ORGANICS
1			01	0.2 - 1.6 TILL (CHIBOUGAMAU) - sandy, pebbly till - Fine ochre-beige sand matrix - pebbles and occasional cobble composition approximately 60% volcanics/sediments 40% granites
3			02 BEDROCK	
				1.6 - 2.5 BEDROCK RUBBLE - Bedrock chips with occasional sand and pebbles from overlying till
				2.5 - 3.5 BEDROCK - black colour - Fine grained - schistose - minor graphite - biotite rich - occasional reddish-brown oxidation along foliation faces - Graywacke (Meta-sediment)
				3.5 EOH.

Dev Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 12 1985

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-19 LOCATION Formerly CW-102

GEOLOGIST T. Bruns DRILLER G. Hmog BIT NO. CB67416 / CB67417 BIT FOOTAGE 9.2 → 30.7 / 0 → 23.5

MOVE TO HOLE 3.45 → 5.45 on Nov 11th

DRILL 8.30 → 1.30

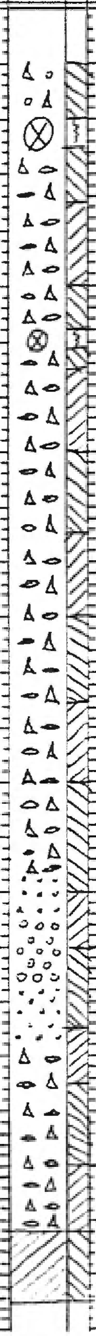
MECHANICAL DOWN TIME 8.00 → 8.30 fix fuel line

DRILLING PROBLEMS

OTHER 11th 5.45 → 6.30 travel / 12th 7.00 → 8.00 travel

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



Depth in metres: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

Sample No.: 01, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15

0 → 1.0 No Return

1.0 → 15.8 Till (Chibougamau)
rusty - beige above ≈ 1.5 (oxidized) gray - beige below 1.5
fine sand matrix pebbly clasts
60% mafic volcanics and sediments 40% granitics above 2.0
- cobbly below 2.0
- boulder gabbro 2.0 → 2.5
granodiorite 5.8 → 6.1
- rusty beige (oxidized) till at ≈ 8.2
- sandy pebbly till from
12.5 → 13.0
15.0 → 15.8

15.8 → 16.3 Sand (Missinaibi Sediments)
rusty - beige, fine to medium grained, local well rounded pebbly beds

16.3 → 17.6 Gravel
rusty - beige (highly oxidized) cobbly with coarse sand and rock cutting matrix
clasts 50% mafic volcanic and sediments 50% granites

17.6 → 18.7 Sand (as above)

18.7 → 22.2 Till (Lower)
rusty beige above 19.5 gray-beige below, stoney, low percentage of fine sand matrix
clasts 60% mafic volcanics and sediments 40% granitic
- gradational contact with above unit (gravel-like locally)
- gray below 20.5 with abundant fine sand matrix, angular clasts 80% mafic volcanics and sediments 20% granites

22.2 → 23.5 Bedrock

22.2 → 23.5 Bedrock Meta-sediment (Greywacke)
dark green to black, very fine grained, very well developed foliation (argillaceous)

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 12 1985

HOLE NO CW-85-20 LOCATION Formerly CW 01

GEOLOGIST Holmes DRILLER Howg BIT NO. CB67417 BIT FOOTAGE 23.5 - 38.1

SHIFT HOURS ______ TO ______

MOVE TO HOLE 1:30 - 4:30 (cross bridge over Chibougamau R. by truck)

DRILL 4:30 - 6:15

TOTAL HOURS ______

MECHANICAL DOWN TIME 6:15 - 7:15 - steering clutch of GT

DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER travel 7.15 - 7.45 - walking , 8:45 - 8:30 by pick up truck

MOVE TO NEXT HOLE ______

DEPTH IN METRES	INTERVAL / SAMPLE NO.	DESCRIPTIVE LOG
0		0 - 0.5 ORGANICS
1		0.5 - 4.5 SEDIMENTS (OJIBWAY)
		- poor return
2		- gray soft to medium compact smooth clay,
3		top 0.2 metres beige colour
4		4.5 - 13.4 TILL (CHIBOUGAMAU)
5	01	- very sandy very pebbly
		4.5-8.9 fine and very fine gray sand matrix
6		- pebbles composition approximately
7	02	60% volcanics/sediments
		40% granites
		- occasional small cobble after 8.0
8	03	8.9 - 9.5 - till becomes very cobbly,
9		clast supported, almost no fine material, composition still 60/40
10	04	9.5 - 13.4 till similar to 4.5 to 8.9
11	05	but 9.9-10.1 matrix predominately very fine gray sand
12		13.4 - 14.6 BEDROCK
13	06	- white 50-60% and 40-50% black color
		- fine and medium grained rock
14	07 BEDROCK	- quartz and plagioclase - medium grained
15		- amphibole - fine grained
16		- some chips appear to have the mafic minerals aligned in bands
17		- slightly metamorphosed
18		intrusive rock
19		- Diorite or Tonalite
20		14.6 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 13 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-21 LOCATION Formerly CW-02

GEOLOGIST J. Burns DRILLER G. Houg BIT NO. CB67417 BIT FOOTAGE 38.1 → 53.1

MOVE TO HOLE 8.30 → 8.45

DRILL 8.45 → 10.00

MECHANICAL DOWN TIME 8.00 → 8.30 repair water carrier

DRILLING PROBLEMS

OTHER 7.00 → 8.00 travel

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–0.8				0 → 0.8 No Return
0.8–14.0			01, 02, 03, 04, 05, 06, 07	0.8 → 14.0 Till gray to gray-beige, fine sand matrix, pebbly clasts 60% mafic volcanics and sediments 40% granitic – cobbly below 7.7
14.0–15.0			08	14.0 → 15.0 Bedrock Meta-sediment (Siltstone) dark gray to black, fine grained, poor to moderate foliation, locally well developed

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 13 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-22 LOCATION Formerly CW-03

GEOLOGIST HOLMES DRILLER Houg BIT NO. CB67418 BIT FOOTAGE 0-13.5

MOVE TO HOLE 10:00 - 10:15

DRILL 10:15 - 11:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2 ORGANICS
1				0.2 - 0.8 SEDIMENTS (OJIBWAY)
2			01	- smooth moderately beige clay overlying fine beige sand
3				
4				0.8 - 12.2 TILL (CHIBOUGAMAU) - very sandy very pebbly till
			02	0.8 - 6.6 Fine beige sand matrix (matrix very oxidized)
5				pebble composition approximately
6			03	60% volcanics / sediments 40% granites
7				
8			04	- 6.6 - 12.0 Fine gray-beige sand matrix with thick zones of oxidized beige sand matrix,
9				- pebble composition as above
			05	- occasional small cobbles after 10.2
10				- 12.0 - 12.2 till becomes very cobbly
11			06	- Fine gray sand matrix, pebble and cobble composition
12			07	approximately 95% sediment 5% granite
13			08 BEDROCK	
14				12.2 - 13.5 BEDROCK
15				- dark gray to black with some orange colour spots
16				- very fine grained
17				- slightly schistose
18				- occasionally oxidized along foliation surfaces
19				- 13.0 - 13.1 pink, very fine grained felsic intrusive dyke
20				- Argillite (Meta-Sediment)

13.5 E.O.H. Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 13 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-23 LOCATION Formerly CW-04

GEOLOGIST T. Burns DRILLER G. Houz BIT NO. CB67413 BIT FOOTAGE 13.5 -> 20.5

MOVE TO HOLE 11.30 -> 11.45

DRILL 11.45 -> 12.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0 -> 0.8				N. Return
0.8 -> 4.9			01	Till (Chibougamau) rusty - beige, fine sand matrix, pebbly above 4.4 cobbly below clasts 60% mafic volcanics and sediments 40% granitic
4.9 -> 7.0			02	Bedrock Meta-sediment dark green to black, fine grained, poor to moderate foliation, well developed locally, generally granular texture, cut by small felsic veinlets very soft, easy to drill

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 Nov 13 1985

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-24 LOCATION Formerly CW-05

GEOLOGIST HOLMES DRILLER Howg BIT NO. CB67418 BIT FOOTAGE 20.5 - 540

MOVE TO HOLE 12:30 - 12:45

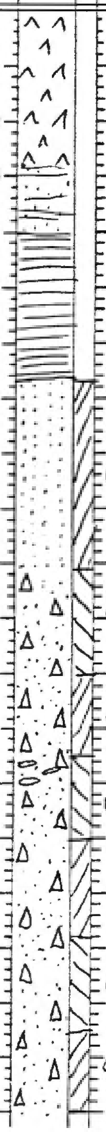
DRILL 12:45 - 2:45

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–20				0 - 2.8 ORGANICS (PEAT)
				2.8 - 10.1 SEDIMENTS (OJIBWAY)
				-2.9 - 4.0 Fine and very fine gray sand occasional thin soft smooth gray clay layer
				4.0 - 7.7 moderately compact, very smooth gray clay
				-7.7 - 10.1 Fine and very fine gray sand, occasional thin granule layer
				10.1 - 32.0 TILL (CHIBOUGAMAU)
			01	-10.1 - 13.6 . till very sandy, very pebbly -Fine gray sand matrix, pebble composition approximately 60% volcanics/sediments 40% granites
			02	13.6 - 14.0 - till becomes very cobbly matrix and clast composition as above
			03	14.0 - 21.0 . till similar to 10.1-13.6
			04	
			05	
			06	
			07	

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 13 19 85
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO CW85-24 LOCATION ____
GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____
MOVE TO HOLE ____
DRILL ____
MECHANICAL DOWN TIME ____
DRILLING PROBLEMS ____
OTHER ____
MOVE TO NEXT HOLE ____

Page 2 of 2

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
21	08	-21.0-23.6 Fine gray sand matrix, pebble composition approximately 75% volcanics/sediments 25% granites
22	09	
23		-23.6-25.5 till as above includes moderately compact spherical gritty gray clay lumps
24	10	
25	11	-25.5-32.0 Fine and very fine gray sand matrix, clast composition approximately 80% sediments 20% granites
26		
27	12	-at 29.5 Few small clay lumps as 23.6-25.5
28	13	
29		32.0-33.5 BEDROCK
30	14	- black colour
31	15	- very fine grained
32		- slightly schistose
33	16 BEDROCK	- soft, very easy to drill
34		- Argillite (Meta-sediment)
35		33.5 E.O.H.
36		Don Holmes
37		
38		
39		
40		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 13 1985

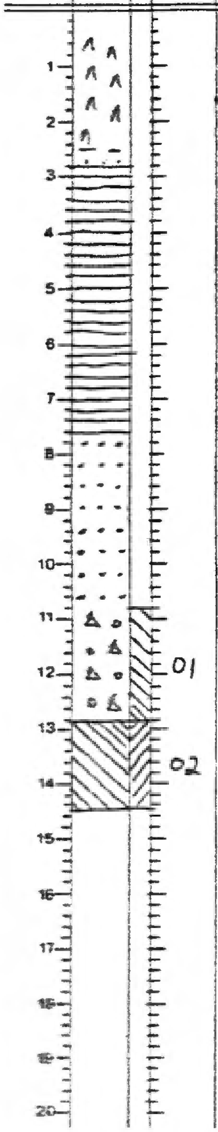
SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-25 LOCATION Formerly CW-06
GEOLOGIST I. Burnt DRILLER A. Houz BIT NO. 8867413 BIT FOOTAGE 34.0 -> 68.5
MOVE TO HOLE 2.45 => 3.00
DRILL 3.00 => 3.30
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 => 0.5 No Return
				0.5 => 2.4 Organics
				2.4 => 2.8 Silt / Sand gray-beige
				2.8 => 7.6 Clay gray, soft, smooth - material in suspension from 4.5 => 7.6 (clay/silt)
				7.6 => 10.5 Sand gray, fine grained
				10.5 => 12.8 Till (Chibougamau) gray-beige, fine sand matrix pebbly clasts 60 % mafic volcanics and sediments 40% granitic
			01	12.8 => 14.5 Bedrock Meta-Sediment (Siltstone) dark green to black, fine grained, poor to moderate foliation, locally well developed, occasional small quartzo-feldspathic veinlets, small oxidized seams.
			02	



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 13 1985

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-26 LOCATION Formerly CW-07

GEOLOGIST Holmes DRILLER Hough BIT NO. CB67418 BIT FOOTAGE 68.5 - 91.0

MOVE TO HOLE 3:30 - 3:45

DRILL 3:45 - 5:30

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER travel by pickup 7.00 - 7:30

MOVE TO NEXT HOLE 5:30 - 7:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
				0 - 0.2 ORGANICS						
1			01	0.2 - 17.6 TILL (CHIBOUGAMAU) - sandy, pebbly and cobbly till						
2				0.2-7.0 Fine beige oxidized sand matrix From 0.2 to 1.1 becoming gray-beige colour then gray colour after 2.0 pebbles and occasional cobbles composition approximately 60% volcanics/sediments 40% granites						
3			02							
4			03							
5										
6			04	7.0 - 17.6 gray beige to beige fine sand matrix till cobbly, clast composition approximately 75% volcanics/sediments 25% granites						
7			05							
8			06							
9										
10			07	17.6 - 20.5 SEDIMENTS (MISSINAIBI)						
11										
12			08	- fine beige sand						
13			09							
14										
15			10							
16										
17			11							
18										
19			12							
20										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 13 19 85

HOLE NO CW-85-26 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

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21			13	20.5 - 21.3 BEDROCK RUBBLE - bedrock chips with fine, medium, coarse sand and pebbles
22			14 BEDROCK	
23				21.3 - 22.5 BEDROCK - black colour with slight green tinge
24				
25				- very fine grained - slightly to very schistose
26				- minor quartz and felsic veins
27				
28				- Argillite (meta-sediment)
29				22.5 E.O.H.
30				Don Holmes
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 17 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-27 LOCATION Formerly CW-08
GEOLOGIST T. Burns DRILLER G. Houg BIT NO. CB67419 BIT FOOTAGE 0 → 42.0
MOVE TO HOLE 9.45 → 10.15
DRILL 10.15 → 6.00
MECHANICAL DOWN TIME 7.30 → 9.45 work
DRILLING PROBLEMS
OTHER 7.00 → 7.30 travel to drill 6.00 → 6.30 travel to Chapais
MOVE TO NEXT HOLE

New Bit

page 1 of 2

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0–3	01	0 → 1.1 Poor to No Return cobbles and boulders near surface probably till
		1.1 → 34.2 Till (Chibougamau) gray-beige, fine sand matrix cobbly clasts 60% mafic volcanics and sediments 40% granitic
3–5	02	
5–7	03	- gray to gray-beige soft smooth clay at 3.4 → 3.5
7–8.5	04	- pebbly with fine sand matrix occasional smooth clay lumps and gritty clay
8.5–10	05	- smooth soft gray clay 7.2 → 7.4
10–11.5	06	- cobbly below 7.5 to 14.1
11.5–13	07	- gravel pebbly medium to coarse sand matrix clasts 60% mafic volcanics and sediment 40% granitic 14.1 → 14.3
13–14.5	08	
14.5–16	09	- very stoney below 14.3 to 24.4 minimal fine sand matrix
16–17.5	10	
17.5–19	11	- boulders gabbro 15.7 → 16.0 19.9 → 20.1
19–20	12	

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

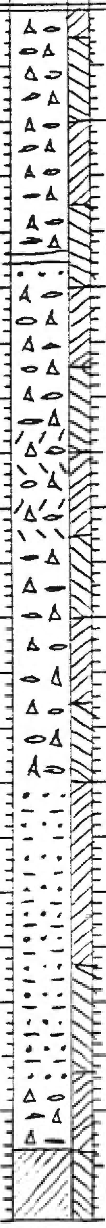
DATE Nov 17th 1985

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-27 LOCATION Formerly CW-08
GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____
MOVE TO HOLE ____
DRILL ____
MECHANICAL DOWN TIME ____
DRILLING PROBLEMS ____
OTHER ____
MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21–42			12–25	

Sample numbers: 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25

Depths: 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42

- clay seam 24.4 → 24.6
- sand, gray - beige, fine grained 24.6 → 24.8
- minimal return from 24.8 → 25.6
- gritty gray clay matrix below ± 27.5 with some lumps of smooth compact gray clay to 29.6.
- very high percentage of local clasts from 28.0 → 34.2
- fine sand matrix from 29.6 to 34.2

34.2 → 39.6 Sand / Silt (Missinaibi sediments)

very fine grained gray sand / silt

39.6 → 40.7 Till (Lower)

gray - green, fine sand matrix, cobbly clasts 90% mafic volcanics and sediments 10% granitic

40.7 → 42.0 Bedrock Meta - Sediment (Intermediate Volcanic?)

gray - green, fine to medium grained poor to moderate foliation, generally massive, locally with granular texture, 2-3% calcite veining throughout

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 19 19 85

SHIFT HOURS

______ TO ______

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-28 LOCATION Formerly CW-09

GEOLOGIST HOLMES DRILLER HOWG BIT NO. CB67419 BIT FOOTAGE 42.0 - 61.8
CB67420 0 - 34.2

MOVE TO HOLE 7:45 - 8:00

DRILL 8:00 AM - 6:00 PM

MECHANICAL DOWN TIME pull rods to replace bit 10:00 - 10:15

DRILLING PROBLEMS

OTHER Travel pick-up 7:00 - 7:45 AM   Travel GT 6:00 PM - 6:15

~~MOVE TO NEXT HOLE~~ Travel pick-up 6:15 PM - 7:00 PM

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01–12	0-0.5 ORGANICS (poor return) 0.5-1.9 SEDIMENTS (OJIBWAY) - Fine beige sand, poor return 1.9-51.0 TILL (CHIBOUGAMAU) -1.9-10.7 sandy, pebbly till with occasional cobbles -Fine beige sand matrix, gray-beige after 3.2, gray from 4.4 to 4.8, gray-beige after 4.8 -clast composition approximately 60% volcanics/sediments 40% granites -10.7-10.9 boulder-granite -10.9-17.2 till matrix Fine gray sand pebble and cobble composition approximately 70% volcanics/sediments 30% granites -17.2-17.4 boulder-granite -17.4-17.8 till as above boulder -17.8-18.2 boulder-granodiorite -18.2-18.6 till as above boulder with Fine gray-beige sand matrix -18.6-27.1 till matrix Fine gray sand pebble and cobble composition approximately 70% volcanics/sediments 30% granites - at 19.8 pull rods to replace bit CB67419 with CB67420

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 8 19 85

HOLE NO CW-85-28 LOCATION

GEOLOGIST DRILLER BIT NO. BIT FOOTAGE

SHIFT HOURS

TO

MOVE TO HOLE

DRILL

TOTAL HOURS

MECHANICAL DOWN TIME

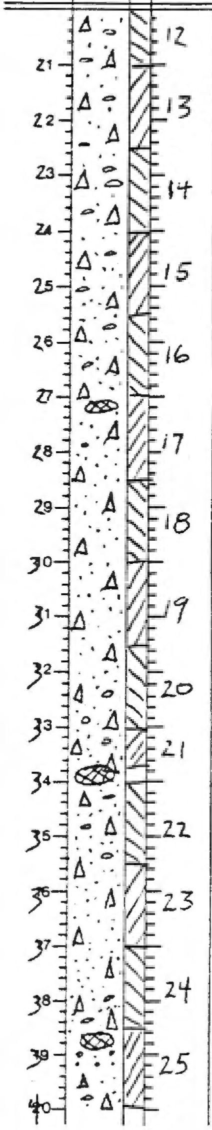
DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



27.1-27.3 - boulder - granite

27.3-33.7 till matrix fine and very fine gray sand, pebbles and cobbles composition approximately
75-80% volcanics/sediments
25-20% granites

33.7-34.0 boulder - intermediate/mafic volcanic

34.0-38.6 till as above boulder

38.6-38.9 boulder - Rhyolite

38.9-39.2 pebble gravel, clast composition approximately
70% volcanics/sediments
30%

39.2-40.3 till similar to 34.0-38.6

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 18 19 85

HOLE NO CW-85-28 LOCATION ______

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

SHIFT HOURS ______ TO ______

MOVE TO HOLE ______

DRILL ______

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

CONTRACT HOURS ______

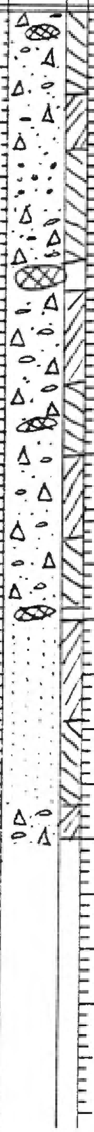
OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG

Depth marks: 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60

Sample numbers: 26, 27, 28, 29, 30, 31, 32, 33, 34, 35



40.3 - 40.5 - boulder - granite

40.5 - 42.8 till as above boulder, becoming very cobbly after 41.0, clast composition
95% volcanics sediments
5% granites

42.9 - 43.4 pebble gravel lense
clast composition approximately
80% volcanics/sediments
20% granites

43.4 - 44.6 above gravel grades into a matrix-poor till, very pebbly
- fine gray sand matrix, pebble composition approximately
80% volcanics/sediments
20% granites

44.6 - 45.0 boulder - diorite

45.0 - 46.4 till as above boulder

46.4 - 47.4 till as above becomes more cobbly, composition
70% volcanics/sediments
30% granites

47.4 - 47.6 - boulder - graywacke

47.6 - 50.8 pebbly, sandy till
- fine gray sand matrix, includes occasional small gray gritty, moderately compact clay lumps, clast composition 70% volcanics/sediments
30% granites

50.8 - 51.0 boulder - graywacke

51.0 - 54.4 SEDIMENTS (MISSINAIBI)
- fine beige sand, thin pebble layers in top 1 metre

54.4 - 55.0 TILL (LOWER)
- pebbly, cobbly till
- fine and very fine gray-beige to beige sand matrix, clast composition
85% volcanics/sediments
15% granites

55.0 EOH. - could not attain bedrock - too much torque on rods

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 19th 1985

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-29 LOCATION Formerly CW-10

GEOLOGIST T. Burns DRILLER G. Houg BIT NO. CB67420 BIT FOOTAGE 34.2 -> 47.0

CB67421 0 -> 43.0

MOVE TO HOLE 7.45 -> 8.00

DRILL 8.00 -> 9.00, 9.15 -> 1.00

MECHANICAL DOWN TIME

DRILLING PROBLEMS 9.00 -> 9.15 change bit

OTHER 7.00 -> 7.45 travel

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 -> 1.0 No Return
1				1.0 -> 1.2 Sand rusty beige fine grained
2				1.2 -> 1.6 clay beige to gray-beige varved, soft, smooth
3			01	1.6 -> 2.4 Sand rusty-beige, fine grained
4–5				2.4 -> 41.4 Till (Chibougamau) gray to gray-beige, fine sand matrix, pebbly above 2.7 cobbly below to 6.2 clasts 60% mafic volcanics and sediments 40% granitic
6–7			02	
8			03	
9				- sand, medium to coarse grained 10.6 -> 11.3
10			04	- cobbly from 11.3 -> 17.5
11–12			05	- pebbly gravel with coarse sand matrix from 14.0 -> 14.3
13				- boulder, gabbro 15.7 -> 16.0
14			06	- gravel 17.5 -> 17.9, pebbly coarse sand matrix
15			07	- till with high percentage clasts matrix deficient
16–17			08	- silty / sand matrix, minimal +10 return 19.3 -> 20.2
18			09	
19–20			10	

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 19th 1985

HOLE NO CW-85-29 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

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
21	10	- soft smooth gray clay lumps with abundant silt, minimal +10 return 20.2 → 21.5
22	11	
23	12	- cobbly from 21.5 → 24.4, 27.0 → 36.0
24		- very stoney from 24.4 → 27.0
25	13	- increase in fine sand matrix below 34.0
26	14	- pebbly below 36.0 to 41.4
27		
28	15	
29	16	
30		41.4 → 43.5 Bedrock Intermediate Volcanic
31	17	
32	18	gray-green, fine grained poor to moderate foliation well developed locally (tufforous?), <1% vein calcite
33	19	
34		
35	20	
36		
37	21	
38	22	
39		
40	23	
41	24	
42		
43	25	
44		

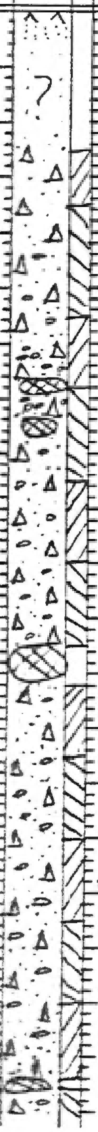
OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 19/20 85
SHIFT HOURS
______ TO ______
TOTAL HOURS
______
CONTRACT HOURS
______

HOLE NO CW-85-30 LOCATION Formerly CW-11
GEOLOGIST Holmes DRILLER Howg BIT NO. CB67421 / CB67422 BIT FOOTAGE 43.5-59.0 / 0-22.6
MOVE TO HOLE 1:15-1:30 Nov 19
DRILL 1:30-6:00 Nov 19 // 7:45-9:45 Nov 20
MECHANICAL DOWN TIME
DRILLING PROBLEMS pull rods 3:30-4:00 Nov 19
OTHER travel 6:00-6:30 PM by GT 6:30-7:15 PM by pickup Nov 19
~~MOVE TO NEXT HOLE~~ travel 7:00-7:45 AM Nov 20

NEW BIT

page 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.2 ORGANICS
1, 2				0.2-2.5 SEDIMENTS (OJIBWAY) - thin layer of fine beige sand - very little sample return 1.6 to 2.5
3			01	2.5-36.6 TILL (CHIBOUGAMAU)
4, 5			02	-2.5-3.7 sandy, pebbly till - Fine gray-beige sand matrix, pebble composition approximately 70% volcanics/sediments 30% granites
6, 7, 8			03, 04	3.7-6.7 Fine beige and ochre sand matrix - very oxidized, pebble and cobble composition approximately 60% volcanics/sediments 40% granites
9			05	- till very pebbly with cobbles, till is matrix poor 6.4-6.7
10, 11			06	6.7-6.9 boulder - Rhyolite 6.9-7.4 till as above boulder 7.4-7.7 boulder - Granite
12, 13, 14			07, 08	7.7-11.5 sandy, pebbly till, - Fine and very fine gray sand - pebble and occasional cobble composition approximately 60% volcanics/sediments 40% granites
15				11.5-12.2 boulder - Granite
16			09	12.2-19.4 till as above boulder, becomes cobbly after 13.5
17			10	19.4-19.6 - boulder Granite
18, 19, 20			11, 12	19.6-24.9 till as above boulder clast composition approximately 75% volcanics/sediments 25% granites after 20.5 metres

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 19/20 19 85

HOLE NO CW-85-30 LOCATION ______

GEOLOGIST ______ DRILLER ______ BIT NO ______ BIT FOOTAGE ______

SHIFT HOURS

______ TO ______

MOVE TO HOLE ______

DRILL ______

TOTAL HOURS

______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

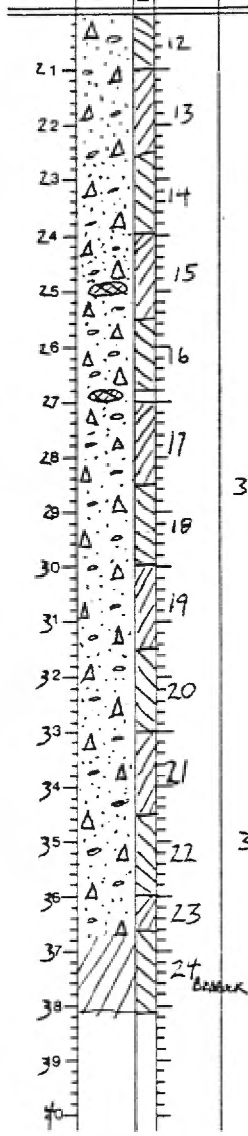
CONTRACT HOURS

______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



24.9 - 25.1 · boulder - intermediate/mafic volcanic

25.1 - 26.8 - till as above boulder

26.8 - 27.0 · boulder - intermediate/mafic volcanic

27.0 - 36.6 - till very sandy, pebbly with occasional cobbles
- Fine gray sand matrix, clast composition approximately 85% volcanics/sediments 15% granites
- composition increases in volcanics/sediments from 36.4 to 36.6

36.6 - 38.1 BEDROCK
- light green colour
- slightly to very schistose
- Fine grained
- minor calcite veins From 37.7 to 38.0 100% white calcite
- rock very soft to drill
- intermediate/mafic volcanic

38.1 EOH

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 20 19 85

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO CW-85-31 LOCATION Formerly CW-12

GEOLOGIST T. Burns DRILLER G. Houg BIT NO. CB67422 / CB67423 BIT FOOTAGE 22.6 → 44.7 / 0 → 8.0

MOVE TO HOLE 10.00 → 10.15

DRILL 10.15 → 4.30

MECHANICAL DOWN TIME 4.45 → 5.15 work on chuck

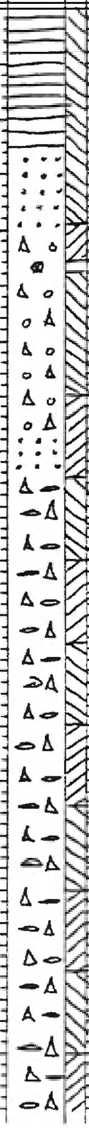
DRILLING PROBLEMS

OTHER 5.15 → 6.00 travel

MOVE TO NEXT HOLE 4.30 → 4.45

Page 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0 → 2.5 clay rusty - beige soft smooth
2			01	2.5 → 3.9 Sand beige, fine grained becoming gray - beige down section
3				
4			02	3.9 → 27.7 Till (Chibougamau) gray - beige to gray, fine sand matrix pebbly clasts 65% mafic volcanics and sediments 35% granitic
5				
6			03	
7				- boulder, pyroxenite 4.6 → 4.8
8			04	
9			05	- very high percentage of fine sand matrix from 4.8 to 7.8
10				- medium to coarse sand 7.8 → 8.3
11			06	
12			07	- cobbly below ± 8.7 with low percentage of fine sand matrix
13				
14			08	- coarse sand 20.1 → 20.4
15			09	
16				
17			10	
18			11	
19			12	
20				



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 30 1985

HOLE NO CW-85-31 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 ______

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
	12	- boulder, granite 21.9→22.7
21	13	- increase in percentage of silt below ≈ 24.0
22		
23		
	14	
24		
25	15	
26		
	16	27.7→30.0 <u>Bedrock</u> Intermediate Volcanic
27		
	17	
28		gray-green, fine grained very well developed foliation (tuffaceous) produced by alternating bands of chlorite/sericite and quartz(?) ≤1% calcite veining
	18	
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 2 1985

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-32 LOCATION Formerly CW-13

GEOLOGIST Holmes DRILLER G. Howg BIT NO. CB67424 BIT FOOTAGE 0 - 18.0

MOVE TO HOLE

DRILL 7:45 - 10:00

MECHANICAL DOWN TIME

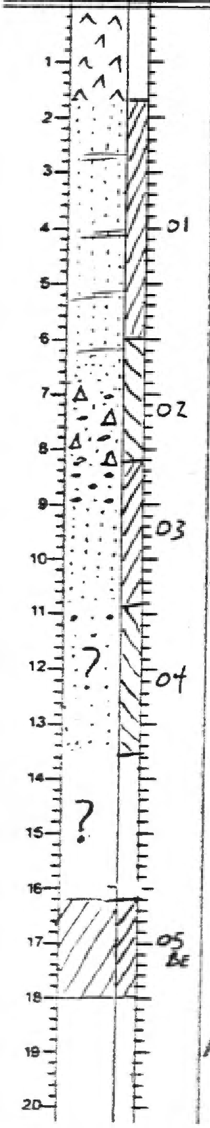
DRILLING PROBLEMS pull rods 9:30 - 9:00

OTHER Travel 7:00 - 7:45 by pickup

MOVE TO NEXT HOLE

NEW BIT
USED ONE ROD

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 - 1.7 ORGANICS (PEAT)

1.7 - 6.8 SEDIMENTS (OJIBWAY)
- 1.7 - 2.5 very oxidized fine beige sand
- 2.5 - 6.8 fine gray sand with thin gray clay layers

6.8 - 8.3 TILL (CHIBOUGAMAU)
- sandy pebbly till
- fine beige sand matrix with zones of very oxidized beige-brown colour matrix, pebble and occasional cobble composition approximately 60% volcanics/sediments 40% granites
- till becomes matrix-poor from 8.0 to 8.3

Note: May 1986 DH
From 6.8 to 8.3 is not till - character sample analysis determines this to be pebbly sand → Ojibway

8.3 - 10.8 SEDIMENTS (OJIBWAY)
8.3 - 8.9 gradational contact with overlying till unit into pebble gravel with small cobbles - no fine material; clast composition approximately 60% volcanics/sediments. 40% granites

8.9 - 10.8 coarse and medium sand, oxidized beige colour

10.8 - 13.5 - poor return, assumed to be fine and medium beige sand interlayered with fine gravel layers

13.5 - 16.2 No return - pressurized sand plugging rods - can't be cleared

16.2 - 18.0 BEDROCK
- dark gray, orange and white mottling
- fine grained
- schistose to very schistose, locally very micaceous - sericite
- oxidized along fracture surfaces
- sulphides along fracture surfaces
- rock very soft drilled
- Meta-sediment (Graywacke)

18.0 - EOH.

Don Holmes.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 21 19 95

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-95-32A LOCATION redrill CW-95-32 (2 meters west)
GEOLOGIST Holmes DRILLER G. Howe BIT NO. CB67424 BIT FOOTAGE 18.0 - 31.5
MOVE TO HOLE
DRILL 10:00 - 11:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS pull rods 10:15 - 11:00
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
				0 - 1.5 ORGANICS (PEAT)						
1				1.5 - 5.8 SEDIMENTS (OJIBWAY)						
				1.5 - 2.0 very oxidized fine beige sand						
2				2.0 - 5.8 Fine gray sand with thin gray clay layers, appears as moderately compact gritty lumps						
3			01							
4				5.8 - 7.5 TILL (CHIBOUGAMAU)	pebbly sand			DH		
5				- sandy, pebbly till	see	CW-95-32				
				- Fine gray sand matrix						
6				- pebble composition approximately 60% volcanics/sediments 40% granites						
7			02							
8				7.5 - 13.5 SEDIMENTS (OJIBWAY)						
9				7.5 - 11.5 coarse sand and pebble gravel, very oxidized						
10			03	11.5 - 13.5 medium and coarse beige-brown sand, some fine sand zones aswell						
11										
12			04							
13				13.5 EOH						
14				- bit repeatedly plugged with sand, - no return after 13.5 - similar to hole CW-95-32						
15										
16				- assumed sand similar to above unit down to bedrock						
17										
18										
19										
20										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

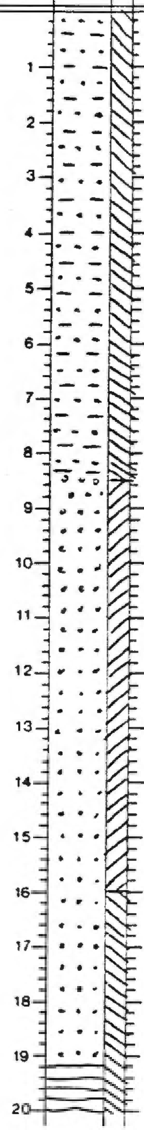
DATE Nov 21 1985

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-33 LOCATION Formerly CW-14
GEOLOGIST I. Burns DRILLER G. Hong BIT NO. CB67422 BIT FOOTAGE 31.5 -> 90.0
MOVE TO HOLE 11.00 -> 12.00
DRILL 12.00 -> 1.00 , 4.00 -> 6.00
MECHANICAL DOWN TIME
DRILLING PROBLEMS 1.00 -> 4.00 rods plugged
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES / GRAPHIC LOG / INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	01 02 03	0 -> 55.4 Sand / Silt gray-beige, very fine grained sand - medium to coarse grained below 8.5 to 12.0 - fine sand from 12.0 -> 19.2 - clay 19.2 -> 20.5 soft smooth gray

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 21 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-33 LOCATION _____

GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____

MOVE TO HOLE _____

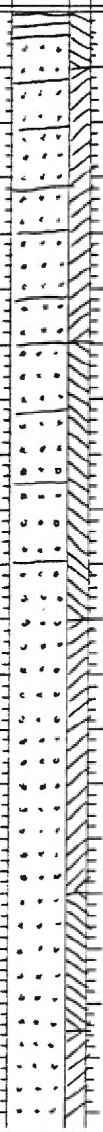
DRILL _____

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____



DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			03	- gray sand below 20.5 with occasional interbedded clay seams.
21				
22				
23			04	- medium sand 32.2→32.8
24				- medium to coarse sand 35.5 → 55.4
25				
26				(note: super poly used after 35.5 rods plugged)
27				
28			05	
29				
30				
31				
32				
33			06	
34				
35				
36				
37			07	
38				
39			08	
40				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 21 1985

HOLE NO CW-85-33 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 ______

page 3 of 3

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
41				- occasional pebbly beds below ± 49.5
42				
43			08	
44				55.4 → 57.5 Till (Chibougamau) gray, fine sand matrix pebbly clasts 70% mafic volcanics and sediments 30% granitic
45				
46				
47				- cobbly below 56.5
48			09	- sand lense 56.9 → 57.2
49				57.5 → 58.5 Bedrock Intermediate Volcanic Porphyry medium gray-green groundmass with euhedral phenocrysts of plagioclase (20%) and anhedral phenocrysts of blue-gray quartz (5%) phenocrysts are upto 2 mm and comprise upto 25% of the rock
50				
51				
52				
53			10	
54				
55				
56			11	(Note: poor seal with bedrock, some contamination from overlying till)
57			12	
58			13	
59				
60				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 22 1985

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-34 LOCATION Formerly CW-15

GEOLOGIST T. Burns DRILLER G. Houg BIT NO. CB67424 BIT FOOTAGE 80 → 115.5

MOVE TO HOLE 7.45 → 8.00 complete move

DRILL 8.00 → 9.15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER 7.00 → 7.45 travel

MOVE TO NEXT HOLE

page 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 → 1.2 No Return
1–7				1.2 → 23.6 Sand rusty-beige above 3.0, gray to gray-beige below fine grained - dark gray sand from 4.8 to 23.5 - small wood chips 4.8 → 5.8 - occasional dark gray clay seam at 7.5 to 23.5
7			01	
14–15				(Note: super poly added at 21.0)
16			02	
19–20			03	

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 22 1985

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-34 LOCATION ____

GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____

MOVE TO HOLE ____

DRILL ____

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

MOVE TO NEXT HOLE ____

page 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21				
22			03	
23				23.6 → 25.5 <u>Bedrock</u> intermediate volcanic
24			04	gray-green, very fine grained very well developed foliation (tuffaceous) <1% calcite
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 22 19 85
SHIFT HOURS ____ TO ____
TOTAL HOURS ____
CONTRACT HOURS ____

HOLE NO CW-85-35 LOCATION Formerly CW-16
GEOLOGIST T. Burns DRILLER G. Houig BIT NO. CB67425 BIT FOOTAGE 0 - 4.0
MOVE TO HOLE 9.15 - 9.45
DRILL 9.45 - 10:30
MECHANICAL DOWN TIME ____
DRILLING PROBLEMS ____
OTHER ____
MOVE TO NEXT HOLE ____

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 1.0 No Return
1				1.0 - 2.6 TILL (CHIBOUGAMAU)
2			01	1.0 - 1.2 rusty-beige fine sand matrix clast composition of cobbles approximately 60% volcanics/sediments 40% granites
3			02 Bedrock	
4				1.2 - 2.6 matrix gray-beige fine sand, till still cobbly
5				
6				2.6 - 4.0 BEDROCK
7				- medium gray-green colour
8				- fine grained - very well developed foliation
9				(tuffaceous)
10				- Intermediate Volcanic
11				
12				4.0 E.O.H.
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 22 1985

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-36 LOCATION Formerly 17

GEOLOGIST Tom Burns DRILLER Howe BIT NO CB67425 BIT FOOTAGE 4.0 → 8.5

MOVE TO HOLE 10.30 → 10.45

DRILL 10:45 → 11:15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 → 1.0 No Return (probably till at surface)
1–3			01	1.0 → 2.7 Till (chibougamau) – rusty-biege, fine sand matrix, pebbly clasts 75/25
3–4.5			02	2.7 – Bedrock – METASEDIMENTS & Felsic Volcanics
				2.7 → 3.2 Rhyolite – gray, fine-grained, poor to moderate foliation
				3.2 → 4.5 Argillite – dark gray to black, very fine grained, very well developed foliation

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 Nov 22 19 85

HOLE NO CUL-85-37 LOCATION Formerly 18

GEOLOGIST J Burns DRILLER G. Haug BIT NO. CBt425 BIT FOOTAGE 2.5 -> 14.0

SHIFT HOURS

____ TO ____

MOVE TO HOLE 11.15 -> 11.30

DRILL 11.30 -> 12.00

TOTAL HOURS

MECHANICAL DOWN TIME

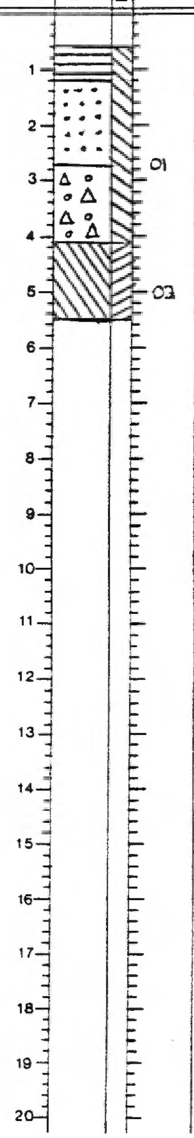
DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 -> 0.6 No return

0.6 -> 1.2 Clay beige soft smooth

1.2 -> 2.7 Sand beige fine grained

2.7 -> 4.1 Till (Chibougamau) rusty beige above 2.9 gray-beige below, fine sand matrix, pebbly clasts 60% mafic volcanic and sediments, 40% granitic

4.1 -> 5.5 Bedrock in felsic volcanic, gray, fine grained fragmental texture (volcaniclastic ?) lenses of ~~quartz~~- feldspathic material with matrix of dark green chloritic material (blocky tuff ?)

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 22 1985

HOLE NO CW-85-38 LOCATION Formerly 19

GEOLOGIST T. Burns DRILLER G. Hong BIT NO CB67425 BIT FOOTAGE 14.0 → 21.0

SHIFT HOURS ______ TO ______

MOVE TO HOLE 12.00 → 12.15

DRILL 12.15 → 1.15

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 → 21			01, 02, 03, 04	0 → 0.5 Organics 0.5 → 1.1 Sand rusty - beige, fine grained 1.1 → 5.2 Till (Chibougamau) rusty - beige, fine sand matrix cobbly clasts 80% mafic volcanics and sediments, 20% granitic - boulder meta - sediment 2.4 → 2.7 5.2 → 7.0 Bedrock Meta - sediment (siltstone) dark gray to black, fine grained, poor to moderate foliation, argillaceous below 6.3 to 6.5, felsic volcanic below 6.5 to 7.0

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 29 95

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-39 LOCATION Formerly 20.

GEOLOGIST T. Burns DRILLER G. Hewin BIT NO. CB67425 BIT FOOTAGE 21 -> 32.0

MOVE TO HOLE 1.15 - 1.30

DRILL 1.30 - 2.15

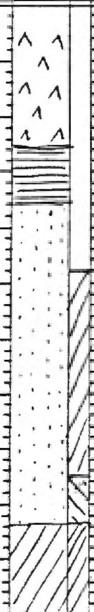
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.5 No Return
1				0.5 - 2.5 Organics
2				2.5 - 9.4 Sediments (Ojibway)
3				2.5 - 3.6 soft, smooth beige clay
				3.6 - 4.9 Fine beige sand
4				4.9 - 7.6 fine gray-beige sand with occasional pebbly bed
5				7.6 - 7.9 rusty-beige zone of medium to course sand
6				7.9 - 9.4 similar to 4.8 - 7.6
7			01	
				9.4 - 11.0 Bedrock
8				. dark gray to black
				- very fine grained
9			02	- poor to moderate foliation. slaty appearance
10			03 Bedrock	. chert bands 1-2mm comprise up to 10% of the rock
11				
12				- Meta-Sediment (siltstone)
13				
14				11.0 E.O.H.
15				
16				
17				
18				
19				
20				



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 23 85

HOLE NO CW-85-40 LOCATION Formerly

GEOLOGIST HOLMES DRILLER J. Houg BIT NO CB67499 BIT FOOTAGE 0 - 8.5

SHIFT HOURS ____ TO ____

MOVE TO HOLE

DRILL 9:30 - 10:30

TOTAL HOURS

MECHANICAL DOWN TIME Set up time continued from Nov 22 8:00 - 9:30

DRILLING PROBLEMS

CONTRACT HOURS

OTHER Travel by pickup 7:00 - 8:00 AM

MOVE TO NEXT HOLE

NEW BIT
NEW SUB

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0				0 - 0.5 ORGANICS
1				0.5 - 7.0 SEDIMENTS (OJIBWAY)
2			01	- 0.5 - 4.8 - gritty, moderately compact beige clay overlying fine beige sand with occasional pebbles, grades into medium and coarse oxidized sand
5			02	4.8 - 7.0 pebble gravel, clast composition approximately 60% volcanics/sediments 40% granites, after 5.5 m the gravel very cobbly, composition 75% volcanics/sediments 25% granites
8			03 BEDROCK	
10				7.0 - 8.5 BEDROCK - gray - green and brown - very fine grained - very schistose, thinly foliated - very micaceous along foliations - very soft to drill - Metasediment (tuffaceous)
16				8.5 E.O.H

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 03 19 85

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-41 LOCATION ______

GEOLOGIST D. Holmes DRILLER J. Houg BIT NO CB 63495 BIT FOOTAGE 8.5 - 12.0

MOVE TO HOLE 10:30 - 11:45 - got stuck truck

DRILL 11:45 - 12:45

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.4 Organics (poor return)
1			01	0.4-1.8 Sediments (Ojibway) thin beige clay layer on surface of unit, fine beige-brown sand, very oxidized (poor return)
3			Od bedrock	
				1.8-3.5 Bedrock. - light to dark green, white mottling. - upper 0.1m very oxidized, brown green. - very fine grained - slightly to very schistose, thinly foliated - minor calcite - intermediate mafic volcanic
				3.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 25 19 85

HOLE NO CW-85-42 LOCATION ______

GEOLOGIST D. Holmes DRILLER J. Huang BIT NO CB61499 BIT FOOTAGE 120-145

SHIFT HOURS

______ TO ______

MOVE TO HOLE 12:45 - 1:00

DRILL 1:00 1:30

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.5 Organics (poor return)
1			01 Bedrock	0.5-2.5 Bedrock
2				- light gray green
3				- fine grained
				- slightly oxidized
4				- very schistose, thinly foliated
5				- very oxidized zone at 1.9 m micaceous
6				- minor calcite
7				- soft to drill
8				- metasediment (siltstone)
9				2.5 E.O.H.
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 23 19 85

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-43 LOCATION ______

GEOLOGIST D Holmes DRILLER J Henry BIT NO. CR67499 BIT FOOTAGE 14.5 - 21.6

MOVE TO HOLE 1:30 - 2:00

DRILL 2:00 - 2:45

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS stuck in creek 2:45 - 6:00

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.8
				0.8 - 2.2 Sediments (Ojibway)
				- gray moderately compact smooth clay
3			01	0.8 - 0.9 - dark brown colour
4			02	2.2 - 5.0 Till (Chibougamau)
5-6			03	- sandy, pebbly till with small cobbles
				- fine grained sand matrix
				- pebble composition approximately 75% volcanics / sediments 25% granites, after 3.2 metres 80% volcanics / sediments 20% granites, occasional cobbles
				5.0 - 6.5 Bedrock
				- light green graywacke
				- very fine grained
				- very schistose, thinly foliated
				- minor calcite
				- Metasediment (tuffaceous)
				6.5 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 November 2 19 95

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-95-44 LOCATION _____

GEOLOGIST T. Burns DRILLER G. Rowe BIT NO. C867427 BIT FOOTAGE 155 - 280

MOVE TO HOLE 4 15 - 4 30

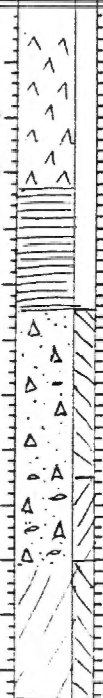
DRILL 4 30 - 5 30

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0 - 20				0 - 0.5 No Return
				0.5 - 3.3 Organics
				3.3 - 5.5 Sediments (Ojibway) - soft, smooth gray clay
			01	5.5 - 10.1 Till (Chibougamau) - Fine gray-beige sand matrix, pebbly clasts approximately 60% volcanics/sediments 40% granites - till becomes cobbly below 9.5
			02	
			03 Bedrock	10.1 - 12.5 Bedrock - clay - green 10.1 - 10.4 - ochre 10.4 - 12.5 - slightly gritty
				12.5 EOH.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 25 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-45 LOCATION Formerly hole 80

GEOLOGIST D. Holmes DRILLER J. Houry BIT NO. CB 67499 / CB 67500 BIT FOOTAGE 31.0-33.7 / 0-1.8

MOVE TO HOLE _____

DRILL 9:45 - 1:00

MECHANICAL DOWN TIME set up rock 7:45-8:45 / start compressor 8:45-9:45

DRILLING PROBLEMS stuck in creek 7:45-4:00 Nov 24 / pull rods 11:45-12:15 replace bit - cones punched in.

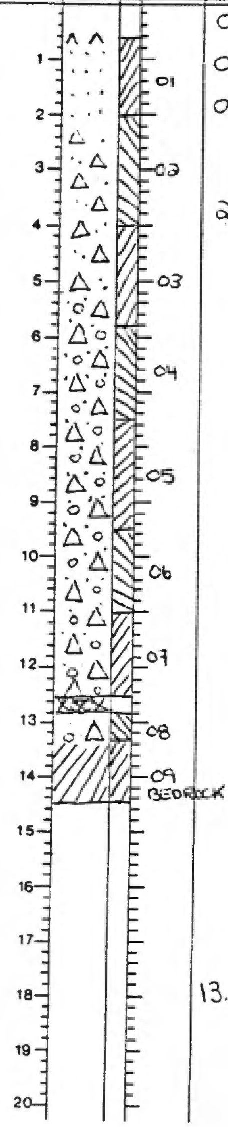
OTHER travel 7:00-7:45 by pickup

MOVE TO NEXT HOLE 1:00 - 1:30.

Mechanical Down Time: 1:30-5:00 - lost water tank, went to get hydraulic fluid

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0-0.5 No Return

0.5-0.8 Organics

0.8-2.0 Sediments (Ojibway)
fine beige ochre sand, oxidized

2.0-13.3 Till (Chibougamau)
- very sandy, very pebbly
- fine grained beige sand matrix 2.0 -> 5.2
- occasional cobble after 5.2m
- clast composition approximately 60% volcanics and sediments and 40% granitics with evening percent volcanics and sediments down section to approximately 70% volcanics and sediments 30% granitics

12.2-12.3 - till very cobbly.

12.5 - very thin layer of compact gray clay.

12.5-12.8 - boulder amphibolite

12.8-13.3 - till as above boulder matrix fine grained beige sand, pebbles and cobbles approximately 80% volcanics and sediments 20% granitic

13.3-14.5 Bedrock
- light to dark green with white (pistachio)
- very fine grained
- schistose
- trace of disseminated pyrite
-
- intermediate/mafic volcanic

14.5 - E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 28/29 19 85

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-46 LOCATION Formerly 35.

GEOLOGIST HOLMES DRILLER J Houg BIT NO. CB67500 / CB67501 BIT FOOTAGE 1.8 - 42.8 / 0 - 36 m redrill

MOVE TO HOLE

DRILL 12:15 - 5.45 Nov 29 // redrill 9:45 - 12.30 Nov 29

MECHANICAL DOWN TIME 7.45 12.15 starting motor, starter for compressor Nov 28

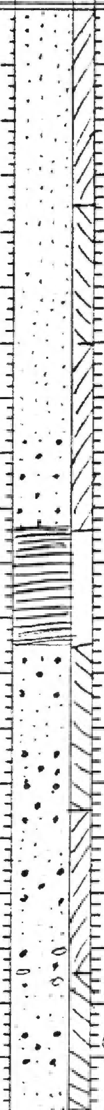
DRILLING PROBLEMS pullrods 5.00 - 5.45

OTHER Travel 7.00 - 7.45 AM Nov 28, 5.45 - 6.30 Nov 28 // Travel 7.00 - 7.45 Nov 29

~~MOVE TO NEXT HOLE~~ downtime 7:45 - 9:45 Nov 29 start compressor

NEW BIT CB67501

page 1 of 3

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–20			01, 02, 03, 04, 05, 06	0 - 35.8 SEDIMENTS (OJIBWAY)
				0 - 7.8 Fine and medium beige sand interlayered with thin pebble and gray clay layers
				7.8 - 9.4 pebble gravel composition approximately 60% volcanics/sediments 40% granites
				9.4 - 11.5 soft, very smooth gray clay
				11.5 - 20.1 pebble gravel composition approximately 60% volcanics/sediments 40% granites interlayered with coarse sand
				occasional cobbles after 17.0

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 23/24 1985

HOLE NO CW-85 46 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

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21			07	20.1 - 20.8 - oxidized coarse sand with pebbles 20.8 - 35.8 - pebble gravel interlayered with coarse sand - occasional cobbles composition approximately 60% volcanics/sediments 40% granites
22				
23				
24			08	
25				
26				
27			09	35.8 - EOH TILL (CHIBOUGAMAU) - gradational contact with overlying sediments - sandy, pebbly till with cobbles - Fine gray-beige sand matrix - pebble, cobble composition 60% volcanics/sediment 40% granites
28				
29			10	
30				
31			11	
32				
33			12	
34				
35			13	
36				
37			14	
38			15	
39				
40			16	

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 24/24 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-46 LOCATION

GEOLOGIST ____ DRILLER ____ BIT NO ____ BIT FOOTAGE ____

MOVE TO HOLE

DRILL

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			16	40.5-41.0 gravel as above till
41			17	
42				41.0 - EOH could not attain bedrock because of excessive torque on rods
43				
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 Nov 30 19 85

HOLE NO CW-85-46A LOCATION Formerly hole 35

GEOLOGIST SL Hutchison DRILLER E Huey BIT NO C867432 BIT FOOTAGE 0-752.4

SHIFT HOURS ______ TO ______

MOVE TO HOLE 10:00

DRILL 10:00 → 11:15 12:00 → 6:45

TOTAL HOURS ______

MECHANICAL DOWN TIME 11:15 → 12:00 - replace hydraulic pump.

DRILLING PROBLEMS

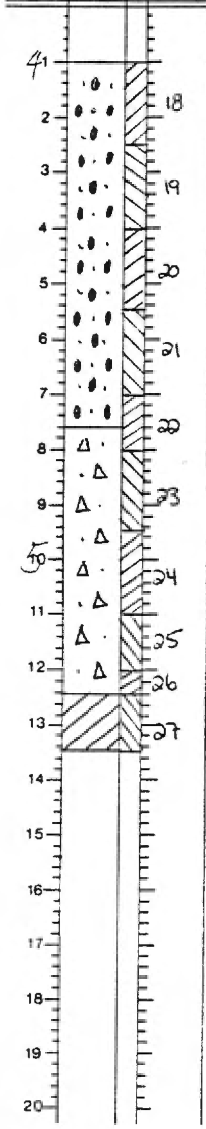
CONTRACT HOURS ______

OTHER travel 9:00 → 9:45

MOVE TO NEXT HOLE

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



For above log see CW-85-46 Nov28.

41.0 → 47.6
Gravel - medium sand matrix with pebbly clasts composing of
60% sediments and volcanics
40% granitics.
- granitic boulder = 45.4-45.5

47.6 → 52.4 Till (Chibougamau)
- gray beige, fine sand matrix with pebbly clasts composing of
75% sediments and volcanics
25% granitics.

52.4 → 53.5 Bedrock (Felsic Volcanic)
- gray to green
- very fine grained
- well developed foliation

53.5 - E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

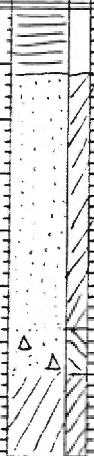
DATE Nov 29 19 85

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-47 LOCATION Formerly CW-78
GEOLOGIST Holmes DRILLER J. Howe BIT NO. CB675L BIT FOOTAGE 0 - 81
MOVE TO HOLE 12:30 - 12:45
DRILL 12:45 - 2:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1 – 8				0 - 5.8 SEDIMENTS (OJIBWAY)
				0 - 1.2 compact, smooth, beige-brown clay
				1.2 - 2.8 very fine beige sand, oxidized
			01	2.8 - 5.8 Fine beige sand, oxidized
				5.8 - 6.6 TILL (CHIBOUGAMAU)
			02	- sandy, pebbly till
				- Fine gray-beige sand matrix, oxidized 5.8 - 6.3
			03 BEDROCK	- pebble composition approximately 60% volcanics/sediments 40% granites
				6.6 - 8.1 BEDROCK
				- gray to dark gray to black with white mottling
				- Fine to very fine grained
				- slightly to very schistose, thinly foliated
				- mica along foliation faces
				- minor calcite veins
				- trace pyrite
				- hard to drill
				- Metasediment (Greywacke)
				8.1 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 29 19 85

HOLE NO CW-85-48 LOCATION CW-77

GEOLOGIST D Routliffe DRILLER J. Howe BIT NO CB67501 BIT FOOTAGE 8.1-14.1

SHIFT HOURS ____ TO ____

MOVE TO HOLE 2:00 - 2:15

DRILL 2:15 - 3:15

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 - 1.0 No Return
1				1.0 - 4.1 Seds (OJIBWAY)
2			01	- 1.0-2.5 Clay - brown, smooth, moderately compact
3				
4				- 2.5-4.1 grey-beige fine sand
				4.1 - 4.5 Till (Chibougamau)
5			02	- beige-gray fine sand matrix
6				- pebbly 60/40
7				4.5-6.0 Bedrock - Metasediment.
8				- white-brown to grey, - greywacke
9				- very fine grain to medium grain,
10				- quartz, feldspar, minor mafics.
11				- weak foliation 4.0-5.0
12				- slightly to very schistose 5.0 - 6.0
13				- gneissic banding
14				- siliceous
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 27 19 85

SHIFT HOURS
____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-49 LOCATION Formerly CW-76

GEOLOGIST Holmes DRILLER J Hawes BIT NO. 6367501 BIT FOOTAGE 141-21.6

MOVE TO HOLE 3:15-3:30

DRILL 3:30-4:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–3				0 - 5.0 SEDIMENTS (OJIBWAY) 0 - 2.5 smooth, compact brown clay 2.5-3.4 smooth compact gray clay 3.4-5.0 Fine gray sand
4–7			01, 02, 03 Bedrock	5.0 - 5.9 TILL (CHIBOUGAMAU) · abrupt and distinct contact - very sandy, pebbly till . Fine gray sand matrix pebbles composition approximately 75% volcanics/sediments 25% granites
8–14				5.9 - 7.5 BEDROCK . light to dark green and white - medium to fine grained - slightly to very schistose with thin foliations - appears to be slightly altered . trace pyrite . Intermediate/mafic volcanic
15–20				7.5 E.O.H. Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 22 19 85

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO CW-85-50 LOCATION ______

GEOLOGIST Tom Burns DRILLER Howe BIT NO. CB67425 BIT FOOTAGE 32.0 → 36.5

MOVE TO HOLE 2:15 → 2:45

DRILL 2:45 → 3:30

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 1.0 No Return (probably Till at surface)
1–3			01	1.1 → 3.1 Till (Chibougamau) rusty-beige, fine sand matrix, pebbly clasts. 80% mafic volcanics and 20% granitic
3–4.5			02	3.1 → 4.5 Bedrock - Felsic Volcanics - dark grey, very fine grained, siliceous, massive, <1% calcite veining

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 22 19 85

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO CW-85-51 LOCATION ______

GEOLOGIST I. Burns DRILLER G. Houg BIT NO CB67425 BIT FOOTAGE 36.5 -> 42.5

MOVE TO HOLE 3:30 -> 3:45

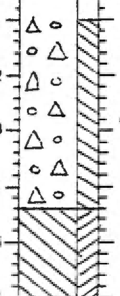
DRILL 3:45 -> 4:30

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

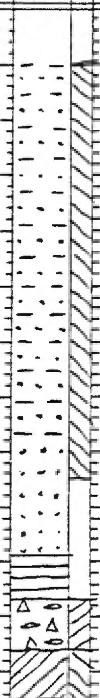


DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
0–1				0 -> 1.0 No Return						
1–4.4			01	1.0 -> 4.4 Till (Chibougamau) rusty-beige fine sand matrix, pebbly clasts 75% mafic volcanics and sediments, 25% granitic						
4.4–6			02	4.4 -> 6.0 Bedrock altered felsic volcanic (quartz-sericite schist) gray + white quartz and sericite, highly altered.						
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 22 19 85
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO CW-85-52 LOCATION Formerly CW-23
GEOLOGIST T. Burns DRILLER C. Hong BIT NO CB67725 BIT FOOTAGE 42.5 ⇒ 55.0
MOVE TO HOLE 4.30 ⇒ 4.45
DRILL 4.45 ⇒ 5.45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 5.45 ⇒ 6.45 Travel by G.T. to truck, 6.45 ⇒ 7.30 to Chapais
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–20				0 ⇒ 1.0 No Return
				1.0 ⇒ 9.9 Silt / Sand beige, very fine grained sand and silt - local interbedded soft smooth gray clay seams above 6.0 - pebbly bed at 2.5 ⇒ 2.8 - occasional gritty gray clay 6.5 ⇒ 7.5
			01	
				9.9 ⇒ 10.7 Clay gray soft smooth
				10.7 ⇒ 11.6 Till (Chibougamau) gray-beige, fine sand matrix, cobbly, clasts 75% mafic volcanic and sediments 25% granitic
			02	
			03	11.6 ⇒ 12.5 Bedrock Felsic Volcanic gray, very fine grained generally massive, siliceous possibly fragmental (light and dark coloured chips) - oxidized fractures at 12.0

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 23 19 95
HOLE NO CW-95-53 LOCATION Formerly 34
GEOLOGIST T. Barns DRILLER G. Howe BIT NO. CB67425 BIT FOOTAGE 55.0 → 67.7
SHIFT HOURS ___ TO ___
MOVE TO HOLE 9:00 - 9:30
DRILL 9:30 - 10:15
TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS
CONTRACT HOURS
OTHER 7:00 - 7:45 Travel 7:45 - 9:00 walk to drill
MOVE TO NEXT HOLE

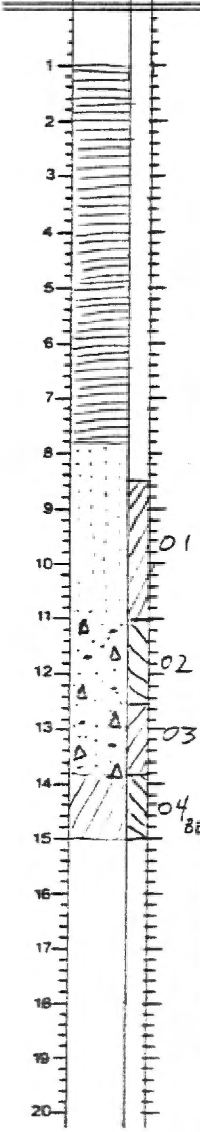
DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
		0 - 0.5 No Return
1		0.5 - 11.3 SEDIMENTS (OJIBWAY)
2–4		0.5 - 5.4 - soft, smooth, beige clay/silt - less return down section, increase in silt below 2.0 metres
4–7		5.4 - 11.3 very fine beige sand - occasional seam of smooth gray clay - increasing grain size down section - gray-beige below approximately 8.5 metres
8–10	01	11.3 - 11.9 TILL (CHIBOUGAMAU) - gray-beige fine-sand matrix, till pebbly clast composition 60% mafic/volcanic and sediments 40% granites
11–16	02, 03 BEDROCK	11.9 - 12.7 BEDROCK - medium gray - very fine grained - poor to moderate foliation, well developed locally - (tuffaceous possibly welded) - siliceous <0.05% disseminated pyrite - Felsic Volcanic
17		12.7 EOH.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 23 19 95
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO CW-95-54 LOCATION Formosa 25
GEOLOGIST J. Burns DRILLER G. Hong BIT NO. CBK7425 BIT FOOTAGE 67.7→82.7
MOVE TO HOLE 10:15 - 10:30
DRILL 10:30 - 11:15
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



Sample numbers: 01 (≈9.6 m), 02 (≈11.8 m), 03 (≈13.0 m), 04 BEDROCK (≈14.5 m)

0 - 1.0 No RETURN

1.0 - 10.9 SEDIMENTS (OJIBWAY)

1.0 - 7.8 soft, smooth gray clay, increasing silt content down hole

7.8 - 10.9 gray to gray-beige fine grained sand

10.9 - 13.8 TILL (CHIBOUGAMAU)

- gray-beige to beige fine sand matrix, pebble clasts approximate composition 60% mafic volcanic/sediments 40% granitic

13.8 - 15.0 BEDROCK

- gray to gray-white
- very fine grained
- very well developed foliation (tuffaceous) abundant talc(?) - sericite
- very easy to drill
- altered felsic volcanic

15.0 EOH.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 23 19 85

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-55 LOCATION Formerly CW-26

GEOLOGIST Tom [illegible] DRILLER Howe BIT NO CB67426 BIT FOOTAGE 0 - 7.5

MOVE TO HOLE 11:15 -> 11:30

DRILL 11:30 -> 12:15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

* New Bit CB67426

* New sub.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0				0 -> 0.5 No Return
1				0.5 -> 5.8 Till (Chibougamau) — rusty-beige above 2.0
2			01	— gray-beige below, fine sand matrix, pebbly above 3.0, Cobbly below.
5			02	5.8 Bedrock - Felsic Volcanics. — gray, fine-grained, generally massive, locally with poor to moderate Foliation, highly altered above 6.5
6.5			03	

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 Nov 23 19 85

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-56 LOCATION Formerly CW-27

GEOLOGIST [illegible] DRILLER [illegible] BIT NO. [illegible]B17426 BIT FOOTAGE 7.5 -> 15.0

MOVE TO HOLE 12:15 -> 12:45

DRILL 12:45 -> 1:20

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0 → 1.6 clay - beige, soft, smooth.
				1.6 → 6.5 Till (chibougamau)
2				- gray-beige to beige, fine
3			01	sand matrix, pebbly clasts
				60% mafic volcanics and
4			02	sediments, 40% granitic
5				- gritty gray clay matrix
6			03	below 6.0
7			04	6.5 – 7.5 Bedrock - Quartz vein
8				- white massive, locally
9				mafic minerals.
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 23 1985

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-57 LOCATION Formerly CW-28

GEOLOGIST T. Burns DRILLER G. Houg BIT NO LBE7426 BIT FOOTAGE 150 → 230

MOVE TO HOLE 1.30 → 1.45

DRILL 4.00 → 4.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS 1.45 → 4.00 getting water casing free

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0–0.5		0 → 0.5 No Return
0.5–6.5	01, 02, 03	0.5 → 6.5 Till (Chibougamau) gray-beige, fine sand matrix, pebbly clasts 65% mafic volcanics and sediments 35% granitic - gritty gray clay matrix from 2.0 → 3.0
6.5–8.0	04	6.5 → 8.0 Bedrock Intermediate Volcanic medium green to gray-green very fine grained, very well developed foliation (tuffaceous) abundant chlorite - sericite, highly oxidized locally

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 23 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-58 LOCATION Formerly CW-29

GEOLOGIST T. Burns DRILLER G. Howe BIT NO CB67426 BIT FOOTAGE 23 => 36

MOVE TO HOLE 4.30 => 4.45

DRILL 4.45 => 6.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER 6.45 => 7.15 walk to truck 7.15 => 8.00 to Chapais

MOVE TO NEXT HOLE 6.30 => 6.45

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0 → 1.0		No Return
1.0 → 12.1	01, 02, 03, 04, 05, 06, 07	Till (Chibougamau) gray-beige, fine sand matrix pebbly clasts 60% mafic volcanic and sediments 40% granite - boulder, diorite 2.6 → 2.8 aplite 4.4 → 4.6 - cobbly below 4.6, low percentage of fine sand matrix - very stoney below 6.0 to 8.0 - increase in percentage of fine sand matrix below 8.0 - gritty gray clay matrix from 11.2 → 12.1
12.1 → 13.1	08	Bedrock Intermediate Volcanic medium green, very fine grained, very well developed foliation, abundant chlorite and sericite, local oxidized seams

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 24 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-59 LOCATION Formerly CW-30

GEOLOGIST T. Burns DRILLER G. Haig BIT NO CB67426 CB67427 BIT FOOTAGE 76→745.4 0→15.5

MOVE TO HOLE

DRILL 8.30 → 11.15

MECHANICAL DOWN TIME

DRILLING PROBLEMS 11:15 → 4.15 pull acker jack out of swamp

OTHER 7:00 → 7:45 to drill road 7:45 → 8:30 walk to drill

MOVE TO NEXT HOLE

New bit CB67427

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0→1.3 Sediments (Ojibway) Clay - gray soft smooth
2–3			01	1.3→14.2 Till (Chibougamau) - gray to gray beige, fine sand matrix, pebbly clasts
4			02	65% mafic volcanics and sediments, 35% granitic.
5–6			03	- gray gritty clay matrix
6–7			04	2.8→3.0
7			04	4.1→4.2 - boulder diorite 5.0→5.2
8			04	- gravel lense 6.3→6.5
9			05 → changed bit here.	- cobbly below 6.5 clasts 75% mafic volcanics and
10			06	sediments. 25% granitic
11–12			07	- boulder mafic volcanic 6.6 → 6.8 7.4 → 7.6 9.4 → 9.8
13–14			08	- pebbly below approximatly 13.5
15			09	14.2→15.5 Bedrock
16–20				- intermediate volcaniclastic - medium green - very fine grained - very well developed foliation (tuffaceous) - abundant chlorite / sericite

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 29 19 95

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-95-60 LOCATION Formerly CW-75

GEOLOGIST HOLMES DRILLER J Howe BIT NO. CB67501 BIT FOOTAGE 216.275

MOVE TO HOLE 4:30 - 4:45

DRILL 4.45 - 5.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER clean tank 5.30 - 6.00 , travel 6.00 - 7:00

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 - 1.0 No RETURN
1–4			01	1.0 - 4.0 SEDIMENTS (OJIBWAY) 1.0 - 2.6 - smooth, compact, brown clay 2.6 - 4.0 very fine beige sand
4–4.3				4.0 - 4.3 TILL (CHIBOUGAMAU) - sandy, pebbly, cobbly till - fine beige sand matrix pebble composition approximately 60% volcanics/sediments 40% granites
4.3–5.8			02 BEDROCK	4.3 - 5.8 BEDROCK - light gray to white, some oxidized brown along fractures - fine grained - slightly to moderately schistose, thinly foliated - sugary texture - trace pyrite, disseminated - oxidized zone at 4.9 - META-SEDIMENT (Greywacke)
				5.8 EOH

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 30 1985

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-61 LOCATION Formerly CW-77

GEOLOGIST HOLMES DRILLER J. H. BIT NO. CB67501 BIT FOOTAGE 27.4 - 33.9

MOVE TO HOLE 9:15 - 8:30

DRILL 8:30 - 9.15

MECHANICAL DOWN TIME start compressor 8:00 - 8:15

DRILLING PROBLEMS

OTHER travel 7.00 - 8:00

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2 ORGANICS
1				0.2 - 4.8 SEDIMENTS (OJIBWAY)
2				0.2 - 2.8 smooth compact beige-brown clay - poor return
3				2.8 - 4.8 Fine and very fine beige sand
4			01	
5				4.8 - 5.0 TILL (CHIBOUGAMAU) - Fine beige sand matrix, oxidized. pebbles composition approximately 60% volcanics/sediments 40% granites
6			02 BEDROCK	
7				
8				5.0 - 6.5 BEDROCK - gray colour, brown along foliations - Fine grained - schistose, thinly foliated with mica along foliation - soft to drill - Meta-sediment (Graywacke)
9				
10				
11				
12				
13				
14				6.5 EOH. Don Holmes
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE *Nov. 30* 19 *85*

HOLE NO *CW-85-62* LOCATION *Formerly CW-73*

GEOLOGIST *P. ROUTLIFFE* DRILLER *J. Houg* BIT NO. *CB67501* BIT FOOTAGE *33.9-42.9*

SHIFT HOURS ______ TO ______

MOVE TO HOLE *9:15-9:30*

DRILL *9:30 - 10:00*

TOTAL HOURS ______

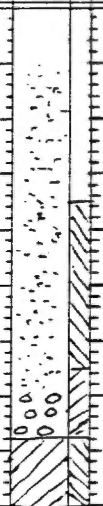
MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS ______

OTHER

MOVE TO NEXT HOLE



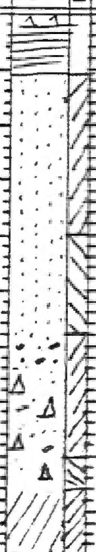
DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
		0.0 – 0.8 NO RETURN
1		*0.8 – 7.8 SEDS (OJIBWAY)*
2		*– grey to brown, smooth, moderately*
3		*compact clay (0.8 – 1.0)*
4		*– brown, smooth, compact clay*
5	*01*	*(1.0 – 3.4)*
6		*– Fine brown to grey sand*
7	*02*	*(3.4 – 7.0)*
8	*03*	*– gravel – pebbly 70/30*
9		*(7.0 – 7.8) – fine brown sand matrix*
10		*7.8 → 9.0 Bedrock*
11		*– fine grain, grey black*
12		*– weak to moderate foliation*
13		*– minor calcite, pyrite*
14		*– quartz vein material*
15		*→ Metasediments.*
16		
17		
18		
19		
20		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 30 19 85
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO CW-85-63 LOCATION Formerly CW-72
GEOLOGIST HOLMES DRILLER J. [illegible] BIT NO CB6 7501 BIT FOOTAGE 42.4 - 52.7
MOVE TO HOLE 10:00 - 10:15
DRILL 10:15 - 11:15
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



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

Sample No.: 01, 02, 03, 04, 05, BEDROCK

0 - 0.2 ORGANICS

0.2 - 6.4 SEDIMENTS (OJIBWAY)

0.2 - 1.1 - smooth compact beige-brown clay

1.1 - 5.8 Fine and very Fine beige sand

5.8 - 6.4 pebble and cobble gravel composition approximately 60% volcanics/sediments 40% granites

6.4 - 8.6 TILL (CHIBOUGAMAU)

- sandy pebbly till, gradational contact with overlying unit
- Fine gray-beige to beige, occasionally ochre matrix, pebbles and occasional cobbles, composition 60% volcanics/sediments 40% granites
- very oxidized at 7.0 and at 8.3

8.6 - 9.8 BEDROCK

- light green colour, some white mottling
- very Fine grained
- schistose, thinly Foliated
- Intermediate/mafic volcanic

9.8 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 2 19 85

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-64 LOCATION Formerly 71
GEOLOGIST HOLMES DRILLER J. Town BIT NO CB67437 BIT FOOTAGE 0 - 4.6
MOVE TO HOLE 11:15 - 11:30
DRILL 11:30 - 12:15
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

NEW SUB
NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 1.0 NO RETURN
				1.0 - 2.2 SEDIMENTS (OJIBWAY)
			01	- Fine beige sand
				2.2 - 3.1 TILL (CHIBOUGAMAU)
			02 BEDROCK	- sandy pebbly till
				- Fine beige sand matrix, oxidized
				- pebble composition approximately 60% volcanics/sediments 40% granites
				3.1 - 4.6 BEDROCK
				- black colour
				- very fine grained
				- very schistose, thinly foliated, brittle
				- some oxidation along foliation planes
				- minor graphite, graphite-rich after 4.0
				- very soft to drill
				- trace quartz veins
				- Argillite (META SEDIMENT)
				4.6 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 30 19 95

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-95-65 LOCATION Formerly CW-70
GEOLOGIST HOLMES DRILLER J [illegible] BIT NO. CB67437 BIT FOOTAGE 4.6 - 7.1
MOVE TO HOLE 12:15 - 12:30
DRILL 12:30 - 1:30
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2 ORGANICS
1				0.2 - 0.9 SEDIMENTS (OJIBWAY)
			01 Bedrock	- Fine beige-ochre sand
2				
3				0.9 - 2.5 BEDROCK
4				- light green, dark green-grey colour with white, pink-red along foliation surfaces
5				
6				- very fine grained
				- very schistose, thinly foliated
7				- alteration (?) along foliation surfaces (pink vstreaks, muscovite?)
8				- minor quartz veins
9				- Altered Intermediate/mafic volcanic
10				
11				2.5 EOH.
12				Don Holmes
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov. 30 1985

HOLE NO CW-85-66 LOCATION Formerly CW-69

GEOLOGIST D ROUTLEDGE DRILLER J Hous BIT NO CB67J32 BIT FOOTAGE 7.1-13.1

SHIFT HOURS
____ TO ____

MOVE TO HOLE 1:30 - 1:45

DRILL 1145 - 2115

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 - 0.9 No Return
1				0.9 - 3.4 Seds (OJIBWAY)
2			01	- grey-brown fine sand (oxidized)
3				- med. gr sand 3.0 - 3.4.
4			02	3.4 - 4.2 Till
5			03	- fine grain, grey-beige, Sand matrix
6				
7				- pebbly 70/30
8				4.2 - 6.0 Bedrock - Metasediment.
9				4.2 - 4.4 - reddish brown, trace magnetite
10				
11				4.3 → green to light green
12				- fine grain,
13				- very schistose, foliated.
14				- minor calcite, pyrite.
15				
16				6.0 E.O.H.
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 30 19 95

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85 67 LOCATION Formerly 79

GEOLOGIST Holmes DRILLER & Ducette BIT NO. CD67437 BIT FOOTAGE 13.1 · 30.1

MOVE TO HOLE 2:15 - 3:00

DRILL 3:00 · 5:00

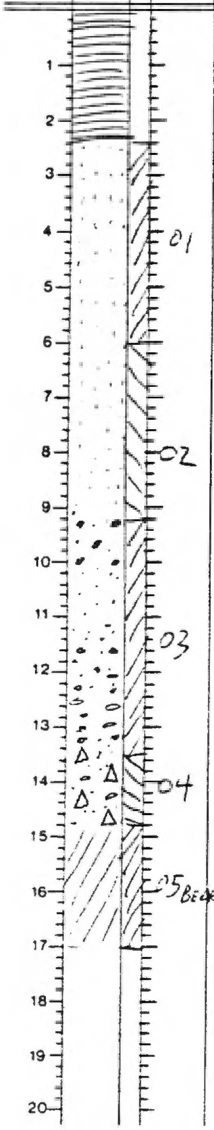
MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER Travel 530 - 630

MOVE TO NEXT HOLE 500 - 5.30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 - 13.1 SEDIMENTS (OJIBWAY)

0-2.4 smooth compact beige - brown clay

2.4-9.2 Fine beige sand oxidized interlayered with medium sand and thin pebble layer

9.2-13.1 - pebble gravel composition 60% volcanics/sediments 40% granites interlayered with coarse and medium beige sand
- gravel contains cobbles after 12.0 metres

13.1 - 14.8 TILL (CHIBOUGAMAU)
- sandy, pebbly, cobbly till gradational contact with overlying sediments
- Fine gray-beige sand matrix pebbles and cobbles composition approximately 70% volcanics/sediments 30% granites

14.8 - 17.0 BEDROCK

14.8-15.5 - poor return; chips appear to be Felsic volcanic,

15.5-17.0 - light and dark green-gray
- very fine grained
- massive to slightly schistose
- very hard to drill
- sugary texture
- Meta-sediment (tuffaceous)

17.0 EOH

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE December 19 95

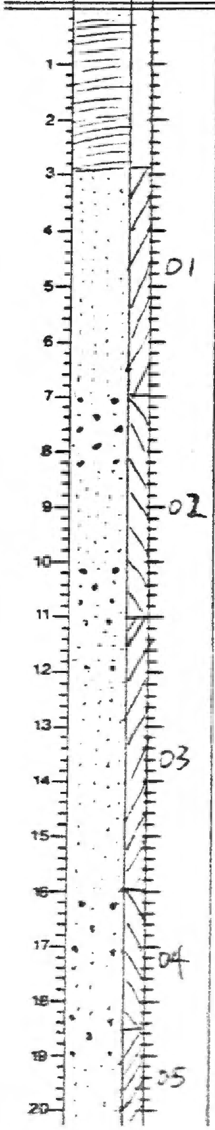
SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-68 LOCATION Formerly CW-36
GEOLOGIST Holmes DRILLER d. Durette BIT NO. CB67437 BIT FOOTAGE 50.1 - 61.5
MOVE TO HOLE 9.00 - 9.30
DRILL 9.30 - 10:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER Travel 7.00 - 9.00
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 - 28.6 - SEDIMENTS (OJIBWAY)

0 - 0.2 - Fine beige-brown oxidized sand

0.2 - 2.9 beige-brown gritty compact clay, smooth after 1.0

2.9 - 7.0 - Fine beige sand

7.0 - 16.0 oxidized brown coarse sand with pebbles interlayered with Fine beige sand

. sand Fine grey-beige after 12.0 metres, interlayered with pebble gravel

16.0 - 28.6 - coarse sand. oxidized interlayered occasionally with thin pebble gravel layers, composition 60% volcanics/sediments 40% granites

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE December 1995

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-68 LOCATION ______
GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______
MOVE TO HOLE ______
DRILL ______
MECHANICAL DOWN TIME ______
DRILLING PROBLEMS ______
OTHER ______
MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21				
22			05	
23				28.6 - 30.5 BEDROCK - contamination from overlying sediments - light and dark gray-green - fine grained - slightly to very schistose - minor quartz veins & carbonate - soft to drill - Meta-Sediment (possibly tuffaceous, Felsic volcanic)
24				
25				
26			06	
27				
28				
29			07 Bedrock	
30				
31				30.5 EOH Don Holmes
32				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 1 1985

HOLE NO CW-85-69 LOCATION Formerly CW-95

GEOLOGIST D. ROUTLIFFE DRILLER H. DUCETT BIT NO. CB67504 BIT FOOTAGE 0.0 - 2.0

SHIFT HOURS ______ TO ______

MOVE TO HOLE 10:00 - 11:40

DRILL 11:45 - 1:00

TOTAL HOURS ______

MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS ______

OTHER

MOVE TO NEXT HOLE

* New Bit - drilled 1.0 m with CB67437, then redrilled with New Bit.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0.0 - 0.4 No Return
1			01	0.4 → 2.0 Bedrock
2				- fine-grain
3				- light green
4				- weak to moderate foliation
5				- minor calcite, pyrite
6				- moderately schistose
7				- Intermediate / Mafic Volcanic
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 25 19 85
HOLE NO CW-85-70 LOCATION Formerly CW-31
GEOLOGIST Tom Burns DRILLER G. Hong BIT NO. CB67422 BIT FOOTAGE 30.5-58.5

SHIFT HOURS
____ TO ____
MOVE TO HOLE 7:45-9:30
DRILL 9:30 - 1:30

TOTAL HOURS
____
MECHANICAL DOWN TIME ____
DRILLING PROBLEMS ____

CONTRACT HOURS
____
OTHER Travel 7:00 - 7:45
MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 → 0.5 No Return 0.5 → 1.0 organics 1.0 → 29.1 Till (Chibougamau) - gray to gray-beige, - fine sand matrix - ~~pebbly~~ above 3.2 to 4.8 - cobbly below 4.8 - clasts 60/40 - boulder - granitic 15.6-15.8
3			01	
6			02	
8			03	
9			04	
11			05	
12			06	
14			07	
15			08	
17			09	
18			10	
20			11	

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE NOV 25 19 85

HOLE NO CW-85-70 LOCATION Formerly CW-31

GEOLOGIST T Burns DRILLER G. Howe 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 ______

Page 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			11	- boulder - felsic volcanic 20.5 → 20.9
21			12	cobbly below 21.0
22				- clasts 75/25
23			13	29.1 Bedrock - Intermediate to mafic volcanic.
24			14	- predominantly dark green, pink-green above 30.0
25			15	- very fine grained throughout.
26			16	- very well developed foliation
27			17	- alternating bands of chloritized mafics and quartzo-feldspathic material above 30.0
28			18	
29				
30				
31				30.5 EOH
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 25 19 85
HOLE NO CW-85-71 LOCATION Formerly CW-32
GEOLOGIST D RESTLIFFE DRILLER G. HOWE BIT NO. CB67428 BIT FOOTAGE 0 → 24.5

SHIFT HOURS
_____ TO _____
MOVE TO HOLE 1:30 – 1:45
DRILL 1:45 – 5:00

TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS

CONTRACT HOURS
OTHER
MOVE TO NEXT HOLE

* New BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0.0 → 0.8 NO RETURN
1				0.8 → 23.5 TILL (CHIBOUGAMAU)
2				– grey to grey-beige fine sand matrix
3			01	– cobbly clasts – 80% mafics & seds.; 20% granitic
6			02	
8			03	– boulder – granitic 8.2 → 8.4
10			04	
11			05	
12			06	
14			07	
16			08	
17			09	
19			10	
20				23.5 → 24.5 Bedrock
			11	Mafic Volcanic
				– fine grain, massive,
			12	– dark green
				– weak to moderate foliation
			13	– possibly pyritic
				EOH AT 24.5 m.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 26 19 85

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-35-72 LOCATION Formerly hole 33

GEOLOGIST D. Holmes DRILLER E. Haug BIT NO CB67428 BIT FOOTAGE 24.0 → 57.6

MOVE TO HOLE 8.45 → 9.15

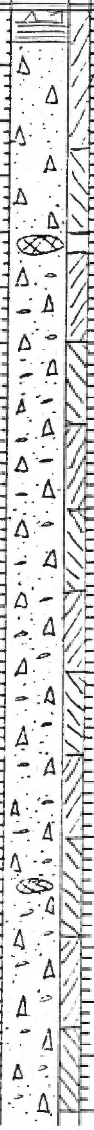
DRILL 9.15 → 11.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12	

0 → 0.2 <u>Organics</u>

0.2 → 0.6 <u>Sediments</u> (Ojibway)
- brown compact clay

0.6 → 20.2 <u>Till</u> (Chibougamau)
- sandy, pebbly till

0.6-4.1 Fine gray-beige to gray sand matrix
occasional oxidized zone
- pebbles composition approximately
60% volcanics/sediments
40% granites

4.1-4.4 boulder - diorite

4.4 15.8 till matrix gray to gray-beige
Fine sand, cobbly till composition
75% volcanics/sediments
25% granites
- after 7.5 till becomes very sandy,
very pebbly with occasional cobbles
same matrix and composition
as above

15.9 - 16.0 boulder - Argillite

16.0 - 20.2 till as above boulder

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 26 19 85

HOLE NO CW-85-72 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

Page 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21				20.2-21.1 BEDROCK RUBBLE - bedrock argillite chips and granules of granite
22			13 BEDROCK	21.1-22.6 BEDROCK - dark gray-green colour - fine grained - schistose - soft to drill - minor quartz veins - Intermediate/mafic volcanic
				22.6 EOH

Don Holmes.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 26 1985

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-73 LOCATION Formerly hole CW-34
GEOLOGIST D. Holmes DRILLER G. Hmuz BIT NO. CB67428 BIT FOOTAGE 24.5 -> 29.0
MOVE TO HOLE
DRILL 8.00 -> 8.45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER travel 7.00 -> 8.00
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 -> 0.5 No Return
1				0.5 -> 2.5 Sediments (Ojibway) - fine grained, gray, sand
2			01	
3				2.5 -> 2.8 Till (chibougamau) gray, fine sand matrix pebbly. clasts 80% argillite and mafic volcanic, 20% granitic
4			02	
5				
6				
7				2.8 -> 4.5 Bedrock Graphitic Argillite very black, very fine grained, schistose, thinly foliated, very soft easy to drill
8				
9				
10				
11				4.5 E. O. H.
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 26 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-74 LOCATION Formerly CW-81

GEOLOGIST D. Holmes DRILLER G. Hay BIT NO. CB6I429 BIT FOOTAGE 0 – 10.5

MOVE TO HOLE 11:30 – 1:30

DRILL 1:30 – 2:15

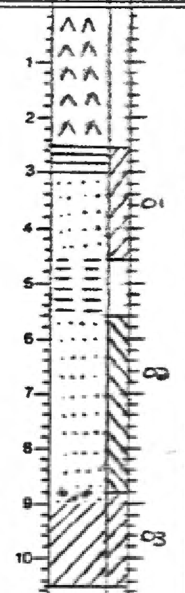
MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–20			01, 02, 03	0 – 2.5 Organics
				2.5 – 8.9 Sediments (Ojibway)
				2.5 – 3.0 gray, soft smooth clay
				3.0 – 4.6 very fine grained sand
				4.6 – 5.5 silt
				5.5 – 6.2 fine, beige sand
				6.2 – 8.8 fine beige-medium beige sand.
				8.8 – 8.9 pebble gravel with composition approximately 60% volcanic sediments and 40% granitic
				8.9 – 10.5 Bedrock
				- light green to dark green, white
				- fine grained
				- massive to slightly schistose
				- minor calcite
				- Intermediate / mafic volcanic
				10.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 26 19 85

HOLE NO CW-85-75 LOCATION Formerly CW-82

GEOLOGIST D. ROUTLIFFE DRILLER G. HOWG BIT NO CB67429 BIT FOOTAGE 10.5-25.5

SHIFT HOURS

____ TO ____

MOVE TO HOLE 2:15 - 2:45

DRILL 2:45 - 4:30

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 → 1.0 ORGANICS
1				1.0 → 10.0 SEDS. (OJIBWAY)
2			01	1.0 → 2.5 clay layer - soft grey
3				2.5 → 5.0 very fine grain sand - grey
4				5.0 - 5.5 fine grain beige sand
				5.5 → 8.0 Gravel - pebbly,
5			02	grey-beige gravel interlayered with
6				fine grey sand, oxidized.
				8.0 → 10.0 cobbly gravel.
7			03	10.0 → 14.5 Till (Chibougamau)
8				10.0 → 12.5 pebbly clasts - 60% mafic
9				& sediments, 40% granitic
10				in fine grain brown to ochre
			04	sand matrix.
11				12.5 → 13.0 pebbly clasts - 70/30
12			05	in a grey fine grain sand
13				matrix.
			06	13.0 → 14.5 cobbly clasts - 80/20
14				in a grey-beige fine grained
15			07	sand matrix.
16				14.5 → 16.0 Bedrock - Mafic to
17				Intermediate volcanic rock
18				- fine grained, massive,
				- moderate foliation
19				- grey-green
20				- minor calcite, quartz

16.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE November 24 19 85

HOLE NO CW-85-76 LOCATION Fenimore 83

GEOLOGIST HOLMES DRILLER G. HOWE BIT NO. CB67424 BIT FOOTAGE 26.5-34.5

SHIFT HOURS ___ TO ___

MOVE TO HOLE 4:30-4:45

DRILL 4:45-5:45

TOTAL HOURS ___

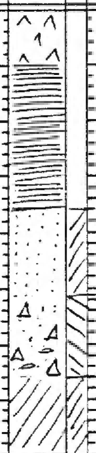
MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS ___

OTHER travel 6.00-6:15 tractor 6:15-7.00 pick up

MOVE TO NEXT HOLE 5:45-6:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0-1				0 - 1.0 ORGANICS
1-4				1.0 - 5.1 SEDIMENTS (OJIBWAY) 1.0-3.6 soft, very smooth gray clay becomes moderately compact downsection 3.6-5.1 very fine gray sand
4-5			01	5.1 - 6.6 TILL (CHIBOUGAMAU) - sandy, pebbly till
5-7			02	- 5.1-6.2 Fine beige sand matrix, pebble and occasional cobble composition approximately 60% volcanics/sediments 40% granites
7-11			03 Bedrock	-6.2-6.6 till matrix fine gray-beige sand, till very cobbly composition approximately 80% volcanics/sediments 20% granites
11-16				6.6 - 8.0 BEDROCK . light and dark green, some white - very fine grained - minor chert bands (white) - minor calcite veins (white) - slightly to moderately schistose - trace disseminated pyrite . Intermediate/mafic volcanic
17-20				8.0 EOH. Don Holmes.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 25 1985

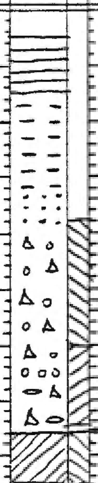
SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-77 LOCATION Formerly CW-84
GEOLOGIST T. Burns DRILLER G. Houg BIT NO. R67429 BIT FOOTAGE 34.5 => 43.0
MOVE TO HOLE 8.15 -> 8.30
DRILL 8.30 => 10.30
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 7.00 => 7.45 truck 7.45 => 8.15 walk to drill
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 => 0.5 No Return
				0.5 => 3.8 Sediments (Ojibway)
				clay gray soft smooth 0.5 => 1.5
				silt beige to gray-beige 1.5 — 3.2
				sand beige fine grained 3.2 — 3.8
			01	
				3.8 => 7.6 Till (Chibougamau) gray gritty clay matrix above 4.2, gray to gray-beige sand below, pebbly clasts 75 % mafic volcanics and sediments (argillite), 25% granitic
			02	
			03	
				- cobbly below ≈ 5.5
				- gravel lense 6.4 => 6.6
				- gritty gray clay matrix 7.4 => 7.6
				7.6 => 8.5 Bedrock Felsic Volcanic medium to dark gray, fine to very fine grained, generally massive, local lenses or fragments of dark gray to black chips < 0.5 % calcite veining
				8.5 EOH



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 27 19 85
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO CW-85-78 LOCATION Formerly hole 85
GEOLOGIST I. Burn DRILLER G. Haug BIT NO. 886743 BIT FOOTAGE 43.0-46.5
MOVE TO HOLE 10:30 → 11:00
DRILL 11:00 → 12:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 12:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 1.0 No Return
1				1.0 → 2.8 Till (Chibougamau)
2			01	- gray beige, fine sand matrix
				- cobbly clasts, 65% sediments
3			03	and volcanics 35% granitic
4				2.8 → 3.5 Bedrock
5				- dark gray to black
6				- fine grained
7				- 1% disseminated pyrite
				- Mafic Volcanics
8				3.5 EOH
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 27 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-79 LOCATION Formerly 86

GEOLOGIST T. Burns DRILLER G. Haug BIT NO. CW 67430 BIT FOOTAGE 0-10.0

MOVE TO HOLE 12:00 → 12:55

DRILL 12:55 → 1:40

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 1:40.

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 1.0 Organics
1				1.0 → 6.0 Clay
2				- gray, soft, smooth, organics local interbedded sand.
3–5				6.0 → 8.6 Till
				- gray beige, fine sand matrix
				- pebbly clasts, 65% sediments and volcanics 35% granitics
6–8			D1	8.6 → 10.0 Bedrock
				- dark green to gray/white
				- very fine grained
				- veins of calcite
9			D2 Bedrock	- Mafic to Intermediate Volcanic
10–20				10.0 EOH

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 27 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-80 LOCATION Formerly 87

GEOLOGIST J. Burn DRILLER G. Haug BIT NO C-86-7430 BIT FOOTAGE 10.0 -> 14.0

MOVE TO HOLE 1:40 -> 2:00

DRILL 2:05 -> 2:40

MECHANICAL DOWN TIME 3:10 -> 4:50 skid pad fell off

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 2:40 -> 310 4:50 -> 6:00.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–2.6	Δ •		01	0 -> 2.6 Till - beige to gray beige - very fine sand - pebbly clasts. 60% sediments and volcanics, 40% granitics
2.6–4.0			02 Bedrock	2.6 -> 4.0 Bedrock - light gray to dark gray-black - very fine grained - quartz veining present - <0.1% disseminated pyrite - Mafic to Intermediate Volcanic

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

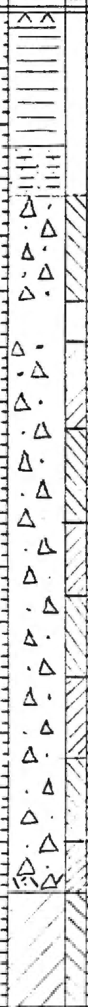
DATE Nov 25 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-81 LOCATION Francis Hole 88
GEOLOGIST J. Burns DRILLER G. Hung BIT NO CB67430 BIT FOOTAGE 140→220
MOVE TO HOLE 11:30 → 12:00
DRILL 12:00 → 2:45
MECHANICAL DOWN TIME 7:45 → 11:30 repair truck 2:45 → 4:00 replace hydrolic pump
DRILLING PROBLEMS
OTHER 7:00 → 7:45 travel
MOVE TO NEXT HOLE 4:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02, 03, 04, 05, 06, 07, 08, 09 Bedrock	

0 → 0.2 Organics

0.2 → 2.4 Clay
- gray beige, smooth, soft

2.4 → 3.3 Silt / Sand
- gray beige

3.3 → 15.9 Till (Chibougamau)
- beige fine sand matrix
- pebbly clasts composing of 65% sediments and volcanics 35% granitic

5.2 → 5.9 - gabbro boulder.
5.9 → 15.7 - Till same as above.
15.7 → 15.9 - gray, smooth, soft clay matrix
- pebbly clasts composing of 65% sediments and volcanics 35% granitic

15.9 - 18.0 Bedrock Felsic Volcanic
- white - light green to dark green
- schistose with well developed foliation.
- 2-3% disseminated pyrite

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 28 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-82 LOCATION Formerly hole 89
GEOLOGIST I.Burns DRILLER G. Hug BIT NO CB67430 BIT FOOTAGE 220-265
MOVE TO HOLE 4:00 -> 4:15
DRILL 4:15 -> 4:45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 4:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 -> 0.2 Organics
1			01	0.2 -> 2.5 Till (Chibougamau)
2				· gray beige sand matrix
3				pebbly clasts composing of
4			02	85% sediments and volcanics
				15% granites
5				2.5 -> 4.5 Bedrock Metasediment (Argillite)
6				- gray to black
7				- very fine grained
8				- very well developed foliation
				locally graphitic throughout
9				- <0.1% disseminated pyrite
10				
11				4.5 EOH
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 28 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-83 LOCATION Formerly hole 90

GEOLOGIST J. Burn DRILLER G. Haug BIT NO t867430 BIT FOOTAGE 26.5-32.5

MOVE TO HOLE 4:45 -> 5:15

DRILL 5:15 -> 5:45

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

MOVE TO NEXT HOLE 5:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 0.2 No Return
1				0.2 → 4.5 Clay
2				- gray, smooth, soft
3				
4				4.5 → 4.8 Till (Chibougamau)
			01	- gray beige fine sand matrix
5				- pebbly clasts
			02	- 65% sediments and volcanics, 35% granitics
6			Bedrock	
7				
8				4.8 → 6.0 Bedrock Metasediment (argillite)
9				- gray to black
10				- very fine grained
11				well defined foliation
12				with locally graphitic
13				throughout
14				6.0 E.O.H.
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 29 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-84 LOCATION Formerly CW-91

GEOLOGIST S.L. Hutchings DRILLER G. Houg BIT NO. CW67430 BIT FOOTAGE 32.5 → 37.0

MOVE TO HOLE 8.15 → 9.00

DRILL 9.00 → 9.45

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER 7.00 → 7.45 truck to drill road 7.45 → 8.15 walk to drill

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
1 – 2				0 → 2.5 Organics						
3 – 4			01	2.5 → 2.6 Till (Chibougamau) gray beige, fine sand matrix, pebbly, clasts 65% mafic volcanics and sediments 35% granitic (unit too thin to sample)						
5 – 10				2.6 → 4.5 Bedrock Metasediment (Argillite) light gray to black, very fine grained, very well developed foliation < 2% disseminated pyrite, local quartz veining with disseminated pyrite						
11				4.5 E.O.H.						
12										
13										
14										
15										
16										
17										
18										
19										
20										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 29 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-85 LOCATION Formerly hole CW-92

GEOLOGIST S.L. Hutchins DRILLER G. Houg BIT NO CB67430 BIT FOOTAGE 37.0 → 44.2
0 → 1.3

MOVE TO HOLE 9.45 → 10.00

DRILL 10.00 → 11.00

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

MOVE TO NEXT HOLE ____

* New bit
* New sub.
(lost down-hole 1 rod, 1 bit, 1 sub)

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0 → 0.8				No Return
0.8 → 5.0				Organics
5.0 → 7.2			01	Till (Chibougamau) gray, gritty clay matrix, soft, pebbly clasts 65% mafic volcanics and sediments, 35% granitic - beige, fine sand matrix below 5.8 to 7.2
7.2 → 8.5			02	Bedrock Meta-sediment light gray to black, very fine grained, very well developed foliation

8.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 29 19 85

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-86 LOCATION Formerly hole 93

GEOLOGIST S.L. Kutchinop DRILLER G. Hury BIT NO. CB+7431 BIT FOOTAGE 1.3 -> 8.3

MOVE TO HOLE 11:00 -> 11:25

DRILL 11 25 -> 12:00

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE 12:00 -> 12:30.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 -> 0.2 No Return
				0.2 -> 0.8 Organics
				0.8 -> 3.0 No Return
			01	3.0 -> 5.5 Till (Chibougamau) - gray beige fine sand matrix - pebbly clasts composing of 60% sediments and volcanics 40% granitics
			02 Bedrock	5.5 -> 7.0 Bedrock Medisediment - light gray to black - very fine grained - very well developed foliation schistose - <1% quartz throughout - locally graphitic throughout
				7.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 29 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-87 LOCATION Formerly hole 94

GEOLOGIST S.L. Hutchings DRILLER G. Huey BIT NO CB67431 BIT FOOTAGE 8.3→13.3

MOVE TO HOLE 12:00 → 12:30

DRILL 12:30 → 1:00

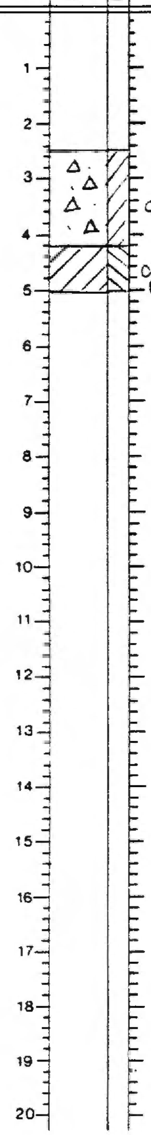
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 1:00 → 1:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 2.5 No Return
			01	2.5 → 4.2 Till (Chibougamau)
				- gray beige sand matrix
				- pebbly clasts composing of
				80% sediments and volcanics
			02 Bedrock	20% granitic
				4.2 → 5.0 Bedrock Metasediment
				- light gray to black
				- very fine grained
				- <1% qtz
				- well developed foliation
				5.0 E.O.H.



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov 29 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-88 LOCATION Formerly hole 94a

GEOLOGIST S.L. Hutchings DRILLER G. Huig BIT NO CBK7431 BIT FOOTAGE 13.3->27.8

MOVE TO HOLE 1:00 -> 1:15

DRILL 1:15 -> 2:30

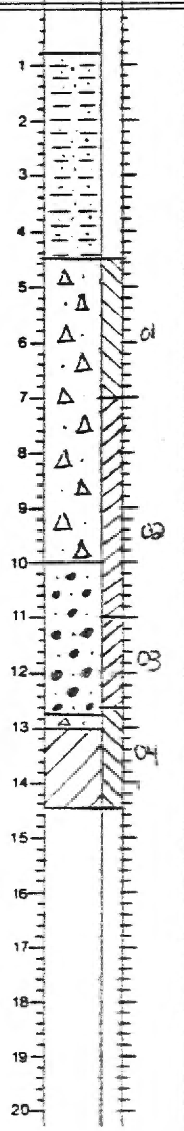
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 2:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 -> 0.8 Organics

0.8 -> 4.5 Silt / Sand (Ojibway Sediments)
- gray beige with gray clay
smooth, soft.

4.5 -> 10.0 Till (Chibougamau)
- gray beige fine sand matrix
- pebbly clasts composing of
65% sediments and volcanics
35% granitics

10.0 -> 12.7 Gravel (Ojibway Sediments)
pebbly matrix composing of
65% sediments and volcanics
35% granitics

12.7 -> 13.0 Till (Chibougamau)
- gray beige fine sand matrix
- pebbly clasts composing of
80% sediments and volcanics
20% granitic.

13.0 -> 14.5 Bedrock Metasediment
- light gray to dark gray.
- very fine grained
- well developed foliation
and locally graphitic throughout
- 1% disseminated pyrite
- quartz veining throughout

14.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 1 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-89 LOCATION Formerly hole 37

GEOLOGIST S.J. Hitchins DRILLER G. Houg BIT NO CB67432 BIT FOOTAGE 52.4 -> 86.9

MOVE TO HOLE 9:30 -> 10:00

DRILL 10:00 -> 1:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 1:30 -> 1:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1			01	0->0.2 Organics and Sand Sediments (Ojibway)
2–3				0.2->2.0 Clay - beige, gritty to 0.7 gray, smooth, soft to 2.0
4–5			02	2.0->6.4 Sand - gray beige, fine
6–20			03, 04, 05, 06, 07, 08, 09	6.4->29.1 Gravel ? - beige medium to coarse grained sand interbedded with pebbly gravel, with coarse sand matrix, clasts composing of 65% sediments and volcanics 35% granitic. - 6.4-8.0 - oxidized - 11.6->12.0 - dioritic boulder.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 1 19 85

HOLE NO CW-85-89 LOCATION Formerly hole 37

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 ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			09	Gravel ? ... - 20.5 -> 23.0 greater % medium to coarse grained sand
			10	- 28.5 - 29.0 granitic boulder.
			11	29.1 -> 33.3 Till (Chibougamau) - grey beige, medium grained sand matrix. pebbly clasts composing of 65% sediments and volcanics and 35% granitics
			12	
			13	
			14	33.3 -> 34.5 Bedrock (Mafic Volcanic) - grey to dark green, very fine grained, massive.
			15	
			16	34.5 - 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 Dec 1 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-90 LOCATION Formerly hole 38

GEOLOGIST SL Hutching DRILLER G. Houry BIT NO CB67432 BIT FOOTAGE 86.9→107.9

CB67433 0→13.0

MOVE TO HOLE 1:30 - 1:45

DRILL 2:30 → 1:45 2:30 → 5:45

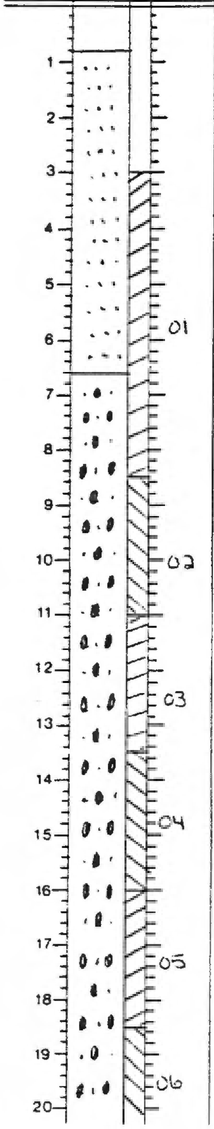
MECHANICAL DOWN TIME 1:45 - 2:30 fixed hydraulics

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0→0.8 No Return

Sediments (Ojibway)

0.8→6.6 Sand → beige, medium grained, fine grained from 6.5→6.6

6.6→32.2 Gravel → gray beige medium to coarse sand matrix with pebbly clasts composing of 60% sediments and volcanics 40% granitics
- oxidized from 10.0→10.5 with medium to coarse sand lenses throughout.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19 __

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-90 LOCATION ______
GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______
MOVE TO HOLE ______
DRILL ______
MECHANICAL DOWN TIME ______
DRILLING PROBLEMS ______
OTHER ______
MOVE TO NEXT HOLE ______

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0	06	Pulled rods - new bit @ 21.0
1		Volcanic boulder 22.4-22.5
2	07	Till (Chibougamau)
3–4		32.2 - 32.7 gray-beige fine grained sand matrix with pebbly
5	08	clasts composing of 60% sediments and volcanics
6		40% granitics.
7	09	32.7-34.0 Bedrock (Felsic Volcanic) Tuffaceous
9		- light gray to light green
10	10	- very fine grained
11		- massive
12	11	- 2 to 3% quartz <1% sericite
13	12	34.0 EOH.
14–20		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 2 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-91 LOCATION Formerly hole 39

GEOLOGIST S.L. Hutchings DRILLER G. Hay BIT NO CB67433 BIT FOOTAGE 13.0→38.2

MOVE TO HOLE 9:30 → 9:45

DRILL 9:45 → 11:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE travel 7:00→8:15 8:15→9:30 walk into drill

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1	^^			0→1.0 Organics
1–8				1.0→20.1 Sediments (Ojibway)
				Clay →1.0-8.0-gray, smooth, soft
				Sand → 8.0→10.1 - beige, fine to medium sand
9–10			01	Gravel → 10.1→11.5 - medium to coarse grained sand matrix, interbedded fine sand, pebbly clasts composing of 60% sediments and volcanics 40% granitics.
				Sand → 11.5→17.0 - beige, fine grained sand with locally granular beds composing of 60% sediments and volcanics 40% granitic
13–14			02	Gravel → 17.0→19.2 -(same as section 10.1→11.5)
18			03	Sand → 19.2→20.1 - gray beige, fine grained sand.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19 __

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-91 LOCATION ________
GEOLOGIST ________ DRILLER ________ BIT NO. ________ BIT FOOTAGE ________
MOVE TO HOLE ________
DRILL ________
MECHANICAL DOWN TIME ________
DRILLING PROBLEMS ________
OTHER ________
MOVE TO NEXT HOLE ________

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1	Δ ·		03	20.1 -> 24.2 Till? (Chibougamau)
2				- gray to gray beige, low percentage of fine sand matrix
3			04	throughout (stoney). pebbly clasts composing of 60%
4			05	sediments and volcanics 40%
5			06	granites.
6				- gabbro boulder -21.4->21.5
7				
8				24.2 -> 25.2 Bedrock (Felsic Volcanic)
9				- dark gray to green
10				- very fine grained
11				- well developed foliation
12				- veins of pyrite
				25.2 EOH.
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 2 1985

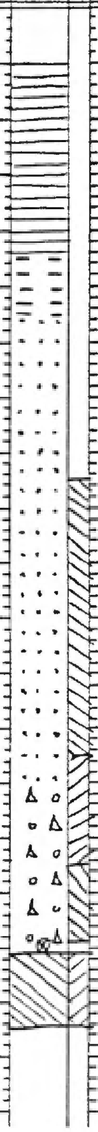
SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-92 LOCATION Formerly CW-40
GEOLOGIST T. Bruns DRILLER G. Houg BIT NO. CB67433 BIT FOOTAGE 552 → 737
MOVE TO HOLE 11.00 → 11.15
DRILL 11.15 → 12.00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 1.0 No Return
1–10				1.0 → 14.1 Sediments (Ojibway) clay beige, gritty above 2.5 (interbedded clay and sand) - beige, smooth, soft below 2.5, gray below ≈ 3.5 - silt below ≈ 4.5 Sand beige, very fine grained from 5.6 to 7.0 - fine grained below 7.0, local pebbly beds - boulder, granite 12.9 → 13.0 - highly oxidized, fine grained sand below 13.0 → 13.2
11			01	14.1 → 17.1 Till (?) (Chibougamau) gray-beige, fine sand matrix, pebbly, clasts 65% mafic volcanics and sediments, 35% granitic
14			02	- low percentage of fine sand matrix below 15.8 gravel-like locally
16			03	- boulder, mafic volcanic 16.9 → 17.1
17.5			04	17.1 → 18.5 Bedrock Felsic Volcaniclastic dark gray, very fine grained very well developed foliation (tuffaceous)



18.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 2 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-93 LOCATION Formerly hole 41

GEOLOGIST S.L. Hutchings DRILLER G. Haug BIT NO. CB67433 BIT FOOTAGE 73.7-71.7

MOVE TO HOLE 12:00 -> 12:30

DRILL 12:30 -> 4:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER 4:30 -> 9:30 travel (snow storm)

MOVE TO NEXT HOLE 4:00 -> 4:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.
1			
2			
3			
4			
5			01
6			
7			02
8			
9			03
10			
11			04
12			05
13			
14			06
15			07
16			
17			08
18			
19			09
20			10

DESCRIPTIVE LOG

0 -> 0.2 No Return

0.2 -> 5.6 Sediments (Ojibway)

Sand - 0.2 -> 2.5 - gray beige, coarse grained, local pebbly beds.

Gravel - 2.5 -> 5.6 - coarse sand matrix, pebbly clasts composing of 60% sediments and volcanics 40% granitic

5.6 -> 21.6 Till (Chibougamau)

- gray beige, fine sand matrix with pebbly clasts composing of 60% sediments and volcanics 40% granitics

- granitic boulders 7.0 -> 7.6
7.7 -> 8.0

- beige fine sand matrix from 8.0 to 10.3.

- gray beige below 10.3 with pebbly clasts composing of 55% sediments and volcanics 45% granitics

- low percentage of fine sand matrix, stoney till 15 -> 16.5

- below 17.7 to 21.6, clasts compose of 90% sediments and volcanics 10% granitic

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19 __

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO __________ LOCATION __________

GEOLOGIST ________ DRILLER ________ BIT NO. ________ BIT FOOTAGE ________

MOVE TO HOLE ________

DRILL ________

MECHANICAL DOWN TIME ________

DRILLING PROBLEMS ________

OTHER ________

MOVE TO NEXT HOLE ________

Page 2 of ~~CW-85~~-93.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			10	Till (Chibougamau) ....
1			11	- diorite boulder. 21.3->21.6
2			12	Missinaibie Sediments
3			13	21.6-> 22.5 Clay - blue gray, ~~smooth~~ compact
4				
5				22.5->23.0 Till (lower)
6				- gray beige, low percentage of fine sand matrix, cobbly clasts composing of 75% sediments and volcanics 25% granitic.
7				
8				
9				- granitic boulder 22.6-23.0
10				
11				23.0-> 24.0 Bedrock (Felsic Volcanic (tuffaceous))
12				- light gray to green
13				- very fine grained
14				- foliation well developed
15				24.0 EOH
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 3 19 85

SHIFT HOURS

______ TO ______

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-94 LOCATION Formerly hole 42

GEOLOGIST S.L. Hutchings DRILLER G. Haug BIT NO. CB67431 BIT FOOTAGE 278.7 44.3

MOVE TO HOLE

DRILL 4:00 → 5:30

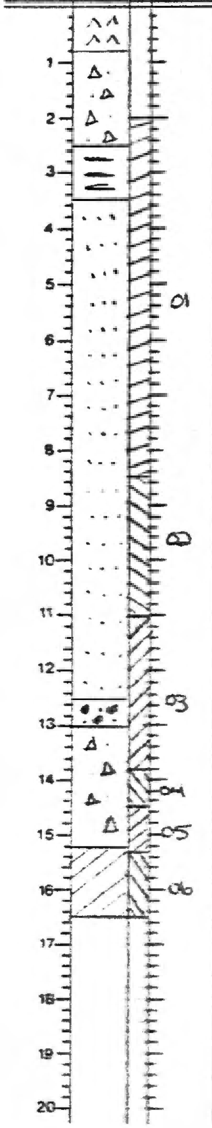
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER 8:00 → 4:00 - Got GT out to logom road loaded with fuel for the

~~MOVE TO NEXT HOLE~~ ackr. Got ackr started up.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 → 0.8 Organics

0.8 → 2.5 Till (Chibougamau)
- gray beige fine sand matrix with pebbly clasts composing of 70% sediments and volcanics 30% granitics

Sediments (Ojibway)

2.5 → 3.5 Clay - 2.5 → 3.0 beige, smooth, compact
3.0 → 3.5 - beige, smooth, soft

3.5 → 12.5 Sand - gray, very fine sand with local pebbly beds
10.0 → medium to coarse sand with local pebbly beds

12.5 → 13.0 Gravel - 75% sediments and volcanics 25% granitics
- beige fine sand matrix 12.5 → 12.8
- gray beige, fine to medium sand matrix with pebbly clasts composing of 60% sediments and volcanics 40% granitic 12.8 → 12.9
- granitic cobble 12.9 - 13.0

13.0 → 15.2 Till? (Chibougamau)
- gray beige, fine sand matrix with pebbly clasts composing of 75% sediments and volcanics and 25% granitics
- very low percentage of fine sands; stoney till 13.4 → 15.2
- granitic boulder 14.5 → 14.8

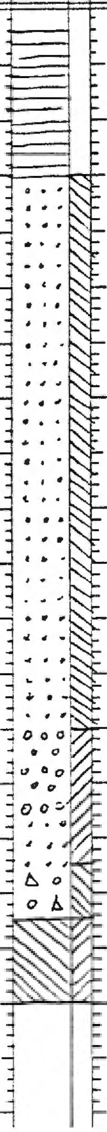
15.2 → 16.5 Bedrock Felsic Volcaniclastic (Sediment?)
- gray to green, very fine grained
- very well developed foliation

16.5 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 4th 19 85
SHIFT HOURS
______ TO ______
TOTAL HOURS
______
CONTRACT HOURS
______

HOLE NO CW-85-95 LOCATION Formerly CW-43
GEOLOGIST S.L. Hutchings DRILLER G. Howg BIT NO. CB67431 BIT FOOTAGE 44.3 → 62.3
MOVE TO HOLE 8.30 → 9.00
DRILL 9.00 → 9.45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 7.00 → 7.45 to drill road 7.45 → 8.30 to drill
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 0.4 No Return
1				0.4 → 15.5 Sediments (Ojibway)
2				Clay 0.4 → 3.0
3				beige, smooth, soft very soft below 2.5
4				Sand 3.0 → 13.0
5				beige, fine to medium
6				grained, local pebbly beds
7				- coarse sand below 9.5
8			01	Gravel 13.0 → 14.5
9				medium to coarse sand matrix, pebbly clasts
10				60% mafic volcanics and sediments 40% granitic
11				- highly oxidized at 13.2
12				Sand 14.5 → 15.5
13				gray-beige, fine to medium grained
14			02	15.5 → 16.5 Till (Chibougamau)
15				gray-beige, fine sand matrix, pebbly, clasts
16			03	80% mafic volcanics and sediments 20% granitic
17			04	16.5 → 18.0 Bedrock Meta-Sediment
18				(Graphitic Argillite)
19				dark gray to black, very
20				fine grained, very well developed foliation

18.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 4th 1985

HOLE NO CW-85-96 LOCATION Formerly CW-44

GEOLOGIST S.L Hutchings DRILLER G. Houy BIT NO. CB67434 BIT FOOTAGE 0 -> 23.5

SHIFT HOURS ____ TO ____

MOVE TO HOLE 9.45 -> 10.00

DRILL 10.00 -> 11.30

TOTAL HOURS ____

MECHANICAL DOWN TIME ____

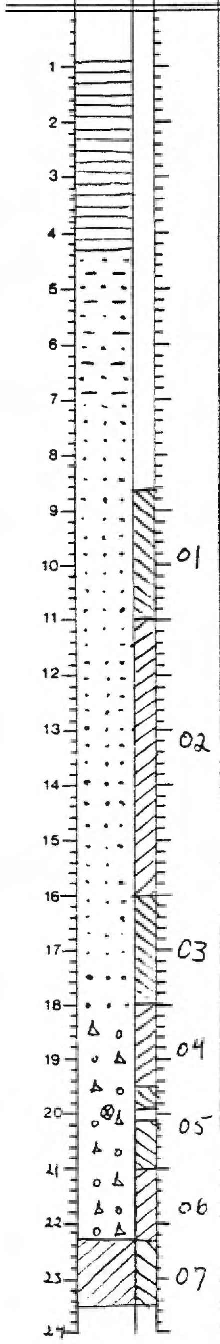
DRILLING PROBLEMS ____

CONTRACT HOURS ____

OTHER ____

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 -> 0.9 No Return

0.9 -> 18.0 Sediments (Ojibway)

clay 0.9 -> 4.3
- beige, soft, smooth

sand/silt 4.3 -> 18.0
- beige, very fine grained sand
- fine grained sand below ≈ 7.2.

18.0 -> 22.3 Till (Chibougamau)
- beige, fine grained sand matrix, pebbly clasts 60% mafic volcanics and sediments 40% granitic
- boulder, gabbro, 19.4 -> 20.1

22.3 -> 23.5 Bedrock Meta-sediment (Graphitic argillite)
- dark gray to black, very fine grained, very well developed throughout, disseminated graphite throughout

23.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 7 1985

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-97 LOCATION Formerly CW-45

GEOLOGIST S.L Hutchings DRILLER G. Houg BIT NO. CB67434 BIT FOOTAGE 23.5 → 42.1

MOVE TO HOLE 11.30 → 12.00

DRILL 12.00 → 1.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

page 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20				0 → 0.9 No Return 0.9 → 1.3 Organics 1.3 → 36.7 Sediment (Ojibway) Sand/Silt 1.3 → 9.5 gray, very fine grained sand - interbedded soft, smooth, gray clay bed at 7.0 Clay 9.5 → 13.6 gray, soft, smooth Sand/Silt 13.6 → 21.0 - gray, very fine grained sand - pebbly bed at 20.0

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 4th 1985

SHIFT HOURS

_______ TO _______

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-97 LOCATION ____________

GEOLOGIST ________ DRILLER ________ BIT NO. ________ BIT FOOTAGE ________

MOVE TO HOLE ____________

DRILL ____________

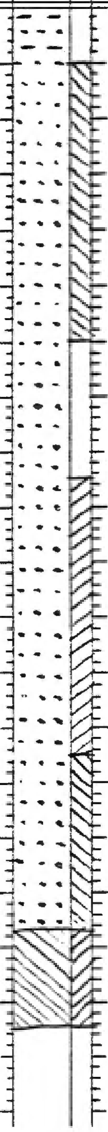
MECHANICAL DOWN TIME ____________

DRILLING PROBLEMS ____________

OTHER ____________

MOVE TO NEXT HOLE ____________

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG							
21				Sand 21.0 → 36.7							
22				gray, fine grained							
23			01	- medium to coarse grained below 29.1							
24				- super-poly added at 28.5							
25											
26											
27											
28				36.7 → 38.5 Bedrock Felsic Volcanic							
29				light gray to green, very fine grained, poor to moderate foliation							
30											
31			02								
32				38.5 E.O.H.							
33											
34											
35			03								
36											
37											
38			04								
39											
40											



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 4th 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-98 LOCATION Formerly CW-46

GEOLOGIST S.L. Hutchings DRILLER G. Houg BIT NO. SB67434 BIT FOOTAGE 42.1 → 90.4

MOVE TO HOLE 1.30 → 1.45

DRILL 1.45 → 4.00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

page 1 of 3

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20				0 → 2.0 No Return 2.0 → 47.3 Sediments (Ojibway) Sand / Silt 2.0 → 19.5 gray - beige, very fine grained sand, interbedded with gray, soft, smooth clay beds above 2.5 Clay 19.5 → 26.4 gray, soft, smooth.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 4 19 85

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-93 LOCATION ____
GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____
MOVE TO HOLE ____
DRILL ____
MECHANICAL DOWN TIME ____
DRILLING PROBLEMS ____
OTHER ____
MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21				Sand / Silt 26.4 -> 37.3
				gray, very fine grained sand
22				- super poly added at 34.0
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				Sand 37.3 -> 47.3
34				gray, fine grained, medium
35				to coarse grained below
				45.5
36				
37				
38				
39			01	
40				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 4 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-98 LOCATION _____

GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____

MOVE TO HOLE _____

DRILL _____

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	
41				
42				
43			02	
44				
45				
46				47.3 → 48.3 Bedrock Felsic Volcanic light gray to green, very fine grained poor to moderate foliation.
47			03	
48			04	
49				48.3 E.O.H. due to rods plugging with sand.
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				

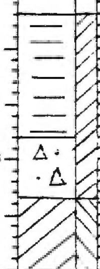
OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 5 19 85
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO CW-85-99 LOCATION Fermont, hole 47
GEOLOGIST S.L. Huhkio DRILLER E. Haug BIT NO. CRE7434 BIT FOOTAGE 40.1-747.1
MOVE TO HOLE
DRILL 10:00 -> 11:30
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER travel time 7:00 -> 10:00
MOVE TO NEXT HOLE 11:30 -> 12:00

New Sub

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0 -> 0.4 No Return
2			01	0.4 -> 2.6 Sediments (Ojibway)
3				Clay - 0.4 -> 2.6 - beige, smooth gritty with fine sand matrix
4			02	
5				2.6 -> 3.7 Till (Chibougamau)
6				- gray beige sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitics
7				
8				
9				
10				3.7 -> 5.0 Bedrock (Felsic Volcaniclastic Meta sediment?)
11				- dark grey to green
12				- very fine grained
13				- massive
14				- <1% disseminated pyrite
15				- epidote staining
16				- calcite throughout
17				- quartz veining
18				5.0 - E.O.H
19				
20				



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE December / 19 95

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-95-100 LOCATION 75 metres east of formerly 96

GEOLOGIST HOLMES DRILLER H. Duvette BIT NO. CB07504 BIT FOOTAGE 2.0 - 4.5

MOVE TO HOLE 1:00 - 1:30

DRILL 1:30 - 2:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.8 NO RETURN
			C1 BEDROCK	0.8 - 2.5 BEDROCK - light and dark green, white mottling - very fine grained - very to moderately schistose, thinly foliated - minor calcite and quartz veins - Intermediate/mafic volcanic
				2.5 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 1 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-101 LOCATION Formerly CW-121 (on Hiway)

GEOLOGIST D. Holmes DRILLER H. OULETT BIT NO. CB67504 BIT FOOTAGE 4.5-21.3

MOVE TO HOLE 2:00 - 3:45

DRILL 3:45 - 6:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER 6:30 - 7:00 Travel

MOVE TO NEXT HOLE

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0–2		0.0 – 2.0 SEDS
		0.1 – 0.2 pebble gravel
		0.2 – 2.0 brown-beige, gritty, compact clay (oxidized)
3	01	2.0 – 15.4 Till (Chibougamau)
		– gradational contact with overlying clay
4.5	02	2.0 – 7.7 – sandy, pebbly, cobbly till, fine grain, clast comp.
6	03	~60/40, below 7.0 v. cobbly
7	04	
8	04	7.7 – 8.0 boulder – Int/mafic volc.
9	05	8.0 → 15.4 till as above. – clast comp. ~80/20
11	06	15.4 – 16.8 Bedrock
12	07	– black,
14	08	– v. fine grained
15	09	– schistose, thinly foliated.
16	10 Bedrock	– trace qtz, feldspathic veins
		– graphite rich in thin zones
		– trace pyrite
		– Argillite (metasediment)
20		16.8 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE December 2 1985

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-102 LOCATION Formerly 124
GEOLOGIST HOLMES DRILLER W. DURETTE BIT NO CB6750+ BIT FOOTAGE 215 - 254
MOVE TO HOLE 8.00 -> 8.15
DRILL 9.00 -> 9.30
MECHANICAL DOWN TIME 8.15 -> 9.00 fuel pump
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 - 1.8 NO RETURN (boulders)
1–2				1.8 - 4.0 BEDROCK
2–4			01 BEDROCK	- black with orange iron stains along fracture surfaces - very fine to medium grained - very oxidized 1.8 - 2.4 and in thin zones 2.4 - 3.5 - thin layers of phlogopite after 3.3 m - minor quartz veins - very soft to drill - META-SEDIMENT (ARGILLITE)
				4.0 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 2 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-103 LOCATION Formerly CW-186 (50m west of)

GEOLOGIST D. Holmes DRILLER H. Duret BIT NO CBC7504 BIT FOOTAGE 25.5 -> 37.5

MOVE TO HOLE 9.30 -> 11.00

DRILL 11.00 -> 12.00

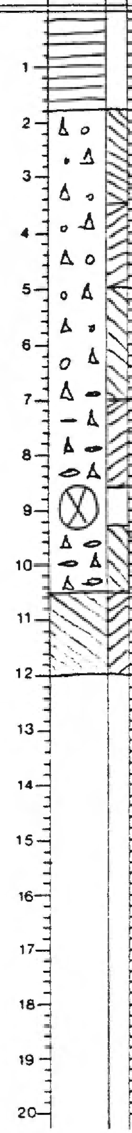
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



Sample numbers: 01, 02, 03, 04, 05, 06 BEDROCK

0 -> 0.2 Organics

0.2 -> 1.8 Sediment (Ojibway)
clay brown-beige
compact smooth

1.8 -> 10.5 Till (Chibougamau)
beige to gray-beige, fine sand matrix pebbly,
clasts 70% mafic volcanics and sediments 30% granitic

- local clay lumps 1.8 -> 2.4
- high percentage of fine sand matrix 5.3 -> 6.3
clay layer at 5.6
- 6.3 -> 10.5 same as above 5.3 but cobbly
- boulder, mafic volcanic 8.6 -> 9.3

10.5 -> 12.0 Bedrock Meta-Sediment (Graywacke)
dark gray to black to green fine to medium grained quartz and feldspar, sugary texture, poor to moderate foliation, <1% calcite veining, <0.1% disseminated pyrite

12.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 2 1985

HOLE NO CW85-104 LOCATION Formerly CW-185

GEOLOGIST D. SCUTLIFFE DRILLER H. DURETTE BIT NO. CB67504 BIT FOOTAGE 37.5-41.0

SHIFT HOURS ____ TO ____

MOVE TO HOLE 12:00 - 12:15

DRILL 12:15 - 12:45

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 - 1.6 No Return → Boulders
1	⊗			1.6 → 3.5 Bedrock
2			01	- very fine grain
3				- very schistose
4				- light grey to black
5				- well foliated.
6				- appears banded/layered
7				dark black, light grey.
8				- Fe-staining brown yellow to
9				reddish.
10				- graphite-rich in zones
11				- minor pyrite
12				→ Metasediment (Argillite)
13				
14				3.5 - E.O.H.
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 2 1985

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO CW-85-105 LOCATION CW-184

GEOLOGIST D. ROUTLIFFE DRILLER H. DUCETTE BIT NO C867504 BIT FOOTAGE 41.0 - 46.5

MOVE TO HOLE 12:45 - 1:00

DRILL 1:00 - 1:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0.0 - 0.7 No Return
1				0.7 - 2.5 Clay - gray, gritty, compact
2				2.5 - 4.2 Till - fine grain beige
3			01	- grey sand matrix; pebbly;
4				80% mafics & seds, 20 % granitic
5			02	- occasional cobbles.
6				4.2 - 5.5 Bedrock
7				- fine grain, light grey.
8				- brown staining, thin oxidized zone,
9				- weak to moderate foliation,
10				- moderately schistose below 5.0.
11				- minor calcite
12				→ metasediment (Greywacke)
13				EOH - 5.5 m.
14				
15				
16				
17				
18				
19				
20				

/

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE December 2 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-106 LOCATION Formerly CW-183

GEOLOGIST Holmes DRILLER H Duvette BIT NO. CB67504 BIT FOOTAGE 46.5-53.0

MOVE TO HOLE 1:30-1:45

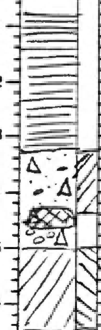
DRILL 1:45-2:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01 02 BEDROCK	0-0.8 No Return 0.8-3.3 SEDIMENTS (OJIBWAY) - soft, smooth brown-beige clay, becomes moderately compact down section 3.3-5.0 TILL (CHIBOUGAMAU) 3.3-4.4 sandy, pebbly till, fine beige sand matrix, pebble and cobble composition approximately 70% volcanics ~~sediments~~ 30% granites 4.4-4.7 - boulder - Graywacke 4.7-5.0 - till becomes very cobbly - matrix poor, fine gray sand, cobble composition approximately 95% sediments 5% granites 5.0-6.5 BEDROCK - light and dark gray-green, some white mottling - fine grained - slight to moderate schistosity - sugary texture - minor calcite and quartz veins - slight iron staining - META-SEDIMENT (GRAYWACKE) 6.5 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 2nd 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-107 LOCATION Famuli CW-182

GEOLOGIST D. Holmes DRILLER H. Duret BIT No CB67503 BIT FOOTAGE 0→6.0

MOVE TO HOLE 2.30→2.45

DRILL 2.45→3.30

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____

NEW BIT

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0–2.5		0→2.5 Sediments (Ojibway) clay brown, beige, smooth moderately compact clay
2.5–4.4	01, 02	2.5→4.4 Till (Chibougamau) beige, fine sand matrix, pebbly, clasts 60% mafic volcanics and sediments 40% granitic - gray, fine sand matrix below 4.0, cobbly, clasts 80% mafic volcanics and sediments 20% granitic
4.4–6.0	03 BEDROCK	4.4→6.0 Bedrock Meta-sediment (Graywacke) gray to dark gray, locally light green, iron staining very fine grained, fine well developed foliation

6.0 E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 2nd 19 85

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-108 LOCATION Formerly 181

GEOLOGIST D. Holmes DRILLER H. Ducette BIT NO. CB67503 BIT FOOTAGE 6.0 → 10.5

MOVE TO HOLE 3.30 → 3.45

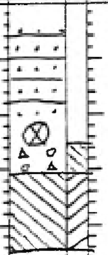
DRILL 3.45 → 4.15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02	

0 → 0.5 No Return

0.5 → 2.5 Sediments (Ojibway)
Sand coarse grained
0.5 → 0.6.
Sand / Clay brown compact sand with clay, beige below 1.5, poor return
- boulder, granite 2.2 → 2.5

2.5 → 3.1 Till (Chibougamau)
beige, fine sand matrix pebbly, clasts 70% mafic volcanics and sediments 30% granitic

3.1 → 4.5 Bedrock Meta-sediment (Graywacke)
light to dark gray, locally green, fine grained, thin poor to moderate foliation
< 1% calcite veining

4.5 E. O. H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 2 1985

HOLE NO CW-85-109 LOCATION Formerly CW-180

GEOLOGIST D. Holmes DRILLER H. Durst BIT NO CB67503 BIT FOOTAGE 10.5 -> 12.7

SHIFT HOURS

_____ TO _____

MOVE TO HOLE 4.15 -> 5.00

DRILL 5.00 -> 5.30

TOTAL HOURS

MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS

OTHER 6.00 -> 6.30 timbersock 6.30 -> 7.45 truck

MOVE TO NEXT HOLE 5.30 -> 6.00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 -> 0.7 Sediments (Ojibway) clay beige - brown, slightly gritty clay
1–2			01 BEDROCK	
2–9				0.7 -> 2.2 Bedrock Meta-Sediment (Graywacke) dark gray to green, fine grained, fine well developed foliation <1% calcite veins parallel to foliation, very easy to drill
9				2.2 E.O.H.
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE December 3 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-110 LOCATION Formerly 134

GEOLOGIST HOLMES DRILLER H. D... BIT NO. CB67503 / CB67502 BIT FOOTAGE 12.7-25.7 / 0-19.5

MOVE TO HOLE 8.30-1:30 (roads impassable)

DRILL 1.30-5.00

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS pull rods 2:30-3:00

OTHER travel 7.00-8.00 pickup 8.00-8:30 – walking

~~MOVE TO NEXT HOLE~~ travel 5.00-6.30

NEW BIT
NEW SUB
LOST 2 RODS

DEPTH IN METRES	INTERVAL / SAMPLE NO.	DESCRIPTIVE LOG
0–2		0 - 2.0 SEDIMENTS (OJIBWAY)
		0-0.3 bright orange-ochre moderately compact smooth clay
		0.3-2.0 - cobbles and small boulders - no return
3	01	2.0 - 17.7 TILL (CHIBOUGAMAU)
		- sandy, very pebbly till
4	02	2.0 - 4.1 Fine beige sand matrix (ochre-beige colour 2.0-3.0) pebble composition approximately 60% volcanics/sediments 40% granites
6	03	
7	04	4.1-12.8 Fine beige sand matrix, till becomes cobbly, composition 75% volcanics/sediments 25% granites
9	05	- at about 8.8 matrix fine gray sand
11	06	- at 12.8 few small gray, gritty clay lumps with till
12	07	- at 13.0 - no return - pull rods; lost 2 rods, sub and bit - redrill hole 1 metre north
14	08	- 13.0 - 15.5 till as above
16	09	- 15.5 - 17.7 - Fine gray sand matrix clast composition 80% volcanics/sediments 20% granites
17	10	17.7 - 19.5 BEDROCK
19	11 BEDROCK	- dark green
		- Fine grained
		- massive to slightly schistose
		- trace pyrite
		- minor quartz veins
		- hard to drill
		- Intermediate/mafic/ultramafic volcanic

19.5 EOH Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE December 4 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-111 LOCATION Formerly CW-133

GEOLOGIST HOLMES DRILLER H. DURETTE BIT NO. CB67002 BIT FOOTAGE 175-298

MOVE TO HOLE 8.15-8.45

DRILL 8:45-11.00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER travel 700 800 pickup 8.00-8.15 timberjack

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–2				0 - 2.5 ORGANICS
				2.5-7.0 SEDIMENTS (OJIBWAY) - very soft, smooth gray clay
7			01	7.0-7.3 TILL (CHIBOUGAMAU) - very thin till horizon. pebbly, matrix-poor - Fine gray sand matrix, clast composition approximately 85% Volcanics/sediments 15% granites
8			02 BEDROCK	7.3-8.5 BEDROCK - light and dark green colour - Fine to medium grained - massive to slightly schistose - very hard to drill - Intermediate/mafic/ultramafic volcanic
				8.5 E.O.H.

Don Holmes

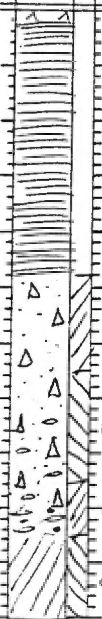
OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE December 4 19 85
HOLE NO CW-85-112 LOCATION Formerly CW-132
GEOLOGIST HOLMES DRILLER H. DURETTE BIT NO. CR67502 BIT FOOTAGE 280 - 34.0

SHIFT HOURS
____ TO ____
MOVE TO HOLE 11:00-12:00
DRILL 12:00 - 1:15

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							
1				0.2 - 4.8 SEDIMENTS (OJIBWAY)							
2				0.2-0.4 fine beige sand							
				0.4 - 4.8 soft, smooth gray clay							
3											
4				4.8 - 9.0 TILL (CHIBOUGAMAU)							
5				- sandy, pebbly till							
			01	- Fine gray sand matrix							
6				- pebble composition approximately							
7				60% volcanics/sediments							
			02	40% granites							
8				- occasional cobbles after 7.2							
9			03	9.0 - 9.5 SEDIMENTS (Missinaibi)							
10				- cobbly, pebbly gravel,							
			04 BEDROCK	very few fines							
11				- clast composition approximately							
12				80% volcanics/sediments							
				20% granites							
13											
				9.5 - 11.0 BEDROCK							
14				- dark green, white, pink mottling							
15				- Fine grained							
16				- slightly to very schistose							
17				- contains magnetite throughout rock							
18				- minor dessiminated pyrite							
				- minor quartz veins							
19				- Intermediate/mafic/ultramafic volcanic							
20											

11.0 E.O.H.

Don Holmes.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 4/5 1985

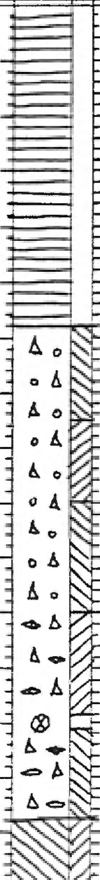
SHIFT HOURS
_______ TO _______

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-113 LOCATION Formerly CW-131
GEOLOGIST Helmer/Burns DRILLER H. Duret BIT NO CB67505 BIT FOOTAGE 0 -> 16.0
MOVE TO HOLE 2.45 -> 3.00
DRILL 3.00 -> 3.30 / 5th 1.15 -> 3.15
MECHANICAL DOWN TIME 1.15 -> 2.45 fuel filters, 3.30 -> 4.00 injectors
DRILLING PROBLEMS
OTHER 4.00 -> 4.30 to main road 4.30 -> 5.30 to Chapais / 5th 3.30 -> 4.30
MOVE TO NEXT HOLE 3.15 -> 3.30

NEW BIT



DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0–1		0 -> 0.2 Organics
1–6		0.2 -> 5.8 Sediment (Ojibway) clay dark gray, moderately compact, smooth, soft below 3.3
5–15	01, 02, 03, 04, 05	5.8 -> 14.8 Till (Chibougamau) gray, fine sand matrix, pebbly, clasts 60% mafic volcanics and sediments 40% granitic - cobbly below ± 11.0 - gray gritty clay matrix from 11.5 -> 12.0 - boulder, gabbro 12.8 -> 13.1
14.8–16	06 BEDROCK	14.8 -> 16.0 Bedrock Mafic Volcanic dark green, fine grained massive
16		16.0 EOH.

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 Dec. 6th 1985

HOLE NO CW-85-114 LOCATION Formerly CW-193

GEOLOGIST T. Burns DRILLER H. Duret BIT NO. CB67505 BIT FOOTAGE 16.0 → 27.0

SHIFT HOURS

______ TO ______

MOVE TO HOLE 8.00 → 8.45

DRILL 8.45 → 10.15

TOTAL HOURS

MECHANICAL DOWN TIME

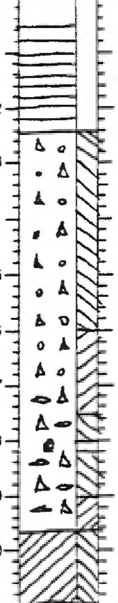
DRILLING PROBLEMS

CONTRACT HOURS

OTHER 7.00 → 8.00 travel

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 0.5 No Return
1				0.5 → 2.4 Sediments (Ojibway)
2				clay beige, soft, smooth
3				2.4 → 9.7 Till (Chibougamau)
4			01	~~gray~~ beige, fine sand ~~matrix~~, pebbly clasts
5				40% mafic volcanic and
6				sediments 40% granitic
7			02	- cobbly below ≈ 7.0
8			03	- boulder mafic volcanic 8.0 → 8.2.
9			04	9.7 → 11.0 Bedrock Felsic Volcanic(?)
10			05 BEDROCK	(Meta-sediment)
11				light gray, generally fine grained locally medium,
12				very siliceous, poorly
13				developed foliation
14				
15				11.0 EOH
16				
17				
18				
19				
20				



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 6th 1985

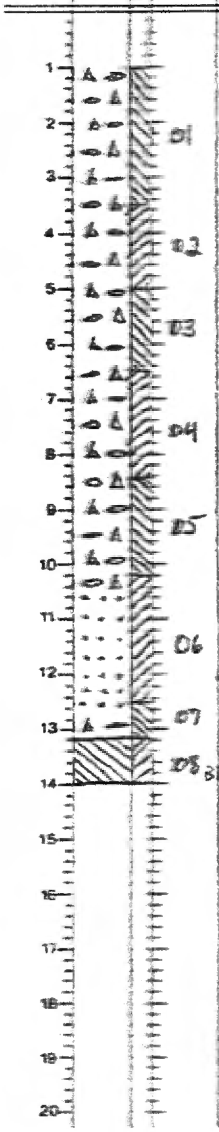
SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-115 LOCATION Formerly CW-194
GEOLOGIST I. Burns DRILLER H. Ouert BIT NO. CB67505 / CB67506 BIT FOOTAGE 27 → 28.0 / 0 → 14.0
MOVE TO HOLE 10.15 → 10.30
DRILL 10.30 → 12.15
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES / GRAPHIC LOG / INTERVAL / SAMPLE NO.	DESCRIPTIVE LOG
	0 → 1.0 No Return 1.0 → 13.2 Till (Chibougamau) gray-beige, fine sand matrix, cobbly, clasts 60% mafic volcanics and sediments 40% granitic - stoney (low percentage of fine sand matrix) from 4.2 → 4.8 - high percentage of fine sand matrix 7.6 → 10.6 - medium to coarse sand 10.6 → 12.2 - fine grained beige sand 12.2 → 12.5 13.2 → 14.0 Bedrock Meta-sediment (argillite) dark gray to black, very fine grained, very well developed foliation 14.0 EOH

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 6th 1985

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-116 LOCATION Formerly CW-195

GEOLOGIST T. Burns DRILLER H. Ouret BIT NO CB67506 BIT FOOTAGE 14.0 => 44.0

MOVE TO HOLE 12.15 => 12.30

DRILL 12.30 => 4.00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER 4.45 => 5.45 travel

MOVE TO NEXT HOLE 4.00 => 4.45

page 1 of 2

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
		0 => 0.5 No Return
1		0.5 => 0.8 Road Gravel
2		0.8 => 2.5 Sediments (Ojibway) clay beige, soft, smooth,
3		
4	01	2.5 => 28.4 Till (Chibougamau) beige to gray. beige, fine sand matrix cobbly clasts 60% mafic volcanics and sediments 40% granitic
5		
6	02	
7		
8	03	- boulder gabbro 5.5 => 5.8
9	04	- high percentage of fine sand matrix below 5.8
10		- boulder mafic volcanic 17.1 => 17.3
11	05	
12		
13	06	
14		
15	07	
16	08	
17	09	
18	10	
19	11	
20		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 6th 19 85

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO CW-85-116 LOCATION ______

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE ______

DRILL ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

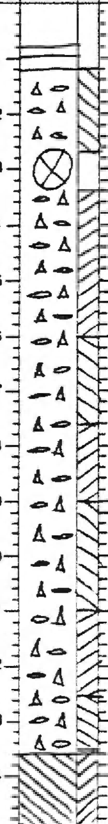
DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			11	- local gritty gray clay matrix below ± 19.5
21				
22			12	- cobbly clasts 75% mafic volcanics and sediments 25% granitic below 22.0
23			13	
24				
25			14	
26			15	28.4 → 30.0 Bedrock Meta-sediment dark gray to black very fine grained, very well developed foliation, locally graphitic
27				
28			16	
29			17 BEDROCK	
30				30.0 EOH
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 7th 1985
SHIFT HOURS ____ TO ____
TOTAL HOURS ____
CONTRACT HOURS ____

HOLE NO CW-85-117 LOCATION Formerly [illegible] -137
GEOLOGIST T. Burns DRILLER [illegible] BIT NO. [illegible] BIT FOOTAGE 0 → 15.0
MOVE TO HOLE
DRILL 8.00 → 10.15
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 7.00 → 8.00
MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 → 0.6 No Return
				0.6 → 0.8 Road Gravel
2			01	0.8 → 1.2 Sediments (Ojibway) clay beige soft smooth
4–5			02	1.2 → 13.6 Till (Chibougamau) gray-beige, fine sand matrix cobbly clasts 60 % mafic volcanics and sediments 40% granitic
7			03	- boulder, mafic volcanic 2.7 → 3.4
8			04	- very stoney below ± 12.0
9–10			05	13.6 → 15.0 Bedrock Mafic Volcanic dark green, fine to medium grained, massive
12			06	
13			07	
14			08 BEDROCK	
15				15.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 7th 19 85

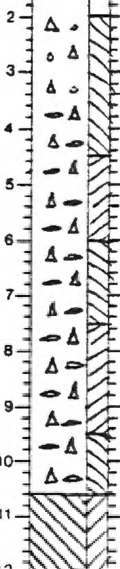
SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-118 LOCATION Formerly CW-138
GEOLOGIST T. Burns DRILLER A. Ducette BIT NO. CB67507 BIT FOOTAGE 15 -> 27.0
MOVE TO HOLE 10.15 -> 10.30
DRILL 10.30 -> 11.45, 12.15 -> 1.00, 1.30 -> 2.15
MECHANICAL DOWN TIME 11.45 -> 12.15 water swivel
DRILLING PROBLEMS 1.00 -> 1.30 wait for water
OTHER ______
MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–2				0 -> 2.0 No Return
2–10.6			01, 02, 03, 04, 05	2.0 -> 10.6 Till (Chibougamau) grey-beige, fine sand matrix, pebbly above 3.5 cobbly below clasts 60% mafic volcanic and sediments 40% granitic
10.6–12.0			06 BEDROCK	10.6 -> 12.0 Bedrock Mafic Volcanic dark green, fine to medium grained, generally massive ≤0.1% disseminated pyrite
				12.0 EOH.



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 7 1985

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-119 LOCATION Formerly CW-140
GEOLOGIST J. Burns DRILLER H. Durette BIT NO. CB67508 BIT FOOTAGE 0 → 5.5
MOVE TO HOLE 2.15 → 2.45
DRILL 2.45 → 4.15 , 4.45 → 6.15
MECHANICAL DOWN TIME
DRILLING PROBLEMS 4.15 → 4.45 wait for water
OTHER 6.15 → 6.30 to truck 6.30 → 7.15 to Chapais
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 0.5 No Return
				0.5 → 2.3 Sediments (Ojibway) clay beige soft smooth
			01	2.3 → 3.2 Till (Chibougamau) gray-beige, fine sand matrix cobbly clasts 60% mafic volcanic and sediments 40% granitic
			02 BEDROCK	
				3.2 → 5.5 Bedrock Gabbro medium to dark green, fine to medium grained, massive cut by white to pink-white quartz-feldspathic vein material, ≈ 0.5% disseminated pyrite associated with veins
				5.5 EOH

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 5 19 85

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO CW-85-120 LOCATION Formerly hole 42

GEOLOGIST S.L.Hutchins DRILLER S.Haug. BIT NO. CBc1435 BIT FOOTAGE 0→4.0

MOVE TO HOLE 11:30→12:00

DRILL 12:00→12:45

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 12:45→1:30

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1			01	0→0.7 <u>No Return</u>
2				0.7→1.0 <u>Organics</u>
3			02 Bedrock	1.0→1.6 <u>Sediments</u> (Ojibway)
4				<u>Clay</u> - 1.0→1.6 - dark brown, smooth, compact
5				
6				1.6→2.6 <u>Till</u> (Chibougamau) - gray, fine sand matrix with pebbly clasts composing of 90% sediments and volcanic 10% granitic
7				
8				
9				
10				2.6→4.0 <u>Bedrock</u> (Metasediment) - light gray to dark gray - very fine grained - massive.
11				
12				
13				
14				4.0. E.O.H.
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 5 19 85

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-121 LOCATION Formerly CW-49
GEOLOGIST S.L. Hutchings DRILLER G. HOUG BIT NO CB67435 BIT FOOTAGE 9.8 → 15.8
MOVE TO HOLE 2:45 - 3:15
DRILL 3:15 - 3:45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 3:45 - 4:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
				0.0 → 0.8 No Return						
1				0.8 → 2.8 Sediments (OJIBWAY)						
2				clay - beige, soft, smooth						
3				2.8 → 4.7 Till						
4			01	- beige, fine sand matrix.						
				- pebbly clasts 80/20						
5			02 BEDROCK							
6				4.7 → 6.0 Bedrock (metasediment)						
7				- dark grey to black						
8				- very fine grain						
9				- disseminated pyrite < 1%						
10				- massive						
11										
12				6.0 E.O.H						
13										
14										
15										
16										
17										
18										
19										
20										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 5 19 85

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-122 LOCATION Formerly hole 50

GEOLOGIST S.L. Hutchings DRILLER G. Hay BIT NO. CPL 7435 BIT FOOTAGE 4.0 -> 9.8

MOVE TO HOLE 12:45 -> 1:30

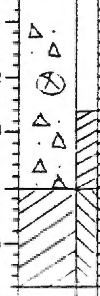
DRILL 1:30 -> 2:45

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE 2:45 -> 3:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–20			-01 -02	0-> 0.3 No Return 0.3-> 1.1 Gabbro boulder 1.1 -> 4.0 Till (Chibougamau) - gray beige, fine sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitic - gabbro boulder 1.6->2.5 - oxidized 2.6->2.8 4.0 -> 5.8 Bedrock (Metasediment) - light gray to dark gray - very fine grained - massive - calcite veining throughout 5.8. E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 5 1985

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-123 LOCATION FORMERLY CW-51
GEOLOGIST SL HUTCHINGS DRILLER G.HOWE BIT NO. CB67435 BIT FOOTAGE 15.8-24.8
MOVE TO HOLE 3:45 → 4:30
DRILL 4:30 – 5:15
MECHANICAL DOWN TIME ______
DRILLING PROBLEMS ______
OTHER Travel 5:45 – 7:00
MOVE TO NEXT HOLE 5:15 – 5:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0.0 – 0.7 No Return
1				0.7 – 1.1 ORGANICS
2				1.1 – 4.1 SEDIMENTS (OJIBWAY)
3				- Sand/Silt - very fine grain sand with gray, soft smooth interlayers of clays.
6			01	4.1 – 7.8 Till (Chibougamau)
7				- gray, fine grain sand matrix.
8			02	- pebbly clasts 80/20
10				7.8 – 9.0 Bedrock (Metasediment)
11				- grey to dark grey
12				- very fine grain
13				- disseminated pyrite <1%
14				9.0 EOH

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 6 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-124 LOCATION Formerly hole E3

GEOLOGIST S.L. Mutchler DRILLER G. Henry BIT NO. CW-7935 BIT FOOTAGE 13-753.3

MOVE TO HOLE

DRILL 9:00 -> 9:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER travel time 7:00 -> 9:00

MOVE TO NEXT HOLE 9:30 -> 9:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 -> 0.8 No Return
1				0.8 -> 1.0 Organics
2			01	1.0 -> 2.6 Sediments (Ojibway)
3				Clay - 1.0-2.6 - grey, smooth, soft.
4			02	
5				2.6 -> 3.4 Till (Chibougamau)
6				- grey, fine sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitic
7				
8				
9				
10				- oxidized from ~ 3.0 -> 3.1
11				3.4 -> 5.0 Bedrock (Metasediment)
12				- gray to dark green
13				- very fine grained
14				- massive
15				- < 1% disseminated pyrite
16				- serpentinite ?
17				5.0 E.O.H.
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 12 19 85

HOLE NO CW-85-125 LOCATION Formerly hole 53

GEOLOGIST S.L. Kirkham DRILLER G. Bourg BIT NO. CB67435 BIT FOOTAGE 53.3-58.8

SHIFT HOURS ___ TO ___

MOVE TO HOLE 9:30 -> 9:45

DRILL 9:45 -> 11:15

TOTAL HOURS ___

MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS ___

OTHER

MOVE TO NEXT HOLE 11:15 -> 11:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0 -> 0.3 No Returns
2				0.3 -> 0.7 Organics
3			01	0.7 -> 2.7 Sediments (Ojibway)
4				Clay - 0.7 -> 2.7 beige, soft, smooth.
5			02	
6				2.7 -> 4.1 Till (Chibougamau)
7				- beige, fine sand matrix
8				with pebbly clasts composing of 70% sediments and volcanics
9				30% granitics.
10				- oxidized from ≈ 2.7 - 2.9
11				- lower percentage of pebbly
12				clasts · 90% fine beige sand
13				at ≈ 3.8 - 4.1
14				4.1 -> 5.5 Bedrock (Metasediment)
15				- gray to dark green
16				- very fine grained
17				- massive
18				· <1% quartz veining
19				- serpentinite?
20				5.5 EOH.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 6 19 85

SHIFT HOURS

_______ TO _______

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CN-85-12b LOCATION Formerly hole 54

GEOLOGIST SL Miltthorp DRILLER S. Huey BIT NO CBLT 425 BIT FOOTAGE 58.. → 63.6

MOVE TO HOLE 11:15 → 11:30

DRILL 11:30 → 12:15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 12:15 → 12:20

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01 (at about 3 m), 02 (at about 4 m)	

0 → 0.9 No Return

0.9 → 1.2 Organics

1.2 → 2.4 Sediments (Ojibway)

Clay - gray, smooth, soft

2.4 → 3.3 Till (Chibougamau)

- gray beige, fine sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitics

3.3 → 4.8 Bedrock (Felsic Volcanics)

- gray to dark green
- medium grained
- ≈ 30% quartz
- massive

4.8 → E.O.H

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 6 19 85

SHIFT HOURS
_____ TO _____

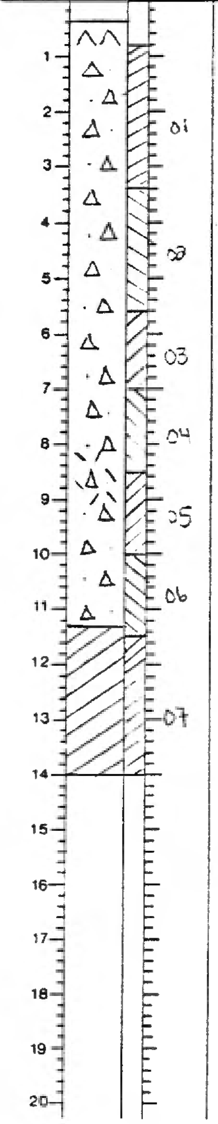
TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-177 LOCATION Formerly hole 55
GEOLOGIST [illegible] DRILLER B. [illegible] BIT NO CB 27436 BIT FOOTAGE 0 → 14.0
MOVE TO HOLE 12:45 → 12:30
DRILL 12:30 → 3:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 3:00 → 3:30

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 → 0.4 No Return

0.4 → 0.8 Organics

0.8 → 11.3. Till (Chibougamau)

0.8-0.9 → dark brown, fine sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitics

→ gray from 0.9 → 11.3

→ pebbly clasts composing of 90% sediments and volcanics 10% granitics from 6.6 → 11.3

→ low percentage of fine sand matrix from 6.6 → 7.5

→ interbedded clay bed, gray, soft, smooth from 8.2 → 9.1

11.3 → 14.0 Bedrock (Metasediment?)
- dark gray
- very fine grained
- massive
- contains potassium feldspar, qtz and epidote staining

14.0 EOH

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 6 1985

HOLE NO CW-85-128 LOCATION Formerly CW-56

GEOLOGIST SCHURING DRILLER G. Houle BIT NO CB67436 BIT FOOTAGE 14.0-19.0

SHIFT HOURS

_____ TO _____

MOVE TO HOLE 3:00 - 3:30

DRILL 3:30 - 4:30

TOTAL HOURS

MECHANICAL DOWN TIME 4:30 Hydraulic pump broke - fixed by 5:30

DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE 5:30 - 6:00 Travel

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG							
				0.0→0.5 No Return							
1				0.5→0.9 Sediments (OJIBWAY)							
2			01	Clay - light brown, gritty, soft.							
3											
4				0.9→4.0 Till (Chibougamau)							
			02	- grey, beige, f.g. sand matrix.							
5				- ~~pebbly~~ - 75/25.							
6											
7				- grey sand matrix (3.8-4.0)							
8				4.0→5.0 Bedrock (Felsic Volc.)							
9				- light green to dark green							
10				- med. grained.							
11				- massive.							
12				- ~30% quartz							
13											
14				5.0 EOH							
15											
16											
17											
18											
19											
20											

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 7 1985

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-129 LOCATION Formerly CW-57

GEOLOGIST IL Hutchins DRILLER S Howe BIT NO SB67436 BIT FOOTAGE 19.0-27.5

MOVE TO HOLE 7:00 – 8:00

DRILL 9:00 – 10:30

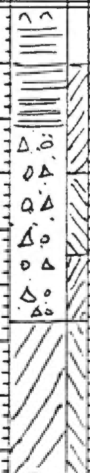
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER TRAVEL 7:00 – 9:00

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				
2			01	
3				
4			02	
5			03	
6				
7			04	
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				



0.0 → 0.2 ORGANICS

0.2 → 2.2 Sediments (OJIBWAY)

Clay – dark brown, soft, smooth above 1.6 m

– beige, soft smooth 1.6–2.2

2.2 → 5.7 Till (Chibougamau)

– beige, fine grain sand matrix

– pebbly clast 85/15 (2.2–2.7)

– gray, 90/10 (2.7–5.7)

5.7 → 8.5 Bedrock (metasediment)

– light green to dark green

– f.gr. to med gr.

– 30% quartz w K spar.

8.5 EOH.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 7 19 85

SHIFT HOURS
______ TO ______

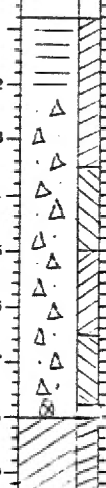
TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO OW85-130 LOCATION Formerly hole 58
GEOLOGIST S.A. Hutchings DRILLER G. Hour BIT NO Pb7438 BIT FOOTAGE 0-7 9.3
MOVE TO HOLE 10:30 -7 11:00
DRILL 11:00 -7 2:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS 4:15 -7 4:45 pull 6T out of rock.
OTHER 2:00 -7 2:45 service drill 4:45 -7 6:30 back to hotel
MOVE TO NEXT HOLE 2:45 -7 4:15

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0 -7 0.8 No Return
2				0.8 -7 2.0 Sediments (Ojibway)
3			01	Clay - 0.8 -7 1.7 - gray, smooth, soft
4				- 1.7 -7 2.0 - beige, smooth, soft
5			02	
6			03	2.0 -7 7.6 Till (Chibougamau)
7			04	-> gray beige, fine grained sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitics
8				-> gray from 3.0 -7 3.7
9			05	-> gray beige from 3.7 -7 5.1
10				-> lower percentage of fine sand matrix from 3.7 -7 3.8
11				-> gray, fine sand matrix with pebbly clasts composing of 80% sediments and volcanics 20% granitics from 5.1 -7 7.6
12				7.6 - 8.0 -7 Dioritic boulder.
13				8.0 -7 9.3 -> Bedrock (Metasediment?)
14				- dark gr to green
15				- very fine grained
16				- massive
17				- quartz veining
18				9.3 - E.O.H.
19				
20				



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 8 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO GU-85-131 LOCATION Fenelon Lake 63

GEOLOGIST [illegible] DRILLER G. Henry BIT NO CBG7449 BIT FOOTAGE 0→8.0

MOVE TO HOLE

DRILL 9:15 → 10:15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER travel time 7:00→8:00 to truck 8:00→9:00 [illegible]

MOVE TO NEXT HOLE 10:15 → 10:30

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02	

0 → 0.5 No Return

0.5 → 1.3 Organics

1.3 → 4.8 Sediments (Ojibway)

Clay - grey, gritty, smooth 1.3-1.7

1.7-4.0 - gray, soft, smooth

Silt/Sand 4.0→4.8

- grey, very fine grained sand matrix interbedded with grey soft, smooth clay.

4.8 → 6.7 Till (Chibougamau)

- grey, fine grained sand matrix with pebbly clasts composing of 80% sediments and volcanics 20% granitics

6.7 → 8.0 Bedrock (Felsic Volcanic)

- light graygreen to darkgrey
- very fine grained
- massive
- 1-2% dissemenated pyrite
- 25-30% quartz
- quartz veining 6.7-7.6

8.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 8 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-132 LOCATION Formerly hole 62

GEOLOGIST S.L.Gubbins DRILLER G. Henry BIT NO CP67469 BIT FOOTAGE 80→14.5

MOVE TO HOLE 10:15→10:30

DRILL 11:45 → 1:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS 10:30→11:45 went back and pulled 6T-1000 out of creek

OTHER

MOVE TO NEXT HOLE 1:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0→0.5 - No Return
2				0.5→3.3 Sediments (Ojibway)
3				Clay - 0.5→1.3 - beige, smooth, compact
4			01	Silt - 1.3→3.3 - gray.
5			02	
6			03	
7				3.3→5.7 Till (Chibougamau)
8				- beige, fine sand matrix with pebbly clasts composing of 75%
9				sediments and volcanics 25%
10				granitics. - 3.3→4.0.
11				- grey beige 4.0→5.1
12				
13				5.1→6.5 Bedrock (Felsic Volcanic)
14				- grey to dark green
15				- very fine grained
16				- massive
17				- <1% disseminated pyrite
18				- 1% quartz
19				6.5 EOH.
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 8 19 85

SHIFT HOURS

______ TO ______

TOTAL HOURS

CONTRACT HOURS

HOLE NO CU-85-133 LOCATION Formerly hole 61

GEOLOGIST [illegible] DRILLER G. Houg BIT NO CB67469 BIT FOOTAGE 14.5→23.0

MOVE TO HOLE 1:30 → 1:45

DRILL 1:45 → 2:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 2:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0→1.0 Organics
				1.0→5.5 Sediments (Ojibway)
				Clay - 1.0→1.3 - gray, smooth, compact
				Silt - 1.3→3.4 - gray
				Sand / Silt - 3.4-55
				-gray, finegrained sand with interbedded gray beige soft, smooth clay beds
			01	
			02	
			03	
				5.5→7.7 Till (Chibougamau)
				. gray . fine sand matrix with pebbly clasts composing of 75% sediments and volcanics. 25% granitics.
				7.7→9.5 Bedrock (Mafic Volcanic)
				- light green to dark gray
				- massive
				- very fine grained
				· <1% dessiminated pyrite
				· <1% quartz
				9.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 8 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

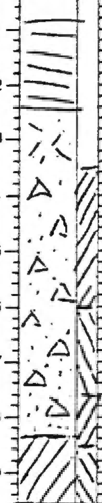
HOLE NO CW-85-134 LOCATION Formerly hole 60
GEOLOGIST Hutchings DRILLER Howg BIT NO. CB67469 BIT FOOTAGE 25.0-34.4
MOVE TO HOLE 2:30 - 3:00
DRILL 3:00 - 4:15
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 4:15 - 4:30

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0		0-0.9 Organics
1		0.9-3.4m Sediments (Ojibway)
2		0.9 - Clay - beige, soft, smooth
		2.5 - Sand/Silt - grey, fine, sand matrix
3		
4	01	3.4m Till (Chibougamau)
		- grey, fine sandy matrix,
5		
6	02	- Pebbles
		80% Volcanics
7	03	Sediments
8		·20% Granitics
9	04	9.9 to 10.0m - grey gritty soft clay bed.
10	05	~~* 11.4m - New Bit * #CB67470 *~~
		12.5m Bedrock (Mafic Volcanic)
11		-dark grey to dark green.
12	06	-very fine grained
		-massive
13		-<1% disseminated pyrite.
14	07 BEDROCK	-<1% quartz
15		14.1-14.2m - layer of till.
		14.5m E.O.H.
16		
17		
18		
19		
20		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 8 1985
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO CW-85-135 LOCATION Formerly CW-59
GEOLOGIST SL HUTCHINGS DRILLER G. HOWE BIT NO CR67470 BIT FOOTAGE 3.1-12.7
MOVE TO HOLE 4:15 - 4:30
DRILL 4:30 - 5:15
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER Travel 5:15 - 7:30
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0.0 - 0.8 No Return
				0.9 - 3.4 Sediments Ojibway Clay - beige, soft, smooth. @ 2.5m - Changes to grey Silt
			01	3.4 to 8.4m Till (Chibougamau) - grey, fine, sandy matrix - pebbles 80% Volcanics/Sediments 20% Granitics
			02	
			03	7.5 - 7.7m lower % fines
			04	8.4 - 9.6 m - Bedrock (Mafic Volcanic) - grey to dark grey - massive - fine grained
				9.6m - E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 9 19 85

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-136 LOCATION Formerly hole 64

GEOLOGIST S.J. Hutchings DRILLER A. Hoig BIT NO TB67470 BIT FOOTAGE 12.7 -> 22.7

MOVE TO HOLE

DRILL 12:00 -> 1:00

MECHANICAL DOWN TIME 10:30 -> 10:45 fix greaser bar.

DRILLING PROBLEMS

OTHER travel 8:00 -> 10:30 10:45 -> 12:00

MOVE TO NEXT HOLE 1:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 -> 1.3 Organics
1–5				1.3 -> 5.9 Sediments (Ojibway)
				Clay - gray, soft, smooth
6–8			01	5.9 - 8.6 Till (Chibougamau)
			02	- gray, fine sand matrix with pebbly clasts composing of 80% sediments and volcanics 20% granitic
9–10			03	8.6 -> 10.0. Bedrock (Ultramafic Volcanic)
				- dark green to black
				- fine grained
				- massive
				- <1% disseminated pyrite
				- shear zones of serpentine?
				- qtz plagioclase vein from ≈ 9.5 - 9.6
18				10.0 EOH

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 9 1985

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-137 LOCATION Formerly Hole #65
GEOLOGIST Hutchings DRILLER G-Hong BIT NO. CB67471 BIT FOOTAGE 0-3.5
MOVE TO HOLE 1:00 → 1:15
DRILL 1:15-2:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 2:00 - 2:15

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0-1.9m - Sediments (Ojibway) - clay - beige, smooth, soft.
2-3			01	1.9-2.0m - Till (Chibougamau) - grey, fine sandy matrix 80% Volcanics/Sediments 20% Granitics
				2.0-3.5 m - Bedrock (Mafic Volcanic) - dark grey to dark green - fine grained - Massive - <1% disseminated Pyrite
				3.5m - E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 9 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-138 LOCATION Formerly hole 66

GEOLOGIST [illegible] DRILLER G. Haig BIT NO CB67471 BIT FOOTAGE 3.5 → 16.5

MOVE TO HOLE 2:00 → 2:15

DRILL 2:15 → 3:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 3:00.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 → 1.1 No Return
1–5				1.1 → 5.0 Sediments (Ojibway)
				Clay - 1.1 → 4.7 - grey, smooth, soft.
				Silt / Sand - 4.7 → 5.0 - grey, fine sand matrix
5–12			01	5.0 → 12.0 Till (Chibougamau)
			02	- gray. fine sand matrix with pebbly clasts composing of 80% sediments and volcanics 20% granitics
			03	- icy from 9.6 → 10.5
			04	- lower percentage of fine sand "Stoney Hill" from 10.2 - 10.3
				- oxidized ≈ 11.2 - 12.0
12–13			05	12.0 → 13.0 Bedrock (Mafic Volcanic)
			06	- gray to dark green
				- very fine grained
				- massive
				- <1% quartz - lenses -
20				13.0 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 7 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-139 LOCATION Formerly hole 63

GEOLOGIST SL Hutchinson DRILLER G. Hruby BIT NO. CB67471 BIT FOOTAGE 16.5 → 58.3

MOVE TO HOLE 3:00 → 3:30

DRILL 3.30 → 6:00

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER travel 6:00 - 6:30 truck & motel 6:30 → 7:30

MOVE TO NEXT HOLE _____

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
1		0 → 2.0 No Returns
2		2.0 → 2.5 Organics
3		2.5 → 12 Sediments (Ojibway)
4–5		Sand / Silt - 2.5 → 5.0
5–6		gray fine sand with gray, soft smooth clay interbedded.
7		Clay - 5.0 → 11.2
8		5.0 → 5.2 gray, gritty, soft
9		5.2 → 11.2 gray, smooth, soft
10		Sand / Silt : 11.2 → 12.3
11		gray, fine sand matrix
12		
13	01	12.3 → 17.6 Till (Chibougamau)
14	02	- gray, fine sand matrix with pebbly clasts composing of 80%
15–16	03	sediments and volcanics 20% granitic
17	04	
18		- lense of sand 17.6 - 21.5
19	05	gray, fine sand with pebbly clasts and dark brown, gritty, compact
20	06	clay.

Pg 2

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19 __

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO ________ LOCATION ________

GEOLOGIST ________ DRILLER ________ BIT NO. ________ BIT FOOTAGE ________

MOVE TO HOLE ________

DRILL ________

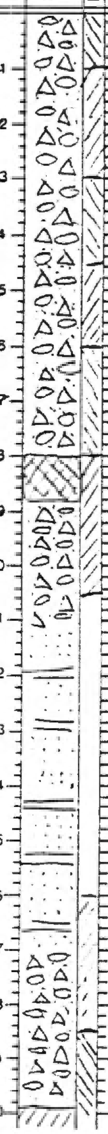
MECHANICAL DOWN TIME ________

DRILLING PROBLEMS ________

OTHER ________

MOVE TO NEXT HOLE ________

Page 2 of CW-85-139 page 2 of 3



DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
	06	
21		21.5 -> 31.2 Till (Chibougamau)
22	07	- gray, fine sand matrix with pebbly clasts composing
23		
	08	of 80% sediments and volcanics 20% granitics
24		
25	09	- diorite boulder 28.0 -> 28.8
26		
27	10	31.2 -> 37.0 Missinaibi Sediments
28		Silt / Sand - 31.2 -> 37.0
29	11	- gray, fine sand with
30		gray, compact, smooth interbedded
31		clay beds <1% pebbly clasts.
32		- no clay 33.0 -> 34.2
33		
34		37.0 -> 39.9 Till (lower)
35		- gray, fine sand matrix
36		with pebbly clasts composing
37	12	of 75% sediments and volcanics 25% granitic, cobbly clasts.
38		- greater percentage of fines
39	13	39.6 -> 39.9
40		-

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 10 19 85

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO ____ LOCATION ____
GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____
MOVE TO HOLE ____
DRILL 8:30 -> 9:30
MECHANICAL DOWN TIME ____
DRILLING PROBLEMS ____
OTHER travel 7:00 -> 8:00 by truck 8:00 -> 8:30 by ET-1000
MOVE TO NEXT HOLE ____

Page 3 of CW-85-139

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			13	
1			14	39.9 -> 42.0 Bedrock (Granite Diorite)
2				- medium grained to coarse grained
3				- potassium feldspar, quartz hornblende, biotite
5				42.0 EOH
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 Dec 3th 19 85

SHIFT HOURS
____ TO ____

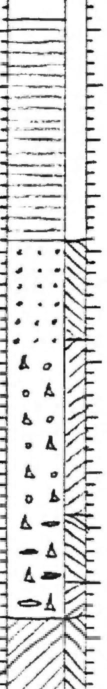
TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-140 LOCATION Formerly CW-141
GEOLOGIST T. Burns DRILLER H. Ouellette BIT NO. CB67508 / 509 BIT FOOTAGE 5.5 => 17.1 / 0 => 13.0
MOVE TO HOLE 8.00 => 8.15
DRILL 8.15 => 10.30
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 7.00 => 7.45 to drill road 7.45 to 8.00 to drill
MOVE TO NEXT HOLE

scrap two rods

NEW BIT



DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
		0 => 0.5 No Return
1		0.5 => 0.8 Organics
2		0.8 => 6.6 Sediments (Ojibway)
3		clay 0.8 => 4.8 beige, ~~soft~~, smooth
4		sand 4.8 => 6.6
5		beige, fine grained 4.8 => 5.2, 5.8 => 6.6
	01	coarse grained 5.2 => 5.3
6		
7		6.6 => 11.6 Till (Chibougamau)
8	02	gray to gray-beige, fine sand matrix pebbly clasts
9		40% mafic volcanics and sediments 40% granitic
10	03	- cobbly below 9.8
11	04	
12	05	11.6 => 13.0 Bedrock Mafic Volcanic
13		dark green, fine to medium grained, massive, <1% calcite and quartz-feldspathic veins throughout
14		
15		
16		<0.1% disseminated pyrite
17		13.0 EOH.
18		
19		
20		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 5th 1985

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-141 LOCATION Formerly CW-142

GEOLOGIST T. Burns DRILLER H. Ouellette BIT NO. 6367509 BIT FOOTAGE 13 → 41.5

MOVE TO HOLE 10.30 → 10.45

DRILL 10.45 → 3.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0–1		0 → 1.0 No Return
1–4		1.0 → 4.4 Sediments (Ojibway) clay 1.0 → 3.8 gray, soft, smooth sand 3.8 → 4.4 gray-beige to beige, fine to medium grained
5–6	01	4.4 → 18.7 Till (Chibougamau) gray to gray-beige, fine sand matrix pebbly clasts 60% ~~mafic~~ volcanics and sediment 40% granitic
9	02	- high percentage of fine sand matrix above 12.0 - cobbly below 12.0
11	03	- sand lense 16.8 → 18.0
13	04	18.7 → 20.8 Sediments (Missinaibi) sand beige, fine grained locally pebbly
14	05	
16	06	
17–18	07	
19–20	08	

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 8th 19 85

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-141 LOCATION ____

GEOLOGIST ____ DRILLER ____ BIT NO ____ BIT FOOTAGE ____

MOVE TO HOLE ____

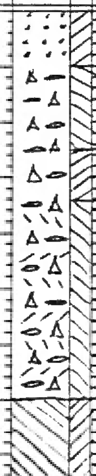
DRILL ____

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

MOVE TO NEXT HOLE ____



DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
	08	20.8 → 27.0 Till? (lower)
21		- gray, fine sand matrix pebbly clasts 60% mafic volcanics and sediments 40% granitic
22	09	
23	10	- gritty gray clay matrix below 23.8, minimal return, material in suspension
24		
25	11	
26		
27		27.0 → 28.5 Bedrock Gabbro green-white, medium to coarse grained, massive
28	12	
29		28.5 EOH
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 3/4 19 85
SHIFT HOURS ____ TO ____
TOTAL HOURS ____
CONTRACT HOURS ____

HOLE NO CW-85-142 LOCATION Formerly CW-143
GEOLOGIST T. Burns DRILLER H. Durette BIT NO CB67509 / CB67510 BIT FOOTAGE 41.5 → 70.7 / 0 → 35.5
MOVE TO HOLE 3.30 → 4.00
DRILL 4.00 → 6.30 / 4th 8.00 → 12.00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 6.30 → 6.45 to truck 6.45 → 7.30 chopping / 4th 7.00 → 7.45 drilled
MOVE TO NEXT HOLE 7.45 → 8.00 to drill

NEW BIT

page 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 → 0.5 No Return
1				0.5 → 4.6 Sediments (Ojibway)
2				clay 0.5 → 2.6 beige, soft, smooth
3				sand 2.6 → 4.6 beige, fine grained
4			01	4.6 → 33.4 Till (Chibougamau)
5–6				gray-beige, fine sand matrix pebbly, clasts 60% mafic volcanic and sediments 40% granitic
7			02	
8				- cobbly below ≈ 7.8 to 8.7
9				- boulder mafic volcanic 8.3 → 8.7
10			03	
11				- pebbly below 8.7 → ≈13.5
12			04	- large cobbles below 13.5 → 18.5
13				- boulders, mafic volcanic 14.5 → 14.8
14			05	granodiorite 16.1 → 16.6
15			06	- high percentage of fine sand matrix below ≈18.5 to 22.1 with pebbly clasts
16				
17			07	
18				
19			08	
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 3/1985

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-142 LOCATION

GEOLOGIST DRILLER BIT NO. BIT FOOTAGE

MOVE TO HOLE

DRILL

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			08	- gritty gray clay matrix 27.1 -> 27.8 29.6 -> 31.8
21				
22			09	
23				
24			10	33.9 -> 34.1 Sediments (Missinaibie) clay dark gray, slightly gritty, very compact
25				
26			11	
27			12	34.1 -> 35.5 Bedrock Gabbro green-white, medium grained massive
28			13	
29				
30			14	35.5 E.O.H.
31				
32			15	
33			16	
34				
35			17	
36				
37				
38				
39				
40				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 9th 19 55

HOLE NO CW-35-143 LOCATION Formerly CW-144

GEOLOGIST I. Burns DRILLER A. Durette BIT NO CB67570 BIT FOOTAGE 35.5 → 60.5

SHIFT HOURS ______ TO ______

MOVE TO HOLE 12.00 → 12.30

DRILL 12.30 → 3.30

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02, 03, 04, 05, 06, 07, 08, 09	

0 → 0.8 <u>No Return</u>

0.8 → 1.2 <u>Organics</u>

1.2 → 2.9 <u>Sediment</u> (Ojibway)
<u>sand</u> beige, fine grained

2.7 → 23.6 <u>Till</u> (Chibougamau)
gray-beige, fine sand matrix pebbly clasts 60% mafic volcanics and sediment 40% granitic

- high percentage of fine sand matrix above ∓ 9.0
- cobbly below 7.9
- boulders mafic volcanic 7.9 → 8.1, 18.2 → 18.5
- stoney below ∓ 9.0 to 14.2 (low percentage of fine sand matrix)
- gritty gray clay matrix 14.2 → 14.5

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 9th 19 ___

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-95-143 LOCATION _____

GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____

MOVE TO HOLE _____

DRILL _____

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			09	- increase in percentage of fine sand matrix below ≃ 20.0 to 21.5
21				
22			10	
23			11	- very stoney below ≃ 21.5
24			12	23.6 ⇒ 25.0 <u>Bedrock</u> Mafic Volcanic dark green, fine grained generally massive, poorly developed foliation locally
25				
26				
27				
28				25.0 EOH
29				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 9^d 1985

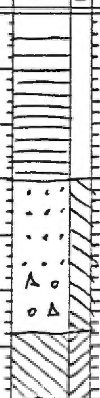
SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-144 LOCATION Formerly CW-145
GEOLOGIST J. Burns DRILLER H. Ouellette BIT NO CB6751 BIT FOOTAGE 0 → 7.0
MOVE TO HOLE 3.30 → 4.00
DRILL 4.00 → 4.45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 6.30 → 7.00 travel
MOVE TO NEXT HOLE 4.45 → 6.30

NEW BIT



DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
		0 → 0.5 No Return
		0.5 → 4.6 Sediments (Ojibway) clay beige, soft, smooth sand 3.0 → 4.6 gray-beige, fine grained
	01	4.6 → 5.8 Till (Chibougamau) gray-beige, fine sand matrix pebbly clasts 60% mafic volcanic and sediments, 40% granite
	02	5.8 → 7.0 Bedrock Mafic Volcanic dark green, fine to medium grained, massive
		7.0 EOH

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 Dec. 10 1985

HOLE NO CW-85-145 LOCATION Formerly CW-197

GEOLOGIST Edwards DRILLER Durette BIT NO C867511 BIT FOOTAGE 70-17.3.

SHIFT HOURS ____ TO ____

MOVE TO HOLE

DRILL 8:45 - 9:15

TOTAL HOURS

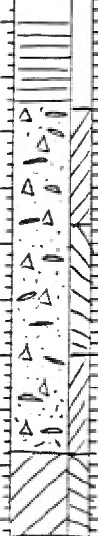
MECHANICAL DOWN TIME

DRILLING PROBLEMS 8:00 - 8:45 wait for water

CONTRACT HOURS

OTHER 7:00 - 8:00 travel

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01 (3–4 m)	0-1.0 : little return
			02 (6 m)	1.0-2.6: SEDIMENTS (Ojibway) - slightly gritty clay - beige, oxidized; compact
			03 (8 m)	2.6-8.8 TILL (Chibougamau) 2.6-5.3: fine beige sand matrix - cobbles: 50% Volcanics + sediments 50% Granites; 5.3-8.1m: fine grey-beige sand matrix - cobbles: 60% V/S 40% Gr.; 8.1-8.8 - fine grey sand matrix - occasional grey gritty clay lumps - cobbles 60% V/S 40% Gr; Below 8.5m: 75% V/S 25% Gr.
			04 (9.5 m)	8.8m. BEDROCK - colour: dark grey - medium-grained, weakly developed foliations - 10% quartz veining; 9.3-9.8m: 90% quartz veining - trace pyrite along fractured surfaces; Below 9.8m: 20% quartz veining - Mafic Volcanic

Depth scale: 1–20 m.

10.3 m. EOH.

OE

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 10 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-146 LOCATION Formerly 196

GEOLOGIST Edwards DRILLER Durette BIT NO. 6867511 BIT FOOTAGE 17.3-22.5m

MOVE TO HOLE 9:15 - 9:30

DRILL 9:30 - 9:45

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE 9:45 - 10:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1 – 20			01 (at ~3 m); 02 (at ~4.8 m)	see below

0-0.8 No return

0.8-2.0 : Sediments (Ojibway)
- beige compact clay in a fine beige sand.

2.0-3.7 Till (Chibougamau)
- fine beige sand matrix
- cobbles: 65% Volcanics & Sediments; 35% Granitics
- occasional beige gritty clay lumps.

3.7m Bedrock.

colour: black; slightly lustrous
- very schistose
- very fine-grained
- trace pyrite
- dirty appearance
- Graphitic argillite
- soft, easy drilling

5.2m. E.O.H.

[signature]

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 10 1985

HOLE NO CW-85-147 LOCATION Bernesly 198

GEOLOGIST Edwards DRILLER Durette BIT NO. 867511 BIT FOOTAGE 22.5 - 27.6 m

SHIFT HOURS

____ TO ____

MOVE TO HOLE 9:45 - 10:15

DRILL 10:15 - 10:30

TOTAL HOURS

MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE 10:30 - 11:00.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
1				0 - 0.8 m. No return						
2				0.8 - 2.5 SEDIMENTS (Ojibway) - dark brown slightly gritty clay in dark brown silt						
3			01							
4			02	2.5 - 3.6 TILL (Chibougamau) - fine dark grey/brown sand matrix - cobbles: 80% Volcanics/Sediments 20% Granites						
5										
6										
7										
8										
9				3.6 m. BEDROCK.						
10				colour: dark green - black - chloritized						
11				- fine-grained						
12				- very schistose below 3.9 m - evidence of strain						
13				- ~2% quartz stringers						
14				- trace pyrite along fractured surfaces						
15										
16				- Mafic Volcanic?						
17										
18				5.1 m EOH.						
19				OE.						
20										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE April 10 1985

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-148 LOCATION Formerly 199

GEOLOGIST Edwards DRILLER Durette BIT NO. 667571 BIT FOOTAGE 27.6-36.6m

MOVE TO HOLE 10:30 - 11:00

DRILL 11:00 - 11:45

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 11:45 - 12:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.2 No return
1				0.2 - 7.6 TILL (Chibougamau)
2			01	0.2-3.5 fine beige sand matrix pebbles 50% Volcanics and/or Sediments 50% Granitics
5			02	3.5-5.7 sand bed, beige (medium-grained)
7			03	5.7-7.6 - fine grey-beige sand matrix - cobbles 60% V/S 40% Gr.
8			04	
10				7.6m. BEDROCK. Colour: dark grey - fine grained - mildly schistose ~3% quartz/carbonate veinlets - tr. pyrite - Mafic Volcanic.
17				9.0m EOH.
19				DTE.
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 10 1985

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-149 LOCATION Formerly 200; moved to 50m W of 201

GEOLOGIST Edwards DRILLER Durette BIT NO CB67571 BIT FOOTAGE 326-39.2

MOVE TO HOLE 11:45-12:15

DRILL 12:15-12:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 12:30-1:00.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						
1				0-1.1 Organics						
2			01	1.1 m. BEDROCK.						
3				- dark grey colour; weathered to 1.4m.						
4				- fine-grained; mildly schistose						
5				~10% quartz veining						
6				- Fe-staining @ 2.5m.						
7				~2% pyrite						
8				- Mafic Volcanic.						
9										
10				2.6m EOH.						
11				OME.						
12										
13										
14										
15										
16										
17										
18										
19										
20										

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 10 1985

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-150 LOCATION Formerly 201; moved to midway point between 201 + 202.
GEOLOGIST Edwards DRILLER Duvett BIT NO. CR67511 BIT FOOTAGE 39.2-43.2
MOVE TO HOLE 12:30 - 1:00
DRILL 1:00 - 1:15
MECHANICAL DOWN TIME Begin move to next hole @ 1:15; had to repair
DRILLING PROBLEMS hole in main hydraulic line, and repair
OTHER fuel injector.
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0-1.0. No return
2			01	1.0-1.4: SEDIMENTS (Ojibway) CLAY; beige, oxidized, gritty
3			02	1.4-2.5: TILL (Chibougamau) - fine beige sand matrix - cobbles: 50% Volcanics/Sediments
4				
6–14				2.5 m. BEDROCK Colour: medium to light grey (~10-15% quartz) - fine-grained - mildly schistose - trace Fe-staining along some fractured surfaces - trace pyrite - Intermediate - Mafic Volcanic
15–16				4.0m. E.O.H. DNE

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov. 10 1985

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CN-85-151 LOCATION Formerly 203

GEOLOGIST Rentliffe DRILLER Ducette BIT NO. EE67511 BIT FOOTAGE 43.2-48.2

MOVE TO HOLE 7:30-7:35

DRILL 8:40-9:45

MECHANICAL DOWN TIME 7:35-8:40 fuel injector repair, 9:00-9:35

DRILLING PROBLEMS repair broken fuel line

OTHER

MOVE TO NEXT HOLE 9:45-10:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0-1.4m No return
2			01	1.4-3.2 Till (Chibougamau) 1.4-2.6 fine beige sand matrix pebbles: 50% Volcanics/Sediments 50% granites
3				
4			02	2.6-3.2 fine grey-beige sand matrix -pebbly 70% V/S 30% Gr
5				
6				
7				3.2m. BEDROCK (Mafic Volcanic)
8				- fine-grained
9				- light grey- to green colour
10				- very schistose
11				- brown Fe-staining along fractures
12				
13				
14				5.0m E.O.H.
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 11 1985

HOLE NO CW-85-152 LOCATION Formerly 2C-4

GEOLOGIST Edwards DRILLER Ouette BIT NO. CBL7511 BIT FOOTAGE 48.3-54.8m

SHIFT HOURS ____ TO ____

MOVE TO HOLE 9:45 - 10:00

DRILL 10:15 - 11:15

TOTAL HOURS ____

MECHANICAL DOWN TIME 10:00 - 10:15 Repair fuel line

DRILLING PROBLEMS ____

CONTRACT HOURS ____

OTHER ____

MOVE TO NEXT HOLE 11:15 - 11:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01, 02, 03	

0-0.8m: Organics

0.8-1.2m: SEDIMENTS (Ojibway)
clay - beige, slightly gritty
- oxidized

1.2-5.0m. TILL (Chibougamau)

1.2-3.1: fine dark brown sand matrix
- cobbles 60% Volcanics &/or sediments
40% Granites
- weathered appearance

3.1-4.8: fine dark grey-brown sand matrix

4.8-5.0: fine grey sand matrix
- cobbles: 75% V/S
25% Gr.

5.0m. BEDROCK
colour: dark green, chloritic
- fine-grained; moderately schistose
- trace pyrite along fractured surfaces
~1% quartz stringers
5.4m intersected narrow carbonate vein (calcite)

6.5m E.O.H.

DE.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 11 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-153 LOCATION Formerly 205

GEOLOGIST Rateliffe DRILLER Hewitt BIT NO ZBC751 BIT FOOTAGE 548-60.3

MOVE TO HOLE 11:15-11:30

DRILL 11:30-12:45

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 12:45-1:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-09 No return
1				
2			01	0.9-4.5 m Till (Chibougamau) - fine grey-beige sand matrix - pebbles: 70% Volcanics + Sediments 30% Granites
4			02	
5			03	
6				4.5m BEDROCK (Mafic Volcanic) - fine-grained - very schistose - well-developed foliations - light to dark green colours. - trace pyrite - trace calcite
13				5.5 m EOH.
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 11 19 85

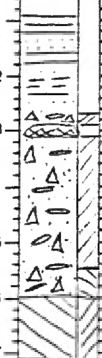
SHIFT HOURS
_______ TO _______

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-154; 154A LOCATION Formerly CW-206
GEOLOGIST Edmonds DRILLER Ducette BIT NO. CB67511 BIT FOOTAGE 0-5.7m.
MOVE TO HOLE 12:45 - 1:30 (Had to pull driller's pick-up out of ditch
DRILL 1:30 - 3:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 3:00 - Took drillers helper to hospital - power wrench broke
MOVE TO NEXT HOLE and hit his knee.

*New Bit
New Sub

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG							
1				0-0.9 Organics							
2				0.9-2.7 Sediments (Ojibway)							
				- grey clay, smooth, soft in fine grey sand/silt							
3			01								
4			01	2.7-6.0 m. TILL (Chibougamau)							
5				2.7-2.9 : fine dark brown-grey sand matrix (minimal amount)							
6			154A-02	- cobbles: 70% Volcanics/Sediments 30% Granitics							
7			154A-03								
8				2.9-3.1 BOULDER (Mafic Volcanic)							
9				3.1-5.7 : Till; fine grey sand matrix							
10				- cobbles - 60% V/S 40% Gr.	*Bit broke @ 5.7m						
11				- occasional grey smooth clay lumps	- lost bit + sub down hole						
12					- moved hole ahead 10ft.						
13				Redrill to 5.5m : same till as in 154	*New Bit New Sub CB67513						
14				6.0 m. BEDROCK.	New Bit footage: 7.1						
15				- colour: black, slightly lustrous							
16				- very fine grained							
17				- schistose							
18				- trace quartz veinlets @ 6.8m							
19				- grey, dirty sample water							
20				- Graphitic argillite							

7.1 m E.O.H.

D.E.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 11 1985

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-155 LOCATION Kennedy 207

GEOLOGIST Edwards DRILLER Hewitt BIT NO. C004573 BIT FOOTAGE 71-94

MOVE TO HOLE 7:30 - 7:45

DRILL 7:45 - 8:30

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

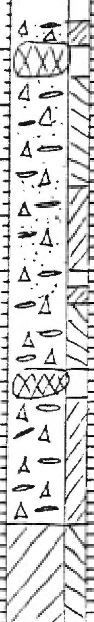
MOVE TO NEXT HOLE 8:30 - 9:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0.0 - 0.6 . BOULDER (Mafic Volcanic)
1				0.6 - 0.7 TILL (Chibougamau)
			01	- very thin layer of oxidized till
2				
3				
				0.7m. BEDROCK
4				- colour : light beige - grey
5				- very fine-grained
6				- mildly schistose
				- silicious
7				- trace quartz veinlets
8				- very tough drilling
9				- Felsic Volcanic
10				
				2.3m E.O.H.
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 12 19 85
SHIFT HOURS ____ TO ____
TOTAL HOURS ____
CONTRACT HOURS ____

HOLE NO CW-85-156 LOCATION Formerly 208
GEOLOGIST Edwards DRILLER Hewitt BIT NO. CB67513 BIT FOOTAGE 94 - 20.8m
MOVE TO HOLE 8:30 - 9:00
DRILL 9:00 - 11:15
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 8:30 - 8:45 fuel-up
MOVE TO NEXT HOLE 11:15 - 11:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	0-0.5 No return
1				0.5-0.9 TILL (Chibougamau)
2				- fine beige sand matrix
3			02	- cobbles: 50% Volcanics/Sediments 50% Granitics
4			03	0.9-1.5 BOULDER (Mafic Volcanic)
5			03	1.5-9.6 TILL (Chibougamau)
6			04	1.5-4.2 fine grey-beige sand matrix - cobbles: 70% V/S 30% Gr.
7				- occasional beige gritty clay lumps
8				
9			05	4.2-5.0: very cobbly, minimal matrix (grey-beige sand) - 40% V/S 60% Gr.
10				
11			06	5.0-5.3 BOULDER (Mafic Volcanic)
12				5.3-5.5 Till, fine grey sand matrix - cobbles: 60% V/S 40% Gr.
13				5.5-6.8: cobbles: 80% V/S 20% Gr.
14				6.8-7.3 BOULDER (Mafic Volcanic)
15				7.3-9.6: till, as described at 5.5m.
16				9.6 m. BEDROCK
17				Colour: brown-grey; metallic
18				- siltstone; highly schistose
19				- very soft; sericitized
20				- very fine-grained - weathered, oxidized

11.4m E.O.H.
ORE.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Nov. 12 1985
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO CW-85-157 LOCATION Formerly 209, moved 50m East
GEOLOGIST Edwards DRILLER Hewitt BIT NO. C667513 BIT FOOTAGE 20.8 - 25.5m
MOVE TO HOLE 11:15 - 11:30
DRILL 11:30 - 12:30
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 12:30 - 12:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–3			01	0-0.8m : No return 0.8-3.2 TILL (Chibougamau) - fine dark brown sand matrix - cobbles : 85% Volcanics/Sediments 15% Granites
3–4.7			02	3.2 m. BEDROCK - colour : dark green - fine-grained; very schistose to 3.8m. - evidence of strain - trace Fe-staining along fractured surfaces ~2% quartz veining (stringers) - at 3.8m, intersected 30% carbonate vein (calcite) ~1% pyrite below 4.1m. 4.7m EOH. OKE

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 Dec. 12 1985

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-158 LOCATION Formerly 210

GEOLOGIST Edwards DRILLER Aurette BIT NO. C667573 BIT FOOTAGE 25.5-35.5m

MOVE TO HOLE 12:30-12:45

DRILL 1:00-2:30

MECHANICAL DOWN TIME 12:45-1:00 (Change fuel injector), again

~~DRILLING PROBLEMS~~ down 1:40-2:20 fuel injectors

OTHER

MOVE TO NEXT HOLE 2:30-2:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0-3.4 m. Organics
2				3.4-5.9 m. SEDIMENTS (Ojibway)
3				SAND/CLAY: grey sand, fine with soft grey gritty clay lumps
4				
5				5.9-7.8 m: TILL (Chibougamau)
6				- fine grey sand matrix
7			01	- cobbles: 90% Volcanics/Sediments 10% Granitics.
8				- occasional grey gritty clay lumps
9			02	
10				7.8 m. BEDROCK.
11				Colour: black, with veins (50%) of cream to grey coloured chert (aphanitic)
12				
13				- very fine-grained
14				- highly schistose
15				- trace pyrite
16				- Mafic Volcanic?
17				
18				10.0 m E.O.H.
19				OME.
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Oc 10 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CU-85-160 LOCATION Formerly hole 67

GEOLOGIST S.L. Hutchings DRILLER G-Haug BIT NO CBE7471 BIT FOOTAGE 58.3->64.3

MOVE TO HOLE 9:30 -> 10:00

DRILL 10:00 -> 10:15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 10:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02	0 -> 2.2 No Return
				2.2 -> 4.5 Sediments (Ojibway)
				Clay 2.2 -> 3.7, gray, smooth, soft
				Sand/Silt 3.7 -> 4.5, gray, fine sand matrix
				4.5 -> 4.9 Till (Chibougamau)
				- gray, fine sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitic
				4.9 -> 6.0 Bedrock (Felsic Volcanic)
				- dark gray to green
				- massive
				- very fine grained
				- ≈1% quartz
				6.0 EOH

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 12 1985

HOLE NO CW-85-159 LOCATION Formerly 211

GEOLOGIST Edwards DRILLER Ducette BIT NO. C667515 BIT FOOTAGE 35.5-38.5m

SHIFT HOURS ____ TO ____

MOVE TO HOLE 2:30-2:45

DRILL 2:45-5:45

TOTAL HOURS ____

MECHANICAL DOWN TIME

DRILLING PROBLEMS 5:00-5:25 wait for water

CONTRACT HOURS ____

OTHER

MOVE TO NEXT HOLE 5:45-6:00

*New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG	
1				0-1.7m Organics	*Bit broke @ 3.0m
2			01	1.7-2.7 TILL (Chibougamau)	*New Bit C667514
				- fine grey sand matrix	
3			02	- cobbles: 90% Volcanic/Sediment	
4				10% Granites	
5				2.7m. BEDROCK	
6				- colour; dark green; chlorites	
7				- sugary texture, fine-medium grained	
8				- foliated, moderately schistose	
9				- trace pyrite	
10				- trace quartz stringers	
11				- very hard drilling; poor	
12				return	
13				- Mafic Volcanic	
14					
15				4.0m EOH.	
16					
17					
18					
19					
20					

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 10 1985

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-160 LOCATION Formerly hole 67

GEOLOGIST S.L. Hutchings DRILLER G. Haig BIT NO CBF7471 BIT FOOTAGE 58.3→64.3

MOVE TO HOLE 9:30 → 10:00

DRILL 10:00 → 10:15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 10:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02	

0 → 2.2 No Return

2.2 → 4.5 Sediments (Ojibway)

Clay 2.2 → 3.7, gray, smooth, soft

Sand / Silt 3.7 → 4.5, gray, fine sand matrix

4.5 → 4.9 Till (Chibougamau)

- gray, fine sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitic

4.9 → 6.0 Bedrock (Felsic Volcanic)

- dark gray to green
- massive
- very fine grained
- ≈1% quartz

6.0 EOH.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 10 19 05
HOLE NO CW-05-161 LOCATION Formerly hole 68 A
GEOLOGIST Strunk DRILLER Hong BIT NO CB6742 BIT FOOTAGE 0 - 29.3

SHIFT HOURS
______ TO ______
MOVE TO HOLE 10:15 - 10:45
DRILL 10:45 - 2:30

TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS

CONTRACT HOURS
OTHER 2:30-2:45 Service (Muck out tank) 2:45-5:30 move to new location
MOVE TO NEXT HOLE
5:30-6:0 travel to Motel.

New Bit

page 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-3.5-Organics
1				3.5-6.8m-Sediments (Ojibway) clay, grey, smooth, compact.
2				
3				6.8m - Till (Chibougamau) -fine grey sandy matrix -80% Volcanics/Sediments -20% Granitics -Cobbles.
4				
5				
6				
7				10.6 m- 90% V/S 10% Gr
8			01	14.0-14.5m-Sand -fine to medium grained -grey
9				
10				
11			02	14.5 m- Till as Described @10.6 m
12			03	14.6m - Bit Broke ✻New bit #CB6742 ✻
13				
14			04	15.0m low % fines
15			05	15.4m- Till as described 14.5 m.
16			06	
17			07	
18			08	
19			09	
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 10 1985

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-161 LOCATION _____

GEOLOGIST _____ DRILLER _____ BIT NO. _____ BIT FOOTAGE _____

MOVE TO HOLE _____

DRILL _____

MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21–29			10, 11, 12, 12, 13, 14, 15, 16	

20.7 m Till - 80% V/S
20% Gr.

23.4-23.5 m - Gravel bed.
70% V/S
30% Gr
-coarse sand to pebbles.

23.5 m - Till as 20.7 m
low % matrix

23.6 m - Boulder (mafic Volcanic)

23.8 m - Till as described
@ 20.7 m
95% V/S
5% Gr.

26.5 m - low % fines

26.7 m - Till as described @
23.8 m.

27.8 m Bedrock (Diorite)
-medium grained.
20% Hornblende
30% Quartz
40% Plagioclase
5% Orthoclase
5% Biotite

29.3 m E.O.H.

21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 11 19 85

HOLE NO CW-85-162 LOCATION Formerly CW-85-130

GEOLOGIST Strank DRILLER Hong BIT NO CB67472 BIT FOOTAGE 29.3-43.1

SHIFT HOURS

_____ TO _____

MOVE TO HOLE 7:30-8:45

DRILL 9:00-10:30

TOTAL HOURS

MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS

OTHER Set up drill 8:45-9:00

MOVE TO NEXT HOLE 10:30-11:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-1.5m - No Return
1				1.5-8.5m - Sediments (Ojibway)
				1.5m - beige clay, gritty, soft
2				2.5m - grey silt
3				5.0m - grey, smooth, clay balls.
				8.5m - Till - (Chibougamau)
4				-fine, grey, sandy matrix.
5				-Pebbles
6				70% Volcanics Sediments
				30% Granitics
7				10.5m - Cobbles
				60% V/S
8				40% Gr
9				11.2m - 80% V/S
				20% Gr.
10			01	11.7m - Grey Gritty Clay Lumps
11				-80% of Sample.
12			02	12.2m - No Return
				-Pulled Rods
			02	- Bit Plugged.
13			03 BEDROCK	12.8m - Bedrock
14				-Very Dark green-Black
15				- Trace disseminated Pyrite
16				- foliated
17				- chloritized
				-very fine grained
18				13.3-13.7m - Hematite staining along fractures.
19				13.4-13.6m - Quartz vein
20				13.8m E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 11 19 85

HOLE NO QU-85-163 LOCATION formerly hole 129

GEOLOGIST SJ Mutchings DRILLER B. Haug BIT NO CB67472 BIT FOOTAGE 43.1 -> 51.8 0 -> 9.5

SHIFT HOURS

____ TO ____

MOVE TO HOLE 10:30 -> 11:15

DRILL 11:15 -> 12:45

TOTAL HOURS

MECHANICAL DOWN TIME

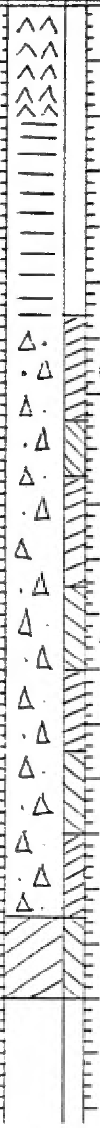
DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE 12:45

New Bit
New Sub.



DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
1		0->2.0 Organics
2		2.0->5.6 Sediments (Ojibway)
3		Clay : gray, soft, smooth.
4		5.6->16.5 Till (Chibougamau)
5		- gray, fine sand matrix
6		with pebbly clasts composing
7	01	of 75% sediments and volcanics 25% granitic.
8	02	-8.7 pulled rods "new bit"
9		- gray, gritty, soft interbedded
10	03	clay bed. 13.1 -> 13.2
11		- composition of pebbly clasts
12	04	is 80% sediments and volcanics
13	05	20% granitic at 13.7 to 16.5
14		
15	06	16.5 -> 18.0 Bedrock (Metasediment?)
16	07	- dark green
17		- very fine grained
18	08	- massive
19		- <1% disseminated pyrite
20		18.0 EOH

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 11 1985

HOLE NO CW-85-164 LOCATION Formerly CW-85-128

GEOLOGIST Strant DRILLER Howg BIT NO CB67473 BIT FOOTAGE 9.5-23.7

SHIFT HOURS ______ TO ______

MOVE TO HOLE 12:45-1:00

DRILL 1:00-200

TOTAL HOURS ______

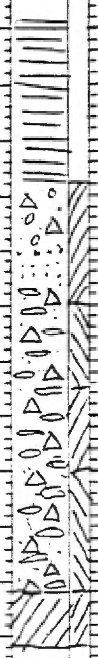
MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE 2:00-2:30

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02, 03, 04, 05	see below

0-2.8m - Organics

2.8-5.8m - Sediments (Ojibway)
- grey, compact, smooth clay

5.8m - Till (Chibougamau)
- Pebbles 60% Volcanics/Sediments
  40% Granitics
- fine grey sandy matrix

7.0m - Sand - fine, grey

7.5m - Till - cobbly
- fine, grey-beige, sandy matrix
- 60% V/S
  40% Gr.

8.1m - low percentage of fines

8.3m - Till as described @ 7.5m.

8.8m - Matrix Predominant
- medium grey-beige sandy matrix.

9.8m - Till as described @ 7.5m
- matrix - fine, grey, sandy.

10.5m - 80% V/S
20% Gr

11.7m - Occasional grey gritty clay lumps.

12.5m - GCL - 20% of Sample.

12.7m Till as described at 10.5m.
90% V/S
10% Gr.

13.2m - Bedrock
- Medium Dark green
- fine grained
- Pyrite (disseminated) ≃ 2%
- Trace Quartz - Carbonate stringers
- foliated
- Metasediment (Tuff?)
- Quartz - Carbonate vein @ 13.8m.

14.2m E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 11 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-165 LOCATION formerly hole 137
GEOLOGIST [illegible] DRILLER G. Hawg [illegible] BIT NO CR67473 BIT FOOTAGE 33.7 → 31.2
MOVE TO HOLE 2:00 → 2:30
DRILL 2:30 → 3:30
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 3:30

In ditch beside road

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–3.1				0 → 3.1 Sediments (Ojibway)
				Clay - 0 → 1.3 - brown, gritty, soft
				1.3 → 3.1 - brown, smooth, soft
3.1–6.4			01, 02	3.1 → 6.4 Till (Chibougamau)
				- gray, fine sand matrix with pebbly clasts composing of 60% sediments and volcanics 40% granitic
				- 5.3 → 5.6 same as above with a medium sand matrix
				- 6.2 → 6.4 - "stoney till", no fines medium to coarse sand matrix
6.4–7.5			03	6.4 → 7.5 Bedrock (Metasediment)
				- dark green to black
				- very fine grained
				- chloritized along fractures
				- < 1% quartz
				7.5 EOH.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

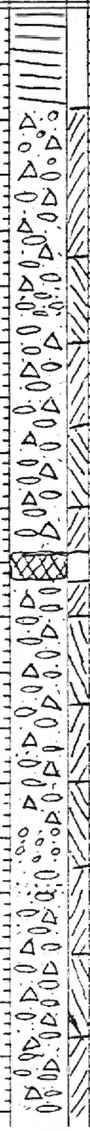
DATE Dec 11 19 85
HOLE NO CW-85-166 LOCATION Formerly hole CW-85-126
GEOLOGIST Strank DRILLER Hong BIT NO C367473 BIT FOOTAGE 31.2-53.5

SHIFT HOURS
____ TO ____
MOVE TO HOLE 3:30 - 4:00
DRILL 4:00 - 5:45

TOTAL HOURS
MECHANICAL DOWN TIME ____
DRILLING PROBLEMS ____

CONTRACT HOURS
OTHER 5:45-6:00-Here Nedwell, 6:00-7:00 Water Carrier, 7:00-7:30 Travel
MOVE TO NEXT HOLE ____

Hole drilled in Ditch beside road   page 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-1.8m-Clay - Light brown, gritty, soft.
1				1.8m Till (Chibougamau) -fine, grey-beige, sandy matrix
2				-Pebbly-60% Volcanics/Sediments 40% Granitics
3			01	
4				2.8m- Cobbly -70% V/S 30% Gr.
5			02	5.3m- Gravel -70% V/S 30% Gr. -medium sand to Gobbles.
6				
7			03	5.5m-Till as described @ 2.8m.
8			04	7.3m - 80% V/s 20% Gr. -matrix - fine, grey, sandy
9			05	9.8m- Boulder (Granite)
10			05	10.3m -Till as described @ 7.3m -90% V/s -10% Gr.
11				
12			06	13.7-13.8m- Matrix Predominant
13			07	14.8-15.5m-Gravel - 50% V/S -50% Gr -coarse sand to Pebbles
14			08	
15				15.5m-Till as described @ 2.8m above.
16			09	15.8-16.0m- Sand bed -fine, beige
17				
18			10	16.0m - Till as described @ 15.5m.
19				18.2m - Smooth Clay Lumps -occasional -grey.
20			11	

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 11 19 85 | HOLE NO CW-85-166 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 ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			11	20.3 m Bedrock
21			12	-Black in colour.
				-aphanitic
22				-Trace disseminated Pyrite
23				-some foliation
				-magnetic
24				20.7-21.3m - Quartz-carbonate vein
25				21.3 m - E.O.H.
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 12 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-107 LOCATION Formerly hole 105

GEOLOGIST [illegible] DRILLER G Craig BIT NO CE67474 BIT FOOTAGE 0-74.5

MOVE TO HOLE 7:30 → 8:00

DRILL 8:00 → 8:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER travel 7:00 – 7:30 by truck

MOVE TO NEXT HOLE 8:30

New Bit

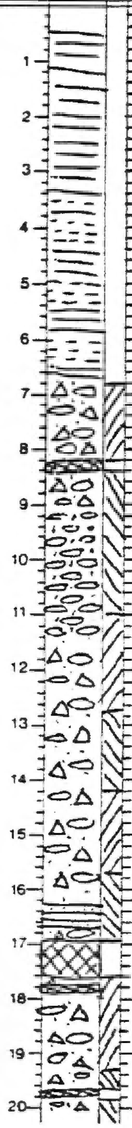
DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0 → 0.9 No Return
2			01	0.9 → 3.0 Till (Chibougamau)
3				- 0.9-1.8 - oxidized, fine sand with pebbly clasts composing of 60% sediments and volcanics 40% granitic
4			02	- 1.8 → 3.0 - same as 0.9 → 1.8 except gray beige.
5				
6				
7				
8				3.0 → 4.5 Bedrock (Metasediment)
9				- dark gray to black
10				- very fine grained
11				- schistose, thinly foliated
12				- micaceous
13				- carbonate stringers
14				- 3.0 → 4.2 - oxidized
15				- magnetic
16				4.5 E.O.H
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 12 19 85
SHIFT HOURS
_____ TO _____
TOTAL HOURS
_____
CONTRACT HOURS
_____

HOLE NO CW-85-168 LOCATION Formerly CW-85-123
GEOLOGIST Strunk DRILLER Long BIT NO. 3BG7474 BIT FOOTAGE 4.5-31.9m
MOVE TO HOLE 8 30 - 9.00
DRILL 9:00 - 4:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 11:00-11:45 - repair shifting fork on P.T.O.
MOVE TO NEXT HOLE 4:00 - 4:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



Sample No.: 01, 02, 03, 04, 05, 06, 07, 08, 08

0-0.5 m - Organics
0.5-6.7m - Sediments (Ojibway)
0.5m - Clay - grey, smooth, compact.
3.4 m - Silt - grey
- interbedded with clay as described @ 0.5m.

6.7m - Till (Chibougamau)
- fine, grey, sandy matrix
- Pebbles 70% Volcanics/Sediments 30% Granitics
8.1m - Cobbly 80% V/S 20% Gr.
8.2-8.4m - Boulder (Mafic Volcanic)
8.4m - Till as described @ 8.1m
- low % fines
9.1m - Gravel - Coarse Sand to Cobble size
70% V/S
30% Gr.
11.4 m - Till as described @ 8.1m. - 90% V/S
10% Gr.
16.3 m - Grey, gritty clay lumps.
- occasional clast
100% of sample
16.7 m - Till as described @ 11.4m.
16.9 - 17.6 - Boulder (Granodiorite)
17.6 m - Till as described @ 16.7m
17.7-17.8m - Boulder (Diorite)
17.8m - Till as described @ 17.6m.
19.7 - 19.8m - Boulder (Mafic Volcanic)
19.8m - Till as described @ 17.8m

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 12 1985

HOLE NO CW-85-168 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 ______

page 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21			08	20.1 m - 90% V/S 10% Gr.
22			09	22.0 m - Sediments (Missinaibie) clay - dark grey, compact, smooth - occasional clast
23				
24			10	22.6 m - Till (Lower?) - fine grey sandy matrix - 90% V/S
25				- 10% Gr
26			11	- Cobbly.
27			12	23.7 m - 95% V/S 5% Gr.
28				26.5 m - Bedrock? - intrusive
29				- fine - medium grained. - quartz - 40%
30				- Plagioclase - 35% - Hornblende - 5%
31				- Biotite - 20% - Pyrite Crystals (1mm) - Trace
32				27.5 m E.O.H. (unable to
33				get Bit Pressure
34				due to cobbly Till)
35				
36				
37				
38				
39				
40				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 12 / Dec 13 19 85

HOLE NO CW-85-169 LOCATION formerly hole 132

GEOLOGIST [illegible] DRILLER G. Haug BIT NO CB67474 / CB67475 BIT FOOTAGE 319-750.1 / 0-7 4.3

SHIFT HOURS ____ TO ____

MOVE TO HOLE 4:00 -7 4:15

Dec 13 DRILL 8:00 -7 12:00

TOTAL HOURS ____

MECHANICAL DOWN TIME 4:15 -7 5:30 replaced swivel

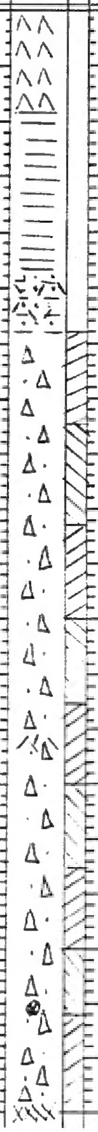
DRILLING PROBLEMS ____

CONTRACT HOURS ____ Dec 13 OTHER travel 7:30 -7 8:00 - truck

MOVE TO NEXT HOLE 12:00 -7

New Bit

page 1 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–2				0 -7 1.8 Organics
2–6				1.8 -7 5.8 Sediments (Ojibway)
				Clay - 1.8 -7 3.0 - brown, gritty, soft
				3.0 -7 4.7 - gray, smooth, soft
				Silt / Sand - 4.7 -7 5.8 - gray, fine sand with beds of gray, soft, smooth clay interbedded.
6–20			01, 02, 03, 04, 05, 06, 07, 08, 09	5.8 -7 21.4 Till (Chibougamau)
				- gray, fine sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitics.
				- 11.2 -7 18.2 - cobbly with a lower percentage of fine sand matrix, composition 85% sediments and volcanics 15% granitics.
				- 13.2 -7 13.4 - beds of gray, gritty compact clay interbedded.
				- 18.2 -7 pulled rods "new bit"
				- 18.2 -7 19.8 - same as 11.2 -7 18.2 except pebbly clasts and normal percentage of fines.
				- 19.8 -7 21.4 - boulder (granite)

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19 __

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO ________ LOCATION ________

GEOLOGIST ________ DRILLER ________ BIT NO. ________ BIT FOOTAGE ________

MOVE TO HOLE ________

DRILL ________

MECHANICAL DOWN TIME ________

DRILLING PROBLEMS ________

OTHER ________

MOVE TO NEXT HOLE ________

Page 2 of CW-85-169

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				21.4 -> 22.5 Bedrock (Mafic Volcanic)
2		10		- dark gray to dark green
3				- massive
4				- very fine grained
5				22.5 E.O.H.
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 Dec 13 19 85
HOLE NO CW-85-170 LOCATION Formerly CW-85-135
GEOLOGIST Strank DRILLER Haws BIT NO. LB67475 BIT FOOTAGE 4.3-18.4 m

SHIFT HOURS
_____ TO _____
MOVE TO HOLE 12:00-3:15
DRILL 3:15-5:45

TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS

CONTRACT HOURS
OTHER Travel 6:15-7:00
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-1.0m- Organics
1				1.0-5.7m- Sediments (Ojibway) -Clay- grey, smooth, soft
2				3.5m- Clay- compact, gritty, grey
3				5.7m- Till (Chibougamau) -fine grey sandy matrix -Pebbles- 60% Volcanics/Sediments 40% Gr.
6				7.3m- Cobbly - 70% V/S 30% Gr.
7			01	7.8m- Matrix Predominant
8				8.2m- Till as described @ 7.3m.
				8.9m- Gravel - Cobbly 60% V/S 40% Gr.
9			02	9.1m- Till as described @ 8.2m.
10				12.3m- 90% V/S 10% Gr.
11			03	12.4-12.7m- Boulder (Intermediate mafic volcanic)
12			04	12.7m- Till as described @ 11.3m 95% V/S 5% Gr.
13			4	
			05	12.9m- Boulder (Mafic Volcanic)
14				13.0m- Till as described @ 12.7m. -Very little matrix.
15				13.1m- Bedrock- Dark Green. -very fine grained to aphanitic -Trace disseminated Pyrite -very hard drilling -foliated -Metasediment
16				
17				
18				
19				
20				14.1m - E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 14 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-171 LOCATION formerly hole 131

GEOLOGIST S.J. Hutchison DRILLER G-Howig BIT NO CB67476 / CB 67477 BIT FOOTAGE 0→15.0 / 0→3.5

MOVE TO HOLE 7:30 → 8:15

DRILL 8:15 - 10:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER travel 7:00 → 7:30

MOVE TO NEXT HOLE 10:00

New Bit *New Sub*
New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0→1.3 No Return
				1.3→2.4 Organics
				2.4→8.1 Sediments (Ojibway)
				Clay - 2.4-8.1 - gray, smooth soft.
			01	8.1→9.7 Till (Chibougamau) - gray, fine sand matrix with pebbly clasts comprising of 75% sediments and volcanics 25% granitics
			02	9.7→11.4 Gravel 65% sediments and volcanics 35% granitic with a coarse sand matrix.
			03	11.4→16.8 Till same as described from 8.1→9.7
			04	12.3→15.0 coarse sand matrix
			05	
			06	15.0 - pulled rods* lost 2 rods, broke 1 rod, lost 1 bit and 1 sub*
				16.8-18.5 Bedrock (Metasediment Greywacke?) - dark green - thinly foliated - very-fine grained - chloritized

18.5 E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec.14 1985

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-172 LOCATION Formerly Hole # CW-85-13B
GEOLOGIST Strank DRILLER Honig BIT NO CB67477 BIT FOOTAGE 3.5 - 16.6 m
MOVE TO HOLE 10:00 - 11:00
DRILL 11:00 - 12:15
MECHANICAL DOWN TIME ____
DRILLING PROBLEMS ____
OTHER ____
MOVE TO NEXT HOLE 12:15 - 12:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.5 m - Organics
1				0.5-6.8m - Sediments (Ojibway) -light beige soft gritty clay -occasional clast.
2				
3				2.5m - grey soft gritty clay.
4				6.8m - Till (Chibougamau) -fine grey sandy matrix
5				
6				-Cobbly 90% Volcanics/Sediments 10% Granitics
7				
8			01	11.6 m - Bedrock. -Black
9			02	-very fine grained -foliation
10				-disseminated pyrite 1%
11			03	-calcite blebs - Trace (calcareous)
12			04	-metasediment (Greywacke)
13				13.1 m - E.O.H.
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

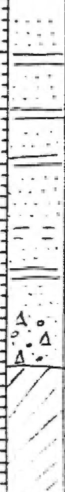
DATE Dec 14 19 85

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-173 LOCATION formerly hole 137
GEOLOGIST L.J. Hutchings DRILLER G. Huey BIT NO CB67477 BIT FOOTAGE 16.6 → 25.4
MOVE TO HOLE 12:15 → 12:45
DRILL 12:45 → 1:45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 1:45 → 3:30.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–8				0 → 2.4 Organics 2.4 → 7.7 Sediments (Ojibway) Silt / Sand - 2.4 → 7.7 - gray, very fine sand matrix with beds of soft, smooth clay interbedded.
7.7–8.7			01	7.7 → 8.7 Till (Chibougamau) - gray, fine sand matrix with pebbly clasts composing of 75% sediments and volcanics 25% granitics.
8.7–11.0			02	8.7 → 11.0 Bedrock (Metasediment Greywacke?) - dark green to black - very fine grained - foliated - chloritized along fractured surfaces.
				11.0 m EOH.

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 Dec 14 19 85

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-174 LOCATION Formerly Hole # CW-85-187
GEOLOGIST Strank DRILLER Hewg BIT NO. CB67477 BIT FOOTAGE 25.4-30.4m
MOVE TO HOLE 1:45-3:30
DRILL 330-6:00
MECHANICAL DOWN TIME 5:15-5:45 repair shifting fork on PTO.
DRILLING PROBLEMS
OTHER 5:45-6:15-clean good till
MOVE TO NEXT HOLE 8:15-845

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	0- 0.9m- Organics
			02	0.9-2.4m- Sediments (Ojibway) -Clay -smoth gritty beige
				2.4m- Till (Chibougamau) fine beige sandy matrix. - Pebbles (OXIDIZED)
				3.2m- Matrix - fine, grey-beige sandy - Pebbly - 60% Volcanics/Sediments 40% Granitics - still slightly oxidized
				4.2m - Boulder - (Greywacke)
				4.5m - Bit Broke *New Bit #CB67478*
				4.8m - Stoney Till 80% Vs 20% Gr.
				5.3m - Bedrock -fine to medium grained -20% Calcite (Calcareous) -fine grained -chloritic - salt+Pepper appearance. - Quartz 5% - Very Soft -Metasediment (Greywacke)
				6.8m - 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 Dec 15 1985

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-175 LOCATION Formerly CW-188
GEOLOGIST Hutchinson DRILLER J. Young BIT NO. C657478 BIT FOOTAGE 23-7.3 m.
MOVE TO HOLE 8:15 - 8:45
DRILL 8:45 - 9:30
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER Travel 7:00 - 8:15, 1/2 hr. WC.
MOVE TO NEXT HOLE 9:30 - 10:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0-1.1 Muskeg
2			01	1.1-1.6 m Sediments (Ojibway) sand fine, beige
3				
4			02	1.6-2.4 m. Till (Chibougamau) 1.6-2.4: fine, beige sand matrix - pebbles - clast composition: 75% Volcanics / Sediment 25% Granitics @ 2.2m beige, soft, smooth clay interbedded.
5				
6				
7				
8				
9				
10				
11				2.4m. BEDROCK (Metasediment) - dark green colour - very fine-grained - thinly foliated <1% disseminated pyrite - chloritized 2.5-2.6m quartz vein intersected 2.4-3.1m oxidized
12				
13				
14				
15				
16				
17				
18				
19				5.0m. E.O.H.
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 15/16 19 85
SHIFT HOURS ____ TO ____
TOTAL HOURS ____
CONTRACT HOURS ____

HOLE NO CW-85-176 LOCATION Formerly CW-85-190
GEOLOGIST Strank DRILLER Hong BIT NO. C867479 BIT FOOTAGE 0-33.5 m
MOVE TO HOLE 9:30-10:15
DRILL 10:15-5:15 Dec 16 9:45
MECHANICAL DOWN TIME
DRILLING PROBLEMS @33.5m - Bit Plugged, 12:30
OTHER 6:00-6:45 - Travel
MOVE TO NEXT HOLE 10:00-10:15 - Dec 17

* New Bit *

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11	0-3.0 Organics 3.0-4.1m Sediments (Ojibway) -Grey, smooth, soft clay 4.1m - Till (Chibougamau) -fine grey beige sandy matrix -Cobbly -80% Volcanics/Sediments 20% Granitics

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 15, 16 1985

HOLE NO CW-85-176 LOCATION

GEOLOGIST DRILLER BIT NO. BIT FOOTAGE

SHIFT HOURS

TO

MOVE TO HOLE

DRILL

TOTAL HOURS

MECHANICAL DOWN TIME change swivel 15 min

DRILLING PROBLEMS

CONTRACT HOURS

OTHER

MOVE TO NEXT HOLE

page 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			11	24.7 m - Cobbly - 90% V/S 10% Gr Matrix - fine grey sandy.
21				
22			12	
23			13	
24				29.5 m - 95 % V/S - 5% Gr.
25			14	
26			15	33.5 - Pulled rods - no Circulation - Super Poly added to water. - Difficult Redrill - moved Hole 15 ft. New Bit #CB67480
27				
28			16	
29			17	
30				Dec 16 - Redrill - 6m Change Sub.
31			18	
32			19	13.5m New Bit # CB67481 - Broken Rod. 3 Rods lost 1 rod damaged Lost Bit + Sub
33			20	
34				
35				- Abandoned Hole @ 5:45 PM.
36				33.5 EOH
37				
38				
39				
40				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 17 1985

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-177 LOCATION Formerly CW-85-191

GEOLOGIST Hutchinson DRILLER G. Hewg BIT NO. L867482 BIT FOOTAGE 0-14.2m

MOVE TO HOLE 10:00 - 10:15

DRILL 10:15 - 11:30

MECHANICAL DOWN TIME 9:30-10:00 Remove radiator on GT.

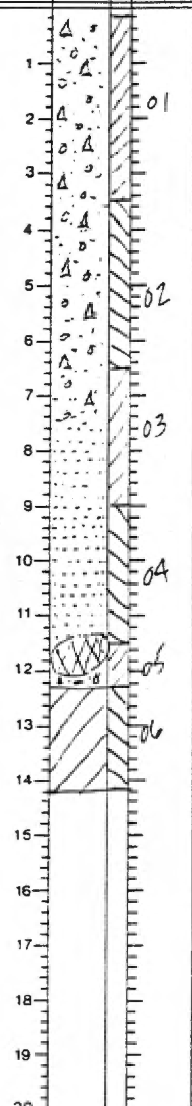
DRILLING PROBLEMS

OTHER Travel 8:30-9:00 (truck) ; 9:00-9:30 WC.

MOVE TO NEXT HOLE 11:15-

* New Bit
New Sub.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0-0.2 No return

0.2-12.3m TILL (Chibougamau)
- fine to medium sand matrix (oxidized)
- pebbles, clast composition:
  75% Volcanics/Sediments
  25% Granitics

Below 6.2m, grey-beige matrix

7.6-11.4 SAND lens, grey
- 7.6-8.2 medium to coarse
- 8.2-9.7 fine
- 9.7-11.4 medium to coarse

11.4-12.1 m BOULDER (Mafic Volcanic)
quartz vein @ 11.8m.

12.1-12.3: Return to TILL
- green fine sand matrix (minimal amount)
  85% V/S - cobbly.
  15% GR.

12.3m. BEDROCK - (Metasediment)
- dark grey to dark green
- thinly foliated
- <1% pyrite
- calcareous

14.2m E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 17 19 85

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-178 LOCATION formerly CW-85-192
GEOLOGIST Stfrmk. DRILLER Howq BIT NO. CB67402 BIT FOOTAGE 17.2-30.1
MOVE TO HOLE 11:30-11:45
DRILL 11:45-1:45
MECHANICAL DOWN TIME
DRILLING PROBLEMS 12:15-12:30 Remove Ice from water Pump.
OTHER
MOVE TO NEXT HOLE 1:45-2:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.5m Organics
1				0.5m - Till (Chibougamau)
				-fine beige sandy matrix
2				-Pebbly -60% Volcanics/Sediments
			01	40% Granitics
3				-OXIDIZED.
4				1.1m - Cobbly -70% VS
				30% Gr.
5				0.5-4.5m Poor Return.
6			02	5.0m - Matrix - fine grey-beige, sandy.
				7.5-7.8m - Boulder (Mafic Volcanic)
7			03	7.8m Till as described @ 5.0m
8			03	12.0-13.5m - Poor Return.
9			04	14.3m - 90% V/S
				10% Gr.
10			05	14.7m - Bedrock
11				-fine to medium grained
12			06	- medium to dark green
				- Carbonate Stringers 1%
13				(Calcareous)
				- Trace Pyrite crystals (1mm)
14			07	-Metasediment
15			08	15.9m - E.O.H.
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 17 1985
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO. CW-85-179 LOCATION Formerly CW-189
GEOLOGIST Hutchinson DRILLER J. Henry BIT NO. 647483 BIT FOOTAGE 0-3.5m
MOVE TO HOLE 1:45-2:45
DRILL 2:45-3:30
MECHANICAL DOWN TIME
DRILLING PROBLEMS
~~OTHER~~ DOWN 3:30-4:30 drill service
MOVE TO NEXT HOLE 4:30-5:30 move to road, ready for float
5:30-6:00 trailed (truck)

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0-0.7 No return
2				0.7-3.5 BEDROCK (Metasediment)
			01	- dark green colour
3				- thinly foliated, slightly schistose
4				- very fine-grained
5				- quartz veining
6				- calcareous
7				- tarnished pyrite veining
8				3.5 m EOH
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Apr. 13 19 85

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-180 LOCATION Formerly 212

GEOLOGIST Edwards DRILLER Ducette BIT NO. C867514 BIT FOOTAGE 1.0 - 15.0m

MOVE TO HOLE Travel 7:15-7:45

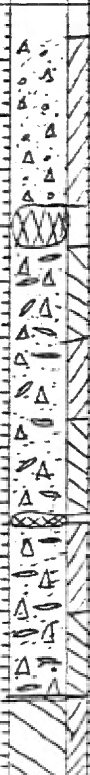
DRILL 9:00 - 10:30

MECHANICAL DOWN TIME Rig service 7:45-9:00

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 10:30 - 1:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–2			01	0-0.6 No return 0.6-3.7 TILL (Chibougamau) - fine beige sand matrix (oxidized) - pebbles: 50% Volcanics/Sediments 50% Granitics (washed rods twice to get enough sample)
5			02	3.7-4.4 m BOULDER (Mafic Volcanic)
6.5			03	4.4-9.2 Till; fine beige sand matrix - cobbles: 50% V/S 50% Gr
8.5			04	9.2-9.4 BOULDER (Monzonite)
10.5			05	9.4-12.5 Same till, as described at 4.4m.
12			06	
13.5			07	12.5 m. BEDROCK. Colour: dark green - very fine-grained - highly schistose; well-developed foliations ~1% quartz stringers - very soft drilling - Mafic Volcanic.
14–20				14.0 m EOH. DE.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 13 1985

HOLE NO CW-85-181 LOCATION Formerly 183

GEOLOGIST Edwards DRILLER Hewitt BIT NO CR67514 BIT FOOTAGE 15.0-36.0m

SHIFT HOURS ____ TO ____

MOVE TO HOLE 10:30-1:00

DRILL 1:00-2:30

TOTAL HOURS ____

MECHANICAL DOWN TIME ____

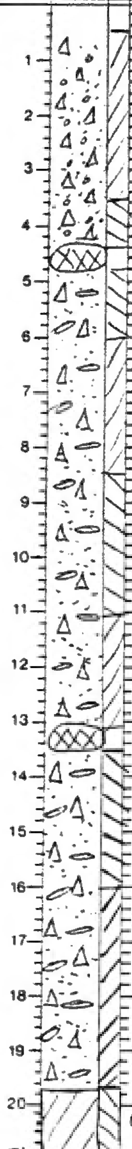
DRILLING PROBLEMS ____

CONTRACT HOURS ____

OTHER ____

MOVE TO NEXT HOLE 2:30-3:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



Sample numbers: 01, 02, 02, 03, 04, 05, 06, 07, 08

0-0.5 No return

0.5-4.4 TILL (Chibougamau)
- fine beige sand matrix (oxidized)
- pebbles:
50% Volcanics / Sediments
50% Granitics

4.4-4.8 BOULDER (Granitic)

4.8-13.1: Till (Chibougamau)
- fine beige sand matrix
- cobbles: 50% V/S
50% Gr.

13.1-13.5 BOULDER (Granitic)

13.5-14.8 - same till, as described @ 4.8m.

14.8-17.2: fine grey sand matrix
- cobbles: 60% V/S
40% Gr.

17.2-19.7: cobbles: 75% V/S
25% Gr.

18.9-19.7: occasional soft grey gritty clay lumps in the above till

19.7m. BEDROCK.
- colour: black
- fine grained, slightly schistose
- well-developed foliation
~ 15% quartz / carbonate veining
~ 5% pyrite
- Mafic Volcanic.

21.0 m EOH

GE.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 13 1985

HOLE NO CW-85-182 LOCATION Formerly 164

GEOLOGIST Edwards DRILLER Hewitt BIT NO. CB67515 BIT FOOTAGE 0-6.5m.

SHIFT HOURS ____ TO ____

MOVE TO HOLE 2:30-3:15

DRILL 3:15-4:30

TOTAL HOURS ____

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

CONTRACT HOURS ____

OTHER 4:30-5:30 Go for water.

MOVE TO NEXT HOLE 5:30 - 6:00 Travel.

* New Bit *

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0-1.0 Organics
1–4.8			01	1.0-4.8 TILL (Chibougamau) - fine beige sand matrix (oxidized) - cobbles: 65% Volcanics/Sediments 35% Granitics - poor return
4.8–6.5			02	4.8m BEDROCK. 4.8-5.1 dark grey colour - very schistose; oxidized 5.1 5.7: shear zone of - beige, soft clay with dark grey slivers of bedrock 5.7: more rock chips than clay (dark grey, very oxidized, very soft) - showed evidence of straining ~5% quartz veining - appears sedimentary, but probably a very altered, schistose mafic volcanic.
				6.5m E.O.H. DE.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 14 19 85

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-183 LOCATION Formerly 165

GEOLOGIST Edwards DRILLER Ayuette BIT NO. CB67515 BIT FOOTAGE 6.5-19.2m

MOVE TO HOLE Travel 7:00 - 8:15, move 8:15 - 8:45

DRILL 8:45-9:45

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 9:45 - 10:00

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
		0-0.5 No return
1		0.5-5.1 SEDIMENTS (Ojibway)
2	01	SAND: medium-grained
3		- beige, oxidized
		- occasional pebble
4		5.1-11.2 TILL (Chibougamau)
5	02	5.1-8.0 fine beige sand matrix
6		pebbles: 50% Volcanics/Sediments
		50% Granitics
7		(limited return below 6.0m washed rods to retain enough sample)
8		8.0-9.4 GRAVEL bed
9	03	- coarse, pebbly.
10		9.4-10.8: Till, same as described @ 5.1m.
11		10.8-11.0: GRAVEL
12	04	11.0-11.2: Till, fine grey/beige Sand matrix
13		Pebbles: 70% V/S
14		30% Gr.
15		11.2 m. BEDROCK.
16		- colour: dark green
		- chloritized
17		- fine grained; very schistose
18		~5% Fe-staining along schistosity surfaces
19		- trace quartz stringers
		- Mafic Volcanic
20		12.7 m EOH.

ENE

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 14 19 85

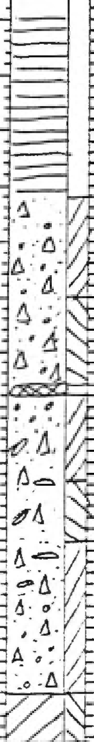
SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-184 LOCATION Formerly 166
GEOLOGIST Edwards DRILLER Doucette BIT NO CB67515 BIT FOOTAGE 19 2-32 4
MOVE TO HOLE 9:45 - 10:00
DRILL 10.00 - 2:15
MECHANICAL DOWN TIME
DRILLING PROBLEMS 11.00 - 12:00 wait for water
OTHER
MOVE TO NEXT HOLE 2:15 - 3:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



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

Sample No.: 01, 02, 03, 04, 05, 06

0-0.4 No return

0.4 - 4.2 SEDIMENTS (Ojibway)
CLAY: beige, slightly gritty clay, oxidized

4.2 - 13.2: TILL (Chibougamau)

4.2-6.1: fine beige sand matrix
pebbles: 50% Volcanics / Sediments
50% Granitics

6.1-6.8: SAND bed (fine; grey-beige)

6.8-7.6. till, beige matrix (fine sand)
cobbles - 50% V/S 50% Gr.

7.6-7.8. BOULDER (Granitic)

7.8-8.0: Same till as described @ 6-8m.

8.0-8.4: GRAVEL bed
- pebbly

8.4 - 11.5: Till, fine beige sand matrix
cobbles: 75% V/S, 25% Gr

11.5-13.2: fine grey sand matrix
pebbles: 50% V/S
50% Gr
- occasional grey gritty clay lumps

13.2m BEDROCK.
Cofsee: dark grey
- fine-grained
- mildly schistose
~ 2% quartz / carbonate stringers
- Mafic Volcanic

14.1m E.O.H.

OTE

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 14 1985

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-185 LOCATION Formerly 170

GEOLOGIST Edwards DRILLER Duvette BIT NO C867517 BIT FOOTAGE 0-40

MOVE TO HOLE 2:15 - 3:45

DRILL 3:45 - 4:15

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 4:15 - 4:30

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1				0-0.5 No return
2				0.5-1.5 SEDIMENTS (Ojibway) - SAND: fine beige (very oxidized) - few cobbles
3			01	
4				
5				1.5 m BEDROCK. Colour: dark green chloritic - medium-grained - very schistose ~10% quartz/carbonate veining - Mafic Volcanic
6				
7				
8				
9				
10				
11				
12				40 m E.O.H. OKE.
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 14 1985

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-186 LOCATION Ascimerly 11G
GEOLOGIST Edwards DRILLER Duvette BIT NO. CR67517 BIT FOOTAGE 40-7.5m
MOVE TO HOLE 4:15-4:30
DRILL 4:30-5:00
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER 5:00-5:30 Clean tank.
MOVE TO NEXT HOLE 5:30-6:00 start move to next hole

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.6 Organics
				0.6-2.0 Till (Chibougaman) (not enough return to sample)
			01	0.6-1.5- fine beige sand matrix pebbles: 50% Volcanic/Sediment 50% Granitics
				1.5-2.0: very cobbly till 95% V/S, 5% G. - minimal dark grey-brown sand matrix
				2.0m. BEDROCK. - dark green-black colour. - medium-grained - moderately schistose; weakly developed foliation ~2% quartz stringers - trace pyrite - Mafic Volcanic
				3.5 m E.O.H. D.E.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 15 1985

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-187 LOCATION Formerly 171

GEOLOGIST Edwards DRILLER Ducette BIT NO. CB67517 BIT FOOTAGE 75-12.9m

MOVE TO HOLE Travel: 7:00-7:45 (truck) 7:45-8:45 Small timberjack

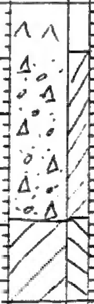
DRILL 8.45-9:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 9:30 - 9:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	0-0.9 Organics
			02	0.9-3.9m TILL (Chibougamau)
				0.9-3.6 fine beige sand matrix
				- pebbles
				50% Volcanics and Sediments
				50% Granitics
				3.6-3.9: 60% V/S 40% Gr.
				3.9m. BEDROCK.
				colour: dark green grey
				- fine-grained
				- very schistose
				~ 5% quartz/carbonate veining
				- Mafic Volcanic
				5.4m E.O.H.
				[illegible]

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 15 1985

HOLE NO CW-85-188 LOCATION Formerly 172

GEOLOGIST Edwards DRILLER Durette BIT NO. CB67517 BIT FOOTAGE 12.9-15.6m

SHIFT HOURS ____ TO ____

MOVE TO HOLE 9:30-9:45

DRILL 9:45-10:30

TOTAL HOURS ____

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

CONTRACT HOURS ____

OTHER ____

MOVE TO NEXT HOLE 10:30-10:45

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-1.0 No return
1				
2			01	1.0-1.2 : Small return of oxidized till
3				1.2 m BEDROCK -
4				colour: dark green - chlorite
5				
6				- fine to medium - grained
7				- moderately schistose
8				- trace quartz / feldspathic stringers
9				@ 2.4 m. intersected narrow carbonate (calcite) vein
10				(~ 20% of sample)
11				- Mafic Volcanic.
12				
13				2.5 m EOH
14				DKE
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 15 1985

HOLE NO CW-85-179 LOCATION Formerly 173

GEOLOGIST Edwards DRILLER Nuette BIT NO CB64517 BIT FOOTAGE 15.6-17.6 m

SHIFT HOURS
_____ TO _____

MOVE TO HOLE 10:30 - 10.45

DRILL 10.45 - 11:15

TOTAL HOURS

MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS

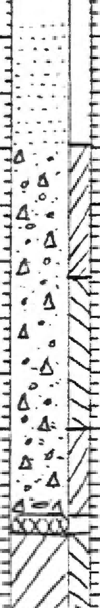
OTHER

MOVE TO NEXT HOLE 11:15 - 11:30.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.3 No return
1			01	0.3-0.9 Sediments (Ojibway)
2				-Sand: fine, beige
3				-oxidized
4				0.9m BEDROCK.
5				colour: dark green
6				-fine-grained
				-moderately schistose
7				~3% quartz stringers
8				-trace pyrite
9				-Mafic Volcanic
10				
11				2.0 m E.O.H.
12				OKE.
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 15 1985
HOLE NO CW-85-190 LOCATION Formerly 174
GEOLOGIST E. Edwards DRILLER Hewitt BIT NO. 2869517 BIT FOOTAGE 17.6 - 28.4m
SHIFT HOURS
MOVE TO HOLE 11:15 - 11:30
____ TO ____
DRILL 11:30 - 1:45
TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS 11:30 - 12:30 Wait for water
CONTRACT HOURS
OTHER
MOVE TO NEXT HOLE 1:45 - 2:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02, 03, 04	

0-0.8 No return

0.8-3.0 Sediments (Ojibway)
sand: fine, beige
- occasional clast

3.0-9.6: Till (Chibougamau)
3.0-9.3 fine beige sand matrix
-pebbles: 50% Volcanics + Sediments
50% Granitics
(sporatic return)

9.3-9.6: 70% V/S
30% Gr } cobbles
-dark grey sand matrix

9.6-9.9: BOULDER (Granite)

9.9m: BEDROCK -
-colour: dark green - black
- fine grained
-only mildly schistose
- well-developed thin foliations
~10% quartz veinlets with chloritic alterations along their boundaries
- trace pyrite
-trace Fe-carbonate (pink beige)
- Mafic Volcanic.

11.3m E.O.H.
EnE.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 15 19 85
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO CW-85-191 LOCATION Formerly 175
GEOLOGIST Edwards DRILLER Ducette BIT NO. CP67517 BIT FOOTAGE 28.9-41.7m
MOVE TO HOLE 1:45 - 2:00
DRILL 2:00 - 2:45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 2:45 - 3:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1 – 20			01, 02, 03, 04	

0-1.0 No return

1.0-11.2 Sediments (Ojibway)
Sand: fine, beige
- occasional clast
(noted: high percentage of sulfides visible in sand, therefore retained two samples of sediments)

11.2-11.5 Till (Chibougamau)
- fine beige sand matrix
- Cobbles: 50% Volcanics and/or Sediments
50% Granites

11.5m. BEDROCK.
colour: dark green
texture: sugary
- only mildly schistose
~5% quartz veinlets
- trace pyrite
Mafic Volcanic

12.8m E.O.H.
CTE.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 15 1985

SHIFT HOURS
____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-192 LOCATION Formerly 176 (moved 25 m N)

GEOLOGIST Edwards DRILLER Ducette BIT NO CB-7517 BIT FOOTAGE 41.7-64.2m

MOVE TO HOLE 2:45-3:00

DRILL 3:00-4:15

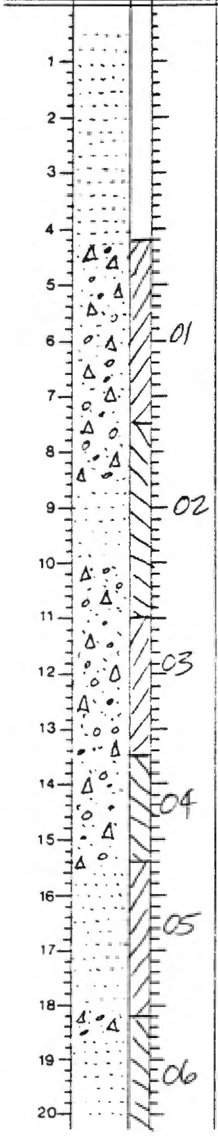
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE 4:15-4:30.

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG						



0-0.5 No return

0.5-4.2 Sediments (Ojibway)
Sand: fine, beige
oxidized

4.2-21.0 m. Till (Chibougamau)
(sporadic return; washed rods to retain enough sample)

4.2-8.6: fine beige sand matrix
pebbles: 50% Volcanics + Sediments
50% Granitics

8.6-9.9 Sand bed:
fine, beige

9.9-15.6: Return to same till as described @ 4.2 m.

15.6-18.2: Coarse, granular sand bed.

18.2-18.6: Till, as @ 4.2 m.

18.6-20.5: Sand lens
- medium-grained
- beige.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19 __

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-192 LOCATION ____

GEOLOGIST ____ DRILLER ____ BIT NO. ____ BIT FOOTAGE ____

MOVE TO HOLE ____

DRILL ____

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
	Δ Δ		06	
			07	20.5-21.0 Till; (Chibougamau) fine beige sand matrix
21				
22			08	
23				21.0 m BEDROCK. colour: grey-green -very schistose -fine-grained ~5-10% quartz veining with ochre hydrocarbon alterations -Mafic Volcanic
24				
25				
26				
27				
28				
29				22.5 m E.O.H.
30				OE.
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec. 15 19 88
HOLE NO CW-88-93 LOCATION Formerly 177.
GEOLOGIST Edwards DRILLER Nicette BIT NO. CB07516 BIT FOOTAGE 0-100

SHIFT HOURS
_____ TO _____
MOVE TO HOLE 4:15 - 4:30
DRILL 4:30 - 6:00

TOTAL HOURS
MECHANICAL DOWN TIME
DRILLING PROBLEMS

CONTRACT HOURS
OTHER
MOVE TO NEXT HOLE 6:00 - 6:15

New Bit

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-1.9 No return
1-2				1.9-2.5: Sediments (Ojibway) - fine beige sand
3-4			01	2.5 - 8.6 m. Till (Chibougamau) 2.5-4.8: fine beige sand matrix cobbles: 60% Volcanics/Sediments 40% Granitics
5-7			02	4.8-5.8: GRAVEL bed - pebbly 5.8-7.3: fine beige sand matrix cobbles: 50% V/S 50% Gr.
8			03	7.3-7.5: minimal matrix of dark grey-brown fine sand cobbles: 75% V/S 25% Gr. - noted iron-banding in some volcanic clasts
9			04	7.5-7.8: BOULDER (Mafic Volcanic) 7.8-8.2: same till as @ 7.3m. 8.2-8.6: BOULDER (Granitic)
10-20				8.6 m. BEDROCK. colour: medium grey-green - chloritic - medium-grained - moderately schistose ~10% quartz/carbonate veinlets 20% below 8.6m - chloritic alterations on quartz boundaries - tr. pyrite - Mafic Volcanic.

10.0m EOH.
DE

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 15 19 85
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO CW-85-194 LOCATION Formerly 178
GEOLOGIST Edwards DRILLER Ducette BIT NO 8607516 BIT FOOTAGE 10.0 - 19.3m
MOVE TO HOLE 6:00 - 6:15
DRILL 6:15 - 7:15 pm
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 7:15 - 9:00, Travel 9:00 - 9:30pm

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–0.5				0-0.5 No return
0.5–5.5				0.5-5.5: Sediments (Ojibway) Sand: fine, beige - occasional clast @2.8m: beige clay (soft)
5.5–8.0			01, 02	55-8.0 Till (Chibougamau) 5.5-7.1 fine beige sand matrix pebbles: 50% Volcanics and/or sediments 50% Granitics 7.1-8.0 - cobbly till
8.0–9.3			03	8.0m Bedrock -colour: dark grey -fine to medium-grained mildly schistose -trace chlorite ~2% quartz/carbonate stringers - mafic Volcanic
				9.3 m EOH. DE.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE ________ 19 __

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

HOLE NO CW-85-195 LOCATION Formerly 147

GEOLOGIST HOLMES DRILLER G. Howe BIT NO CB67493 BIT FOOTAGE 20.0-36.5

MOVE TO HOLE

DRILL 1:00 - 3:00

MECHANICAL DOWN TIME 3:00 - 5:45 broken axel

DRILLING PROBLEMS

OTHER travel 5:45-6:00 GT , 6:00-6:30 by pick up

MOVE TO NEXT HOLE

DEPTH IN METRES	SAMPLE NO.	DESCRIPTIVE LOG
0–2		0 - 2.5 poor return (sample return hose frozen)
2		2.5 - 15.0 TILL (CHIBOUGAMAU)
3–5	01	2.5 - 6.2 sandy, pebbly till - fine beige sand matrix pebble composition approximately 50% volcanics/sediments 50% granites
6–8	02, 03	6.2 - 8.2 till grades into cobbly and very cobbly till, clast composition approximately 60% volcanics/sediments 40% granites - matrix fine gray sand - till matrix poor from 7.0 to 8.2
9–13	04, 05, 06	8.2 - 13.0 till pebbly with occasional small cobbles - matrix gray-beige to beige colour also thin oxidized dark brown zones - clast composition approximately 60% volcanics/sediments 40% granites
13–15	07	13.0 - 15.0 till very cobbly - fine gray sand matrix - clast composition approximately 75% volcanics/sediments 25% granites
16–20	08 BEDROCK	15.0 - 16.5 BEDROCK - light and dark green colour - schistose - fine and medium grained - hornblende, feldspar phenocrysts - trace dessiminated pyrite - intermediate/mafic volcanic

16.5 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 11 19 86

SHIFT HOURS ____ TO ____

TOTAL HOURS ____

CONTRACT HOURS ____

HOLE NO CW-85-196 LOCATION Formerly 148

GEOLOGIST HOLMES DRILLER G Howg BIT NO CB67434 BIT FOOTAGE 0 - 5.5

MOVE TO HOLE 8:15 - 8 30

DRILL 8 30 - 9.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER Travel 7.00-8.00 by pickup 8.00 - 8 15 GT

MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			C1	
			02 BEDROCK	

0 - 0.2 Organics

0.2 - 2.5 SEDIMENTS (OJIBWAY)

0.2 - 0.8 smooth moderately compact dark brown clay

0.8 - 2.1 clay as above, gray-beige colour with thin gray fine sand stringers

2.1 - 2.5 Fine gray sand

2.5 - 3.8 TILL (CHIBOUGAMAU)

- gradational contact with overlying sediments

- 2.5 - 3.7 sandy, pebbly till. Fine gray sand matrix, pebble composition approximately 60% volcanics/sediments 40% granitos

3.7 - 3.8 till becomes cobbly, clast composition approximately 80% volcanics 20% granites

- matrix Fine gray sand

3.8 - 5.5 BEDROCK

- light and dark green colour
- slightly schistose
- Fine and medium grained rock
- trace disseminated pyrite
- Intermediate/mafic volcanic

5.5 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 11 19 96

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO CW-85-197 LOCATION Formerly 149

GEOLOGIST Holmes DRILLER G. Howe BIT NO CBC 7404 BIT FOOTAGE 5.5 - 28.6

MOVE TO HOLE 9:30-10:00

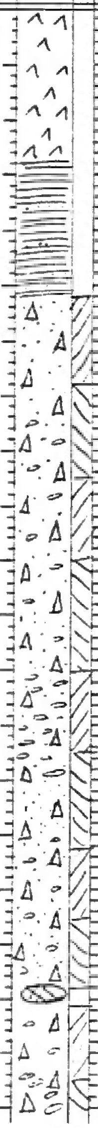
DRILL 10:00 - 12:45

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–20			01, 02, 03, 04, 05, 06, 07, 08, 09, 10	see below

0 - 2.8 Organics (PEAT)

2.8 - 5.2 SEDIMENTS (OJIBWAY)
- compact gray clay, smooth texture
- Fine and very fine gray sand stringers throughout clay

5.2 - 21.6 TILL (CHIBOUGAMAU)
- distinct contact with overlying sediment unit
- 5.2 - 7.6 sandy, pebbly till
  - Fine gray to gray-beige sand matrix, pebble composition ~ 50% volcanics/sediments 50% granites

7.6 - 12.2 till becomes cobbly
- matrix gray to gray-beige sand.
- clast composition approximately 60% volcanics/sediments 40% granites

12.2 - 14.0 till becomes very cobbly
- matrix gray to gray-beige fine sand
- clast composition 90% volcanics 10% granites

14.0 - 15.0 till becomes very sandy, pebbly with medium and coarse sand
- Fine gray sand matrix, clast composition approximately 75% volcanics 25% granites

15.0 - 17.3 till same as 7.6 - 12.2

17.3 - 18.1 boulder - volcanic

18.1 - 19.5 till becomes very sandy, pebbly, Fine gray-beige sand matrix, pebble composition approximately 70% volcanics, 30% granites, occasional cobbles

19.5 - 21.6 till becomes very cobbly, matrix and clast composition same as above

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 11 19 96

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-55-197 LOCATION

GEOLOGIST DRILLER BIT NO. BIT FOOTAGE

MOVE TO HOLE

DRILL

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

page 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			10	
21			11	21.6-23.1 BEDROCK
				- light and dark green colour
22			12 BEDROCK	also pink, black, white intrusion
23				- slightly schistose to massive
				- ~~fine grained~~
				- intrusions fine and medium grained K-feldspar, quartz ~~and hornblende~~, biotite occasionally
24				
25				- some epidote-rich zones
26				- minor pyrite
7				- Metasediment
8				23.1 - E.O.H.
9				Don Holmes.
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 11 1986

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-95-149 LOCATION Formerly 150

GEOLOGIST HOLMES DRILLER G. Howa BIT NO. CB67454 / C.B67455 BIT FOOTAGE 29.6 - 55.1 / 0 - 1.8

MOVE TO HOLE 12.45 - 1:00

DRILL 1.00 - 7.30

MECHANICAL DOWN TIME

DRILLING PROBLEMS pull rods to change bit 4:30 - 6:30

OTHER Travel 7:30 - 8:00 GT 8.00 - 9:00 pickup

MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 – 2.1 Organics (PEAT)
1				2.1 - 27.0 TILL (CHIBOUGAMAU)
2				- very thin soft, smooth gray clay layer overlying till unit
3			01	2.1 - 3.8 - Sandy, pebbly till Fine beige sand matrix, clast composition approximately 50% volcanics/sediments 50% granites
5			02	3.8 - 5.0 Fine gray-beige sand matrix + pebbles and occasional cobbles composition 60% volcanics/sediments 40% granites
7			03	5.0 - 5.5 till as above, but very cobbly
				5.5 - 11.4 till similar to 3.8 - 5.0
8				11.4 - 11.9 boulder - intermediate/mafic volcanic
9			04	11.9 - 18.0 till similar to 3.8 - 5.0
10			05	18.0 - 23.0 till becomes very cobbly and very sandy - Fine gray to gray-beige sand matrix clast composition approximately 90% volcanics 10% granites
11			06	
12			06	
13				
14			07	
15				
16			08	
17				
18			09	
19			10	
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 11 1986

HOLE NO CW-85-198 LOCATION Formerly 150

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

SHIFT HOURS ______ TO ______

MOVE TO HOLE ______

DRILL ______

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

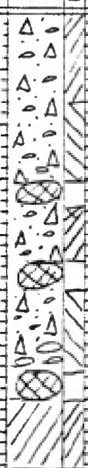
DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE ______

page 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21			11	23.0 - 23.5 - boulder - intermediate/mafic volcanic 23.5 - 24.5 till cobbly, sandy - Fine gray to gray-beige sand matrix, clast composition 75% volcanics 25% granites
22			12	24.5 - 25.0 - boulder - volcanic
23			13	25.0 - 26.5 - till similar to 23.5 - 24.5 at 26.5 pull rods, change bit
24			14	26.5 - 27.0 - boulder - intermediate/mafic volcanic
25				
26				
27			15 BEDROCK	27.0 - 28.3 BEDROCK - black and dark green colour - Fine grained - massive - magnetic - trace pyrite - ultramafic
28				
29				
30				28.3 EOH.
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jun 12 19 56

HOLE NO CW-95-197 LOCATION Formerly 151

GEOLOGIST HOLMES DRILLER G Houg BIT NO. CB67485 BIT FOOTAGE 1.8 - 36.8

SHIFT HOURS ____ TO ____

MOVE TO HOLE 8:30 - 9:00

DRILL 9.00 - 2:00

TOTAL HOURS ____

MECHANICAL DOWN TIME ____

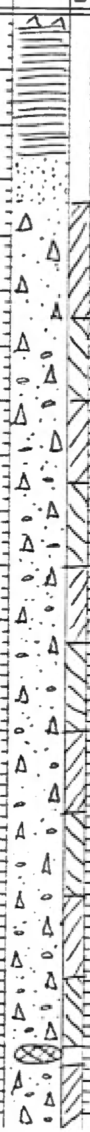
DRILLING PROBLEMS ____

CONTRACT HOURS ____

OTHER travel 7:00 - 7:45 by pickup 7.45 - 8:30 by GT

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



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

Sample No.: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11

0 - 0.2 Organics

0.2 - 3.4 SEDIMENTS (OJIBWAY)

0.2 - 1.8 moderately compact, smooth dark brown clay
1.8 - 2.6 clay as above, gray colour
2.6 - 3.4 Fine beige sand

3.4 - 26.7 TILL (CHIBOUGAMAU)

3.4 - 6.2 gradational contact to very sandy, pebbly till
- Fine beige sand matrix 3.4 to 3.6, gray colour from 3.6 to 6.2
pebbles composition approximately
50% volcanics/sediments
50% granites

6.2 - 17.0 till becomes cobbly
- Fine gray to gray-beige sand matrix
pebble and cobble composition
60% volcanics
40% granites

17.0 - 18.8 Fine gray-beige sand matrix, pebbles and cobbles composition
75% volcanics
25% granites

18.8 - 19.1 - boulder - intermediate/mafic volcanic

19.1 - 20.7 till similar to 17.0 - 18.8

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 12 19 96

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-95-199 LOCATION ____

GEOLOGIST ____ DRILLER ____ BIT NO ____ BIT FOOTAGE ____

MOVE TO HOLE ____

DRILL ____

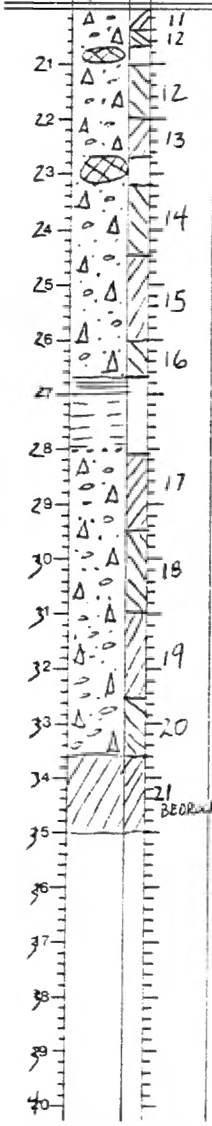
MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



20.7 - 21.0 boulder - granite

21.0 - 22.7 Fine gray sand matrix
clast composition approximately
80 - 90% volcanics
10 - 20% granites

22.7 - 23.2 boulder - intermediate/mafic volcanic

23.2 - 26.7 till similar to 21.0 - 22.7

26.7 - 28.1 SEDIMENTS (PRE-CHIBOUGAMAU)
- distinct contact with overlying till
- Tough, compact, smooth, dark-gray clay appears as marble-size spheres
- poor sample return from 27.0 to 28.0
  - silt(?)

28.0 - 28.1 - very thin fine gravel layer

28.1 - 33.6 TILL (LOWER)
- distinct contact
- sandy, cobbly till
- Fine gray sand matrix.
clast composition approximately
80 - 90% volcanics
10 - 20% granites

33.6 - 35.0 BEDROCK
- light and dark green colour
- Fine grained
- massive
- slightly altered → epidote
- thin igneous (feldspar, granite) intrusions
- minor disseminated pyrite
- Intermediate/mafic volcanic

35.0 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Dec 9 19 85
HOLE NO CW-85-200 LOCATION Formerly Hole # CW-85-146
GEOLOGIST Stewart DRILLER Hong BIT NO. CB67493 BIT FOOTAGE 3.5 - 24.1 m

SHIFT HOURS
______ TO ______

TOTAL HOURS
______

CONTRACT HOURS
______

MOVE TO HOLE 12:30-1:30
DRILL 1:30 - 4:45
MECHANICAL DOWN TIME 3:30-3:45 - Chang alternator on Drill Engine.
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE 4:45- 5:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-1.2 m - No Return
1				1.2m - Boulder (Granite)
				1.6m - Till (Chibougamau)
2				-Fine beige sandy matrix
3			01	-Pebbly - 70% Volcanics/Sediments 30% Granitics
4				2.5m - Cobbly - 70% V/S 30% Gr.
5			02	4.5 m - Matrix - fine, grey-beige, sandy
6				7.9m - 80% V/S 20% Gr.
7			03	9.1m - Boulder (Metasediment)
				9.3m - Till as described @ 7.9m.
8				13.8m - Matrix - fine, grey, sandy
9			04	16.9m - 90% V/S 10% Gr.
10			04	
11			05	18.0m - Boulder (Greywacke)
				18.8m - Stoney Till
12			06	-Cobbly - 90% V/S 10% Gr.
13				- Very little fine, grey, sandy matrix
14			07	19.1m - Bedrock.
				-Medium green colour.
15			08	- Trace Hornblende (<1mm)
				-fine grained
16				-foliated
17			09	-very schistose
18			10	- chloritic
				- calcitic (Calcareous)
19				- also calcite stringers 1%
20			11	-Fe staining along fractures.
				- Metasediment (Greywacke)

20.6m - E.O.H.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 12 19 86

HOLE NO CW-85-201 LOCATION Formerly 152

GEOLOGIST Holmes DRILLER G Howa BIT NO. CB67486 BIT FOOTAGE 0 - 35.0

SHIFT HOURS ______ TO ______

MOVE TO HOLE 2:00 - 2:30

DRILL 2:30 - 6:30

TOTAL HOURS ______

MECHANICAL DOWN TIME

DRILLING PROBLEMS

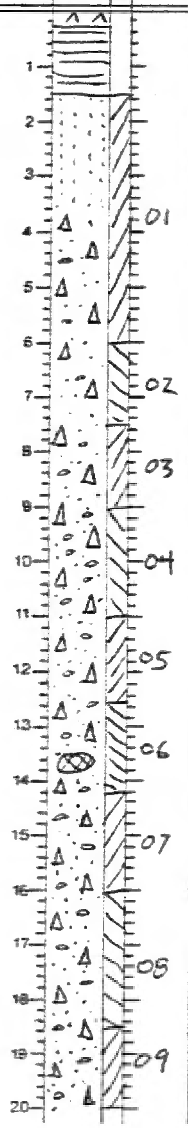
CONTRACT HOURS ______

OTHER travel by GT 6:30 - 7:30 Travel by pickup 7:30 - 8:00

MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



0 - 0.2 Organics

0.2 - 3.6 SEDIMENTS (OJIBWAY)

- 0.2 - 1.5 beige, soft, slightly gritty clay - poor return

1.5 - 3.6 - Fine beige sand - oxidized occasional organics (roots) and pebbles

3.6 - 33.6 TILL (CHIBOUGAMAU)

- very sandy, pebbly till

3.6 - 9.5 - Fine beige to gray beige sand matrix
- pebbles and occasional small cobbles composition approximately 50% volcanics/sediments 50% granites

9.5 - 13.5 till becomes cobbly, pebbly
- Fine gray to gray-beige sand matrix, clast composition approximately 60% volcanics/sediments 40% granites

13.5 - 13.8 - boulder - intermediate/mafic volcanic

13.8 - 27.0 - till similar to 9.5 - 13.5

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 12 19 86

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO CW-85-201 LOCATION Formerly 152

GEOLOGIST ______ DRILLER ______ BIT NO. ______ BIT FOOTAGE ______

MOVE TO HOLE ______

DRILL ______

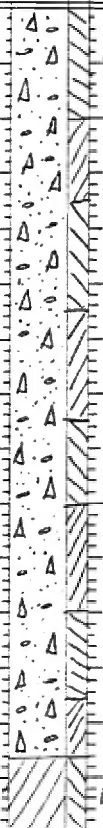
MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21			10	27.0-28.0 till as above except matrix very fine gray sand
22				28.0-33.6 till similar to 13.8 to 27.0
23			11	
24				
25			12	33.6-35.0 BEDROCK - light to dark green - fine grained - massive to slightly schistose - minor desseminated pyrite - Intermediate/mafic volcanic
26				
27			13	
28			14	
29				
30			15	35.0 E.O.H.
31				Don Holmes
32			16	
33			17	
34			19 BEDROCK	
35				
36				
37				
38				
39				
40				



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 13 19 96

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-202 LOCATION Formerly 153

GEOLOGIST HOLMES DRILLER G Hong BIT NO. CB67486 / CB67518 BIT FOOTAGE 35.0 - 42.8 / 0 - 7.5

MOVE TO HOLE 8:30 - 9:00

DRILL 9:00 - 12:15

MECHANICAL DOWN TIME

DRILLING PROBLEMS pull rods to change bit 10:00 - 10:30

OTHER travel by pickup 7:00 - 7.45, travel by GT 7.45 - 8.30

MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG

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

Sample No.: 01, 02, 03, 04, 05, 06, 06, 07, 08 BEDROCK

0 - 2.5 NO RETURN

2.5 - 15.8 TILL (CHIBOUGAMAU)
- very sandy, pebbly till

2.5 - 7.5 Fine beige sand matrix, pebble composition approximately 50% volcanics/sediments 50% granites

7.5 - 7.6 till becomes very cobbly

7.6 - 7.8 - boulder - granite

at 7.8 pull rods 10:00 - 10:30 to change bit

7.8 - 14.1 sandy, pebbly, cobbly till
- Fine gray to gray-beige sand matrix, clast composition approximately 60% volcanics/sediments 40% granites

14.1 - 14.3 boulder - granite

14.3 - 15.8 matrix fine gray-beige sand pebble and cobble composition 75% volcanics/sediments 25% granites

15.8 - 17.3 BEDROCK
- dark green
- Fine grained
- massive to schistose
- slightly magnetic
- minor disseminated pyrite
- minor quartz, feldspar intrusions
- Intermediate/mafic volcanic

17.3 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 13/14 19 86
SHIFT HOURS
____ TO ____
TOTAL HOURS
____
CONTRACT HOURS
____

HOLE NO CW-85-203 LOCATION Formerly 154
GEOLOGIST HOLMES DRILLER G Howe BIT NO. CB67518 BIT FOOTAGE 17.3 - 23.8
MOVE TO HOLE 12:15 - 12:30 Jan 13
DRILL 1.15 → 2.00
MECHANICAL DOWN TIME 12:30 - 5:30 Jan 13 // 7:45 - 9:30; 10:30 - 1:15 Jan 14
~~DRILLING PROBLEMS~~ replace compressor
OTHER travel 7:00 - 7:45 GT, 9:30 - 10:30 pickup Jan 14
~~MOVE TO NEXT HOLE~~ travel 5:30 - 6:45 GT 6:45 - 7:00 pickup Jan 13

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1.8				0 - 1.8 Organics (PEAT)
1.8–3.4				1.8 - 3.4 SEDIMENTS (OJIBWAY) - soft smooth gray clay appears as irregular lumps
3.4–4.9			01	3.4 - 4.9 TILL (CHIBOUGAMAU) - sandy, pebbly till - Fine gray-beige sand matrix pebbles and granules, composition 60% volcanics/sediments 40% granites
4.9–6.5			02 BEDROCK	4.9 - 6.5 BEDROCK - dark green - Fine grained - very schistose, thinly foliated - soft to drill - Intermediate/mafic volcanic
				6.5 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 14 19 86

HOLE NO CW-85-204 LOCATION Formerly CW-155

GEOLOGIST Holmes DRILLER G. Howg BIT NO CB67518 BIT FOOTAGE 238-240

SHIFT HOURS ______ TO ______

MOVE TO HOLE 2:00 - 2:30

DRILL 2:30 - 3:00

TOTAL HOURS ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

CONTRACT HOURS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			01	0 - 1.0 Organics
			02 BEDROCK	1.0 - 3.4 SEDIMENTS (OJIBWAY)
				1.0-3.2 soft gray clay and silt, poor return
				3.2-3.4 - Fine gray sand
				3.4 - 3.7 TILL (CHIBOUGAMAU)
				- gradational contact with overlying sediments
				- sandy, pebbly till
				- Fine gray sand matrix
				- pebble composition approximately 60% volcanics 40% granites
				3.7 - 5.2 BEDROCK
				- dark green, some white mottling
				- Fine grained
				- very schistose, thinly foliated
				- soft to drill
				- minor calcite
				- Intermediate/mafic volcanic
				5.2 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 14 19 86

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-205 LOCATION Formerly 156

GEOLOGIST Holmes DRILLER G Howe BIT NO. CB67518 BIT FOOTAGE 29.0 - 36.0

MOVE TO HOLE 3:00 - 3:30

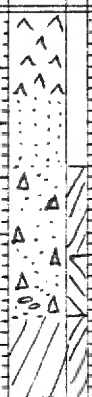
DRILL 3:30 - 4:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02, 03 BEDROCK	0 - 1.5 Organics (PEAT) 1.5 - 2.8 SEDIMENTS (OJIBWAY) - Fine gray sand 2.8 - 5.5 TILL (CHIBOUGAMAU) - gradational contact with overlying sediments - very sandy, pebbly till Fine gray-beige sand matrix pebbles composition approximately 60% volcanics/sediments 40% granites - occasional cobbles from 5.2 - 5.5 5.5 - 7.0 BEDROCK - dark green white mottling - fine grained - very schistose - soft to drill - minor calcite, From 6.6 to 7.0 calcite veins upto 30% of rock - Intermediate/mafic volcanic 7.0 E.O.H. Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 14 19__

SHIFT HOURS

______ TO ______

TOTAL HOURS

______

CONTRACT HOURS

______

HOLE NO CW-85-206 LOCATION Formerly CW-157

GEOLOGIST HOLMES DRILLER Gilbourg BIT NO CB67518 BIT FOOTAGE 30.0 - 49.5

MOVE TO HOLE 4:00 - 4.30

DRILL 4.30 - 6:15

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER Travel 6:15 - 7:30 GT , 7.30 - 8:15 pickup

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2 Organics
1				0.2 - 1.0 SEDIMENTS (OJIBWAY) - Fine beige to ochre sand
2				1.0 - 12.1 TILL (CHIBOUGAMAU) - sandy, pebbly till
3			01	1.0-8.6 Fine beige to gray-beige sand matrix pebble composition approximately 60% volcanics/sediments 40% granites - poor return 1.0 - 4.0
5			02	- at 5.0 thin zone oxidized ochre coloured fine sand 5.0 - 8.6 occasional cobbles in till
7			03	
8				8.6 - 8.9 boulder - granite 8.9 - 10.5 till similar to till above boulder
9			04	10.5 - 11.8 - Till contains clay lumps - Fine gray sand matrix, pebble composition approximately 50% volcanics/sediments 50% granites - clay lumps moderately compact slightly gritty gray colour
11			05	
12			06 BEDROCK	11.8 - 12.1 - till becomes cobbly, clast composition approximately 75% volcanics/sediments 25% granites
13				
14				
15				
16				12.1 - 13.5 BEDROCK - dark green - massive to slightly schistose - Fine grained - oxidized ochre-colour at bedrock surface and at 12.4 - minor calcite - Intermediate/mafic volcanic
17				
18				
19				
20				

13.5 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 15 19 86

SHIFT HOURS

______ TO ______

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-207 LOCATION Formerly 158

GEOLOGIST HOLMES DRILLER G. HOWG BIT NO. CB67514 BIT FOOTAGE 0 - 18.5

MOVE TO HOLE 9:15 - 9:45

DRILL 9:45 - 11:30

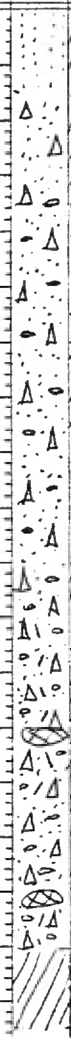
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER Travel 7:00 - 8:00 pick up 8:00 - 9:15 by 6T

MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				

DEPTH IN METRES	SAMPLE NO.
2	01
5	02
7	03
9	04
11	05
12	06
14	07
15	08
17	09
18	10 BEDROCK

0 - 1.5 SEDIMENTS (OJIBWAY)
- very fine gray sand

1.5 - 13.0 TILL (CHIBOUGAMAU)
- gradational contact with overlying sediments
- sandy, pebbly till

1.5-11.4 fine beige to gray-beige sand matrix
- pebbles and occasional cobbles composition approximately 75% volcanics/sediments 25% granites

11.4-13.0 till becomes clay rich
- fine gray sand matrix, clast composition approximately 70% volcanics/sediments 30% granites
- small soft gritty gray clay lumps

13.0-13.3 boulder - graphite-rich metasediment

13.3-14.4 till similar to 11.4-13.3

14.4-16.0 till similar to 1.5-11.4

16.0-16.3 boulder - intermediate/mafic volcanic

16.3-17.0 till cobbly with clay lumps
- fine gray sand matrix, clast composition 80-90% volcanics, 10-20% granites
- small soft gritty gray-beige clay lumps

17.0 - 18.5 BEDROCK
- dark green colour
- fine grained
- very schistose
- minor calcite
- Intermediate/mafic volcanic

18.5 E.O.H. Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 15 19 85

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-208 LOCATION 50 metres west of former CW-159

GEOLOGIST HOLMES DRILLER G. Howe BIT NO CB67519 BIT FOOTAGE 18.5 - 343

MOVE TO HOLE 11:30 - 12:00

DRILL 12:00 - 1.45

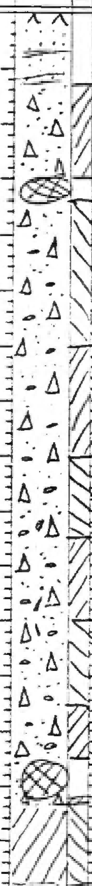
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER travel 6.00 - 7.30 by pick-up

MOVE TO NEXT HOLE 1:45 - 6:00

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



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

Sample Nos.: 01, 02, 03, 04, 05, 06, 07, 07, 08 BEDROCK

0 - 0.2 Organics

0.2 - 1.3 SEDIMENTS (OJIBWAY)
- Fine beige sand with thin layers of soft, smooth beige clay

1.3 - 14.3 TILL (CHIBOUGAMAU)

- 1.3 - 3.0 sandy pebbly till
Fine beige to brown sand matrix, pebbles and occasional cobble composition
60% volcanics/sediments
40% granites

3.0 - 3.4 - boulder - intermediate/mafic volcanic

3.4 - 8.0 till similar to 1.3 - 3.0 but matrix gray to gray-beige fine sand

8.0 - 10.8 Till similar to 1.3 - 3.0 but matrix fine to very fine gray ~~beige~~ sand

10.8 - 12.0 Fine to very fine gray sand matrix with small compact gritty clay lumps,
clast composition approximately
60% volcanics
40% granites

12.0 - 13.6 till similar to 8.0 - 10.8

13.6 - 14.2 - boulder - volcanic

14.2 - 14.3 - till same as above boulder

14.3 - 15.8 BEDROCK
- dark green colour
- Fine grained
- very schistose
- minor calcite
- Intermediate/mafic volcanic

15.8 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 16 19 86

HOLE NO CW-85-209 LOCATION Formerly CW-160

GEOLOGIST Holmes DRILLER G. Hong BIT NO CB67519 BIT FOOTAGE 343-56.1

SHIFT HOURS ____ TO ____

MOVE TO HOLE 8:00 - 10:30

DRILL 10:30 - 12:30

TOTAL HOURS ____

MECHANICAL DOWN TIME ____

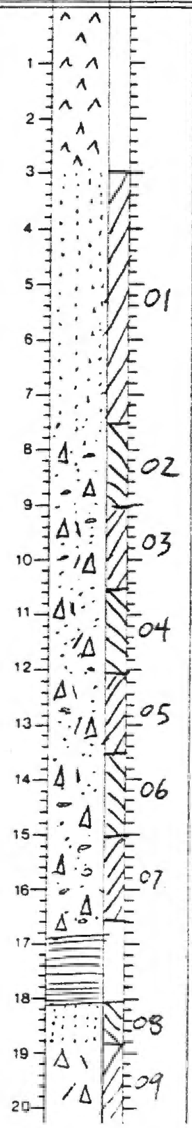
DRILLING PROBLEMS ____

CONTRACT HOURS ____

OTHER travel 7:00 - 8:00 pickup

MOVE TO NEXT HOLE ____

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



0 - 2.9 Organics (PEAT)

2.9 - 7.6 SEDIMENTS (OJIBWAY)

- 2.9-6.5 Fine gray sand, thin gray clay layer on surface of sand
- 6.5-7.6 Fine, medium gray-beige sand

7.6 - 16.9 TILL (CHIBOUGAMAU)

- distinct contact with overlying sediments

7.6 - 9.4 pebbly, cobbly till, Fine gray sand matrix, clast composition approximately
60% volcanics/sediments
40% granites

9.4 - 11.5 till becomes clay-rich
- Fine gray sand matrix with compact gritty gray-green clay matrix, pebble composition
50% volcanics
50% granites

11.5 - 12.5 till similar to 7.6 - 9.4

12.5 - 14.4 till similar to 9.4 - 11.5

14.4 - 16.9 till becomes pebbly, cobbly Fine and very Fine gray to gray-beige sand matrix; clast composition
- 80 to 90% volcanics/sediments
20 to 10% granites

16.9 - 18.8 SEDIMENTS (PRE-CHIBOUGAMAU)

- 16.9 - 18.1 compact smooth gray-green clay appears as irregular lumps
- 18.1 - 18.8 very Fine gray sand

18.8 - 20.3 TILL (LOWER)

- very oxidized clay-rich till
- brown and gray gritty compact tough clay matrix appears as large irregular chunks

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 16 19 86

SHIFT HOURS ______ TO ______

TOTAL HOURS ______

CONTRACT HOURS ______

HOLE NO CW-85-209 LOCATION ______

GEOLOGIST ______ DRILLER ______ BIT NO ______ BIT FOOTAGE ______

MOVE TO HOLE ______

DRILL ______

MECHANICAL DOWN TIME ______

DRILLING PROBLEMS ______

OTHER ______

MOVE TO NEXT HOLE ______

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
			09	
21			10 BEDROCK	20.3 - 21.8 - BEDROCK - gray-green - Fine grained - massive to schistose structure - oxidized zones at 20.8 and 21.5 - minor calcite - METASEDIMENT (volcanic tuff)
22				
23				
24				
25				
26				21.8 EOH.
27				
28				
29				
30				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 16 19 85

HOLE NO CW-85-210 LOCATION Formerly CW-161

GEOLOGIST HOLMES DRILLER G. Houg BIT NO. CB67520 BIT FOOTAGE 0 - 19.3

SHIFT HOURS ______ TO ______

MOVE TO HOLE 12:30 - 12:45

DRILL 12:45 - 2:00

TOTAL HOURS ______

MECHANICAL DOWN TIME

DRILLING PROBLEMS

CONTRACT HOURS ______

OTHER

MOVE TO NEXT HOLE

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 1.0 NO RETURN
1				1.0 - 6.5 SEDIMENTS (OJIBWAY)
				- 1.0 - 3.8 soft smooth gray clay
2				3.8 - 4.0 Fine gray sand
				4.0 - 4.2 Fine beige sand
3				4.2 - 5.5 pebble gravel composition 60/40
				5.5 - 5.8 Fine beige sand
				5.8 - 6.5 pebble gravel composition 60/40
4				
				6.5 - 16.0 TILL (CHIBOUGAMAU)
5			01	- gradational contact with overlying sediments
6				- Fine gray to gray beige sand matrix (ochre colour 6.5 to 7.0)
7				pebble and cobble composition approximately 60% volcanics/sediments 40% granites
8			02	
9			03	- at 16.0 Few small compact gritty clay lumps
10				
11			04	16.0 - 17.6 SEDIMENTS (PRE-CHIBOUGAMAU)
				- Fine gray-beige sand with a few pebbles
12				
13			05	17.6 - 19.3 BEDROCK
14				- dark gray-green colour
15			06	- Fine grained
				- schistose, thinly foliated structure
16				- minor calcite
17			07	- oxidized zone down section of 18.0
18				- Intermediate/mafic volcanic
19			08 BEDROCK	
20				19.3 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 16 19 86

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-211 LOCATION Formerly CW-162

GEOLOGIST HOLMES DRILLER G. Houg BIT NO. CB67520 BIT FOOTAGE 19.3-30.3

MOVE TO HOLE 2:00-2:15

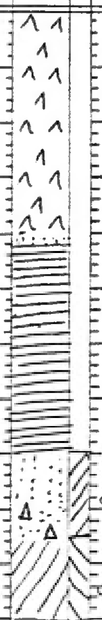
DRILL 2:15-3:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–20			01 02 BEDROCK	0 - 4.0 Organics (PEAT) 4.0 - 8.8 SEDIMENTS (OJIBWAY) 4.0 - 4.2 very fine gray sand 4.2 - 8.0 soft, smooth gray clay appears as long cylindrical chunks 8.0 - 8.8 Fine gray sand 8.8 - 9.5 TILL (CHIBOUGAMAU) - Fine gray sand matrix pebble composition approximately 75% volcanics/sediments 25% granitos 9.5 - 11.0 BEDROCK - green-gray colour - Fine grained - slightly schistose structure - minor calcite - Intermediate/mafic volcanic 11.0 EOH.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 16 19 86

SHIFT HOURS
____ TO ____

TOTAL HOURS
____

CONTRACT HOURS
____

HOLE NO CW-85-212 LOCATION Formerly CW-168
GEOLOGIST Holmes DRILLER G Hong BIT NO. CB67520 BIT FOOTAGE 30.3-33.8
MOVE TO HOLE 3:00-4:30
DRILL 4:30-5:45
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER travel 6:45 - 7.00 6-6T 7:00 - 7.30 pickup
MOVE TO NEXT HOLE 5:45-6:15

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2 Organics
1			01	0.2 - 1.9 SEDIMENTS (OJIBWAY)
2				- Fine beige sand (ochre from 0.2 to 0.8)
3			02 BEDROCK	- poor return
4				1.9 - 3.5 BEDROCK
5				- light to dark green mottled white
6				- Fine grained
				- massive to slightly schistose structure
7				- very hard to drill
8				- minor calcite veins
				- trace pyrite
9				- Intermediate/mafic volcanic
10				3.5 EOH.
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 17 19 86

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-213 LOCATION Formerly CW-167

GEOLOGIST Holmes DRILLER G. Hwg BIT NO. CB6752 BIT FOOTAGE 33.8 - 48.8

MOVE TO HOLE

DRILL 8:45 - 10:30

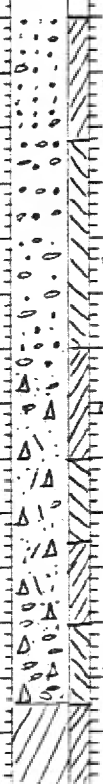
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER travel 7:00 - 7:45 pickup 7:45 - 8:45 by GT

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–1				0 - 1.0 NO RETURN
1–5			01	1.0 - 7.5 SEDIMENTS (OTIBWAY) 1.0 - 3.0 - very fine brown sand zones in pebble gravel composition 60% volcanics/sediments 40% granites 3.0 - 7.5 gravel becomes cobbly composition approximately 75% volcanics/sediments 25% granites
5–8			02	7.5 - 13.5 TILL (CHIBOUGAMAU) - abrupt and distinct contact with overlying sediments 7.5 - 8.6 sandy, pebbly till, fine gray sand matrix, clast composition approximately 60% volcanics/sediments 40% granites
8–9			03	8.6 - 11.5 till very clay rich - fine gray sand matrix with small gritty, dark gray clay lumps pebble composition approximately 75% volcanics/sediments 25% granites
9–11			04	
11–12.5			05	11.5 - 13.5 till very cobbly - fine gray sand matrix, few small gritty dark gray clay lumps 80% volcanics/sediments 20% granites
12.5–13.5			06	
13.5–15			07 BEDROCK	13.5 - 15.0 BEDROCK - gray colour - fine grained - schistose structure, thinly foliated - minor pyrite - Metasediment (graywacke)



15.0 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 17 1986

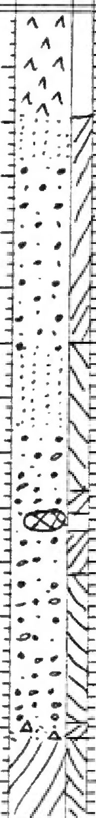
SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-214 LOCATION Formerly CW-220
GEOLOGIST HOLMES DRILLER G Howe BIT NO. CB6752 BIT FOOTAGE 0 - 14.7
MOVE TO HOLE 10:30 - 1:15
DRILL 1:15 - 2:30
MECHANICAL DOWN TIME _____
DRILLING PROBLEMS _____
OTHER _____
MOVE TO NEXT HOLE _____

NEW BIT
NEW SUB

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–20			01, 02, 03, 03, 04, 05, 06 BEDROCK	see below

0 - 1.9 Organics (PEAT)

1.9 - 12.9 SEDIMENTS (OJIBWAY)
- 1.9 - 2.2 Fine gray sand
- 2.2 - 2.7 Fine beige sand
- 2.7 - 6.1 pebble gravel and coarse sand; pebble composition 50% volcanics/seds, 50% granites
- 6.1 - 7.5 medium gray-beige sand
- 7.5 - 9.1 pebble gravel similar to 2.7 to 6.1 with few cobbles
- 9.1 - 9.4 boulder - diorite
- 9.4 - 12.9 gravel similar to 7.5 - 9.1

12.9 - 13.2 TILL (CHIBOUGAMAU)
- gradational contact with overlying sediment unit
- sandy, pebbly till
- Fine gray-beige sand matrix
  pebble composition approximately
  50% volcanics/sediments
  50% granites

13.2 - 14.7 BEDROCK
- gray colour
- Fine grained
- massive structure
- sugary texture
- trace pyrite
- minor quartz veins
- METASEDIMENT

14.7 EOH

Don Holmes.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 17 19 86

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-215 LOCATION Formerly CW-219

GEOLOGIST Holmes DRILLER G. King BIT NO. CBE7521 BIT FOOTAGE 147-28.6

MOVE TO HOLE 2:30 - 2:45

DRILL 2:45 - 4:00

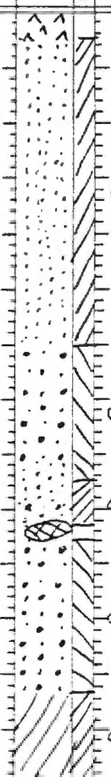
MECHANICAL DOWN TIME _____

DRILLING PROBLEMS _____

OTHER _____

MOVE TO NEXT HOLE _____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.5 Organics
1				0.5 - 12.3 SEDIMENTS (OJIBWAY)
				0.5 - 2.2 Fine brown - ochre sand
2				2.2 - 6.0 coarse sand oxidized brown from 1.2 - 2.0, grey-beige from 2.0 - 6.0
3			01	- poor return 4.0 to 6.0
4				6.0 - 8.1 pebble gravel composition approximately 50% volcanics/sediments, 50% granite
5				8.1 - 8.9 Fine beige sand
6				8.9 - 9.3 pebble gravel similar to 6.0-8.1
7			02	9.3 - 9.6 boulder - intermediate/mafic volcanic
8				9.6 - 12.3 pebble gravel similar to 6.0-8.1
9			03	
10				12.3 - 13.9 BEDROCK
				- black colour
11			04	- very fine grained
				- massive to slightly schistose structure, thinly foliated
12				- contains graphite
13			05 BEDROCK	- minor pyrite
				- minor quartz veins
14				- Metasediment (graphite-rich)
15				
16				13.9 E.O.H.
17				Don Holmes
18				
19				
20				



OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 17 1986

HOLE NO CW-85-216 LOCATION Formerly CW-218

GEOLOGIST HOLMES DRILLER G. Houg BIT NO LB67524 BIT FOOTAGE 28.6 - 36.6

SHIFT HOURS

_____ TO _____

MOVE TO HOLE 4.00 - 4:15

DRILL 4.15 - 5.00

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 - 0.2 Organics
				0.2 - 4.6 SEDIMENTS (OJIBWAY)
1				0.2 - 1.0 soft, smooth beige clay
2				1.0 - 4.6 very fine beige sand
3			01	
				4.6 - 6.2 TILL (CHIBOUGAMAU)
4				- abrupt, distinct contact with overlying sediments
5			02	- sandy, pebbly till, Few cobbles
				- Fine beige sand matrix, clast composition approximately
6				50% volcanics/sediments
				50% granites
7			03 BEDROCK	
8				6.2 - 8.0 BEDROCK
				- black colour
9				- Fine grained
10				- massive to slightly schistose structure
11				- contains graphite
12				- minor quartz veins
13				- much of the bedrock is ground up to clay-size particles
14				- Metasediment (graphite-rich)
15				
16				8.0 E.O.H
17				Don Holmes
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 17 19 86

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-95-217 LOCATION Formerly CW - 217

GEOLOGIST HOLMES DRILLER C Hong BIT NO CBC 7521 BIT FOOTAGE 36.6-47.1

MOVE TO HOLE 5:00 - 5:15

DRILL 5:15 - 6:15

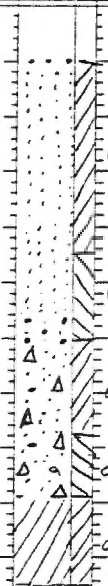
MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER travel GT 6:15 - 7.00 , pickup 7.00 - 7:30

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG



Sample nos.: 01, 02, 03, 04, 05 BEDROCK

0 - 1.0 NO RETURN

1.0 - 6.0 SEDIMENTS (OJIBWAY)
- at 1.0 thin pebble layer
- 1.0 - 5.6 Fine beige sand
- 5.6 - 6.0 pebble gravel, composition approximately 50% volcanics/sediments 50% granites

6.0 - 8.9 TILL (CHIBOUGAMAU)
- distinct contact with overlying sediments
- 6.0 - 8.8 Fine beige to gray-beige sand matrix, pebbles and occasional cobbles, composition 50% volcanics/sediments 50% granites
- 8.8 - 8.9 oxidized zone in the till at bedrock surface, matrix fine ochre colour sand

8.9 - 10.5 BEDROCK
- light gray colour
- Fine grained
- massive structure
- sugary texture
- minor quartz veins
- minor pyrite
- very oxidized zone at 10.2m (Fault breccia?)
- Metasediment (graywacke)

10.5 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 10 19 86	HOLE NO CW-85-218 LOCATION Formerly CW-213
	GEOLOGIST Holmes DRILLER G. Howg BIT NO CB67521 BIT FOOTAGE 47.1 - 55.6
SHIFT HOURS	MOVE TO HOLE 7:45 - 8:30
____ TO ____	DRILL 8.30 - 9.30
TOTAL HOURS	MECHANICAL DOWN TIME
____	DRILLING PROBLEMS
CONTRACT HOURS	OTHER travel 7:00 - 7:30 pickup 7:30 - 7:45 GT
____	MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 0.2 Organics
1				0.2 - 2.4 SEDIMENTS (OTIBWAY)
2				- gray and beige soft, smooth clay, - poor return
3			01	2.4 - 6.8 TILL (CHIBOUGAMAU)
4				- sandy, pebbly till
5			02	- Fine gray to gray-beige sand matrix, pebble composition 60% volcanics/sediments 40% granites
6			03	- till becomes cobbly below 4.4, volcanics composition increases down section to approximately 75% volcanics/sediments 25% granites
7				
8			04 BEDROCK	
9				6.8 - 8.5 BEDROCK
10				- greenish-gray colour
11				- Fine grained
12				- massive structure to schistose, thinly foliated
13				- trace pyrite
14				- Metasediment (graywacke)
15				8.5 EOH.
16				Don Holmes
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 18 19 86

SHIFT HOURS

____ TO ____

TOTAL HOURS

____

CONTRACT HOURS

____

HOLE NO CW-85-219 LOCATION Formerly CW-214

GEOLOGIST Holmes DRILLER G. Howe BIT NO CB67522 BIT FOOTAGE 0-6.0

MOVE TO HOLE 9:30-9:45

DRILL 9:45-10:15

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

OTHER ____

MOVE TO NEXT HOLE ____

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 1.5 Organics (PEAT)
1				1.5 - 3.8 SEDIMENTS (OJIBWAY)
2				- smooth, compact gray clay appears as irregular chunks
3				
4			01	3.8 - 4.6 TILL (CHIBOUGAMAU) - abrupt, distinct contact with overlying clay
5			02 BEDROCK	3.8 - 4.1 Fine gray-beige sand matrix, pebble composition approximately 60% volcanics/sediments 40% granites
6				
7				4.1 - 4.7 till very cobbly, Fine gray sand matrix, clast composition approximately 85% sediments 15% granites
8				
9				
10				4.7 - 6.0 BEDROCK
11				- dark gray to black colour
12				- Fine grained - massive to slightly schistose
13				- sugary texture
14				- trace pyrite
15				- Metasediment (graywacke)
16				6.0 EOH.
17				Don Holmes
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

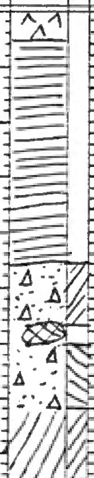
DATE Jan 18 19 86

SHIFT HOURS
_____ TO _____

TOTAL HOURS
_____

CONTRACT HOURS
_____

HOLE NO CW-85-220 LOCATION Formerly CW-215
GEOLOGIST HOLMES DRILLER G. Houg BIT NO. CB67522 BIT FOOTAGE 6.0-14.5
MOVE TO HOLE 10:15 - 10:30
DRILL 10:30 - 11.15
MECHANICAL DOWN TIME
DRILLING PROBLEMS
OTHER
MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0-0.5 Organics
1				0.5-4.6 SEDIMENTS (OJIBWAY)
2				- moderately compact, smooth gray clay, clay softens down section
3				
4				4.6-7.2 TILL (CHIBOUGAMAU) - abrupt and distinct contact sandy, pebbly till
5			01	-4.6-5.7 Fine gray sand matrix, pebble composition approximately 60% volcanics/sediments 40% granites
6				
7			02	
8			03 BEDROCK	5.7-6.0 - boulder - intermediate/mafic volcanic
9				6.0-7.2 till similar to 4.6 to 5.7
10				7.2-8.5 BEDROCK
11				- greenish-gray colour - very fine grained
12				- massive structure
13				- conchoidal fracture - trace pyrite
14				- hard to drill
15				- Metasediment (graywacke)
16				
17				8.5 EOH.
18				Don Holmes
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 1918

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW 85-221 LOCATION Formerly CW-216

GEOLOGIST HOLMES DRILLER G. Hong BIT NO. EB67522 BIT FOOTAGE 14.5-23.0

MOVE TO HOLE 11:15-11:30

DRILL 11.30 - 12:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0				0 - 0.1 Organics
1				0.1 - 1.5 SEDIMENTS (OJIBWAY)
2			01	- Fine beige-brown sand
2				1.5 - 7.0 TILL (CHIBOUGAMAU)
3				- abrupt contact with overlying sediments
4				1.5 - 3.5 - Fine beige sand matrix, (ochre colour 1.5 - 1.8), pebble and cobble composition approximately 60% volcanics/sediments 40% granites
5–6			02	
6			03	3.5 - 5.0 No Return
7				5.0 - 7.0 till similar to 1.5 to 3.5
8			04 BEDROCK	7.0 - 8.5 BEDROCK
9				- light greenish-gray and white colour
10				- Fine grained
11				- massive to slightly schistose
12				- quartz veins
13				- Felsic volcanic
14				8.5 E.O.H.
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 18 19 86
HOLE NO CW-85-222 LOCATION Formerly CW-226
GEOLOGIST HOLMES DRILLER G Howg BIT NO. CB67522 BIT FOOTAGE 23.0-27.0
SHIFT HOURS
____ TO ____
MOVE TO HOLE 12:30 - 2:45
DRILL 2:45 - 3:15
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 - 2.0 SEDIMENTS (OJIBWAY)
1			01	- Fine brown sand - poor return
2				2.0 - 2.3 TILL (CHIBOUGAMAU)
				- sandy pebbly till
				- Fine beige sand matrix,
3			02 BEDROCK	pebbles composition approximately
4				50% volcanics/sediments
				50% granites
5				
				2.3 - 4.0 BEDROCK
6				- light and dark green colour
7				- Fine grained
8				- slightly schistose
				- minor calcite
9				- minor pyrite
10				- Intermediate/mafic volcanic
11				
12				4.0 EOH.
				Don Holmes
13				
14				
15				
16				
17				
18				
19				
20				

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 18 1986

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-223 LOCATION Formerly CW-225

GEOLOGIST Holmes DRILLER G. Hong BIT NO LB67522 / LB67523 BIT FOOTAGE 27.0 - 37.8 / 0 - 0.7

MOVE TO HOLE 3:15 - 3:30

DRILL 3:30 - 5:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS pull rods 4:15 - 4:30 ; repair hydrolic hose 5:00 - 5:15

OTHER travel GT 5:45 - 6:15 , pick up 6:15 - 7:00

MOVE TO NEXT HOLE 5:30 - 5:45

NEW BIT

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0–2.5				0 - 2.5 Organics (PEAT)
2.5–8.0				2.5 - 8.0 SEDIMENTS (OJIBWAY) - very soft, smooth, gray clay and silt - poor return
8.0–9.9			01, 02	8.0 - 9.9 TILL (CHIBOUGAMAU) - abrupt, distinct contact - very sandy, very pebbly till with occasional cobble - Fine gray sand matrix clast composition approximately 50% volcanics/sediments 50% granites
9.9–11.5			03 BEDROCK	9.9 - 11.5 BEDROCK - dark gray-green to black colour - Fine grained - schistose - minor quartz veins - minor pyrite - Metasediment (graywacke)
				11.5 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 18 19 86

HOLE NO CW-85-224 LOCATION Formerly CW-224

GEOLOGIST HOLMES DRILLER G. Howe BIT NO. CB67523 BIT FOOTAGE 0.7-4.2

SHIFT HOURS

____ TO ____

MOVE TO HOLE ____

DRILL 8:15 - 9:00

TOTAL HOURS

MECHANICAL DOWN TIME ____

DRILLING PROBLEMS ____

CONTRACT HOURS

OTHER travel 7:00 - 7:45 ATTK up 7.45 - 8:15 GT

MOVE TO NEXT HOLE ____

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
				0 - 1.2 Organics
1			01	1.2 - 2.0 TILL (CHIBOUGAMAU)
				- thin beige sand layer overlying sandy, pebbly till
2				
3			02 BEDROCK	- Fine gray sand matrix, pebbles composition approximately 60% volcanics/sediments / 40% granites
5				2.0 - 3.5 BEDROCK
6				- light and dark gray colour
7				- Fine grained
				- schistose structure
8				- minor calcite veins
9				- Metasediment (graywacke)
11				3.5 E.O.H. Don Holmes

Depth scale: 1–20 metres.

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 19 1986

SHIFT HOURS

_____ TO _____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-225 LOCATION Formerly CW-223

GEOLOGIST HOLMES DRILLER G. Howe BIT NO CB67523 BIT FOOTAGE 42-147

MOVE TO HOLE 9.00 - 9:15, 10:30 - 10:45

DRILL 10:45 - 11:30

MECHANICAL DOWN TIME Fix track 9.15 - 10:30

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
0				0 - 1.4 Organics (PEAT)
1				1.4 - 7.3 SEDIMENTS (OJIBWAY) - 1.4 - 3.5 very fine gray sand occasional thin soft smooth gray clay lense 3.5 - 7.4 very soft, very smooth gray clay
7				7.3 - 9.1 TILL (CHIBOUGAMAU) - distinct contact with overlying sediment unit - sandy, pebbly till - Fine beige to gray-beige sand matrix, pebble composition 60% volcanics/sediments 40% granites
8			01	
9				9.1 - 10.5 BEDROCK - black, white and green, predominately epidote at surface - medium grained to coarse - igneous texture - hornblende, plagioclase, quartz, epidote 1-2mm size - slightly magnetic - trace pyrite - Gabbro
10			02 BEDROCK	
17				10.5 E.O.H.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 19 19 86

SHIFT HOURS

_____ TO _____

TOTAL HOURS

_____

CONTRACT HOURS

_____

HOLE NO CW-85-226 LOCATION Formerly CW - 222

GEOLOGIST HOLMES DRILLER G. Howe BIT NO. CB67525 BIT FOOTAGE 147-250

MOVE TO HOLE 11:30 - 11:45

DRILL 11:45 - 12:30

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER

MOVE TO NEXT HOLE

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02, 03, 04 BEDROCK	0 - 2.4 Organics (PEAT)

0 - 2.4 Organics (PEAT)

2.4 - 3.9 SEDIMENTS (OJIBWAY)
- very soft, very smooth gray clay

3.9 - 8.8 TILL (CHIBOUGAMAU)
- abrupt contact with overlying sediment unit

3.9 - 5.1 sandy, pebbly till
Fine gray to gray-beige sand matrix, pebbles and occasional cobbles
composition approximately
50% volcanics/sediments
50% granites

5.1 - 5.4 boulder - granite

5.4 - 8.8 till similar to 3.9 - 5.1

8.8 - 10.3 BEDROCK
- dark gray colour with white mottling
- very fine grained
- massive structure
- quartz and calcite veins
- minor pyrite
- minor graphite
- Metasediment (graywacke)

10.3 EOH.

Don Holmes

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 19 1986

SHIFT HOURS

____ TO ____

TOTAL HOURS

CONTRACT HOURS

HOLE NO CW-85-227 LOCATION Formerly CW-221

GEOLOGIST Holmes DRILLER G. Howa BIT NO. CB67523 BIT FOOTAGE 25.0 - 48.5

MOVE TO HOLE 12:30-12.45

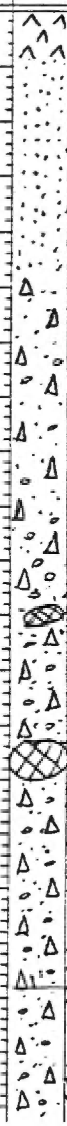
DRILL 12:45 - 3:00

MECHANICAL DOWN TIME

DRILLING PROBLEMS

OTHER clean drill 3:00 - 3:30, travel 4:00 - 5:00 pickup

MOVE TO NEXT HOLE 3.30 - 4:00 to move to highway

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
1–20			01, 02, 03, 04, 05, 06, 07, 08, 09, 10	see below

0 - 0.8 Organics (PEAT)

0.8 - 4.7 SEDIMENTS (OJIBWAY)
- very fine gray-beige sand

4.7 - 22.0 TILL (CHIBOUGAMAU)
- abrupt, distinct contact with overlying sediments

4.7-10.3 - sandy, pebbly till, few cobbles
Fine gray-beige sand matrix
pebbles composition approximately
50% volcanics/sediments
50% granites

- 10.3-10.9 till as above becomes cobbly

10.9 - 11.2 - boulder - diorite

11.2 - 13.3 till similar to 10.3 - 10.9

13.3 - 14.0 boulder - diorite

14.0 - 22.0 till similar to 10.3-10.9
- at 17.8 moderately compact lense of gray-green clay

OVERBURDEN DRILLING MANAGEMENT LIMITED
REVERSE CIRCULATION DRILL HOLE LOG

DATE Jan 17 1986
HOLE NO CW-85-227 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

page 2 of 2

DEPTH IN METRES	GRAPHIC LOG	INTERVAL	SAMPLE NO.	DESCRIPTIVE LOG
21			10	22.0-23.5 BEDROCK
22			11	-dark gray, white mottling -very fine grained
23			12 BEDROCK	- very schistose structure, thinly foliated
24				- minor calcite - trace pyrite
25				- Metasediment (graywacke)
26				
27				23.5 E.O.H.
28				
29				
30				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

APPENDIX B

SAMPLE WEIGHTS - HEAVY MINERAL CIRCUIT

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
CW-85																						
01-01	7.8	1.5	6.3	222.2	187.3	34.9	23.1	11.8	0	NA	C	75	25	NA	1	U	Y	Y	Y	GY	GY	TILL
02	8.8	1.6	7.2	174.3	139.4	34.9	24.7	10.2	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
02-01	8.8	1.2	7.6	172.1	120.7	51.4	36.6	14.8	2	620	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
02	7.1	1.3	5.8	84.8	58.2	26.6	17.2	9.4	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
03	9.1	4.1	5.0	168.8	113.1	55.7	33.3	22.4	1	855	P	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
03-01	7.8	1.4	6.4	107.2	80.2	27.0	17.4	9.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GG	GG	TILL
02	4.0	0.8	3.2	140.4	121.3	19.1	14.3	4.8	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GY	TILL
04-01	9.0	1.4	7.6	270.3	222.4	47.9	33.5	14.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
02	8.6	1.7	6.9	243.7	197.9	45.8	31.9	13.9	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GY	TILL
05-01	8.2	1.7	6.5	218.1	173.0	45.1	31.3	13.8	1	512	P	60	40	NA	NA	U	Y	Y	Y	GB	GY	TILL
02	8.3	1.4	6.9	170.1	126.9	43.2	30.8	12.4	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
03	8.2	1.6	6.6	159.7	124.7	35.0	24.6	10.4	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GY	TILL
04	8.4	2.0	6.4	236.9	204.1	32.8	23.6	9.2	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
05	8.4	2.0	6.4	165.7	129.7	36.0	24.0	12.0	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
06	8.4	1.9	6.5	217.5	180.0	37.5	23.1	14.4	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
07	7.8	1.9	5.9	181.1	147.9	33.2	23.2	10.0	0	NA	C	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
08	8.5	1.6	6.9	155.4	118.9	36.5	25.8	10.7	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
09	8.6	1.2	7.4	161.0	121.0	40.0	28.9	11.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
10	8.8	1.8	7.0	173.6	134.3	39.3	30.7	8.6	1	3	C	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
06-01	5.8	0.9	4.9	127.5	100.5	27.0	18.9	8.1	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
02	6.9	1.8	5.1	113.0	85.7	27.3	18.1	9.2	0	NA	P	50	50	NA	NA	U	Y	Y	Y	B	B	TILL
03	5.7	1.8	3.9	141.5	114.7	26.8	18.7	8.1	0	NA	P	30	70	NA	NA	U	Y	Y	Y	B	B	TILL
04	7.9	1.0	6.9	137.6	105.5	32.1	21.8	10.3	0	NA	P	35	65	NA	NA	U	Y	Y	Y	B	B	TILL
05	6.6	0.8	5.8	126.5	100.0	26.5	18.4	8.1	0	NA	P	30	70	NA	1	U	Y	Y	Y	B	B	TILL
06	8.1	1.1	7.0	161.5	121.5	40.0	28.1	11.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
07	8.5	1.0	7.5	208.5	167.1	41.4	29.3	12.1	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
08	8.9	1.2	7.7	217.1	175.8	41.3	28.7	12.6	1	1592	P	60	40	NA	NA	U	Y	Y	Y	GB	GY	TILL
09	9.3	1.4	7.9	217.6	174.2	43.4	31.5	11.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
10	9.2	1.2	8.0	216.7	170.0	46.7	33.0	13.7	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
11	9.5	1.3	8.2	236.4	196.6	39.8	25.9	13.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	GB	TILL
12	8.6	0.9	7.7	178.4	137.7	40.7	30.6	10.1	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
13	9.2	1.6	7.6	315.6	274.2	41.4	29.3	12.1	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GY	TILL
14	9.1	1.3	7.8	88.2	50.9	37.3	26.0	11.3	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
15	9.1	1.0	8.1	280.0	234.6	45.4	34.4	11.0	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
16	8.7	1.2	7.5	175.8	130.3	45.5	30.5	15.0	1	933	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
17	8.8	1.4	7.4	251.8	207.8	44.0	32.0	12.0	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
18	8.8	1.6	7.2	126.2	88.3	37.9	27.9	10.0	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
19	8.6	1.1	7.5	214.7	170.8	43.9	31.7	12.2	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
20	8.9	1.5	7.4	193.3	149.8	43.5	30.6	12.9	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
21	8.0	1.0	7.0	151.3	115.7	35.6	26.5	9.1	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
22	8.7	1.4	7.3	126.8	90.9	35.9	21.7	14.2	0	NA	C	85	10	NA	1	U	Y	Y	Y	GB	GB	TILL
23	8.7	0.3	8.4	142.2	108.1	34.1	27.6	6.5	0	NA	C	85	15	NA	1	U	Y	Y	Y	GB	GB	TILL
24	7.4	0.1	7.3	195.6	175.6	20.0	15.9	4.1	1	4291	P	65	35	NA	NA	S	F	Y	NA	GY	NA	SAND
25	9.4	1.4	8.0	233.3	200.0	33.3	22.3	11.0	0	NA	C	70	30	NA	1	U	Y	Y	Y	GY	GY	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC: CONC. TOTAL	NON MAG	MAG	AU: NO. V.G.	CALC PPB	DESCRIPTION: CLAST: SIZE	% V/S	GR	LS	OT	MATRIX: S/U	SD	ST	CY	COLOR SD	COLOR CY	CLASS
07-01	9.1	1.1	8.0	166.5	140.1	26.4	18.0	8.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
02	8.4	1.0	7.4	148.3	126.7	21.6	16.2	5.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
03	8.1	1.9	6.2	216.8	182.1	34.7	24.9	9.8	1	26	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
04	8.1	1.3	6.8	188.4	147.7	40.7	29.5	11.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
05	8.5	1.5	7.0	230.8	188.8	42.0	28.0	14.0	0	NA	P,C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
06	8.3	1.6	6.7	275.5	247.7	27.8	20.5	7.3	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
07	8.3	1.0	7.3	230.5	188.5	42.0	28.1	13.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GYN	TILL
08	8.4	1.1	7.3	222.1	182.2	39.9	27.5	12.4	0	NA	C	75	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
09	8.0	1.4	6.6	52.9	46.3	6.6	4.5	2.1	1	1719	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
10	8.1	0.6	7.5	55.6	28.7	26.9	17.3	9.6	0	NA	P,C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
11	7.9	0.1	7.8	69.6	29.1	40.5	30.1	10.4	0	NA	P	70	30	NA	NA	S	F	Y	Y	B	GB	SAND
12	8.1	0.3	7.8	135.1	63.3	71.8	49.1	22.7	0	NA	P	60	40	NA	NA	S	F-M	Y	Y	B	GB	SAND
13	8.2	1.0	7.2	194.5	170.2	24.3	18.6	5.7	0	NA	P	50	50	NA	NA	S	M-C	Y	Y	B	GB	SAND
14	8.1	1.7	6.4	154.7	102.5	52.2	35.2	17.0	0	NA	P	80	20	NA	1	U	Y	Y	Y	GB	GB	TILL
15	8.3	1.6	6.7	154.1	107.9	46.2	32.0	14.2	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
16	7.8	0.9	6.9	136.6	99.4	37.2	25.6	11.6	1	115	C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
08-01	7.8	0.7	7.1	171.4	123.1	48.3	35.3	13.0	0	NA	C	70	30	NA	1	U	Y	Y	Y	GY	GY	TILL
02	7.5	1.0	6.5	166.7	122.1	44.6	33.0	11.6	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
03	8.2	1.0	7.2	134.8	87.7	47.1	34.3	12.8	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
04	7.6	1.3	6.3	165.2	125.7	39.5	27.8	11.7	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GY	GB	TILL
05	8.5	1.6	6.9	222.9	193.1	29.8	19.7	10.1	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
06	6.5	1.6	4.9	116.3	93.3	23.0	16.4	6.6	0	NA	C	100	TR	NA	NA	U	Y	Y	Y	GY	GY	TILL+BDRK
07	7.9	2.0	5.9	82.9	66.9	16.0	9.6	6.4	0	NA	C	100	TR	NA	NA	U	Y	Y	Y	GY	GY	TILL+BDRK
08	8.5	1.6	6.9	133.6	114.3	19.3	11.5	7.8	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
09	7.5	1.8	5.7	151.7	135.0	16.7	9.7	7.0	0	NA	C	98	2	NA	NA	U	Y	Y	Y	GY	GY	TILL
10	7.0	1.6	5.4	123.4	107.8	15.6	10.1	5.5	0	NA	C	100	TR	NA	NA	U	Y	Y	Y	GY	GY	TILL
11	4.0	1.2	2.8	110.4	95.6	14.8	9.5	5.3	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
09-01	5.6	0.8	4.8	143.7	122.5	21.2	15.1	6.1	1	192	F	75	25	NA	NA	U	Y	Y	Y	B	GB	TILL
02	8.0	0.8	7.2	168.8	136.9	31.9	21.9	10.0	1	731	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
03	7.4	1.5	5.9	181.8	143.0	38.8	27.0	11.8	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GY	TILL
04	8.0	1.6	6.4	173.6	135.1	38.5	23.6	14.9	1	4086	C	75	25	NA	NA	U	Y	Y	Y	GB	GY	TILL
05	7.6	1.4	6.2	219.7	179.9	39.8	28.7	11.1	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GY	TILL
06	8.3	1.4	6.9	200.4	160.0	40.4	26.1	14.3	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GY	TILL
07	8.1	1.1	7.0	240.2	207.3	32.9	21.0	11.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
08	8.1	1.2	6.9	221.5	187.3	34.2	22.4	11.8	1	129	P	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
09	8.0	1.4	6.6	232.5	198.1	34.4	23.4	11.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
10	7.8	1.4	6.4	203.9	176.9	27.0	18.5	8.5	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
11	7.1	1.3	5.8	193.4	159.0	34.4	22.9	11.5	1	126	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
12	7.0	1.5	5.5	216.2	182.2	34.0	24.3	9.7	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
13	6.8	0.9	5.9	218.5	193.3	25.2	18.0	7.2	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
14	6.5	1.3	5.2	204.5	176.3	28.2	19.9	8.3	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
15	8.1	2.0	6.1	166.8	142.3	24.5	16.0	8.5	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
16	8.0	1.0	7.0	199.8	166.8	33.0	21.7	11.3	0	NA	C	100	TR	NA	NA	U	Y	Y	Y	GY	GY	TILL
17	6.2	1.9	6.3	153.0	126.8	26.2	16.4	9.8	0	NA	C	100	TR	NA	NA	U	Y	Y	Y	GG	GY	TILL
18	8.1	1.8	6.3	142.6	119.8	22.8	14.4	8.4	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

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	% V/S	% GR	% LS	% OT	S/U	SD	ST	CY	COLOR SD	COLOR CY	
19	8.0	1.0	7.0	116.6	91.0	25.6	16.9	8.7	0	NA	C	100	TR	NA	NA	U	Y	Y	Y	GY	GY	TILL
20	8.7	1.4	7.3	162.3	135.1	27.2	21.1	6.1	0	NA	C	100	TR	NA	NA	U	Y	Y	Y	GY	GY	TILL
10-01	7.7	0.9	6.8	104.0	71.5	32.5	21.1	11.4	0	NA	P	70	30	NA	1	U	Y	Y	Y	GB	GYBN	TILL
02	7.9	1.0	6.9	177.4	139.8	37.6	25.3	12.3	1	306	P	60	40	NA	NA	U	Y	Y	Y	GB	GY	TILL
03	8.3	1.2	7.1	360.8	323.1	37.7	24.4	13.3	0	NA	P	50	50	NA	NA	U	Y	Y	Y	GB	GY	TILL
04	8.9	1.2	7.7	169.6	125.7	43.9	29.8	14.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
05	8.9	1.3	7.6	177.0	141.6	35.4	23.7	11.7	1	122	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
06	8.6	8.0	0.6	349.5	294.0	55.5	41.0	14.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
11-01	8.5	1.1	7.4	286.2	232.2	54.0	37.0	17.0	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
02	8.1	1.5	6.6	312.8	277.5	35.3	24.6	10.7	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
03	7.3	1.5	5.8	214.1	174.2	39.9	28.0	11.9	1	176	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
04	8.6	1.5	7.1	288.9	264.2	24.7	17.1	7.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
05	6.0	1.2	4.8	210.5	175.3	35.2	25.4	9.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
06	7.1	1.6	5.5	249.1	213.9	35.2	25.8	9.4	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
07	4.5	0.6	3.9	237.5	117.2	120.3	113.5	6.8	2	5	C	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
08	8.5	2.1	6.4	312.7	266.4	46.3	34.7	11.6	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
09	8.6	1.8	6.8	230.1	193.7	36.4	21.6	14.8	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
10	8.9	3.6	5.3	262.4	203.6	58.8	36.1	22.7	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
11	7.8	1.6	6.2	363.9	320.0	43.9	33.5	10.4	0	NA	C	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
12-01	8.7	1.8	6.9	254.5	205.4	49.1	34.2	14.9	1	333	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
02	8.4	1.4	7.0	302.7	260.6	42.1	28.2	13.9	1	103	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
03	9.1	1.4	7.7	298.7	265.7	33.0	21.0	12.0	2	1299	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
04	8.4	1.1	7.3	320.3	278.6	41.7	27.6	14.1	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
05	8.8	1.4	7.4	165.6	115.2	50.4	31.3	19.1	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
06	8.7	1.2	7.5	158.7	108.6	50.1	35.8	14.3	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
07	8.0	1.0	7.0	205.0	151.5	53.5	36.1	17.4	1	10	C	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
13-01	7.2	1.5	5.7	144.6	112.2	32.4	22.4	10.0	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GG	GG	TILL
15-01	5.6	1.2	4.4	123.0	82.3	40.7	25.5	15.2	0	NA	C	60	40	NA	NA	S	M	Y	Y	GG	GG	SAND
16-01	8.6	1.7	6.9	150.0	127.3	22.7	16.5	6.2	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GG	TILL
18-01	1.5	0.6	0.9	21.8	17.7	4.1	3.2	0.9	0	NA	P	65	35	NA	1	U	Y	Y	Y	GG	B	TILL
19-01	6.3	1.3	5.0	148.6	126.3	22.3	16.6	5.7	0	NA	P	70	30	NA	1	U	Y	Y	Y	GG	GG	TILL
02	5.2	1.2	4.0	136.2	102.3	33.9	26.0	7.9	2	312	P	70	30	NA	NA	U	Y	Y	Y	GB	B	TILL
03	5.9	1.0	4.9	168.1	139.8	28.3	19.0	9.3	0	NA	C	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
04	8.4	2.2	6.2	157.4	122.3	35.1	23.4	11.7	2	151	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
05	7.8	1.8	6.0	201.4	169.2	32.2	20.6	11.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
06	8.3	2.2	6.1	260.2	235.9	24.3	16.1	8.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
07	6.7	2.3	4.4	187.9	165.9	22.0	14.9	7.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
08	8.3	2.0	6.3	253.4	218.0	35.4	23.4	12.0	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
09	8.3	1.0	7.3	211.5	180.9	30.6	23.5	7.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
10	8.2	2.6	5.6	149.7	119.3	30.4	20.6	9.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
11	8.4	1.5	6.9	220.4	205.2	15.2	13.1	2.1	0	NA	P	60	40	NA	NA	S	C	Y	N	B	NA	GRAVEL
12	8.0	0.9	7.1	157.7	133.6	24.1	18.6	5.5	0	NA	P	40	60	NA	NA	S	C	Y	N	B	NA	GRAVEL
13	8.5	3.6	4.9	162.5	126.7	35.8	24.0	11.8	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
14	9.5	4.4	5.1	149.8	114.3	35.5	25.0	10.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
26-06	6.2	1.5	4.7	256.2	236.4	19.8	13.5	6.3	0	NA	P	55	45	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

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	% V/S	GR	LS	OT	S/U	SD	ST	CY	COLOR SD	CY	
07	2.6	0.4	2.2	142.5	127.2	15.3	11.8	3.5	0	NA	P	55	45	NA	NA	U	Y	Y	Y	GB	GB	TILL
08	4.9	1.2	3.7	192.9	170.3	22.6	17.1	5.5	0	NA	P,C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
09	8.2	2.0	6.2	240.0	227.3	12.7	9.2	3.5	0	NA	P,C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
10	7.5	1.6	5.9	228.4	215.6	12.8	10.1	2.7	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC: CONC. TOTAL	NON MAG	MAG	AU: NO. V.G.	CALC PPB	DESCRIPTION: CLAST SIZE	% V/S	GR	LS	OT	MATRIX: S/U	SD	ST	CY	COLOR SD	COLOR CY	CLASS
CM-85																						
20-01	7.6	1.1	6.5	214.8	190.9	23.9	17.1	6.8	0	NA	P	60	40	NA	3	U	Y	Y	Y	GB	GB	TILL
-02	8.1	1.6	6.5	242.6	214.8	27.8	17.6	10.2	0	NA	P	50	50	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.5	1.6	6.9	307.4	276.2	31.2	19.2	12.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.3	2.0	6.3	168.2	132.1	36.1	22.5	13.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	5.4	1.2	4.2	149.3	124.9	24.4	15.3	9.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	6.7	1.3	7.4	162.6	118.7	43.9	25.0	18.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
21-01	4.6	0.7	3.9	86.6	63.9	22.7	15.5	7.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	BN	TILL
-02	7.6	1.3	6.3	157.5	121.9	35.6	22.3	13.3	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.9	2.6	6.3	374.7	341.5	33.2	20.4	12.8	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.8	1.4	7.4	479.4	438.8	40.6	28.2	12.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-05	8.5	1.7	6.8	417.1	372.5	44.6	27.5	17.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-06	8.3	1.3	7.0	347.7	323.0	24.7	16.4	8.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-07	5.3	0.9	4.4	263.2	246.3	16.9	11.3	5.6	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
22-01	6.6	0.6	6.0	350.0	325.4	24.6	15.4	9.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.5	0.4	7.1	214.3	175.5	38.8	23.2	15.6	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.0	0.7	5.3	195.6	159.7	35.9	21.5	14.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-04	8.3	1.2	7.1	252.2	223.3	28.9	16.1	12.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	GB	TILL
-05	8.0	0.7	7.3	200.0	161.5	38.5	24.4	14.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	GB	TILL
-06	7.9	1.3	6.6	139.5	113.0	26.5	16.8	9.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	GB	TILL
-07	5.6	1.2	4.4	136.7	114.5	22.2	16.0	6.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GYBK	GY	TILL
23-01	7.6	1.3	5.8	166.8	145.3	21.5	16.5	5.0	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	B	TILL
24-01	6.1	0.4	5.7	208.1	179.1	29.0	19.2	9.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-02	7.1	0.8	6.3	195.0	161.2	33.8	21.4	12.4	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-03	8.4	1.8	6.6	159.4	120.0	39.4	26.7	12.7	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-04	8.7	2.1	6.6	174.5	123.5	51.0	33.6	17.4	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-05	8.5	1.6	6.9	186.1	137.6	45.5	32.7	15.3	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-06	8.6	1.6	7.0	175.5	129.9	45.6	29.5	16.1	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-07	8.3	2.0	6.3	162.2	119.0	43.2	28.8	14.4	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-08	8.1	0.8	7.3	205.2	175.9	29.3	20.4	8.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-09	6.7	1.0	5.7	211.7	184.5	27.2	19.0	8.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-10	6.5	1.2	5.3	128.0	105.4	22.6	15.6	7.0	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
-11	8.4	1.6	6.8	304.7	267.6	37.1	21.2	15.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-12	8.3	1.2	7.1	264.0	221.7	42.3	28.3	14.0	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
-13	8.3	1.1	7.2	183.8	142.1	41.7	27.9	13.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-14	9.0	1.5	7.5	246.8	200.5	46.3	31.5	14.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-15	8.6	1.3	7.3	190.1	145.4	44.7	34.7	10.0	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
25-01	8.9	1.6	7.3	172.3	135.2	37.1	24.8	12.3	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
26-01	3.6	1.0	2.6	127.3	107.1	20.2	13.3	6.9	0	NA	P	50	50	NA	NA	U	Y	Y	Y	B	B	TILL
-02	5.1	1.3	3.8	126.3	99.5	26.8	15.7	11.1	0	NA	P	50	50	NA	NA	U	Y	Y	Y	GB	GY	TILL
-03	8.4	1.4	7.0	193.0	159.0	34.0	21.9	12.1	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	GB	TILL
-04	7.9	1.5	6.4	145.6	111.7	33.9	22.8	11.1	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	3.7	1.0	2.7	132.1	113.0	19.1	13.5	5.6	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
CW-85																						
26-11	8.4	1.5	6.9	374.2	349.0	25.2	18.8	6.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-12	7.0	0.0	7.0	140.1	101.9	38.2	31.0	7.2	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	B	B	SAND
-13	8.9	2.6	6.3	286.9	230.9	56.0	44.6	11.4	0	NA	P	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
27-01	8.5	2.4	6.1	183.1	134.5	48.6	31.7	16.9	0	NA	P	40	60	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	4.3	0.6	3.7	121.7	100.5	21.2	16.4	4.8	0	NA	P	40	60	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.0	0.7	7.3	225.0	192.8	32.2	19.5	12.7	0	NA	P	30	70	NA	NA	U	Y	Y	Y	B	B	TILL
-04	5.3	1.0	4.3	117.4	96.3	21.1	14.9	6.2	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-05	4.6	0.9	3.7	128.0	102.6	25.4	18.4	7.0	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.2	2.1	6.1	259.5	208.4	51.1	35.0	16.1	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.0	2.3	6.7	103.7	60.2	43.5	30.0	13.5	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.0	2.6	6.4	190.1	157.0	33.1	22.4	10.7	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.4	2.3	6.1	179.8	141.8	38.0	27.4	10.6	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	8.6	1.7	6.9	222.5	181.1	41.4	29.3	12.1	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	8.9	1.9	7.0	229.1	190.0	39.1	28.7	10.4	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	8.9	1.2	7.7	208.5	172.8	35.7	25.7	10.0	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-13	8.6	1.6	7.0	203.3	137.1	66.2	52.4	13.8	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GY	TILL
-14	8.8	1.4	7.4	179.3	139.9	39.4	29.6	9.8	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-15	6.3	0.4	5.9	129.2	96.0	33.2	25.7	7.5	0	NA	P	70	30	NA	2	U	Y	Y	Y	GB	GY	TILL
-16	8.5	1.7	6.8	167.8	134.3	33.5	23.5	10.0	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GY	TILL
-17	9.0	1.8	7.2	157.4	124.6	32.8	22.3	10.5	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
-18	8.1	1.0	7.1	105.0	81.5	23.5	19.3	4.2	0	NA	C	100	0	NA	NA	U	Y	Y	Y	GY	GY	TILL
-19	8.6	1.8	6.8	100.2	82.0	18.2	14.8	3.4	1	6	C	100	0	NA	NA	U	Y	Y	Y	GY	GY	TILL
-20	9.1	2.4	6.7	83.7	60.4	23.3	17.2	6.1	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-21	9.2	2.3	6.9	80.1	61.9	18.2	11.5	6.7	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
-22	8.3	0.0	8.3	93.3	68.8	24.5	18.5	6.0	0	NA	P	100	0	NA	NA	U	Y	Y	Y	GY	GY	TILL
-23	9.0	0.0	9.0	126.7	89.0	37.7	29.3	8.4	0	NA	P	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
-24	8.5	1.6	6.9	100.8	72.8	28.0	21.6	6.4	1	4	C	99	1	NA	NA	U	Y	Y	Y	GY	GY	TILL
28-01	8.5	1.5	7.0	175.1	139.1	36.0	23.7	12.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-02	5.8	0.8	5.0	101.8	78.2	23.6	13.0	10.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.2	1.1	5.1	137.7	113.5	24.2	16.1	8.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-04	7.0	1.8	5.2	81.0	54.6	26.4	18.1	8.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	6.9	1.3	5.6	140.2	113.2	27.0	17.0	10.0	1	290	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-06	8.2	1.6	6.6	213.5	167.0	46.5	32.4	14.1	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-07	8.3	1.4	6.9	216.6	179.6	37.0	26.5	10.5	1	357	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-08	9.1	2.4	6.7	199.6	151.0	48.6	34.5	14.1	1	542	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-09	8.9	1.8	7.1	195.5	145.1	50.4	35.3	15.1	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-10	8.9	0.8	8.1	224.8	169.4	55.4	37.5	17.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-11	9.0	1.0	8.0	162.9	122.0	40.9	26.7	14.2	0	NA	P	30	70	NA	NA	U	Y	Y	Y	GY	GY	TILL
-12	8.9	1.2	7.7	179.8	140.1	39.7	26.8	12.9	0	NA	P	50	50	NA	NA	U	Y	Y	Y	GY	GY	TILL
-13	8.5	1.0	7.5	132.5	94.3	38.2	26.8	11.4	1	56	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-14	8.5	1.2	7.3	197.1	154.1	43.0	30.3	12.7	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-15	8.5	1.5	7.0	297.2	246.0	51.2	37.5	13.7	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-16	8.7	1.1	7.6	269.7	231.7	38.0	26.2	11.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-17	8.5	1.0	7.5	276.2	230.8	45.4	32.5	12.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

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	% V/S	% GR	% LS	% OT	S/U	SD	ST	CY	COLOR SD	COLOR CY	
-18	8.5	1.1	7.4	228.4	183.5	44.9	31.5	13.4	1	92	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-19	9.0	1.2	7.8	232.5	184.4	48.1	33.7	14.4	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-20	6.5	0.7	5.8	164.5	130.3	34.2	24.6	9.6	0	NA	P	100	0	NA	NA	U	Y	Y	Y	GB	GB	TILL
-21	8.4	1.1	7.3	220.3	178.3	42.0	28.5	13.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-22	9.0	2.4	6.6	185.3	140.0	45.3	29.9	15.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-23	8.9	1.3	7.6	239.4	209.1	30.3	21.5	8.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-24	8.5	1.3	7.2	211.2	173.3	37.9	26.5	11.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-25	8.4	1.3	7.1	181.8	145.6	36.2	26.0	10.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-26	9.0	1.2	7.8	252.3	192.3	60.0	39.4	20.6	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-27	9.0	1.3	7.7	236.1	187.4	48.7	34.4	14.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-28	9.4	2.2	7.2	193.6	154.9	38.7	27.3	11.4	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-29	9.2	1.8	7.4	181.2	147.5	33.7	24.1	9.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-30	8.4	0.4	8.0	240.2	200.0	40.2	30.3	9.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-31	9.3	0.4	8.9	228.3	185.4	42.9	31.0	11.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-32	9.1	0.9	8.2	214.5	173.2	41.3	29.6	11.7	1	459	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-33	8.5	0.0	8.5	96.2	64.3	31.9	25.1	6.8	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	GB	GB	SAND
-34	8.8	0.0	8.8	100.1	60.0	40.1	31.5	8.6	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	GB	GB	SAND

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
CW-85																						
28-35	7.9	0.5	7.4	93.5	49.4	44.1	33.8	10.3	0	NA	P	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
29-01	9.2	1.7	7.5	185.4	148.2	37.2	25.8	11.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.8	1.1	7.7	152.8	114.4	38.4	24.0	14.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.6	1.4	6.2	102.9	69.2	33.7	22.5	11.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
-04	8.6	1.8	6.8	153.8	119.7	34.1	16.3	17.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GY	TILL
-05	8.5	1.8	6.7	121.6	80.0	41.6	28.6	13.0	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
-06	5.6	1.3	4.3	81.4	55.5	25.9	18.4	7.5	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
-07	8.8	3.6	5.2	152.4	119.8	32.6	20.1	12.5	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-8	9.5	2.2	7.3	121.7	78.2	43.5	28.7	14.8	0	NA	C	50	50	NA	NA	U	Y	Y	Y	GB	GY	TILL
-09	9.0	1.2	7.8	218.3	188.1	30.2	25.9	4.3	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GY	TILL
-10	6.5	1.0	5.5	97.1	74.0	23.1	15.4	7.7	0	NA	P	60	40	NA	1	U	Y	Y	Y	GB	GY	TILL
-11	8.0	0.8	7.2	176.6	139.9	36.7	25.9	10.8	0	NA	P	60	40	NA	1	U	Y	Y	Y	GB	GY	TILL
-12	8.9	1.5	7.4	145.2	97.7	47.5	32.1	15.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GY	TILL
-13	8.6	1.2	7.4	164.8	124.9	39.9	25.6	14.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
-14	8.9	1.7	7.2	177.6	127.4	50.2	36.7	13.5	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GY	TILL
-15	8.4	1.2	7.2	149.7	105.3	44.4	30.4	14.0	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GY	TILL
-16	9.0	1.3	7.7	134.8	90.9	43.9	29.8	14.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GY	TILL
-17	9.3	1.6	7.7	192.3	151.8	40.5	27.6	12.9	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
-18	9.3	1.0	8.3	146.6	101.7	44.9	28.4	16.5	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-19	9.4	1.0	8.4	134.0	96.8	37.2	23.7	13.5	3	59	C	80	20	NA	NA	U	Y	Y	Y	GB	GY	TILL
-20	8.9	1.3	7.6	155.4	119.2	36.2	25.7	10.5	0	NA	C	75	75	NA	NA	U	Y	Y	Y	GB	GY	TILL
-21	9.7	1.6	8.1	167.4	141.6	25.8	17.7	8.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
-22	9.7	1.4	8.3	186.9	148.2	38.7	26.3	12.4	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-23	9.8	1.2	8.6	149.7	112.9	36.8	26.0	10.8	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GY	TILL
-24	8.8	0.8	8.0	129.3	100.4	28.9	21.0	7.9	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
30-01	7.8	2.4	5.4	133.2	97.9	35.3	25.5	9.8	1	2931	C	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.0	2.4	6.6	198.8	164.4	34.4	22.4	12.0	0	NA	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.3	1.6	6.7	131.1	86.1	45.0	28.2	16.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-04	9.2	1.6	7.6	368.8	322.8	46.0	33.2	12.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.2	0.8	8.4	184.5	137.9	46.6	31.5	15.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	GB	TILL
-06	5.9	1.1	4.8	166.6	122.6	44.0	30.0	14.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.5	1.8	7.7	186.0	132.3	53.7	34.7	19.0	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.5	1.6	7.9	209.3	154.8	54.5	37.0	17.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.9	1.2	7.7	205.5	152.0	53.5	33.7	19.8	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	8.9	1.4	7.5	240.2	185.9	54.3	37.4	16.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	9.5	1.4	8.1	260.6	197.6	63.0	46.9	16.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	9.5	1.3	8.2	222.2	176.2	46.0	29.2	16.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-13	9.3	1.0	8.3	260.1	224.4	35.7	22.0	13.7	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-14	8.9	0.8	8.1	225.4	207.8	17.6	8.3	9.3	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-15	9.0	1.4	7.6	249.3	203.8	45.5	31.5	14.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-16	9.0	1.7	7.3	276.2	226.5	49.7	32.8	16.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-17	9.5	1.5	8.0	230.6	172.5	58.1	39.6	18.5	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-18	9.0	1.1	7.9	217.3	173.9	43.4	31.1	12.3	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-19	9.0	1.0	8.0	226.1	189.5	36.6	26.4	10.2	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
-20	9.4	1.5	7.9	195.9	149.1	46.8	33.5	13.3	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-21	9.1	1.0	8.1	232.4	192.0	40.4	29.2	11.2	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-22	9.7	1.1	8.6	215.6	179.1	36.5	26.1	10.4	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-23	8.2	1.0	7.2	233.3	213.0	20.3	14.3	6.0	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
31-01	1.8	0.0	1.8	153.8	145.2	8.6	6.1	2.5	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	B	B	SAND
-02	5.0	1.0	4.0	195.2	156.2	39.0	31.1	7.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-03	8.0	1.1	6.9	223.2	189.6	33.6	22.8	10.8	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-04	9.3	0.7	8.6	262.0	234.7	27.3	19.1	8.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	5.7	1.7	4.0	173.2	147.4	25.8	17.9	7.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.5	1.6	6.9	260.6	233.3	27.3	17.0	10.3	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.1	1.6	7.5	210.1	163.4	46.7	31.3	15.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-08	8.5	1.2	7.3	329.2	236.9	92.3	50.5	41.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-09	9.3	1.8	7.5	207.9	173.1	34.8	22.6	12.2	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	9.2	1.9	7.3	247.7	217.3	30.4	19.6	10.8	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	9.8	2.1	7.7	258.7	212.0	46.7	33.3	13.4	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	9.5	1.6	7.9	199.1	164.5	34.6	24.6	10.0	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-13	10.4	1.8	8.6	292.5	256.0	36.5	23.3	13.2	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-14	7.0	1.1	5.9	168.8	153.5	15.3	9.6	5.7	0	NA	P	50	50	NA	NA	U	Y	Y	Y	GB	GB	TILL
-15	8.4	1.2	7.2	91.9	65.9	26.0	18.4	7.6	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-16	9.2	2.1	7.1	156.5	115.2	41.3	25.9	15.4	0	NA	P	50	50	NA	NA	U	Y	Y	Y	GB	GB	TILL
-17	6.5	0.7	5.8	94.1	75.5	18.6	12.7	5.9	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GY	TILL
32-01	6.2	0.0	6.2	59.6	30.0	29.6	28.1	1.5	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	GB	GB	SAND
-02	9.4	1.7	7.7	107.4	76.9	30.5	21.5	9.0	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.0	0.7	8.3	117.1	95.8	21.3	15.5	5.8	1	137	P	50	50	NA	NA	U	Y	Y	Y	B	B	TILL
-04	9.3	1.1	8.2	165.7	141.6	24.1	18.5	5.6	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
32A-01	5.1	0.0	5.1	45.6	26.0	19.6	18.2	1.4	0	NA	TR	NA	NA	NA	1	U	Y	Y	Y	GB	GB	TILL
-02	7.0	0.9	6.1	105.6	74.9	30.7	20.7	10.0	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.0	0.9	8.1	198.4	181.8	16.6	12.6	4.0	0	NA	P	60	40	NA	NA	S	C	Y	Y	GB	GB	SAND
-04	8.0	0.6	7.4	190.1	178.6	11.5	9.0	2.5	0	NA	P	35	65	NA	NA	S	C	Y	Y	GB	GB	SAND
33-01	6.0	0.0	6.0	149.0	121.0	28.0	19.8	8.2	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.0	0.0	8.0	86.3	44.5	41.8	29.3	12.5	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	GB	GY	SAND
-03	8.0	0.0	8.0	108.7	55.3	53.4	34.0	19.4	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	GB	GY	SAND
-04	9.0	0.0	9.0	122.9	74.3	48.6	30.7	17.9	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	GB	GY	SAND
-05	8.7	0.0	8.7	125.4	74.4	51.0	32.4	18.6	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	GB	GY	SAND
-06	8.6	0.0	8.6	114.0	72.3	41.7	31.2	10.5	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	GB	GY	SAND
-07	7.1	0.1	7.0	114.9	102.9	12.0	7.3	4.7	0	NA	P	70	30	NA	NA	S	M	Y	Y	GB	GY	SAND
-08	8.0	0.0	8.0	106.6	59.1	47.5	28.5	19.0	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	GB	GY	SAND
-09	8.7	0.0	8.7	160.2	118.2	42.0	29.2	12.8	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	GB	GB	SAND
-10	8.1	0.0	8.1	178.8	142.4	36.4	25.8	10.6	0	NA	TR	NA	NA	NA	NA	S	M	Y	N	GB	NA	SAND
-11	9.5	1.7	7.8	280.5	235.2	45.3	30.5	14.8	0	NA	P	85	15	NA	NA	U	Y	Y	N	GB	NA	TILL
-12	9.2	1.0	8.2	207.3	168.6	38.7	25.3	13.4	1	857	P	85	15	NA	NA	U	Y	Y	N	GB	NA	TILL
34-01	4.8	0.0	4.8	150.6	143.8	6.8	5.4	1.4	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	GB	B	SAND
-02	5.0	1.6	3.4	154.3	134.8	19.5	13.7	5.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-03	7.0	0.8	6.2	239.3	225.0	14.3	8.9	5.4	0	NA	P	75	25	NA	NA	S	C	N	Y	GB	GB	SAND
35-01	6.1	1.6	4.5	184.5	149.2	35.3	23.3	12.0	0	NA	C	85	15	NA	3	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
36-01	6.2	2.2	4.0	229.0	200.5	28.5	21.6	6.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
37-01	8.0	1.5	6.5	224.1	178.2	45.9	33.0	12.9	0	NA	C	40	60	NA	NA	U	Y	Y	Y	B	B	TILL
38-01	4.7	0.9	3.8	128.6	116.1	12.5	9.9	2.6	0	NA	P	100	TR	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.7	3.9	4.8	145.5	131.4	14.1	11.7	2.4	0	NA	P	95	5	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.7	3.2	3.5	157.7	146.4	11.3	8.8	2.5	0	NA	P	95	5	NA	NA	U	Y	Y	Y	B	B	TILL
39-01	6.6	0.1	6.5	158.0	118.4	39.6	31.8	7.8	0	NA	G	65	35	NA	NA	S	M	Y	Y	B	B	SAND
-02	5.1	0.2	4.9	184.6	164.1	20.5	16.6	3.9	0	NA	G	65	35	NA	NA	S	M	Y	Y	B	B	SAND
40-01	5.2	0.1	5.1	167.0	139.2	27.8	21.1	6.7	0	NA	G	70	30	NA	NA	S	M	Y	Y	B	BN	SAND
-02	9.2	2.1	7.1	283.3	255.2	28.1	21.4	6.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
41-01	1.9	0.3	1.6	171.2	163.5	7.7	7.3	0.4	0	NA	P	95	5	NA	NA	U	Y	Y	Y	GG	BN	TILL&BDK
43-01	7.6	0.9	6.7	157.9	115.9	42.0	30.2	11.8	0	NA	P	75	25	NA	1,3	U	Y	Y	Y	GY	GY	TILL
-02	6.0	0.8	5.2	129.9	101.4	28.5	20.5	8.0	1	73	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
44-02	9.4	2.4	7.0	208.1	160.7	47.4	30.7	16.7	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
45-01	5.3	0.0	5.3	130.4	99.9	30.5	21.8	8.7	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	B	B	SAND

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
CW-65																						
45-02	5.7	1.0	4.7	121.5	99.5	22.0	14.3	7.7	0	NA	P	20	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	9.0	1.2	7.8	126.1	91.9	34.2	22.8	11.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.3	1.1	7.2	103.6	70.9	32.7	21.1	11.6	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-05	9.0	1.2	7.8	118.0	91.9	26.1	17.9	8.2	0	NA	P	75	25	NA	1	U	Y	Y	Y	GB	GB	TILL
-06	8.2	1.2	7.0	89.4	62.1	27.3	18.4	8.9	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	6.7	1.2	5.5	113.6	87.5	26.1	18.6	7.5	0	NA	C	80	20	NA	1	U	Y	Y	Y	GB	GB	TILL
-08	7.3	1.0	6.3	123.2	100.9	22.3	13.9	8.4	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
46-01	7.8	0.1	7.7	151.8	126.5	25.3	18.4	6.9	0	NA	P	50	50	NA	1	U	Y	Y	Y	GG	GY	TILL
-02	6.4	0.2	6.2	233.1	216.9	16.2	12.1	4.1	0	NA	P	60	40	NA	1	U	Y	Y	Y	B	B	TILL
-03	8.1	0.8	7.3	315.8	287.2	28.6	21.1	7.5	0	NA	P	60	40	NA	1	S	M	Y	Y	B	B	SAND
-04	7.8	2.6	5.2	239.9	213.6	26.3	20.0	6.3	0	NA	P	70	30	NA	NA	S	M	Y	N	GB	NA	GRAVEL
-05	8.1	3.3	4.8	116.3	81.1	35.2	28.2	7.0	0	NA	P	70	30	NA	NA	S	M	Y	N	GB	NA	GRAVEL
-06	8.6	2.6	6.0	294.4	267.5	26.9	21.2	5.7	0	NA	P,G	65	35	NA	NA	S	M	Y	N	GB	NA	GRAVEL
-07	9.2	2.6	6.6	232.9	210.5	22.4	17.0	5.4	0	NA	P,G	70	30	NA	NA	S	M	Y	N	GB	NA	GRAVEL
-08	9.2	2.6	6.6	294.4	270.7	23.7	18.8	4.9	0	NA	P	70	30	NA	NA	S	M	Y	N	GB	NA	GRAVEL
-09	8.9	2.5	6.4	270.5	234.8	35.7	28.8	6.9	0	NA	P,G	60	40	NA	NA	S	M	Y	N	GB	NA	GRAVEL
-10	8.8	2.6	6.2	137.6	115.3	22.3	15.8	6.5	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-11	9.1	1.9	7.2	182.2	155.3	26.9	19.7	7.2	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	8.5	2.6	5.9	179.0	157.2	21.8	15.3	6.5	0	NA	P	65	35	NA	NA	S	M	Y	N	GB	NA	GRAVEL
-13	8.7	2.1	6.6	194.5	163.2	31.3	21.7	9.6	0	NA	P	60	40	NA	NA	S	M	Y	N	GB	NA	GRAVEL
-14	8.8	1.7	7.1	185.1	154.5	30.6	21.1	9.5	0	NA	P	65	53	NA	NA	U	Y	Y	N	GB	NA	TILL
-15	9.0	1.9	7.1	189.0	156.6	32.4	22.0	10.4	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-16	9.2	2.6	6.6	208.6	177.0	31.6	19.6	12.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-17	5.2	1.3	3.9	173.0	154.2	18.8	12.2	6.6	0	NA	P	70	30	NA	NA	S	M	Y	N	GB	NA	GRAVEL
46A-18	9.3	3.8	5.5	282.8	259.5	23.3	15.5	7.8	0	NA	P	70	30	NA	NA	U	Y	Y	N	GB	NA	TILL
-19	9.5	2.6	6.9	228.6	208.4	20.2	12.5	7.7	0	NA	P	70	30	NA	NA	U	Y	Y	N	GB	NA	TILL
-20	9.1	2.5	6.6	259.8	234.7	25.1	15.0	10.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-21	9.0	2.1	6.9	205.5	176.9	28.6	18.5	10.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-22	9.1	1.2	7.9	219.9	196.6	23.3	15.3	8.0	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-23	8.8	1.2	7.6	232.9	202.9	30.0	20.5	9.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-24	8.4	0.7	7.7	187.5	158.4	29.1	19.2	9.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-25	9.2	0.3	8.9	211.9	150.6	61.3	40.3	21.0	1	16	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
47-01	6.3	0.0	6.3	124.5	89.7	34.8	24.1	10.7	1	62	TR	NA	NA	NA	NA	S	F	Y	Y	B	B	SAND
-02	8.5	1.6	6.9	217.3	178.1	39.2	26.0	13.2	1	5024	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
48-01	6.0	0.0	6.0	126.6	96.7	29.9	20.9	9.0	0	NA	TR	NA	NA	NA	1	S	F	Y	Y	B	B	SAND
49-01	4.9	0.0	4.9	78.9	50.9	28.0	19.7	8.3	0	NA	TR	NA	NA	NA	1	S	F	Y	Y	GY	GY	SAND
-02	8.8	1.0	7.8	153.7	118.7	35.0	22.6	12.4	3	3360	C	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
50-01	5.6	1.6	4.0	112.7	92.8	19.9	13.8	6.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
51-01	8.7	2.5	6.2	145.0	112.5	32.5	22.6	9.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
52-01	7.0	0.7	6.3	108.2	83.6	24.6	19.4	5.2	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	GB	TILL
-02	5.0	2.6	2.4	216.0	201.4	14.6	11.5	3.1	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
53-01	7.6	0.0	7.6	123.7	88.3	35.4	23.7	11.7	0	NA	P	60	40	NA	NA	S	F	Y	Y	B	B	SAND
-02	7.7	1.2	6.5	182.9	139.4	43.5	31.6	11.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
54-01	7.6	0.0	7.6	168.7	123.0	45.7	32.2	13.5	0	NA	P	60	40	NA	NA	S	M	Y	Y	B	B	SAND

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
-02	8.3	2.1	6.2	196.9	140.4	56.5	39.0	17.5	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.1	1.6	6.5	170.5	112.3	58.2	41.5	16.7	4	5329	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
55-01	8.1	1.6	6.5	144.8	109.6	35.2	23.7	11.5	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.1	2.0	6.1	181.9	148.0	33.9	25.4	8.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	BN	TILL
56-01	7.5	1.4	6.1	147.9	118.9	29.0	21.2	7.8	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.6	1.7	5.9	194.8	149.3	45.5	33.2	12.3	3	28	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-03	7.5	1.4	6.1	173.4	133.0	40.4	32.9	7.5	0	NA	P	60	40	NA	1	U	Y	Y	Y	B	B	TILL
57-01	7.1	0.8	6.3	181.6	135.4	46.2	36.0	10.2	0	NA	P	70	30	NA	1	U	Y	Y	Y	B	B	TILL
-02	5.8	2.0	3.8	139.3	104.3	35.0	28.0	7.0	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-03	6.1	1.8	4.3	108.3	76.5	31.8	25.6	6.2	0	NA	C	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
58-01	2.7	0.4	2.3	36.7	28.1	8.6	7.7	0.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GNB	B	TILL
-02	8.0	2.0	6.0	185.7	148.5	37.2	28.2	9.0	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.9	2.8	5.1	128.5	85.1	43.4	33.1	10.3	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	7.5	2.4	5.1	236.5	182.6	53.9	40.3	13.6	0	NA	C	90	8	2	NA	U	Y	Y	Y	GB	GB	TILL
-05	7.4	1.6	5.8	239.1	165.0	74.1	57.7	16.4	0	NA	C	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.6	2.3	6.3	338.8	256.8	82.0	62.1	19.9	1	5	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	5.8	1.2	4.6	153.2	120.3	32.9	23.8	9.1	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
59-01	7.3	1.1	6.2	269.9	227.1	42.8	33.1	9.7	1	234	C	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.2	1.7	6.5	262.1	217.2	44.9	33.5	11.4	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.4	1.5	6.9	254.3	213.5	40.8	28.5	12.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.2	1.5	7.7	356.3	307.4	48.9	36.4	12.5	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	5.7	1.0	4.7	234.5	195.6	38.9	25.2	13.7	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.1	2.9	6.2	360.8	297.7	63.1	47.4	15.7	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.1	1.6	7.5	539.8	453.2	86.6	68.3	18.3	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	8.9	1.2	7.7	333.8	249.6	84.2	68.0	16.2	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
44-01	8.6	1.7	6.9	267.3	215.3	52.0	38.8	13.2	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
60-01	7.1	0.5	6.6	229.2	198.0	31.2	23.3	7.9	0	NA	C	95	5	NA	NA	U	Y	Y	Y	B	B	TILL
61-01	7.1	0.4	6.7	263.0	227.6	35.4	25.2	10.2	0	NA	C	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
62-01	8.3	0.0	8.3	331.5	269.3	62.2	46.3	15.9	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	B	B	SAND
-02	7.7	1.3	6.4	284.6	242.5	42.1	31.5	10.6	0	NA	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
63-01	7.0	0.0	7.0	179.7	125.8	53.9	41.9	12.0	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	B	B	SAND
-02	6.7	0.0	6.7	336.7	278.7	58.0	43.2	14.8	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	B	B	SAND
-03	8.9	1.9	7.0	404.5	351.0	53.5	42.5	11.0	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	6.7	0.9	5.8	209.0	173.9	35.1	24.6	10.5	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
64-01	5.3	0.6	4.7	162.6	143.4	19.2	14.9	4.3	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	B	TILL
66-01	4.5	0.0	4.5	161.0	139.9	21.1	15.9	5.2	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	B	B	SAND
-02	5.5	0.5	5.0	158.7	143.8	14.9	10.6	4.3	0	NA	C	85	15	NA	NA	U	Y	Y	Y	OCGNGNB		TILL
67-01	8.5	0.0	8.5	182.9	144.2	38.7	26.8	11.9	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.5	0.0	8.5	138.1	101.3	36.8	24.6	12.2	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.7	1.1	7.6	210.9	174.9	36.0	24.2	11.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-04	3.0	0.0	3.0	79.3	69.4	9.9	7.4	2.5	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL
70-01	8.5	1.5	7.0	198.8	168.3	30.5	21.3	9.2	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.0	1.2	7.8	158.8	123.4	35.4	25.1	10.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	GB	TILL
-03	9.2	1.6	7.6	166.2	124.9	41.3	30.5	10.8	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.0	1.8	7.2	230.9	192.0	38.9	27.8	11.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
-05	9.2	1.8	7.4	156.2	115.0	41.2	26.8	14.4	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.0	1.7	6.3	158.8	126.8	32.0	22.9	9.1	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.3	1.9	7.4	229.9	179.1	50.8	37.6	13.2	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	8.9	1.6	7.3	207.2	153.0	54.2	40.7	13.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.9	1.8	7.1	268.7	221.3	47.4	34.3	13.1	2	255	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	9.2	1.6	7.6	233.2	180.2	53.0	38.8	14.2	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	9.1	2.4	6.7	225.3	174.6	50.7	36.1	14.6	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	9.2	1.2	8.0	296.9	243.0	53.9	39.1	14.8	1	74	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-13	9.5	1.6	7.9	257.9	197.6	60.3	45.5	14.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-14	8.8	1.4	7.4	467.7	387.6	80.1	62.2	17.9	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-15	9.4	1.4	8.0	283.3	227.0	56.3	41.2	15.1	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-16	9.4	1.3	8.1	330.2	282.9	47.3	35.3	12.0	0	NA	C	75	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-17	10.0	1.8	8.2	218.6	169.9	48.7	31.9	16.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
71-01	8.1	1.1	7.0	173.6	130.4	43.2	30.3	12.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	6.7	1.0	5.7	140.3	104.6	35.7	25.4	10.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	5.8	1.4	4.4	142.7	109.0	33.7	22.6	11.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.6	2.4	6.2	183.9	141.6	42.3	28.5	13.8	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.1	2.3	6.8	182.2	134.2	48.0	30.3	17.7	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.4	2.5	6.9	154.8	109.1	45.7	30.1	15.6	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.4	1.4	8.0	141.2	88.7	52.5	31.6	20.9	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.3	1.8	7.5	152.3	106.6	45.7	32.4	13.3	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	9.2	1.5	7.7	188.1	150.6	37.5	24.7	12.8	1	200	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	8.8	1.5	7.3	152.5	105.6	46.9	28.9	18.0	1	470	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	9.2	1.8	7.4	180.8	130.3	50.5	34.4	16.1	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	9.0	1.3	7.7	228.8	173.5	55.3	39.5	15.8	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
72-01	5.7	0.1	5.6	145.7	118.1	27.6	19.6	8.0	1	33	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	4.9	0.9	4.0	121.6	98.0	23.6	17.7	5.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-03	7.5	1.4	6.1	157.9	124.1	33.8	22.2	11.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.2	1.0	7.2	231.0	183.6	47.4	33.8	13.6	1	86	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.5	1.4	7.1	200.9	153.3	47.6	29.1	18.5	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.5	1.5	7.0	167.8	126.0	41.8	27.2	14.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	8.5	1.6	6.9	181.4	134.6	46.8	31.2	15.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
CW-85																						
72-08	8.3	1.4	6.9	209.2	161.0	48.2	35.5	12.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.5	1.3	7.2	234.6	183.3	51.3	37.8	13.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	8.7	1.1	7.6	201.7	147.5	54.2	40.0	14.2	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	9.1	1.3	7.8	333.6	264.7	68.9	51.8	17.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-12	9.1	1.3	7.8	304.7	225.5	79.2	60.8	18.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
73-01	1.9	0.1	1.8	118.1	103.3	14.8	12.2	2.6	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
74-01	6.1	0.0	6.1	261.2	220.0	41.2	32.7	8.5	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	GY	GY	SAND
-02	8.1	0.0	8.1	234.6	203.8	30.8	21.1	9.7	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	B	GB	SAND
75-01	8.0	1.6	6.4	285.5	242.9	42.6	31.3	11.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	7.4	1.1	6.3	202.2	186.4	15.8	11.5	4.3	1	252	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.7	2.4	6.3	314.0	271.5	42.5	35.4	7.1	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	BN	TILL
-04	8.5	2.4	6.1	215.6	185.4	30.2	25.6	4.6	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GY	GY	TILL
-05	8.9	2.1	6.8	268.0	177.3	90.7	73.8	16.9	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.3	1.1	8.2	214.7	140.0	74.7	58.1	16.6	1	85	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
76-01	1.6	0.0	1.6	138.7	129.1	9.6	7.2	2.4	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	7.8	1.1	6.7	292.8	262.6	30.2	20.0	10.2	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
77-01	8.8	2.5	6.3	124.3	102.7	21.6	15.2	6.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-02	7.7	1.5	6.2	142.6	113.1	29.5	21.6	7.9	1	69	C	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
78-01	5.9	1.1	4.8	194.4	178.1	16.3	11.6	4.7	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
79-01	9.2	1.2	8.0	171.1	126.6	44.5	31.4	13.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
80-01	4.2	0.8	3.4	99.1	87.9	11.2	8.3	2.9	0	NA	P	60	40	NA	1	U	Y	Y	Y	B	B	TILL
81-01	9.5	1.8	7.7	152.9	116.4	36.5	24.1	12.4	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.2	1.2	7.0	190.3	156.3	34.0	23.3	10.7	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.7	1.6	7.1	204.2	168.5	35.7	21.7	14.0	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.8	1.5	7.3	241.4	204.2	37.2	24.9	12.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.1	0.7	8.4	201.1	153.4	47.7	27.9	19.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.4	1.4	8.0	244.0	201.5	42.5	27.3	15.2	1	794	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-07	9.4	0.8	8.6	181.8	142.7	39.1	25.6	13.5	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-08	8.9	0.8	8.1	189.4	156.9	32.5	22.2	10.3	0	NA	P	90	10	NA	1	U	Y	Y	Y	GY	GY	TILL
82-01	5.1	0.8	4.3	106.1	84.1	22.0	17.1	4.9	1	22	C	98	2	NA	3	U	Y	Y	Y	B	BN	TILL
83-01	7.6	1.2	6.4	131.9	116.7	15.2	10.6	4.6	1	18	C	98	2	NA	1,3	U	Y	Y	Y	B	B	TILL
85-01	8.8	0.8	8.0	277.2	241.0	36.2	22.7	13.5	5	423	C	30	70	NA	NA	U	Y	Y	Y	B	B	TILL
86-01	9.3	1.6	7.7	150.6	117.9	32.7	20.9	11.8	4	115	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
87-01	8.9	2.8	6.1	107.7	95.1	12.6	9.2	3.4	0	NA	C	95	5	NA	NA	U	Y	Y	Y	BN	BN	TILL
88-01	8.5	2.1	6.4	197.9	166.5	31.4	20.9	10.5	2	150	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.4	1.9	7.5	185.7	146.5	39.2	29.6	9.6	0	NA	P	85	15	NA	NA	U	Y	Y	Y	BN	BN	TILL
-03	9.0	1.8	7.2	186.3	141.2	45.1	30.2	14.9	3	1060	P	85	15	NA	NA	U	Y	Y	Y	GB	GY	TILL
89-01	6.3	0.4	5.9	134.6	113.8	20.8	16.4	4.4	0	NA	P	50	50	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.1	1.6	6.5	408.2	392.5	15.7	11.9	3.8	1	524	P	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
-03	7.7	2.0	5.7	258.8	252.1	6.7	5.1	1.6	0	NA	C	80	20	NA	NA	S	C	Y	N	B	NA	SAND
-04	8.1	2.0	6.1	154.0	150.2	3.8	2.9	0.9	0	NA	P	75	25	NA	NA	S	C	Y	N	B	NA	GRAVEL
-05	9.1	2.7	6.4	185.6	162.0	23.6	15.4	8.2	0	NA	P	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
-06	8.9	2.5	6.4	219.2	197.5	21.7	15.4	6.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-07	8.5	2.8	5.7	185.1	166.9	18.2	12.3	5.9	1	311	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
-08	8.9	2.6	6.3	160.6	139.0	21.6	14.4	7.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.1	0.9	7.2	256.8	246.1	10.7	7.6	3.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	8.0	1.7	6.3	411.9	393.5	18.4	13.9	4.5	0	NA	P	75	25	NA	NA	S	C	N	N	GB	NA	GRAVEL
-11	8.5	1.7	6.8	292.6	268.4	24.2	16.0	8.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	BN	TILL
-12	8.9	2.1	6.8	252.2	235.0	17.2	12.1	5.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	BN	TILL
-13	8.6	0.9	7.7	201.3	160.2	41.1	25.2	15.9	1	4143	P	80	20	NA	NA	U	Y	Y	Y	GB	BN	TILL
-14	8.7	0.6	8.1	140.9	106.1	34.8	25.2	9.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-15	9.0	1.1	7.9	135.9	96.5	39.4	28.2	11.2	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
46A-26	8.3	0.8	7.5	76.9	42.4	34.5	22.5	12.0	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
68-01	6.5	0.0	6.5	89.4	57.8	31.6	21.7	9.9	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	B	B	SAND
-02	7.6	0.5	7.1	124.0	96.3	27.7	18.4	9.3	1	268	G	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.1	0.0	8.1	81.5	43.9	37.6	26.8	10.8	0	NA	TR	NA	NA	NA	NA	S	F	Y	Y	B	B	SAND
-04	7.8	0.2	7.6	143.1	102.4	40.7	28.2	12.5	0	NA	G	70	30	NA	NA	S	M	Y	Y	GB	GB	SAND
-05	8.0	0.2	7.8	143.6	120.6	23.0	16.9	6.1	0	NA	P	80	20	NA	NA	S	C	Y	N	GB	NA	SAND
-06	8.7	1.3	7.4	191.4	151.6	39.8	29.1	10.7	1	99	P	70	30	NA	NA	U	Y	Y	N	B	NA	TILL
90-01	8.2	2.0	6.2	171.8	152.5	19.3	14.9	4.4	0	NA	P	75	25	NA	NA	U	Y	Y	N	B	NA	TILL
-02	8.9	2.1	6.8	138.5	116.0	22.5	17.4	5.1	0	NA	P	75	25	NA	NA	U	Y	Y	N	B	NA	TILL
-03	7.5	3.6	3.9	88.7	81.3	7.4	6.4	1.0	0	NA	P	75	25	NA	NA	S	C	Y	N	B	NA	GRAVEL
-04	8.7	2.8	5.9	90.5	77.6	12.9	9.5	3.4	0	NA	P	80	20	NA	NA	U	Y	Y	N	B	NA	TILL
-05	9.0	1.0	8.0	169.1	135.3	33.8	23.8	10.0	0	NA	P	80	20	NA	NA	U	Y	Y	N	B	NA	TILL
-06	8.8	2.2	6.6	187.4	159.8	27.6	18.2	9.4	0	NA	P	80	20	NA	NA	S	C	Y	N	B	NA	GRAVEL
-07	8.8	2.7	6.1	280.4	260.2	20.2	13.3	6.9	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.1	1.9	7.2	212.1	193.7	18.4	11.7	6.7	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.6	1.8	6.8	140.6	117.7	22.9	14.7	8.2	0	NA	P	80	20	NA	NA	S	C	Y	N	GB	NA	GRAVEL
-10	8.6	2.3	6.3	104.1	82.3	21.8	16.7	5.1	0	NA	P	80	20	NA	NA	S	C	Y	N	GB	NA	GRAVEL
-11	9.1	1.8	7.3	147.3	115.4	31.9	21.2	10.7	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
91-01	8.8	1.6	7.2	159.5	135.7	23.8	15.8	8.0	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.4	0.0	8.4	228.6	184.1	44.5	29.0	15.5	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	B	B	SAND
-03	8.8	1.5	7.3	152.0	122.5	29.5	19.9	9.6	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.1	2.0	7.1	239.8	197.5	42.3	30.7	11.6	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	7.1	1.3	5.8	228.9	190.3	38.6	29.6	9.0	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
92-01	8.1	0.4	7.7	188.4	149.4	39.0	25.6	13.4	0	NA	C	50	50	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.7	2.0	6.7	180.0	141.4	38.6	26.0	12.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.7	3.0	5.7	216.3	189.7	26.6	20.6	6.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
93-01	9.0	2.6	6.4	254.2	226.4	27.8	19.8	8.0	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	B	TILL
-02	8.7	1.8	6.9	210.1	182.7	27.4	15.2	12.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.9	2.6	7.3	190.1	157.2	32.9	18.6	14.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	B	TILL
-04	9.6	2.2	7.4	160.3	129.7	30.6	19.5	11.1	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-05	9.3	0.6	8.7	239.0	199.8	39.2	30.0	9.2	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-06	9.5	0.9	8.6	231.9	180.8	51.1	14.2	36.9	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-07	9.6	1.1	8.5	152.2	122.0	30.2	20.2	10.0	0	NA	C	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-08	9.7	1.3	8.4	154.6	122.8	31.8	21.1	10.7	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	9.7	1.8	7.9	188.9	140.3	48.6	30.2	18.4	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-10	10.1	0.9	9.2	223.6	151.8	71.8	54.4	17.4	3	32	C	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-11	8.9	0.7	8.2	285.4	217.4	68.0	47.9	20.1	1	60	P	80	20	NA	1	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
-12	9.2	0.7	8.5	262.2	195.4	66.8	48.8	18.0	1	78	C	90	10	NA	1	U	Y	Y	Y	GB	GB	TILL
94-01	4.5	0.0	4.5	116.9	87.8	29.1	22.1	7.0	0	NA	TR	NA	NA	NA	1	S	F	Y	Y	B	B	SAND
-02	8.4	0.0	8.4	232.4	177.5	54.9	39.1	15.8	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.9	2.9	6.0	185.8	160.4	25.4	17.0	8.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	B	TILL
-04	5.5	2.2	3.3	100.1	87.6	12.5	7.9	4.6	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	3.2	1.2	2.0	95.1	89.2	5.9	4.1	1.8	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	B	TILL
95-01	8.9	0.4	8.5	60.8	35.5	25.3	17.9	7.4	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.1	0.0	8.1	261.3	210.6	50.7	35.9	14.8	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.9	2.4	6.5	193.5	161.5	32.0	22.8	9.2	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GB	BN	TILL
96-01	8.3	0.0	8.3	293.6	230.7	62.9	41.4	21.5	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.5	0.0	8.5	246.8	200.6	46.2	30.8	15.4	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.5	0.0	8.5	359.2	307.9	51.3	35.3	16.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-04	9.2	1.3	7.9	455.2	372.4	82.8	55.0	27.8	1	53	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.3	1.5	7.8	347.2	291.2	56.0	35.0	21.0	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.0	1.3	7.7	293.9	240.6	53.3	35.8	17.5	0	NA	P	70	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
97-01	9.3	0.0	9.3	232.3	200.4	31.9	21.3	10.6	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.4	0.0	8.4	265.4	221.1	44.3	31.0	13.3	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.4	0.0	8.4	221.3	178.2	43.1	29.7	13.4	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
98-01	7.7	0.0	7.7	337.6	293.6	44.0	31.8	12.2	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	7.8	0.3	7.5	330.5	285.6	44.9	31.0	13.9	1	93	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.2	0.6	7.6	350.5	295.7	54.8	39.4	15.4	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
99-01	8.4	1.0	7.4	261.4	218.5	42.9	27.5	15.4	0	NA	P	50	50	NA	NA	U	Y	Y	Y	GB	GB	TILL
101-01	8.4	0.9	7.5	292.3	247.9	44.4	30.0	14.4	0	NA	P	50	50	NA	NA	U	Y	Y	Y	GB	B	TILL
-02	8.9	1.2	7.7	266.9	225.7	41.2	25.3	15.9	1	25	P	50	50	NA	NA	U	Y	Y	Y	GB	B	TILL
-03	8.9	1.2	7.7	168.7	130.5	38.2	24.1	14.1	1	120	P	50	50	NA	NA	U	Y	Y	Y	GB	GY	TILL
-04	8.8	1.6	7.2	223.8	179.4	44.4	30.3	14.1	0	NA	C	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-05	8.7	1.2	7.5	168.1	129.9	38.2	26.4	11.8	1	2584	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-06	9.2	1.2	8.0	196.1	152.6	43.5	30.1	13.4	2	4297	C	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-07	8.7	0.9	7.8	174.5	138.2	36.3	24.5	11.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-08	8.8	0.7	8.1	211.2	160.3	50.9	32.3	18.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-09	8.8	0.8	8.0	225.7	178.0	47.7	27.8	19.9	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
103-01	8.3	0.9	7.4	227.3	184.8	42.5	28.4	14.1	1	53	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.8	1.3	7.5	139.7	102.3	37.4	23.7	13.7	1	263	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	9.0	0.3	8.7	90.9	61.3	29.6	20.2	9.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	7.6	0.5	7.1	102.9	67.3	35.6	23.8	11.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.2	0.8	8.4	147.5	62.4	85.1	33.1	52.0	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GG	GY	TILL
105-01	6.8	0.5	6.3	113.1	84.1	29.0	17.4	11.6	1	3567	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
106-01	8.9	1.0	7.9	85.2	58.5	26.7	16.5	10.2	2	990	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
107-01	7.8	0.8	7.0	69.6	40.1	29.5	17.2	12.3	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	3.1	0.7	2.4	94.2	84.7	9.5	6.0	3.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GG	B	TILL
108-01	8.6	0.8	7.8	65.7	38.5	27.2	15.6	11.6	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	DC	TILL
110-01	4.1	0.8	3.3	74.2	60.1	14.1	7.6	6.5	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	4.0	0.4	3.6	29.3	19.0	10.3	7.4	2.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.6	1.2	6.4	84.1	54.8	29.3	17.9	11.4	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	7.7	1.0	6.7	76.1	50.8	25.3	15.6	9.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

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	% V/S	% GR	% LS	% OT	S/U	SD	ST	CY	COLOR SD	COLOR CY	
-05	8.2	1.1	7.1	65.3	43.8	21.5	11.7	9.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.5	2.2	6.3	120.3	95.8	24.5	11.8	12.7	0	NA	P	45	55	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	8.7	1.0	7.7	59.9	38.6	21.3	12.1	9.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.3	2.0	7.3	93.0	64.7	28.3	14.6	13.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.7	1.2	7.5	103.5	70.7	32.8	15.8	17.0	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
110-10	7.4	0.6	6.8	131.7	82.7	49.0	27.3	21.7	1	78	P	85	15	NA	NA	U	Y	Y	Y	GB	B	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG. WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC: CONC. TOTAL	NON MAG	MAG	AU: NO. V.G.	CALC PPB	DESCRIPTION: CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
CW-85																						
111-01	5.9	0.8	5.1	271.4	242.2	29.2	19.9	9.3	0	NA	P,BR	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL&BDK
112-01	6.8	0.3	6.5	75.0	57.1	17.9	10.1	7.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.3	1.2	8.1	38.6	23.8	14.8	7.5	7.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	4.3	1.3	3.0	89.0	56.8	32.2	14.5	17.7	1	13339	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
113-01	9.1	1.2	7.9	68.9	44.2	24.7	13.6	11.1	1	1178	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	5.1	1.6	3.5	71.5	53.5	18.0	10.4	7.6	1	144	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-03	8.1	1.9	6.2	171.6	149.3	22.3	15.3	7.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-04	7.6	1.6	6.0	86.0	64.8	21.2	14.6	6.6	0	NA	P	80	20	NA	1	U	Y	Y	Y	GY	GY	TILL
-05	7.2	1.6	5.6	129.3	107.6	21.7	11.8	9.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
114-01	7.1	2.6	4.5	214.0	183.8	30.2	20.3	9.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	7.1	2.5	4.6	100.5	78.2	22.3	13.5	8.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.4	2.2	6.2	173.3	135.6	37.7	20.1	17.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-04	6.3	1.7	4.6	127.9	93.0	34.9	20.3	14.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GY	TILL
115-01	6.0	1.8	4.2	116.7	89.5	27.2	17.0	10.2	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.1	1.2	5.9	142.9	118.8	24.1	14.0	10.1	0	NA	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.9	1.3	5.6	110.9	80.0	30.9	16.1	14.8	1	1768	C	50	50	NA	NA	U	Y	Y	Y	B	B	TILL
-04	9.0	1.9	7.1	128.2	100.0	28.2	16.9	11.3	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-05	7.7	1.2	6.5	197.1	186.1	11.0	7.2	3.8	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-06	7.5	1.0	6.5	150.2	116.8	33.4	23.7	9.7	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GY	TILL
-07	4.4	1.1	3.3	107.5	89.2	18.3	12.5	5.8	0	NA	C,BR	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
116-01	7.2	1.0	6.2	121.3	85.4	35.9	20.9	15.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.2	1.2	6.0	136.3	104.1	32.2	19.4	12.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.6	1.6	7.0	230.7	187.3	43.4	28.9	14.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-04	7.6	1.8	5.8	215.7	177.5	38.2	25.0	13.2	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.0	1.3	6.7	270.0	220.1	49.9	33.3	16.6	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.2	0.9	7.3	248.3	200.7	47.6	32.4	15.2	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	7.8	1.8	6.0	289.8	241.1	48.7	32.3	16.4	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	7.4	1.2	6.2	202.5	166.3	36.2	24.5	11.7	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	7.3	1.0	6.3	178.9	142.2	36.7	23.0	13.7	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-10	8.3	2.3	6.0	176.1	143.8	32.3	21.8	10.5	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-11	7.6	1.8	5.8	208.4	174.5	33.9	23.4	10.5	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
-12	7.8	2.2	5.6	173.2	141.2	32.0	21.5	10.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-13	8.3	2.9	5.4	163.1	135.2	27.9	18.7	9.2	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
-14	8.3	2.4	5.9	99.5	76.2	23.3	15.0	8.3	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
-15	8.0	2.4	5.6	98.4	73.3	25.1	14.9	10.2	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
-16	7.9	1.6	6.3	100.6	76.2	24.4	17.0	7.4	1	11	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
117-01	8.0	1.4	6.6	151.5	112.4	39.1	19.3	19.8	1	401	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.1	2.1	6.0	151.7	123.2	28.5	16.4	12.1	0	NA	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	7.9	1.3	6.6	136.6	97.8	38.8	23.6	15.2	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	7.4	0.4	7.0	112.3	82.7	29.6	19.8	9.8	1	146	C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.3	0.6	7.7	139.0	101.3	37.7	24.5	13.2	1	156	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.0	0.7	7.3	153.4	102.6	50.8	31.3	19.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	7.8	0.2	7.6	250.1	142.3	107.8	62.5	45.3	1	0	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
118-01	7.4	1.5	5.9	110.5	77.8	32.7	18.8	13.9	1	113	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
-02	6.1	1.1	5.0	103.4	77.6	25.8	13.3	12.5	0	NA	P,BD	75	25	NA	NA	U	Y	Y	Y	B	B	TILL&BLR
-03	6.3	1.5	4.8	130.8	102.6	28.2	18.4	9.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-04	7.6	1.5	6.1	201.3	158.6	42.7	29.0	13.7	1	468	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL&BLR
-05	7.8	2.3	5.5	145.1	81.6	63.5	42.1	21.4	2	199	BR,C	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL&BDK
119-01	7.0	0.9	6.1	120.4	89.0	31.4	20.6	10.8	0	NA	BR,P	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
120-01	5.7	1.0	4.7	151.6	118.9	32.7	24.4	8.3	0	NA	P,BR	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
121-01	5.7	1.6	4.1	132.2	96.3	35.9	27.9	8.0	0	NA	P,BR	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
122-01	8.1	1.4	6.7	176.2	139.7	36.5	25.9	10.6	1	440	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
123-01	8.9	1.3	7.6	156.7	129.0	27.7	19.9	7.8	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	BN	TILL
124-01	8.7	1.8	6.9	112.6	75.8	36.8	26.1	10.7	0	NA	C	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
125-01	9.1	1.5	7.6	118.9	99.1	19.8	12.3	7.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
126-01	5.9	1.4	4.5	70.2	42.1	28.1	21.1	7.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
127-01	6.3	0.9	5.4	153.8	120.1	33.7	23.0	10.7	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.5	1.6	5.9	99.0	75.1	23.9	15.6	8.3	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.4	1.1	7.3	77.9	43.7	34.2	25.4	8.8	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.0	1.5	7.5	188.3	154.3	34.0	25.3	8.7	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	6.4	0.7	5.7	110.1	86.9	23.2	16.9	6.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.0	1.3	7.7	193.3	150.7	42.6	31.4	11.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
128-01	9.2	1.4	7.8	163.0	117.0	46.0	31.1	14.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
129-01	7.5	1.4	6.1	129.8	99.3	30.5	21.7	8.8	1	98	P	70	30	NA	1	U	Y	Y	Y	B	B	TILL
-02	7.4	1.6	5.8	155.5	109.4	46.1	34.5	11.6	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GB	GY	TILL
-03	9.2	1.8	7.4	201.1	148.6	52.5	39.9	12.6	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
130-01	9.3	1.6	7.7	168.8	130.0	38.8	26.6	12.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.4	2.1	7.3	154.5	122.6	31.9	21.5	10.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.8	2.0	6.8	121.3	81.5	39.8	26.8	13.0	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.9	1.2	7.7	137.5	100.4	37.1	24.0	13.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
131-01	8.6	1.2	7.4	161.7	115.9	45.8	33.0	12.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
132-01	8.1	1.6	6.5	180.4	140.0	40.4	27.6	12.8	1	280	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	3.5	0.7	2.8	53.0	37.4	15.6	11.0	4.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
133-01	8.6	1.6	7.0	139.5	104.3	35.2	23.8	11.4	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.1	1.4	7.7	126.4	86.0	40.4	28.5	11.9	1	74	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
134-01	8.9	1.5	7.4	135.3	101.0	34.3	24.8	9.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.0	1.1	7.9	289.5	254.3	35.2	25.0	10.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	5.7	0.8	4.9	148.1	115.2	32.9	24.8	8.1	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GY	TILL
-04	8.3	1.3	7.0	142.1	103.9	38.2	28.4	9.8	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GY	TILL
-05	8.2	1.3	6.9	178.2	139.6	38.6	29.4	9.2	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.8	1.6	8.2	233.1	178.5	54.6	41.2	13.4	0	NA	P	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
135-01	7.1	0.8	6.3	149.2	116.5	32.7	23.8	8.9	1	8	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.1	1.7	7.4	153.9	116.3	37.6	26.8	10.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	GB	TILL
-03	8.5	2.8	5.7	121.0	99.7	21.3	15.7	5.6	0	NA	P	90	10	NA	NA	U	Y	Y	Y	B	GB	TILL
136-01	9.5	2.1	7.4	171.1	127.3	43.8	31.7	12.1	1	12	P	85	15	NA	NA	U	Y	Y	Y	B	GB	TILL
-02	9.0	1.7	7.3	118.6	77.4	41.2	31.1	10.1	0	NA	P	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
138-01	9.2	2.1	7.1	149.2	112.7	36.5	26.0	10.5	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.6	1.9	7.7	147.8	110.2	37.6	27.5	10.1	2	114	P	90	10	NA	NA	U	Y	Y	Y	B	GB	TILL
-03	9.0	2.2	6.8-	270.9	230.9	40.0	30.4	9.6	1	49	P	90	10	NA	NA	U	Y	Y	Y	B	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG. WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC: CONC. TOTAL	NON MAG	MAG	AU: NO. V.G.	CALC PPB	DESCRIPTION: CLAST: SIZE	%: V/S	GR	LS	OT	MATRIX: S/U	SD	ST	CY	COLOR: SD	CY	CLASS
-04	9.0	1.1	7.9	221.0	185.5	35.5	26.0	9.5	1	58	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	7.0	0.8	6.2	90.0	73.9	16.1	13.3	2.8	1	37534	C,BR	98	2	NA	NA	U	Y	Y	Y	B	GB	TILL&BDK
139-01	8.8	1.7	7.1	264.8	210.1	54.7	40.9	13.8	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.4	1.6	7.8	266.1	201.2	64.9	48.2	16.7	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.4	1.8	7.6	253.6	192.5	61.1	46.6	14.5	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.5	0.6	7.9	293.3	233.4	59.9	46.0	13.9	1	248	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.8	0.3	8.5	266.7	205.3	61.4	49.4	12.0	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.7	0.4	8.3	269.1	219.9	49.2	40.3	8.9	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	8.2	0.4	7.8	165.1	123.4	41.7	33.2	8.5	2	25	P	70	30	NA	3	U	Y	Y	Y	GB	GB	TILL
-08	8.5	0.0	8.5	189.6	147.5	42.1	35.4	6.7	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GY	GB	TILL
-09	8.1	0.3	7.8	230.5	189.0	41.5	35.0	6.5	0	NA	P	95	5	NA	NA	U	Y	Y	Y	GY	GB	TILL
-10	8.0	0.0	8.0	211.6	168.9	42.7	36.7	6.0	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GY	GB	TILL
-11	9.0	3.1	5.9	132.1	94.3	37.8	25.9	11.9	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-12	9.2	2.0	7.2	260.7	225.3	35.4	26.1	9.3	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-13	8.9	1.4	7.5	168.7	122.0	46.7	33.6	13.1	0	NA	C.BR	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL&BDK
140-01	7.4	1.4	6.0	121.8	99.2	22.6	16.3	6.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.8	1.2	6.6	164.5	117.3	47.2	30.4	16.8	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.9	1.8	6.1	195.3	149.9	45.4	28.0	17.4	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	7.1	0.3	6.8	190.1	131.4	58.7	34.8	23.9	1	83	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
141-01	7.9	0.7	7.2	144.5	114.6	29.9	20.0	9.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	GB	TILL
-02	6.4	1.1	5.3	133.1	100.3	32.8	21.9	10.9	1	29	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.3	2.0	5.3	132.7	103.7	29.0	20.3	8.7	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	7.7	1.9	5.8	184.9	149.7	35.1	23.9	11.2	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	7.9	1.2	6.7	269.5	225.9	43.6	29.5	14.1	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	GB	TILL
-06	6.5	1.4	5.1	186.2	149.9	36.3	24.1	12.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	6.9	1.4	5.5	146.4	116.5	29.9	20.2	9.7	0	NA	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-08	6.1	1.2	4.9	144.7	121.4	23.3	18.9	4.4	0	NA	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-09	7.4	1.6	5.8	177.5	133.4	44.1	30.4	13.7	1	10812	P	60	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	6.5	0.1	6.4	112.1	84.7	27.4	19.9	7.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-11	6.6	0.5	6.1	110.1	62.2	47.9	25.8	22.1	0	NA	P	60	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
142-01	6.0	0.4	5.6	134.7	100.0	34.7	22.6	12.1	1	66	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
142-02	7.6	1.8	5.8	172.8	129.0	43.8	27.6	16.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
CW-85																						
142-03	7.3	1.4	5.9	171.5	122.6	48.9	32.5	16.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-04	8.2	1.8	6.4	199.7	162.7	37.0	23.5	13.5	0	NA	C	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
-05	7.5	2.0	5.5	163.9	131.0	32.9	22.6	10.3	1	218	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.0	2.0	6.0	185.4	147.9	37.5	26.3	11.2	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	8.0	1.5	6.5	167.1	124.2	42.9	27.9	15.0	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	8.5	1.6	6.9	199.9	154.3	45.6	31.8	13.8	1	47	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.1	2.2	5.9	117.9	88.1	29.8	19.6	10.2	1	148	P,C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	8.2	2.5	5.7	170.7	139.0	31.7	21.3	10.4	3	1297	P	70	30	NA	1	U	Y	Y	Y	GB	GB	TILL
-11	8.0	1.6	6.4	207.4	178.4	29.0	20.5	8.5	0	NA	P,C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	8.4	1.7	6.7	171.1	145.6	25.5	17.0	8.5	0	NA	P,C	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-13	8.1	2.2	5.9	174.0	131.6	42.4	27.8	14.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-14	8.0	2.2	5.8	101.4	82.0	19.4	13.8	5.6	0	NA	C	70	30	NA	1	U	Y	Y	Y	GB	GB	TILL
-15	8.3	2.2	6.1	152.6	114.2	38.4	25.3	13.1	0	NA	C	70	30	NA	1	U	Y	Y	Y	GB	GB	TILL
-16	7.9	1.2	6.7	130.8	106.2	24.6	17.6	7.0	0	NA	C,BR	40	60	NA	1	U	Y	Y	Y	GB	GB	TILL&BDK
143-01	6.4	0.8	5.6	176.4	138.6	37.8	24.4	13.4	4	214	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.5	0.8	6.7	144.5	113.0	31.5	21.3	10.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	7.6	1.7	5.9	162.2	127.1	35.1	22.8	12.3	1	8	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-04	8.8	1.9	6.9	220.0	180.0	40.0	28.7	11.3	1	74	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-05	8.0	2.0	6.0	136.8	107.6	29.2	21.7	7.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-06	8.0	2.0	6.0	171.2	136.4	34.8	25.1	9.7	1	197	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-07	8.5	2.6	5.9	269.7	236.2	33.5	20.0	13.5	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	8.6	2.1	6.5	235.6	211.3	24.3	15.2	9.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.5	3.0	5.5	173.5	138.6	34.9	22.8	12.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-10	8.0	1.8	6.2	244.5	202.6	41.9	28.8	13.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-11	7.9	1.1	6.8	221.0	162.7	58.3	38.3	20.0	0	NA	P,C	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
144-01	7.3	0.8	6.5	233.0	207.1	25.9	16.6	9.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GG	GY	TILL
145-01	8.9	1.9	7.0	115.4	85.1	30.3	16.1	14.2	0	NA	P	40	60	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.0	1.4	7.6	136.3	106.0	30.3	18.8	11.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.9	1.6	7.3	138.2	105.3	32.9	22.2	10.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
146-01	8.8	1.5	7.3	119.4	88.8	30.6	19.0	11.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
147-01	6.9	1.6	5.3	124.1	108.4	15.7	9.9	5.8	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GG	GG	TILL
148-01	8.6	0.0	8.6	254.3	217.8	36.5	26.8	9.7	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.1	0.0	8.1	125.9	88.5	37.4	25.7	11.7	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.4	1.0	7.4	260.2	226.4	33.8	24.1	9.7	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
150-01	3.1	0.6	2.5	208.7	197.5	11.2	8.1	3.1	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
151-01	5.3	1.0	4.3	130.1	121.6	8.5	5.1	3.4	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
152-01	8.1	1.3	6.8	172.4	146.7	25.7	15.7	10.0	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	7.3	1.0	6.3	147.1	123.9	23.2	15.8	7.4	0	NA	G	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
153-01	7.4	0.8	6.6	128.3	100.0	28.3	20.0	8.3	0	NA	P,G	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
153-02	8.6	1.5	7.1	129.8	98.8	31.0	22.3	8.7	0	NA	P,G	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL

FALCONBRIDGE 86

04/04/86

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	COLOR CY	CLASS
CW-85																						
154-01	9.0	1.3	7.7	123.4	91.5	31.9	21.2	10.7	0	NA	P.B	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
154A-02	8.9	0.9	8.0	138.3	104.4	33.9	24.6	9.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
156-01	2.9	0.2	2.7	86.4	73.9	12.5	9.2	3.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.2	1.5	7.7	107.6	77.2	30.4	22.2	8.2	0	NA	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.8	0.6	8.2	127.1	97.8	29.3	16.6	12.7	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-04	9.3	1.2	8.1	228.8	191.8	37.0	24.1	12.9	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.5	2.6	6.9	190.7	155.7	35.0	24.0	11.0	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
157-01	4.4	0.9	3.5	224.6	190.9	33.7	26.1	7.6	1	81	C	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
158-01	8.8	1.5	7.3	276.3	231.3	45.0	33.2	11.8	2	64	C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
159-01	2.0	0.3	1.7	119.1	108.1	11.0	8.9	2.1	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GB	BN	TILL
160-01	5.8	1.2	4.6	185.1	157.3	27.8	20.8	7.0	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
161-01	9.0	1.6	7.4	341.2	285.2	56.0	38.6	17.4	1	99	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
CW-85																						
161-02	8.6	1.9	6.7	260.1	233.4	26.7	16.9	9.8	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.9	1.6	7.3	277.1	238.1	39.0	27.7	11.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.3	1.2	8.1	256.6	211.5	45.1	32.4	12.7	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.0	1.6	7.4	317.5	283.1	34.4	27.3	7.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.7	1.6	7.1	228.9	177.7	51.2	33.5	17.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	5.8	0.8	5.0	197.4	166.7	30.7	21.9	8.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	8.3	1.2	7.1	287.6	243.9	43.7	30.3	13.4	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	9.3	1.9	7.4	280.4	230.8	49.6	33.1	16.5	1	860	P,C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	9.0	1.5	7.5	251.5	193.7	57.8	38.8	19.0	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	8.9	0.9	8.0	203.7	171.4	32.3	22.4	9.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	9.0	1.5	7.5	255.3	224.2	31.1	21.0	10.1	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-13	9.3	2.1	7.2	228.5	190.1	38.4	27.9	10.5	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-14	8.8	1.7	7.1	231.4	184.1	47.3	31.2	16.1	0	NA	C	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
-15	1.5	0.0	1.5	137.1	127.0	10.1	8.5	1.6	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
162-01	8.8	1.1	7.7	189.4	154.2	35.2	24.6	10.6	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	4.6	0.4	4.2	168.6	146.0	22.6	17.1	5.5	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
163-01	8.9	0.5	8.4	163.1	122.2	40.9	27.7	13.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.7	0.7	8.0	264.4	222.9	41.5	28.7	12.8	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.6	1.6	6.0	242.3	201.4	40.9	29.5	11.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.3	2.2	7.1	267.7	204.6	63.1	45.0	18.1	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GY	TILL
-05	9.1	0.8	8.3	203.2	145.6	57.6	40.5	17.1	0	NA	P	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	7.0	1.0	6.0	246.3	201.4	44.9	33.1	11.8	0	NA	P	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL
-07	7.7	0.5	7.2	172.8	133.5	39.3	28.1	11.2	0	NA	P	85	5	NA	NA	U	Y	Y	Y	GB	GY	TILL
164.01	8.6	0.3	8.3	247.4	196.3	51.1	36.4	14.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	GYB	TILL
-02	8.9	0.5	8.4	263.9	234.7	29.2	21.9	7.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	GB	TILL
-03	9.0	0.7	8.3	191.5	150.0	41.5	29.0	12.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	GB	TILL
-04	8.8	1.0	7.8	223.8	163.2	60.6	30.5	30.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
165-01	8.9	1.0	7.9	230.6	181.8	48.8	34.0	14.8	1	113	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.0	1.4	7.6	279.2	223.5	55.7	38.9	16.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	GB	TILL
166-01	9.2	1.2	8.0	229.8	187.5	42.3	28.8	13.5	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.0	1.6	7.4	225.8	184.1	41.7	27.1	14.6	0	NA	C	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.6	0.5	6.1	144.8	113.7	31.1	20.8	10.3	0	NA	C	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-04	8.5	1.1	7.4	139.7	100.9	38.8	26.8	12.0	0	NA	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-05	7.8	1.1	6.7	141.6	99.2	42.4	29.4	13.0	0	NA	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-06	9.0	1.4	7.6	148.0	107.9	40.1	28.3	11.8	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	8.8	1.4	7.4	182.9	144.5	38.4	25.1	13.3	0	NA	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-08	8.2	2.4	5.8	187.0	172.7	14.3	11.1	3.2	0	NA	C	70	30	NA	NA	S	C	Y	Y	GB	B	SAND
-09	8.4	1.2	7.2	212.8	178.5	34.3	24.3	10.0	1	26	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	8.7	0.9	7.8	152.1	123.2	28.9	18.9	10.0	2	64	C	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	8.4	1.8	6.6	137.8	109.5	28.3	18.5	9.8	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
167-01	2.5	0.5	2.0	124.7	100.4	24.3	13.0	11.3	1	15	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
168-01	7.6	1.4	6.2	253.4	201.3	52.1	37.7	14.4	0	NA	C	90	10	NA	NA	U	Y	Y	Y	GN	GN	TILL
-02	9.0	2.6	6.4	170.7	130.7	40.0	28.3	11.7	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.5	1.4	7.1	219.7	156.4	63.3	39.7	23.6	1	73	C	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

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	% V/S	% GR	% LS	% OT	S/U	SD	ST	CY	COLOR SD	COLOR CY	
-04	8.9	1.0	7.9	203.0	166.1	36.9	25.9	11.0	0	NA	CBD	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.6	1.0	7.6	169.1	141.2	27.9	19.6	8.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.3	1.3	7.0	168.6	140.8	27.8	19.1	8.7	0	NA	P	70	30	NA	1	U	Y	Y	Y	GB	GB	TILL
-07	8.8	0.7	8.1	248.2	224.6	23.6	16.3	7.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.0	1.0	8.0	231.8	205.3	26.5	18.1	8.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	9.0	1.5	7.5	287.7	191.6	96.1	56.7	39.4	0	NA	P	90	10	NA	1	U	Y	Y	Y	GB	GB	TILL
-10	8.6	1.3	7.3	291.1	178.5	112.6	73.5	39.1	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	8.9	0.8	8.1	276.0	206.3	69.7	46.5	23.2	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
169-01	9.2	0.8	8.4	263.9	213.9	50.0	31.8	18.2	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.3	1.0	7.3	304.2	249.4	54.8	34.0	20.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.8	0.9	7.9	235.1	185.6	49.5	32.0	17.5	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.5	0.7	7.8	229.9	189.7	40.2	26.9	13.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.2	0.9	7.3	197.9	162.3	35.6	22.4	13.2	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.0	1.8	7.2	274.0	224.5	49.5	30.5	19.0	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.5	1.1	8.4	214.5	169.4	45.1	29.3	15.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.1	0.6	8.5	179.6	139.4	40.2	27.4	12.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	9.2	1.3	7.9	209.8	167.8	42.0	27.4	14.6	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
170-01	9.0	0.9	8.1	325.2	230.7	94.5	61.0	33.5	1	102	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.8	1.4	7.4	243.1	166.9	76.2	47.5	28.7	1	4	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.1	0.4	8.7	328.2	253.7	74.5	45.3	29.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.7	1.5	8.2	231.4	141.6	89.8	52.9	36.9	1	611	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
171-01	9.6	3.2	6.4	303.9	180.6	123.3	72.8	50.5	1	5	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.5	2.9	6.6	200.5	101.7	98.8	55.5	43.3	3	34	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.7	0.8	6.9	183.9	120.6	63.3	33.8	29.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M. I. CONC M.I. LIGHTS	CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	COLOR CY	CLASS
CW-85																						
171-04	9.5	1.1	8.4	191.5	122.6	68.9	45.3	23.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-05	9.2	1.2	8.0	115.1	53.6	61.5	43.3	18.2	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
172-01	9.1	1.0	8.1	142.6	108.1	34.5	23.1	11.4	2	44	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-02	8.6	0.5	8.1	139.2	83.3	55.4	36.9	18.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-03	9.1	1.5	7.6	137.3	76.6	60.7	45.0	15.7	1	286	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
173-01	5.2	0.6	4.6	168.5	102.7	65.8	43.0	22.8	0	54	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
174-01	8.5	0.5	8.0	172.1	133.4	38.7	24.9	13.8	1	311	C	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
175-01	6.6	0.2	6.4	129.9	93.8	36.1	26.3	9.8	0	NA	U	100	0	NA	NA	U	Y	Y	Y	GB	GB	TILL
176-01	8.4	0.7	7.7	151.7	106.6	45.1	30.7	14.4	1	49	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-02	9.2	1.0	8.2	110.5	73.5	37.0	23.9	13.1	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-03	9.1	1.2	7.9	126.6	76.0	50.6	27.0	23.6	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-04	9.0	0.9	8.1	144.2	79.9	44.3	29.6	14.7	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
-05	8.9	0.9	8.0	131.0	87.5	43.5	30.0	13.5	0	NA	C	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
-06	8.6	0.7	7.9	182.6	139.8	42.8	28.2	14.6	0	NA	C	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-07	8.9	0.9	8.0	178.8	140.9	37.9	26.6	11.3	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	8.5	1.2	7.3	156.4	118.1	38.3	25.9	12.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.8	1.6	7.2	163.7	127.3	36.4	25.6	10.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	7.6	1.2	6.4	139.4	104.0	35.4	23.7	11.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	8.4	1.0	7.4	161.5	122.0	39.5	27.3	12.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	8.5	1.5	7.0	139.9	101.0	38.9	26.2	12.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-13	8.9	1.3	7.6	139.9	104.5	35.4	23.9	11.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-14	8.6	1.2	7.4	110.3	77.3	33.0	17.6	15.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-15	8.1	1.2	6.9	117.5	82.8	34.7	22.6	12.1	1	94	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-16	8.3	0.9	7.4	148.5	110.6	37.9	25.4	12.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-17	8.8	1.4	7.4	161.0	122.1	38.9	25.3	13.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-18	8.5	1.5	7.0	166.1	124.6	41.5	25.4	16.1	1	631	C	85	15	NA	NA	U	Y	Y	Y	GY	GB	TILL
-19	9.0	1.4	7.6	143.9	105.3	38.6	24.2	14.4	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GY	GB	TILL
-20	4.4	0.6	3.8	119.2	96.9	22.3	15.1	7.2	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	B	TILL
177-01	9.2	1.8	7.4	223.6	188.0	35.6	23.7	11.9	0	NA	C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.4	2.3	7.1	165.9	138.3	27.6	16.9	10.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.8	0.6	8.2	185.4	151.8	33.6	22.6	11.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.1	0.5	8.6	236.6	202.4	34.2	21.3	12.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	7.1	0.6	6.5	214.5	189.5	25.0	17.5	7.5	1	5	C/BR	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
178-01	7.9	1.0	6.9	230.0	191.4	38.6	24.0	14.6	0	NA	P	85	15	NA	NA	U	Y	Y	Y	B	BN	TILL
-02	9.1	1.2	7.9	237.4	192.0	45.4	27.2	18.2	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.1	1.1	8.0	209.7	164.0	45.7	26.0	19.7	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.0	1.0	8.0	233.7	196.1	37.6	23.2	14.4	0	NA	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-05	8.4	1.6	6.8	222.0	184.5	37.5	25.9	11.6	0	NA	C	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-06	6.3	0.2	6.1	154.3	124.4	29.9	19.4	10.5	0	NA	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-07	6.2	0.8	5.4	236.7	187.8	48.9	32.5	16.4	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	B	TILL
180-03	7.8	1.4	6.4	270.2	235.9	34.3	20.9	13.4	0	NA	C	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-04	7.8	1.0	6.8	187.3	152.4	34.9	22.9	12.0	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.0	1.8	6.2	198.7	166.9	31.3	18.1	13.7	1	585	C	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	7.7	1.0	6.7	158.1	126.8	31.3	20.1	11.2	0	NA	C	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

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	% V/S	% GR	% LS	% OT	S/U	SD	ST	DY	COLOR SD	COLOR DY	
181-01	7.3	0.8	6.5	173.0	143.7	29.3	19.3	10.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	7.8	0.6	7.2	198.2	163.6	34.6	19.2	15.4	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.5	1.2	6.3	134.2	109.1	25.1	16.1	9.0	1	2264	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	7.9	1.8	6.1	236.3	215.7	20.6	13.3	7.3	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	7.1	0.9	6.2	200.5	158.0	42.5	22.0	20.5	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.2	1.0	8.2	166.9	127.4	39.5	26.8	12.7	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	8.0	1.4	6.6	170.5	135.2	35.3	16.7	18.6	0	NA	P/BR	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
182-01	5.8	0.5	5.3	125.2	98.7	26.5	18.3	8.2	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
183-01	6.1	0.1	6.0	160.4	141.9	18.5	14.1	4.4	0	NA	B/P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	6.5	1.0	5.5	160.1	145.3	14.8	11.0	3.8	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.9	1.9	5.0	119.9	107.5	12.4	6.9	5.5	0	NA	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
184-01	6.5	0.5	6.0	180.0	158.7	21.3	15.4	5.9	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-02	5.7	0.8	4.9	178.9	159.0	19.9	12.8	7.1	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-03	7.2	1.8	5.4	229.5	207.6	21.9	10.0	11.9	0	NA	C	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-04	7.0	1.6	5.4	219.3	190.0	29.3	18.9	10.4	0	NA	C	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-05	6.4	0.8	5.6	153.3	121.5	31.8	20.7	11.1	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
187-01	7.8	1.2	6.6	180.2	139.3	40.9	26.1	14.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
190-01	6.6	0.8	5.8	187.0	153.9	33.1	21.6	11.5	0	NA	C	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.1	1.0	6.1	66.7	36.5	30.2	19.8	10.4	0	NA	C	50	50	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.9	1.2	5.7	151.0	121.3	29.7	18.9	10.8	0	NA	C	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
191-01	6.6	1.0	5.6	169.9	139.4	30.5	21.0	9.5	0	NA	TR	NA	NA	NA	NA	S	N	Y	Y	B	B	SAND
-02	6.4	0.2	6.2	179.0	146.7	32.3	21.9	10.4	0	NA	C	80	20	TR	NA	U	Y	Y	Y	B	B	TILL
-03	5.6	0.6	5.0	126.1	101.2	24.9	17.4	7.5	2	2081	C	80	20	NA	NA	U	Y	Y	Y	BB	B	TILL
192-01	6.6	0.9	5.9	197.4	166.6	30.8	23.6	7.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	6.2	0.4	5.8	142.3	115.6	26.7	21.1	5.6	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-03	6.7	0.5	6.2	201.8	178.3	23.5	16.1	7.4	0	NA	G	70	30	NA	NA	U	Y	Y	Y	B	BN	TILL
-04	6.3	0.8	5.5	143.7	126.1	17.6	12.5	5.1	0	NA	G	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-05	6.3	0.7	5.6	133.8	121.8	12.0	8.2	3.8	0	NA	G	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	6.7	0.3	6.4	108.0	92.4	15.6	11.3	4.3	0	NA	G	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-07	6.1	2.4	3.7	291.8	280.9	10.9	6.7	4.2	1	1701	C	60	40	NA	NA	U	Y	Y	Y	BN	GY	TILL
193-01	5.7	1.0	4.7	118.6	105.1	13.5	9.8	3.7	0	NA	C	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.1	1.4	5.7	91.4	64.1	27.3	16.5	10.8	0	NA	C	75	25	NA	NA	U	Y	Y	Y	B	BN	TILL
-03	3.4	1.5	1.9	97.4	86.7	10.7	5.5	5.2	0	NA	C	75	25	NA	NA	U	Y	Y	Y	BN	GN	TILL
194-01	6.8	1.2	5.6	90.6	63.1	27.5	17.3	10.2	0	NA	C	65	35	NA	NA	U	Y	Y	Y	B	BN	TILL
-02	6.8	1.4	5.4	136.2	112.7	23.5	13.6	9.9	0	NA	C	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
195-01	8.8	1.5	7.3	171.4	138.5	32.9	19.1	13.8	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.6	1.6	8.0	243.2	211.0	32.2	17.8	14.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	Y	B	TILL
-03	9.2	2.4	6.8	141.4	106.4	35.0	18.2	16.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-04	8.3	1.6	6.7	126.7	104.9	21.8	12.8	9.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-05	8.5	2.1	6.4	163.4	140.4	23.0	14.3	8.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-06	7.8	1.4	6.4	153.4	121.8	31.6	19.3	12.3	0	NA	P	65	35	NA	NA	U	Y	Y	Y	B	B	TILL
-07	8.3	0.9	7.4	126.9	96.1	30.8	20.5	10.3	1	3325	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
196-01	5.9	0.7	5.2	91.2	70.0	21.2	14.0	7.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
197-01	8.0	0.8	7.2	185.1	160.1	25.0	18.3	6.7	0	NA	P	60	40	NA	ORG	U	Y	Y	Y	GB	GB	TILL
-02	8.6	1.6	7.0	152.5	121.4	31.1	19.0	12.1	1	2405	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

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	% V/S	% GR	% LS	% OT	S/U	SD	ST	CY	COLOR SD	COLOR CY	
-03	8.1	2.0	6.1	184.6	158.2	26.4	14.5	11.9	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.3	2.0	6.3	185.5	157.0	28.5	19.2	9.3	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.6	2.5	6.1	221.9	186.0	35.9	25.6	10.3	0	NA	P	65	35	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	8.0	0.8	7.2	291.4	255.3	36.1	25.4	10.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	8.4	2.2	6.2	177.6	156.8	20.8	14.0	6.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	9.0	1.6	7.4	174.7	141.5	33.2	20.1	13.1	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	7.8	1.0	6.8	226.4	188.0	38.4	27.3	11.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	8.8	1.8	7.0	196.8	161.7	35.1	20.3	14.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	6.9	1.5	5.4	234.8	120.0	114.8	82.0	32.8	0	NA	P/BR	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
198-01	7.5	1.4	6.1	144.7	119.1	25.6	15.9	9.7	0	NA	P	70	30	NA	ORG	U	Y	Y	Y	GB	GB	TILL
-02	6.8	1.0	5.8	144.6	113.4	31.2	18.6	12.6	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.3	1.2	6.1	154.1	124.1	30.0	17.7	12.3	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.3	1.6	6.7	203.9	169.9	34.0	22.2	11.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.4	1.8	7.6	227.8	187.6	40.2	25.0	15.2	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.4	1.8	7.6	214.3	190.3	24.0	14.1	9.9	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.6	2.0	7.6	280.9	238.5	42.4	27.1	15.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	8.8	1.6	7.2	222.8	189.0	33.8	20.7	13.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	9.8	1.9	7.9	179.5	143.7	35.8	22.5	13.3	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	9.4	2.5	6.9	226.3	180.0	46.3	34.2	12.1	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	10.2	1.8	8.4	206.8	161.9	44.9	33.2	11.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	8.9	1.5	7.4	205.1	168.9	36.2	26.3	9.9	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-13	9.4	2.0	7.4	313.9	283.8	30.1	22.3	7.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-14	9.1	2.2	6.9	273.0	220.0	53.0	32.3	20.7	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
199-01	8.8	2.0	6.8	144.7	114.8	29.9	19.4	10.5	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.4	1.8	7.6	146.1	107.6	38.5	22.5	16.0	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.4	1.2	6.2	118.4	92.1	26.3	16.8	9.5	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.1	2.4	6.7	148.4	119.5	28.9	16.7	12.2	1	3370	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.7	1.8	6.9	210.6	159.9	50.7	31.0	19.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	9.5	2.0	7.5	223.8	173.8	50.0	30.3	19.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	9.4	1.4	8.0	168.4	134.6	33.8	21.2	12.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-08	8.6	1.5	7.1	144.8	103.9	40.9	24.5	16.4	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	COLOR CY	CLASS
CW-85																						
199-09	8.5	1.4	7.1	199.0	163.6	35.4	23.0	12.4	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	9.4	1.4	8.0	152.2	119.8	32.4	21.1	11.3	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	9.7	2.0	7.7	187.5	144.0	43.5	29.2	14.3	1	169	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-12	9.1	1.5	7.6	116.9	74.3	42.6	29.8	12.8	1	50	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-13	9.2	1.8	7.4	123.5	70.0	53.5	40.1	13.4	0	16	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-14	8.4	1.5	6.9	242.8	187.2	55.6	31.8	23.8	0	NA	C	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-15	9.0	1.5	7.5	155.2	100.0	55.2	39.1	16.1	3	150	C	85	15	NA	NA	U	Y	Y	Y	B	B	TILL
-16	6.7	0.3	6.4	269.2	234.9	34.3	25.6	8.7	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-17	8.2	0.6	7.6	250.7	209.1	41.6	29.9	11.7	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-18	9.3	1.4	7.9	202.2	164.7	37.5	25.5	12.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-19	8.3	1.2	7.1	182.8	158.8	24.0	16.2	7.8	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-20	7.7	0.6	7.1	187.9	157.8	30.1	21.4	8.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
200-01	7.6	0.9	6.7	215.2	189.5	25.7	14.9	10.8	1	101	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-02	9.0	1.0	8.0	159.5	131.8	27.7	15.8	11.9	1	41	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	8.2	0.5	7.7	164.5	132.4	32.1	19.5	12.6	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-04	8.4	0.9	7.5	189.3	146.6	42.7	28.4	14.3	1	23	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-05	7.2	0.2	7.0	156.4	116.9	39.5	20.4	19.1	1	18	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-06	8.2	1.8	6.4	190.2	153.0	37.2	19.6	17.6	0	NA	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-07	8.1	2.0	6.1	112.0	84.3	27.7	17.8	9.9	3	68	P	75	25	NA	NA	U	Y	Y	Y	B	B	TILL
-08	8.9	1.6	7.3	115.5	81.2	34.3	22.9	11.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-09	9.2	1.9	7.3	165.5	128.5	37.0	24.9	12.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	B	TILL
-10	3.0	0.5	2.5	70.5	56.2	14.3	10.0	4.3	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	B	TILL
201-01	7.8	0.6	7.2	125.1	92.3	32.8	20.8	12.0	1	49	P	60	40	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.9	0.8	8.1	160.3	119.4	40.9	25.6	15.3	1	59	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-03	9.2	2.0	7.2	122.8	92.2	30.6	19.1	11.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	B	B	TILL
-04	9.4	1.4	8.0	112.9	82.1	30.8	19.9	10.9	2	182	C	70	30	NA	NA	U	Y	Y	Y	GY	B	TILL
-05	8.6	1.6	7.0	155.3	118.4	36.9	24.2	12.7	1	8	C	65	35	NA	NA	U	Y	Y	Y	GY	B	TILL
-06	9.3	1.3	8.0	179.0	111.1	67.9	34.0	33.9	0	NA	C	65	35	NA	NA	U	Y	Y	Y	GY	B	TILL
-07	9.1	1.3	7.8	135.6	96.1	39.5	25.7	13.8	1	25	P/C	70	30	NA	NA	U	Y	Y	Y	GY	B	TILL
-08	9.0	1.4	7.6	121.7	85.8	35.9	22.6	13.3	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GY	B	TILL
-09	8.6	0.9	7.7	203.4	166.6	36.8	25.5	11.3	1	40	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	9.6	1.3	8.3	153.9	112.1	41.8	28.5	13.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GB	TILL
-11	9.3	1.6	7.7	114.1	86.9	27.2	19.0	8.2	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GY	GB	TILL
-12	9.1	0.8	8.3	192.2	165.9	26.3	17.8	8.5	1	36	P	80	20	NA	NA	U	Y	Y	Y	GY	GB	TILL
-13	9.1	1.6	7.5	215.5	195.9	19.6	12.8	6.8	0	NA	P	90	20	NA	NA	U	Y	Y	Y	GY	GB	TILL
-14	9.4	2.3	7.1	135.8	105.4	30.4	21.2	9.2	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GB	TILL
-15	9.9	2.6	7.3	140.5	100.5	40.0	27.9	12.1	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GB	TILL
-16	8.8	0.8	8.0	186.6	148.6	38.0	30.7	7.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GB	TILL
-17	8.7	0.3	8.4	205.5	152.3	53.2	43.3	9.9	2	23	P	90	10	NA	NA	U	Y	Y	Y	GY	GN	TILL
202-01	8.2	0.9	7.3	172.0	131.7	40.3	26.8	13.5	1	425	P	90	10	NA	NA	U	Y	Y	Y	B	B	TILL
-02	7.3	1.6	5.7	172.5	144.3	28.2	17.8	10.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	9.7	2.2	7.5	247.9	199.5	48.4	29.0	19.4	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.0	1.9	7.1	208.7	163.1	45.6	29.3	16.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.5	1.4	8.1	205.6	163.1	42.5	28.6	13.9	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	% GR	% LS	% OT	MATRIX S/U	SD	ST	CY	COLOR SD	COLOR CY	CLASS
-06	8.5	1.2	7.3	178.4	120.6	57.8	36.5	21.3	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	6.0	0.7	5.3	584.0	220.0	364.0	141.3	222.7	0	NA	P/GR	95	5	NA	NA	U	Y	Y	Y	GY	GY	TILL/BLR
203-01	9.0	0.6	8.4	199.6	137.2	62.4	27.8	34.6	0	NA	C	90	10	TR	3	U	Y	Y	Y	GB	GY	TILL/BLR
204-01	7.1	0.3	6.8	132.3	113.8	18.5	9.7	8.8	0	NA	C	90	10	NA	3	U	Y	Y	Y	GB	GY	TILL/BLR
205-01	9.1	2.2	6.9	176.1	138.9	37.2	22.6	14.6	1	1613	P	80	20	NA	3	U	Y	Y	Y	B	B	TILL
-02	8.1	2.2	5.9	156.6	121.1	35.5	20.4	15.1	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
206-01	8.6	1.4	7.2	179.6	146.3	33.3	20.1	13.2	0	NA	P/C	55	45	NA	NA	U	Y	Y	Y	B	B	TILL
-02	4.2	1.0	3.2	90.4	72.5	17.9	10.7	7.2	1	270	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-03	9.1	1.4	7.7	187.2	153.4	33.8	19.9	13.9	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.0	1.1	7.9	306.2	263.2	43.0	27.5	15.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	8.5	1.8	6.7	173.3	139.2	34.1	19.0	15.1	1	79	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
207-01	3.6	1.3	2.3	124.7	113.5	11.2	7.4	3.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.3	2.0	6.3	162.5	135.8	26.7	15.6	11.1	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.5	1.7	6.8	182.4	150.4	32.0	20.7	11.3	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.0	2.6	6.4	156.6	133.7	22.9	14.8	8.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	5.0	1.0	4.0	144.2	127.0	17.2	11.6	5.6	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	4.6	0.9	3.7	90.1	77.6	12.5	9.1	3.4	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	7.8	1.6	6.2	75.5	51.3	24.2	16.5	7.7	0	NA	P/C	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-08	1.0	1.0	0.0	141.9	112.8	29.1	19.8	9.3	0	NA	P/C	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
-09	8.0	1.1	6.9	150.5	129.9	20.6	14.1	6.5	1	151	P/C	95	5	NA	NA	U	Y	Y	Y	GB	GB	TILL
208-01	8.2	1.6	6.6	167.5	144.0	23.5	13.4	10.1	0	NA	P/C	80	20	NA	3	U	Y	Y	Y	GB	GB	TILL
-02	7.1	0.9	6.2	283.3	254.4	28.9	18.5	10.4	0	NA	P/C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	8.0	1.8	6.2	135.4	104.6	30.8	18.4	12.4	0	NA	P/C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.1	3.2	4.9	408.8	360.7	48.1	31.1	17.0	0	NA	P/C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	7.9	2.8	5.1	189.0	149.5	39.5	24.2	15.3	0	NA	P/C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	7.8	1.3	6.5	219.1	182.3	36.8	23.8	13.0	0	NA	P/C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	7.9	2.2	5.7	113.0	87.7	25.3	15.3	10.0	0	NA	P/C	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
209-01	8.5	0.0	8.5	347.1	283.4	63.7	42.6	21.1	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.5	2.3	6.2	242.2	200.1	42.1	29.6	12.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	6.3	0.8	5.5	202.6	182.3	20.3	14.8	5.5	0	NA	P	70	30	NA	1	U	Y	Y	Y	GB	GY	TILL
-04	8.8	1.2	7.6	182.0	145.4	36.6	25.8	10.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-05	8.2	0.2	8.0	263.7	236.2	27.5	21.1	6.4	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GY	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
CW-85																						
209-06	7.9	0.3	7.6	270.1	240.3	29.8	22.7	7.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-07	6.4	0.1	6.3	260.0	240.0	20.0	15.1	4.9	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GY	GY	TILL
-08	6.3	0.3	6.0	187.4	175.6	11.8	9.1	2.7	0	NA	P	95	5	NA	1	U	Y	Y	Y	GB	GY	TILL
-09	7.7	0.5	7.2	75.9	73.4	2.5	1.8	0.7	0	NA	GR/P	95	5	NA	NA	U	Y	Y	Y	GNB	GNB	TILL
210-01	8.3	0.9	7.4	236.4	195.5	40.9	28.1	12.8	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	8.9	1.0	7.9	326.4	272.4	54.0	35.8	18.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.2	1.5	7.7	257.1	215.0	42.1	26.8	15.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.6	1.5	8.1	262.4	217.7	44.7	29.2	15.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	9.5	1.3	8.2	227.5	183.5	44.0	29.6	14.4	1	22	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-06	7.5	1.2	6.3	228.8	192.4	36.4	25.6	10.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-07	7.5	0.4	7.1	172.4	139.8	32.6	23.8	8.8	0	NA	P	80	20	NA	NA	S	F	Y	N	GB	NA	SAND
211-01	8.2	0.4	7.8	136.1	113.8	22.3	14.8	7.5	0	NA	P	90	10	NA	NA	U	Y	Y	Y	GB	GB	TILL
212-01	2.6	0.0	2.6	105.0	94.0	11.0	8.8	2.2	0	NA	TR	NA	NA	NA	NA	S	M	Y	Y	B	BN	SAND
213-01	5.0	1.4	3.6	118.3	99.8	18.5	12.2	6.3	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	BN	TILL
-02	7.2	3.3	3.9	164.1	150.8	13.3	8.0	5.3	0	NA	P	80	20	NA	NA	S	C	N	N	GB	NA	GRAVEL
-03	7.5	2.3	5.2	171.5	151.8	19.7	13.6	6.1	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	5.4	1.0	4.4	172.8	161.5	11.3	8.3	3.0	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GY	GY	TILL
-05	7.2	1.2	6.0	146.8	122.6	24.2	18.3	5.9	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
-06	8.3	1.2	7.1	190.7	140.7	50.0	41.2	8.8	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GY	GY	TILL
214-01	8.9	3.4	5.5	218.9	197.5	21.4	15.3	6.1	0	NA	P	50	50	NA	NA	U	Y	Y	Y	GB	BN	TILL
-02	8.3	2.2	6.1	174.8	143.2	31.6	19.8	11.8	0	NA	C	70	30	NA	NA	S	C	Y	N	GB	NA	GRAVEL
-03	8.4	2.6	5.8	243.1	133.9	109.2	73.2	36.0	0	NA	C	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.6	2.7	5.9	249.2	201.5	47.7	25.5	22.2	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	4.0	0.3	3.7	123.8	102.3	21.5	16.5	5.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GY	GB	TILL
215-01	9.0	0.4	8.6	263.3	233.5	29.8	20.4	9.4	0	NA	P/G	60	40	NA	NA	S	M	Y	N	B	NA	SAND
-02	4.6	2.3	2.3	118.2	111.8	6.4	4.6	1.8	0	NA	P	70	30	NA	NA	S	C	Y	N	B	NA	GRAVEL
-03	8.7	0.6	8.1	276.8	240.0	36.8	24.5	12.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	8.8	0.5	8.3	250.8	220.3	30.5	19.6	10.9	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GY	TILL
216-01	5.1	0.0	5.1	95.3	76.5	18.8	12.1	6.7	0	NA	TR	NA	NA	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	10.1	1.7	8.4	160.4	125.5	34.9	22.9	12.0	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
217-01	8.0	0.2	7.8	179.0	143.4	35.6	24.1	11.5	0	NA	P	70	30	NA	NA	S	F	Y	Y	B	B	SAND
-02	7.4	0.4	7.0	129.1	95.0	34.1	22.3	11.8	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	4.8	1.0	3.8	121.8	104.8	17.0	11.7	5.3	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	9.8	1.9	7.9	159.1	127.6	31.5	18.9	12.6	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
218-01	9.1	1.6	7.5	169.7	139.5	30.2	19.6	10.6	0	NA	P	85	15	NA	NA	U	Y	Y	Y	GB	GB	TILL
-02	9.6	2.8	6.8	127.6	83.5	44.1	27.3	16.8	2	10941	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.1	2.2	6.9	141.0	98.1	42.9	29.8	13.1	1	22	P	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
219-01	9.5	1.6	7.9	191.3	154.4	36.9	27.4	9.5	0	NA	P	85	15	NA	3	U	Y	Y	Y	GY	GYB	TILL
220-01	9.1	1.0	8.1	109.1	77.3	31.8	18.5	13.3	0	NA	P	80	20	NA	3	U	Y	Y	Y	GY	GY	TILL
-02	9.5	1.4	8.1	122.5	92.5	30.0	19.5	10.5	0	NA	P	80	20	NA	NA	U	Y	Y	Y	GY	GY	TILL
221-01	7.9	1.4	6.5	219.7	192.2	27.5	19.0	8.5	0	NA	P	75	25	NA	NA	U	Y	Y	Y	GYB	B	TILL
-02	5.2	0.9	4.3	161.4	142.3	19.1	14.5	4.6	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	7.2	1.8	5.4	272.5	243.1	29.4	20.6	8.8	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
222-01	1.6	0.2	1.4	107.0	102.2	4.8	3.7	1.1	0	NA	P	85	15	NA	3	U	Y	Y	Y	B	B	TILL

OVERBURDEN DRILLING MANAGEMENT LIMITED

LABORATORY SAMPLE LOG

SAMPLE NO.	WEIGHT (KG.WET) TABLE SPLIT	+10 CHIPS	TABLE FEED	WEIGHT (GRAMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC CONC. TOTAL	NON MAG	MAG	AU NO. V.G.	CALC PPB	DESCRIPTION CLAST SIZE	% V/S	GR	LS	OT	MATRIX S/U	SD	ST	CY	COLOR SD	CY	CLASS
223-01	9.2	1.0	8.2	111.0	73.2	37.8	24.0	13.8	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
-02	8.1	1.8	6.3	269.1	243.7	25.4	18.6	6.8	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GY	GY	TILL
224-01	5.2	0.6	4.6	93.6	72.0	21.6	16.6	5.0	0	NA	F	70	30	NA	3	U	Y	Y	Y	GB	GB	TILL
225-01	10.1	1.8	8.3	191.8	156.1	35.7	20.3	15.4	0	NA	F	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
226-01	9.6	1.5	8.1	122.6	83.6	39.0	24.8	14.2	0	NA	P	60	40	NA	3	U	Y	Y	Y	GB	GB	TILL
-02	10.1	1.9	8.2	269.0	228.5	40.5	24.5	16.0	1	118	P	75	25	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.9	1.3	8.6	206.8	163.3	43.5	31.0	12.5	0	NA	F	65	35	NA	1	U	Y	Y	Y	GB	GB	TILL
227-01	7.2	0.0	7.2	247.9	223.7	24.2	17.5	6.7	0	NA	TR	NA	NA	NA	3	S	F	Y	Y	B	B	SAND
-02	9.4	1.2	8.2	137.8	108.5	29.3	18.5	10.8	0	NA	P	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-03	9.8	1.7	8.1	229.6	195.1	34.5	21.1	13.4	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-04	10.3	1.9	8.4	199.5	156.5	43.0	25.5	17.5	1	447	F	60	40	NA	NA	U	Y	Y	Y	GB	GB	TILL
-05	6.7	1.2	5.5	191.7	160.9	30.8	17.1	13.7	0	NA	F	70	30	NA	NA	U	Y	Y	Y	GY	GY	TILL
-06	10.0	1.9	8.1	240.9	200.8	40.1	29.6	10.5	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GGB	TILL
-07	10.0	1.4	8.6	223.5	184.7	38.8	26.5	12.3	0	NA	C	80	20	NA	1	U	Y	Y	Y	GB	GB	TILL
-08	9.5	1.4	8.1	332.3	286.4	45.9	31.8	14.1	0	NA	C	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
-09	8.8	2.0	6.8	145.4	118.0	27.4	19.8	7.6	0	NA	F	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-10	7.0	0.8	6.2	232.7	205.4	27.3	17.6	9.7	0	NA	P	70	30	NA	NA	U	Y	Y	Y	GB	GB	TILL
-11	9.8	1.6	8.2	320.0	265.6	54.4	28.9	25.5	0	NA	P/GR	80	20	NA	NA	U	Y	Y	Y	GB	GB	TILL
180-01	8.1	1.4	6.7	148.4	118.1	30.3	18.6	11.7	0	NA	P	80	20	NA	NA	U	Y	Y	Y	B	B	TILL
-02	8.2	2.2	6.0	134.9	110.7	24.2	13.7	10.5	0	NA	P/C	80	20	NA	NA	U	Y	Y	Y	B	B	TILL

APPENDIX C

GOLD GRAIN COUNTS AND CALCULATED VISIBLE GOLD ASSAYS

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
				NUMBER OF GRAINS									
CW-85													
01-01	N	NO VISIBLE GOLD											
02	N	NO VISIBLE GOLD											
02-01	Y	50 X 125	15 C	1						1			
		200 X 300	46 C	1						1			EST. <1% PYRITE.
									TOTAL	2	36.6	620	
-02	N	NO VISIBLE GOLD											
-03	N	250 X 300	50 C	1						1			
									TOTAL	1	33.3	855	
03-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
04-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
05-01	N	200 X 250	42 C	1						1			
									TOTAL	1	31.3	512	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-10	Y	25 X 50	8 C		1					1			EST. 25% PYRITE.
									TOTAL	1	30.7	3	
06-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	275 X 375	58 C			1				1			
									TOTAL	1	28.7	1592	
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	N	250 X 300	50 C			1				1			
									TOTAL	1	30.5	933	
-17	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

NUMBER OF GRAINS

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-18	N	NO VISIBLE GOLD											
-19	N	NO VISIBLE GOLD											
-20	N	NO VISIBLE GOLD											
-21	N	NO VISIBLE GOLD											
-22	N	NO VISIBLE GOLD											
-23	N	NO VISIBLE GOLD											
-24	N	250 X 500	65 C	1						1			
									TOTAL	1	15.9	4291	
-25	N	NO VISIBLE GOLD											
07-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	Y	50 X 100	15 C		1					1			EST. 10% PYRITE
									TOTAL	1	24.9	26	
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	200 X 150	34 C	1						1			
									TOTAL	1	4.5	1719	
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	N	100 X 150	25 C	1						1			
									TOTAL	1	25.2	115	
08-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	Y	NO VISIBLE GOLD											EST. 25% PYRITE
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	Y	NO VISIBLE GOLD											EST. 15% PYRITE
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
09-01	N	100 X 150	25 C	1						1			
									TOTAL	1	15.1	192	
-02	N	200 X 250	42 C	1						1			
									TOTAL	1	21.9	731	

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

NUMBER OF GRAINS

SAMPLE #	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
-03	N	NO VISIBLE GOLD											
-04	N	200 X 650	71 C	1						1			
									TOTAL	1	23.6	4086	
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	100 X 150	25 C	1						1			
									TOTAL	1	22.4	129	
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	100 X 150	25 C	1						1			
									TOTAL	1	22.9	126	
-12	Y	NO VISIBLE GOLD											EST. 20% PYRITE
-13	N	NO VISIBLE GOLD											
-14	Y	NO VISIBLE GOLD											EST. 10% PYRITE
-15	N	NO VISIBLE GOLD											
-16	Y	NO VISIBLE GOLD											EST. 30% PYRITE
-17	N	NO VISIBLE GOLD											
-18	N	NO VISIBLE GOLD											
-19	N	NO VISIBLE GOLD											
-20	Y	NO VISIBLE GOLD											EST. 40% PYRITE
10-01	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

				NUMBER OF GRAINS									
				ABBRADED		IRREGULAR		DELICATE			NON	CALC V.G.	
SAMPLE #	PANNED										MAG	ASSAY	
	Y/N	DIAMETER	THICKNESS	T	P	T	P	T	P	TOTAL	GMS	PPB	REMARKS
-02	N	150 X 200	34 C	1						1			
									TOTAL	1	25.3	306	
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	100 X 150	25 C	1						1			
									TOTAL	1	23.7	122	
-06	N	NO VISIBLE GOLD											
11-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	150 X 150	29 C	1						1			
									TOTAL	1	28.0	176	
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	Y	50 X 50	10 C		1					1			EST. 40% PYRITE
		50 X 75	13 C		1					1			15% SPHENE
									TOTAL	2	113.5	5	
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	Y	NO VISIBLE GOLD											EST. 40% PYRITE 5% SPHENE 20 GRAINS GALENA

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

NUMBER OF GRAINS

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
12-01	N	150 X 250	38 C	1						1			
									TOTAL	1	34.2	333	
-02	N	100 X 150	25 C			1				1			
									TOTAL	1	28.2	103	
-03	Y	100 X 125	22 C	1	1					2			EST. 10% PYRITE
		150 X 225	36 C		1					1			
		150 X 275	40 C	1						1			
									TOTAL	4	21.0	1299	
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	Y	50 X 75	13 C		1					1			EST. 30% PYRITE
									TOTAL	1	36.1	10	
13-01	N	NO VISIBLE GOLD											
15-01	N	NO VISIBLE GOLD											
16-01	N	NO VISIBLE GOLD											
18-01	N	NO VISIBLE GOLD											
19-01	N	NO VISIBLE GOLD											
-02	Y	50 X 75	13 C		1					1			EST. 15% PYRITE
		100 X 250	34 C	1						1			
									TOTAL	2	26.0	312	
-03	N	NO VISIBLE GOLD											
-04	Y	50 X 100	15 C	1						1			EST. 1% PYRITE
		100 X 150	25 C	1						1			

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
									TOTAL	2	23.4	151	
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
26-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
25-01	N	NO VISIBLE GOLD											
26-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
CW-85													
26-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
27-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	Y	NO VISIBLE GOLD											EST. 10% PYRITE.
-13	Y	NO VISIBLE GOLD											EST. 40% PYRITE.
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	N	NO VISIBLE GOLD											
-17	N	NO VISIBLE GOLD											
-18	Y	NO VISIBLE GOLD											EST. 35% PYRITE.
-19	Y	25 X 50	8 C		1					1			EST. 15% PYRITE.
									TOTAL	1	14.8	6	
-20	Y	NO VISIBLE GOLD											EST. 20% PYRITE.

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

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
-21	Y	NO VISIBLE GOLD											EST. 15% PYRITE.
-22	Y	NO VISIBLE GOLD											EST. 40% PYRITE.
-23	Y	NO VISIBLE GOLD											EST. 45% PYRITE.
-24	Y	25 X 50	8 C		1					1			EST. 35%PYRITE.
								TOTAL		1	21.6	4	
28-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	150 X 150	29 C	1						1			
								TOTAL		1	17.0	290	
-06	N	NO VISIBLE GOLD											
-07	N	100 X 275	36 C	1						1			
								TOTAL		1	26.5	357	
-08	N	200 X 275	44 C	1						1			
								TOTAL		1	34.5	542	
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	75 X 125	20 C	1						1			
								TOTAL		1	26.8	56	
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											

LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
				NUMBER OF GRAINS									
-16	N	NO VISIBLE GOLD											
-17	N	NO VISIBLE GOLD											
-18	N	125 X 125	25 C	1						1			
									TOTAL	1	31.5	92	
-19	N	NO VISIBLE GOLD											
-20	N	NO VISIBLE GOLD											
-21	N	NO VISIBLE GOLD											
-22	N	NO VISIBLE GOLD											
-23	N	NO VISIBLE GOLD											
-24	N	NO VISIBLE GOLD											
-25	N	NO VISIBLE GOLD											
-26	N	NO VISIBLE GOLD											
-27	N	NO VISIBLE GOLD											
-28	N	NO VISIBLE GOLD											
-29	N	NO VISIBLE GOLD											
-30	N	NO VISIBLE GOLD											
-31	N	NO VISIBLE GOLD											
-32	N	150 X 275	40 C	1						1			
									TOTAL	1	29.6	459	
-33	N	NO VISIBLE GOLD											
-34	N	NO VISIBLE GOLD											

'LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABBRADED T	P	IRREGULAR T	P	DELICATE T	P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
CW-85													
28-35	Y	NO VISIBLE GOLD											EST. 45% PYRITE.
29-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	Y	NO VISIBLE GOLD											EST. 5% PYRITE.
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	N	NO VISIBLE GOLD											
-17	N	NO VISIBLE GOLD											
-18	N	NO VISIBLE GOLD											
-19	Y	50 X 50	10 C		1		1			2			EST. 5% PYRITE.
		75 X 100	18 C		1					1			
									TOTAL	3	23.7	59	
-20	N	NO VISIBLE GOLD											
-21	N	NO VISIBLE GOLD											

LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-22	N	NO VISIBLE GOLD											
-23	N	NO VISIBLE GOLD											
-24	N	NO VISIBLE GOLD											
30-01	N	150 X 625	66 C	1						1			
									TOTAL	1	25.5	2931	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	N	NO VISIBLE GOLD											
-17	N	NO VISIBLE GOLD											
-18	N	NO VISIBLE GOLD											
-19	N	NO VISIBLE GOLD											
-20	N	NO VISIBLE GOLD											

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

SAMPLE #	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
-21	N	NO VISIBLE GOLD											
-22	N	NO VISIBLE GOLD											
-23	N	NO VISIBLE GOLD											
31-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	N	NO VISIBLE GOLD											
-17	N	NO VISIBLE GOLD											
32-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	100 X 125	22 C	1						1			
									TOTAL	1	15.5	137	

LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-04	N	NO VISIBLE GOLD											
32A-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
33-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	200 X 300	46 C			1				1			
									TOTAL	1	25.3	857	
34-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
35-01	N	NO VISIBLE GOLD											
36-01	N	NO VISIBLE GOLD											
37-01	N	NO VISIBLE GOLD											

LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABBRADED T	P	IRREGULAR T	P	DELICATE T	P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
38-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
39-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
40-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
41-01	Y	NO VISIBLE GOLD											EST. 70% PYRITE.
43-01	N	NO VISIBLE GOLD											
-02	N	100 X 100	20 C	1						1			
									TOTAL	1	20.5	73	
44-02	Y	NO VISIBLE GOLD											EST. 5% PYRITE.
45-01	N	NO VISIBLE GOLD											

'LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
CW-85													
45-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	Y	NO VISIBLE GOLD											EST.10% PYRITE.
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
46-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	Y	NO VISIBLE GOLD											EST. 5% PYRITE.
-15	N	NO VISIBLE GOLD											
-16	N	NO VISIBLE GOLD											
-17	N	NO VISIBLE GOLD											

LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS: ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG SMS	CALC V.G. ASSAY PPB	REMARKS
46A-18	Y	NO VISIBLE GOLD											EST. 10% PYRITE.
-19	N	NO VISIBLE GOLD											
-20	Y	NO VISIBLE GOLD											EST. 5% PYRITE.
-21	N	NO VISIBLE GOLD											
-22	N	NO VISIBLE GOLD											
-23	Y	NO VISIBLE GOLD											EST. 5% PYRITE.
-24	N	NO VISIBLE GOLD											
-25	N	75 X 75	15 C	1						1			
									TOTAL	1	40.3	16	
47-01	N	100 X 100	20 C			1				1			
									TOTAL	1	24.1	62	
-02	N	450 X 500	77 C	1						1			
									TOTAL	1	26.0	5024	
48-01	N	NO VISIBLE GOLD											
49-01	N	NO VISIBLE GOLD											
-02	Y	125 X 350	44 C	1						1			EST. 10% PYRITE.
		150 X 375	48 C	1						1			
		200 X 375	52 C	1						1			
									TOTAL	3	22.6	3360	
50-01	N	NO VISIBLE GOLD											
51-01	N	NO VISIBLE GOLD											
52-01	N	NO VISIBLE GOLD											
-02	Y	NO VISIBLE GOLD											EST. 15% PYRITE.
53-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											

LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
54-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	Y	50 X 75	13 C		1					1			EST. 15% PYRITE.
		100 X 125	22 C		1					1			
		100 X 250	34 C	1						1			
		300 X 450	200 M	1						1			
									TOTAL	4	41.5	5329	
55-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
56-01	N	NO VISIBLE GOLD											
-02	Y	25 X 50	8 C		1					1			NO SULPHIDES.
		50 X 50	10 C	1						1			
		50 X 100	15 C	1						1			
									TOTAL	3	33.2	28	
-03	Y	NO VISIBLE GOLD											EST. 10% PYRITE.
57-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
58-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	Y	50 X 70	12 C		1					1			EST. 15% PYRITE.
									TOTAL	1	62.1	5	
-07	Y	NO VISIBLE GOLD											EST. 10% PYRITE.

- DLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
59-01	N	150 X 200	34 C	1						1			
									TOTAL	1	33.1	234	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	Y	NO VISIBLE GOLD											EST. 10% PYRITE.
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
44-01	N	NO VISIBLE GOLD											
60-01	N	NO VISIBLE GOLD											
61-01	N	NO VISIBLE GOLD											
62-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
63-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
64-01	N	NO VISIBLE GOLD											
66-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
67-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											

LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-04	N	NO VISIBLE GOLD											
70-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	Y	75 X 100	18 C	1						1			EST. 5% PYRITE.
		150 X 200	34 C			1				1			
									TOTAL	2	34.3	255	
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	100 X 150	25 C	1						1			
									TOTAL	1	39.1	74	
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	N	NO VISIBLE GOLD											
-17	Y	NO VISIBLE GOLD											EST. 15% PYRITE.
71-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	125 X 175	29 C	1						1			
									TOTAL	1	24.7	200	
-10	N	175 X 250	40 C	1						1			
									TOTAL	1	28.9	470	
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
72-01	N	50 X 100	15 C	1						1			
									TOTAL	1	19.6	33	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	100 X 150	25 C	1						1			
									TOTAL	1	33.8	86	
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
CW-85													
72-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
73-01	N	NO VISIBLE GOLD											
74-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
75-01	N	NO VISIBLE GOLD											
-02	N	100 X 150	25 C	1						1			
									TOTAL	1	11.5	252	
-03	Y	NO VISIBLE GOLD											EST. 35% PYRITE
-04	Y	NO VISIBLE GOLD											EST. 30% PYRITE
-05	Y	NO VISIBLE GOLD											EST. 30% PYRITE
-06	N	150 X 150	29 C	1						1			
									TOTAL	1	58.1	85	
76-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
77-01	N	NO VISIBLE GOLD											
-02	N	75 X 125	20 C	1						1			
									TOTAL	1	21.6	69	
78-01	N	NO VISIBLE GOLD											
79-01	N	NO VISIBLE GOLD											
80-01	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
81-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	200 X 300	46 C	1						1			
									TOTAL	1	27.3	794	
-07	N	NO VISIBLE GOLD											
-08	Y	NO VISIBLE GOLD											EST. 40% PYRITE
82-01	N	50 X 75	13 C	1						1			
									TOTAL	1	17.1	22	
83-01	N	50 X 50	10 C	1						1			
									TOTAL	1	10.6	18	
85-01	Y	25 X 50	8 C		2					2			EST. 1% PYRITE
		50 X 50	10 C	1						1			
		100 X 100	20 C	1						1			
		150 X 200	34 C	1						1			
									TOTAL	5	22.7	423	
86-01	Y	50 X 75	13 C		2					2			EST. 1% PYRITE
		50 X 100	15 C	1						1			
		75 X 100	18 C	1						1			
									TOTAL	4	20.9	115	
87-01	N	NO VISIBLE GOLD											
88-01	Y	75 X 100	18 C	1						1			EST. 0.5% PYRITE
		100 X 125	22 C	1						1			
									TOTAL	2	20.9	150	
-02	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABBRADED T	P	IRREGULAR T	P	DELICATE T	P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-03	Y	50 X 100	15 C	1						1			EST. 5% PYRITE
		75 X 175	25 C	1						1			
		175 X 375	50 C	1						1			
									TOTAL	3	30.2	1060	
89-01	N	NO VISIBLE GOLD											
-02	N	100 X 225	31 C			1				1			
									TOTAL	1	11.9	524	
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	100 X 175	27 C	1						1			
									TOTAL	1	12.3	311	
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	325 X 550	73 C	1						1			
									TOTAL	1	25.2	4143	
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
46A-26	N	NO VISIBLE GOLD											
68-01	N	NO VISIBLE GOLD											
-02	N	125 X 175	29 C	1						1			

LD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
									TOTAL	1	18.4	268	
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	100 X 150	25 C			1				1			
									TOTAL	1	29.1	99	
90-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
91-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	Y	NO VISIBLE GOLD											EST. 25% PYRITE
92-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-03	N	NO VISIBLE GOLD											
93-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	Y	25 X 50	8 C		1					1			EST. 30% PYRITE
		75 X 75	15 C		1					1			
		75 X 100	18 C		1					1			
									TOTAL	3	54.4	32	
-11	N	100 X 150	25 C	1						1			
									TOTAL	1	47.9	60	
-12	N	75 X 200	27 C	1						1			
									TOTAL	1	48.8	78	
94-01													
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
95-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

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
-03	N	NO VISIBLE GOLD											
96-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	100 X 150	25 C	1						1			
									TOTAL	1	55.0	53	
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
97-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
98-01	N	NO VISIBLE GOLD											
-02	N	100 X 150	25 C	1						1			
									TOTAL	1	31.0	93	
-03	N	NO VISIBLE GOLD											
99-01	N	NO VISIBLE GOLD											
101-01	N	NO VISIBLE GOLD											
-02	N	50 X 100	15 C	1						1			
									TOTAL	1	25.3	25	
-03	N	100 X 150	25 C	1						1			
									TOTAL	1	24.1	120	
-04	N	NO VISIBLE GOLD											
-05	N	250 X 500	65 C	1						1			
									TOTAL	1	26.4	2584	

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-06	Y	200 X 325	48 C	1						1			EST. 5% PYRITE
		425 X 450	73 C	1						1			
									TOTAL	2	30.1	4297	
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
103-01	N	100 X 100	20 C	1						1			
									TOTAL	1	28.4	53	
-02	N	125 X 200	31 C	1						1			
									TOTAL	1	23.7	263	
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	Y	NO VISIBLE GOLD											EST. 35% PYRITE
105-01	N	350 X 375	63 C			1				1			
									TOTAL	1	17.4	3567	
106-01	N	150 X 150	29 C	1						1			NO SULPHIDES
		200 X 200	38 C	1						1			
									TOTAL	2	16.5	990	
107-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
108-01	N	NO VISIBLE GOLD											
)-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABBRADED T	P	IRREGULAR T	P	DELICATE T	P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	Y	100 X 125	22 C	1						1			EST. 40% PYRITE
									TOTAL	1	27.3	78	

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
CW-85													
111-01	N	NO VISIBLE GOLD											
112-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	Y	550 X 550	85 C	1						1			EST.60% PYRITE
									TOTAL	1	14.5	13339	
113-01	N	200 X 250	42 C	1						1			
									TOTAL	1	13.6	1176	
-02	N	100 X 100	20 C	1						1			
									TOTAL	1	10.4	144	
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
114-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
115-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	250 X 300	50 C	1						1			
									TOTAL	1	16.1	1763	
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
116-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	Y	25 X 75	10 C		1					1			EST. 10% PYRITE
									TOTAL	1	17.0	11	
117-01	N	150 X 200	34 C	1						1			
									TOTAL	1	19.3	401	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	125 X 125	25 C	1						1			
									TOTAL	1	19.8	146	
-05	N	125 X 150	27 C			1				1			

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
									TOTAL	1	24.3	156	
-06	N	NO VISIBLE GOLD											
-07	Y	25 X 25	5 C		1					1			EST. 15% PYRITE
									TOTAL	1	62.5	0.4	
118-01	N	75 X 150	22 C	1						1			
									TOTAL	1	16.5	113	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	175 X 250	40 C	1						1			
									TOTAL	1	29.0	468	
-05	Y	75 X 75	15 C		1					1			EST. 10% PYRITE
		150 X 200	34 C	1						1			
									TOTAL	2	42.1	199	
119-01	Y	NO VISIBLE GOLD											EST. 10% PYRITE
120-01	N	NO VISIBLE GOLD											
121-01	N	NO VISIBLE GOLD											
122-01	N	100 X 300	38 C			1				1			
									TOTAL	1	25.9	440	
123-01	N	NO VISIBLE GOLD											
124-01	N	NO VISIBLE GOLD											
125-01	N	NO VISIBLE GOLD											
126-01	N	NO VISIBLE GOLD											
127-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-03	N	NO VISIBLE GOLD											
-04	Y	NO VISIBLE GOLD											EST. 30% PYRITE
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
128-01	N	NO VISIBLE GOLD											
129-01	N	75 X 150	22 C	1						1			
								TOTAL		1	21.7	95	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
130-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
131-01	N	NO VISIBLE GOLD											
132-01	N	150 X 200	34 C	1						1			
								TOTAL		1	27.6	280	
-02	N	NO VISIBLE GOLD											
133-01	N	NO VISIBLE GOLD											
-02	N	100 X 125	22 C	1						1			
								TOTAL		1	23.5	74	
134-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
				NUMBER OF GRAINS									
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
135-01	N	50 X 50	10 C	1						1			
									TOTAL	1	23.8	8	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
136-01	N	50 X 75	13 C	1						1			
									TOTAL	1	31.7	12	
-02	N	NO VISIBLE GOLD											
138-01	N	NO VISIBLE GOLD											
-02	Y	75 X 100	18 C	1						1			EST. 5% PYRITE
		75 X 150	22 C	1						1			
									TOTAL	2	27.5	114	
-03	N	100 X 100	20 C	1						1			
									TOTAL	1	30.4	49	
-04	N	100 X 100	20 C	1						1			
									TOTAL	1	26.0	58	
-05	Y	750 X 850	104 C	1						1			EST. 20% PYRITE
									TOTAL	1	13.3	37534	
139-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	150 X 250	38 C	1						1			
									TOTAL	1	46.0	248	
-05	N	NO VISIBLE GOLD											

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

SAMPLE #	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
				NUMBER OF GRAINS									
-06	N	NO VISIBLE GOLD											
-07	Y	50 X 50	10 C	1						1			EST.1% PYRITE
		50 X 100	15 C	1						1			
									TOTAL	2	33.2	25	
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
140-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	100 X 150	25 C	1						1			
									TOTAL	1	34.8	83	
141-01	N	NO VISIBLE GOLD											
-02	N	50 X 100	15 C	1						1			
									TOTAL	1	21.9	29	
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
				NUMBER OF GRAINS									
-09	N	300 X 1050	96 C	1						1			
									TOTAL	1	30.4	10812	
-10	N	NO VISIBLE GOLD											
-11	Y	NO VISIBLE GOLD											EST. 40% PYRITE
142-01	N	100 X 100	20 C	1						1			
									TOTAL	1	22.6	66	
142-02	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
CW-85													
142-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	150 X 150	29 C	1						1			
									TOTAL	1	22.6	218	
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	100 X 100	20 C	1						1			
									TOTAL	1	31.8	47	
-09	N	100 X 150	25 C	1						1			
									TOTAL	1	19.6	148	
-10	Y	75 X 150	22 C	1						1			EST. 5% PYRITE
		100 X 175	27 C	1						1			
		250 X 250	46 C	1						1			
									TOTAL	3	21.3	1297	
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	Y	NO VISIBLE GOLD											EST. 10% PYRITE
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	N	NO VISIBLE GOLD											
143-01	Y	25 X 25	5 C		1					1			EST. 1% PYRITE
		50 X 50	10 C	1						1			
		100 X 125	22 C	1						1			
		125 X 125	25 C	1						1			
									TOTAL	4	24.4	214	
-02	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-03	N	50 X 50	10 C	1						1			
									TOTAL	1	22.8	8	
-04	N	75 X 150	22 C	1						1			
									TOTAL	1	28.7	74	
-05	N	NO VISIBLE GOLD											
-06	Y	150 X 150	29 C			1				1			EST 10% PYRITE
									TOTAL	1	25.1	197	
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	Y	NO VISIBLE GOLD											EST. 15% PYRITE
-10	Y	NO VISIBLE GOLD											EST. 20% PYRITE
-11	Y	NO VISIBLE GOLD											EST. 25% PYRITE
144-01	N	NO VISIBLE GOLD											
145-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	Y	NO VISIBLE GOLD											EST. 10% PYRITE
146-01	N	NO VISIBLE GOLD											
147-01	N	NO VISIBLE GOLD											
148-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	Y	NO VISIBLE GOLD											EST. 10% PYRITE
150-01	N	NO VISIBLE GOLD											
151-01	N	NO VISIBLE GOLD											
152-01	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABBRADED T	P	IRREGULAR T	P	DELICATE T	P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-02	N	NO VISIBLE GOLD											
153-01	N	NO VISIBLE GOLD											
153-02	N	NO VISIBLE GOLD											

D CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
				NUMBER OF GRAINS									
CW-85													
154-01	N	NO VISIBLE GOLD											
154a-02	N	NO VISIBLE GOLD											
156-01	N	NO VISIBLE GOLD											
02	N	NO VISIBLE GOLD											
03	N	NO VISIBLE GOLD											
04	N	NO VISIBLE GOLD											
05	N	NO VISIBLE GOLD											
7-01	N	75 X 150	22 C	1						1			
									TOTAL	1	26.1	81	
158-01	Y	50 X 100	15 C	1						1			
		100 X 100	20 C	1						1			EST 15% PYRITE
									TOTAL	2	33.2	64	
159-01	N	NO VISIBLE GOLD											
160-01	N	NO VISIBLE GOLD											
161-01	N	100 X 175	27 C	1						1			
									TOTAL	1	38.6	99	

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

NUMBER OF GRAINS

SAMPLE #	PANNED			ABRADED		IRREGULAR		DELICATE			NON MAG	CALC V.G. ASSAY	
	Y/N	DIAMETER	THICKNESS	T	P	T	P	T	P	TOTAL	GMS	PPB	REMARKS
161-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	200 X 350	50 C			1				1			
									TOTAL	1	33.1	860	
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
162-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
163-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
				NUMBER OF GRAINS									
164-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
165-01	N	100 X 175	27 C	1						1			
									TOTAL	1	34.0	113	
-02	N	NO VISIBLE GOLD											
166-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	75 X 75	15 C	1						1			
									TOTAL	1	24.3	26	
-10	Y	50 X 50	10 C	1						1			EST: 03% PYRITE
		75 X 100	18 C	1						1			
									TOTAL	2	18.9	64	
-11	N	NO VISIBLE GOLD											
167-01	N	50 X 50	10 C	1						1			
									TOTAL	1	13.0	15	
168-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

NUMBER OF GRAINS

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-03	N	100 X 150	25 C	1						1			
									TOTAL	1	39.7	73	
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	Y	NO VISIBLE GOLD											EST: 60% PYRITE
-10	Y	NO VISIBLE GOLD											EST: 25% PYRITE
-11	Y	NO VISIBLE GOLD											EST: 35% PYRITE
169-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
170-01	Y	150 X 175	31 C	1						1			EST: 20% PYRITE
									TOTAL	1	61.0	102	
-02	N	50 X 50	10 C		1					1			EST: 40% PYRITE
									TOTAL	1	47.5	4	
-03	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

NUMBER OF GRAINS

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-04	Y	225 X 350	52 C				1			1			EST: 30% PYRITE
									TOTAL	1	52.9	611	
171-01	Y	50 X 75	13 C		1					1			EST: 50% PYRITE
									TOTAL	1	72.8	5	
-02	Y	50 X 75	13 C		1					1			EST: 50% PYRITE
		50 X 150	20 C		1					1			
		100 X 175	27 C	1						1			
									TOTAL	3	55.5	34	
-03	Y	NO VISIBLE GOLD											EST: 40% PYRITE

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

NUMBER OF GRAINS

SAMPLE #	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
CW-65													
171-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
172-01	Y	50 X 75	13 C		1					1			EST: 20% PYRITE
		75 X 75	15 C		1					1			
									TOTAL	2	23.1	44	
-02	N	NO VISIBLE GOLD											
-03	Y	50 X 50	10 C		1					1			
		75 X 125	20 C		1					1			EST: 25% PYRITE
		100 X 200	29 C	1						1			
		125 X 200	31 C		1					1			
									TOTAL	4	45.0	286	
173-01	Y	25 X 75	10 C		1					1			EST: 30% PYRITE
		75 X 150	22 C		1					1			0.1% CHALCOPYRITE
									TOTAL	2	43.0	54	
174-01	Y	150 X 200	34 C	1						1			
									TOTAL	1	24.9	311	
175-01	N	NO VISIBLE GOLD											
176-01	N	100 X 100	20 C	1						1			
									TOTAL	1	30.7	49	
-02	N	NO VISIBLE GOLD											
-03	Y	NO VISIBLE GOLD											EST: 10% PYRITE
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	75 X 150	22 C	1						1			
									TOTAL	1	22.6	74	
-16	N	NO VISIBLE GOLD											
-17	N	NO VISIBLE GOLD											
-18	Y	150 X 300	42 C	1						1			
									TOTAL	1	25.4	631	
-19	N	NO VISIBLE GOLD.											
-20	N	NO VISIBLE GOLD											
177-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	Y	25 X 50	6 C		1					1			EST: 10% PYRITE
									TOTAL	1	17.5	5	
178-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	Y	NO VISIBLE GOLD											EST: 40% PYRITE
180-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	Y	225 X 225	42 C	1						1			
									TOTAL	1	18.1	885	
-06	N	NO VISIBLE GOLD											
1-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	Y	300 X 300	54 C	1						1			
									TOTAL	1	16.1	2264	
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	Y	NO VISIBLE GOLD											EST: 20% PYRITE
-07	N	NO VISIBLE GOLD											
182-01	N	NO VISIBLE GOLD											
183-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
184-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING-TABLE AND PANNING

SAMPLE #	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
-05	N	NO VISIBLE GOLD											
187-01	N	NO VISIBLE GOLD											
190-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
191-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	Y	100 X 250	34 C	1						1			EST: 0.25% PYRITE
		250 X 300	50 C	1						1			
									TOTAL	2	17.4	2061	
192-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	150 X 250	38 C	1						1			EST: 10% PYRITE
									TOTAL	1	6.7	1701	
193-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
[illegible]4-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
195-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	FANNED Y/N	DIAMETER	THICKNESS	NUMBER OF GRAINS ABRADED T	ABRADED F	IRREGULAR T	IRREGULAR F	DELICATE T	DELICATE F	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	Y	350 X 400	65 C	1						1			
								TOTAL		1	20.3	3329	
196-01	N	NO VISIBLE GOLD											
197-01	N	NO VISIBLE GOLD											
-02	Y	300 X 350	58 C			1				1			
								TOTAL		1	19.0	2405	
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	Y	NO VISIBLE GOLD											EST: 50% PYRITE
198-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	NO VISIBLE GOLD											
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
199-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	Y	300 X 400	61 C	1						1			
									TOTAL	1	16.7	3370	
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABERADED T	ABERADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
CW-85													
199-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	100 X 200	29 C	1						1			
								TOTAL		1	29.2	169	
-12	Y	75 X 125	20 C		1					1			EST: 30% PYRITE
								TOTAL		1	29.3	50	
-13	Y	25 X 50	8 C		1					1			EST: 45% PYRITE
		50 X 50	10 C		1					1			
		50 X 75	13 C		1					1			
								TOTAL		3	40.1	16	
-14	N	NO VISIBLE GOLD											
-15	Y	25 X 50	8 C		1					1			EST: 40% PYRITE
		100 X 150	25 C		1					1			
		125 X 125	25 C		1					1			
								TOTAL		3	39.1	150	
-16	Y	NO VISIBLE GOLD											EST: 30% PYRITE
-17	Y	NO VISIBLE GOLD											EST: 30% PYRITE
-18	N	NO VISIBLE GOLD											
-19	N	NO VISIBLE GOLD											
-20	N	NO VISIBLE GOLD											
200-01	N	75 X 125	20 C	1						1			
								TOTAL		1	14.9	101	
-02	N	50 X 100	15 C	1						1			
								TOTAL		1	15.8	41	
-03	N	NO VISIBLE GOLD											
-04	Y	50 X 100	15 C					1		1			EST: 1% PYRITE

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
									TOTAL	1	28.4	23	
-05	N	50 X 75	13 C	1						1			
									TOTAL	1	20.4	18	
-06	N	NO VISIBLE GOLD											
-07	Y	50 X 50	10 C	1						1			EST: 1% PYRITE
		50 X 75	13 C	1						1			
		75 X 75	15 C		1					1			
									TOTAL	3	17.8	68	
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
201-01	N	50 X 125	18 C	1						1			
									TOTAL	1	20.8	49	
-02	N	100 X 100	20 C	1						1			
									TOTAL	1	25.6	59	
-03	N	NO VISIBLE GOLD											
-04	Y	100 X 100	20 C	1						1			EST: 5% PYRITE
		125 X 100	22 C	1						1			
									TOTAL	2	19.9	182	
-05	N	50 X 50	10 C	1						1			
									TOTAL	1	24.2	8	
-06	N	NO VISIBLE GOLD											
-07	Y	50 X 100	15 C					1		1			EST: 5% PYRITE
									TOTAL	1	25.7	25	
-08	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-09	N	50 X 125	18 C	1						1			
									TOTAL	1	25.5	40	
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
-12	N	50 X 100	15 C	1						1			
									TOTAL	1	17.8	36	
-13	N	NO VISIBLE GOLD											
-14	N	NO VISIBLE GOLD											
-15	N	NO VISIBLE GOLD											
-16	N	NO VISIBLE GOLD											
-17	Y	50 X 75	13 C		1					1			EST: 10% PYRITE
		50 X 100	15 C			1				1			
									TOTAL	2	43.3	23	
202-01	N	200 X 200	38 C			1				1			
									TOTAL	1	26.8	425	
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	Y	NO VIE::LE GOLD											EST: 50% PYRITE
3-01	N	NO VISIBLE GOLD											
204-01	N	NO VISIBLE GOLD											
205-01	N	200 X 400	54 C	1						1			
									TOTAL	1	22.6	1613	

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
-02	N	NO VISIBLE GOLD											
206-01	N	NO VISIBLE GOLD											
-02	N	100 X 150	25 C	1						1			
									TOTAL	1	10.7	270	
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	100 X 100	20 C	1						1			
									TOTAL	1	19.0	79	
207-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	Y	75 X 150	0 C	1						1			EST: 10% PYRITE
									TOTAL	1	14.1	151	
208-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABBRADED T	ABBRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
-07	N	NO VISIBLE GOLD											
209-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION

VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	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
CW-85													
209-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
210-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	50 X 100	15 C	1						1			
									TOTAL	1	29.6	22	
-06	N	NO VISIBLE GOLD											
-07	N	NO VISIBLE GOLD											
211-01	N	NO VISIBLE GOLD											
212-01	N	NO VISIBLE GOLD											
213-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
-05	N	NO VISIBLE GOLD											
-06	N	NO VISIBLE GOLD											
214-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

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
-05	Y	NO VISIBLE GOLD											EST. 10% PYRITE
215-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	Y	NO VISIBLE GOLD											EST. 5% PYRITE
216-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
217-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	NO VISIBLE GOLD											
218-01	N	NO VISIBLE GOLD											
-02	Y	25 X 25	5 C		1					1			EST. 3% PYRITE
		350 X 950	94 C			1				1			
									TOTAL	2	27.3	10941	
-03	Y	50 X 100	15 C		1					1			EST. 15% PYRITE
									TOTAL	1	29.8	22	
219-01	Y	NO VISIBLE GOLD											EST. 20% PYRITE
220-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
221-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
222-01	N	NO VISIBLE GOLD											

GOLD CLASSIFICATION
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VISIBLE GOLD FROM SHAKING TABLE AND PANNING

SAMPLE #	PANNED Y/N	DIAMETER	THICKNESS	ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	NUMBER OF GRAINS TOTAL	NON MAG GMS	CALC V.G. ASSAY PPB	REMARKS
223-01	N	NO VISIBLE GOLD											
-02	Y	NO VISIBLE GOLD											EST. 30% PYRITE
224-01	N	NO VISIBLE GOLD											
225-01	N	NO VISIBLE GOLD											
226-01	N	NO VISIBLE GOLD											
-02	N	100 X 150	25 C	1						1			
									TOTAL	1	24.5	118	
-03	N	NO VISIBLE GOLD											
227-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											
-03	N	NO VISIBLE GOLD											
-04	N	200 X 200	38 C	1						1			
									TOTAL	1	25.5	447	
-05	N	NO VISIBLE GOLD											
-06	Y	NO VISIBLE GOLD											EST. 15% PYRITE
-07	N	NO VISIBLE GOLD											
-08	N	NO VISIBLE GOLD											
-09	N	NO VISIBLE GOLD											
-10	N	NO VISIBLE GOLD											
-11	N	NO VISIBLE GOLD											
228-01	N	NO VISIBLE GOLD											
-02	N	NO VISIBLE GOLD											

APPENDIX D

BONDAR-CLEGG HEAVY MINERAL ANALYSES

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

BONDAR-CLEGG

Geochemical Lab Report

REPORT: 016-0196

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-01-01-3/4		114	37	0.3	113	330	
CW-85-01-02-3/4		97	26	0.2	608	55	
CW-85-02-02-3/4		101	27	<0.1	114	90	
CW-85-03-01-3/4		98	20	<0.1	11	95	
CW-85-03-02-3/4		34	22	<0.1	13	<10	9.00
CW-85-04-01-3/4		81	30	0.1	115	15	
CW-85-04-02-3/4		55	32	<0.1	204	28	
CW-85-05-02-3/4		130	37	0.2	228	80	
CW-85-05-03-3/4		105	40	0.1	124	550	
CW-85-05-04-3/4		107	56	0.2	90	10	
CW-85-05-05-3/4		144	40	<0.1	107	15	
CW-85-05-06-3/4		310	64	0.1	143	20	
CW-85-05-07-3/4		271	64	0.1	168	35	
CW-85-05-08-3/4		325	146	0.3	286	30	
CW-85-05-09-3/4		324	128	0.2	424	45	
CW-85-05-10-3/4		2980	90	1.1	134	40	
CW-85-06-01-3/4		28	17	<0.1	2	190	
CW-85-06-02-3/4		19	20	<0.1	2	25	7.50
CW-85-06-03-3/4		49	18	<0.1	4	30	
CW-85-06-04-3/4		23	21	<0.1	<2	130	
CW-85-06-05-3/4		82	20	0.1	35	30	
CW-85-06-06-3/4		115	28	0.2	65	15	
CW-85-06-07-3/4		91	40	0.1	75	20	
CW-85-06-09-3/4		102	56	<0.1	91	20	
CW-85-06-10-3/4		112	35	<0.1	57	180	
CW-85-06-11-3/4		91	26	0.1	77	30	
CW-85-06-12-3/4		65	21	<0.1	42	230	
CW-85-06-13-3/4		52	26	<0.1	39	35	
CW-85-06-14-3/4		76	25	<0.1	152	210	
CW-85-06-15-3/4		72	30	<0.1	91	35	
CW-85-06-17-3/4		92	40	1.0	129	25	
CW-85-06-18-3/4		218	88	0.7	268	70	
CW-85-06-19-3/4		212	72	0.1	224	70	
CW-85-06-20-3/4		776	70	0.4	832	70	
CW-85-06-21-3/4		475	76	0.3	724	310	
CW-85-06-22-3/4		681	48	0.2	270	50	
CW-85-06-23-3/4		147	40	<0.1	23	20	
CW-85-06-25-3/4		138	74	<0.1	40	20	
CW-85-07-01-3/4		70	23	<0.1	122	240	
CW-85-07-02-3/4		87	38	0.1	153	40	9.50

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

BONDAR-CLEGG

Geochemical Lab Report

REPORT: 015-0176

PROJECT: NONE PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-07-03-3/4		119	28	0.1	79	170	
CW-85-07-04-3/4		98	37	<0.1	74	90	
CW-85-07-05-3/4		92	37	<0.1	112	50	
CW-85-07-06-3/4		72	32	<0.1	101	15	
CW-85-07-07-3/4		82	60	0.1	94	50	
CW-85-07-08-3/4		73	26	<0.1	100	160	
CW-85-07-10-3/4		61	20	0.1	16	5	
CW-85-07-11-3/4		16	18	<0.1	2	110	
CW-85-07-12-3/4		15	18	<0.1	<2	65	
CW-85-07-13-3/4		17	21	<0.1	2	<5	
CW-85-07-14-3/4		102	74	<0.1	42	10	
CW-85-07-15-3/4		118	74	<0.1	36	10	
CW-85-08-01-3/4		87	43	0.1	115	15	
CW-85-08-02-3/4		68	32	<0.1	75	50	
CW-85-08-03-3/4		235	28	<0.1	81	90	
CW-85-08-04-3/4		104	40	<0.1	93	135	
CW-85-08-05-3/4		288	92	0.1	98	250	
CW-85-08-06-3/4		513	182	0.9	122	30	9.60
CW-85-08-07-3/4		589	164	0.4	544	50	4.90
CW-85-08-08-3/4		735	1650	0.6	165	55	6.40
CW-85-08-09-3/4		881	310	0.3	254	30	4.80
CW-85-08-10-3/4		787	380	0.4	206	55	4.90
CW-85-08-11-3/4		1345	240	0.7	162	95	4.70
CW-85-09-01-3/4		136	58	0.1	121	760	8.80

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

BONDAR-CLEGG

Geochemical Lab Report

REPORT: 016-0221

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-09-03-3/4		136	31	0.2	160	105	
CW-85-09-05-3/4		128	58	<0.1	101	15	
CW-85-09-06-3/4		141	37	<0.1	103	25	
CW-85-09-07-3/4		100	78	0.1	126	15	
CW-85-09-08-3/4		141	41	<0.1	103	1720	
CW-85-09-09-3/4		227	81	0.2	109	75	
CW-85-09-10-3/4		495	89	0.3	161	95	
CW-85-09-11-3/4		640	148	0.4	163	45	
CW-85-09-12-3/4		619	123	0.2	144	25	
CW-85-09-13-3/4		418	100	0.3	140	45	
CW-85-09-14-3/4		545	101	0.2	97	75	
CW-85-09-15-3/4		502	106	0.3	146	30	
CW-85-09-16-3/4		535	104	0.2	138	50	
CW-85-09-17-3/4		600	108	0.3	141	35	
CW-85-09-18-3/4		515	92	0.2	121	150	8.70
CW-85-09-19-3/4		409	91	0.3	97	480	9.90
CW-85-09-20-3/4		540	66	0.3	70	60	
CW-85-10-01-3/4		92	47	0.1	123	210	
CW-85-10-03-3/4		105	42	<0.1	137	4430	
CW-85-10-04-3/4		105	99	0.1	112	350	
CW-85-10-05-3/4		102	47	<0.1	115	50	
CW-85-10-06-3/4		92	35	0.2	66	30	
CW-85-11-01-3/4		21	14	<0.1	<2	<5	
CW-85-11-02-3/4		71	234	0.1	42	15	
CW-85-11-03-3/4		135	258	<0.1	82	15	
CW-85-11-04-3/4		109	386	0.2	145	290	
CW-85-11-05-3/4		93	40	0.1	66	10	
CW-85-11-06-3/4		128	49	<0.1	76	245	
CW-85-11-07-3/4		104	20	0.3	5	<5	
CW-85-11-08-3/4		195	36	<0.1	33	10	
CW-85-11-09-3/4		281	109	0.3	177	10	
CW-85-11-10-3/4		579	1162	1.3	127	30	
CW-85-11-11-3/4		518	490	0.8	75	20	
CW-85-12-02-3/4		115	39	<0.1	63	170	
CW-85-12-04-3/4		112	37	0.6	92	210	
CW-85-12-05-3/4		115	97	0.1	39	5	
CW-85-12-06-3/4		88	34	0.1	47	30	
CW-85-12-07-3/4		269	70	0.3	76	30	
CW-85-13-01-3/4		52	15	<0.1	5	<5	
CW-85-15-01-3/4		276	1688	0.8	3	<5	

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0221

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt g*
CW-85-16-01-3/4		56	60	<0.1	<2	<10	9.90
CW-85-18-01-3/4		232	555	0.1	11	80	1.50
CW-85-19-01-3/4		154	21	<0.1	<2	90	
CW-85-19-03-3/4		36	30	<0.1	<2	660	
CW-85-19-04-3/4		31	206	0.1	5	<5	
CW-85-19-05-3/4		29	42	<0.1	<2	<5	
CW-85-19-06-3/4		31	63	<0.1	4	<10	9.90
CW-85-19-07-3/4		45	97	<0.1	12	<10	9.00
CW-85-19-08-3/4		26	89	<0.1	<2	<5	
CW-85-19-09-3/4		25	25	<0.1	8	20	
CW-85-19-10-3/4		77	76	<0.1	4	10	
CW-85-19-11-3/4		11	94	<0.1	<2	<10	7.00
CW-85-19-12-3/4		24	375	<0.1	<2	<5	
CW-85-19-13-3/4		162	206	0.1	17	5	
CW-85-19-14-3/4		97	258	0.1	102	95	
CW-85-26-06-3/4		56	44	<0.1	11	<10	8.20
CW-85-26-07-3/4		84	45	0.1	12	<10	6.50
CW-85-26-08-3/4		79	76	<0.1	14	5	
CW-85-26-09-3/4		22	26	<0.1	9	<10	5.00
CW-85-26-10-3/4		16	18	<0.1	<2	<10	5.00
CW-85-26-11-3/4		22	33	<0.1	30	<5	
CW-85-26-12-3/4		14	15	<0.1	<2	<5	
CW-85-26-13-3/4		70	61	<0.1	<2	<5	
CW-85-27-01-3/4		122	26	<0.1	7	<5	
CW-85-27-02-3/4		29	21	<0.1	2	15	9.80
CW-85-27-03-3/4		30	15	<0.1	2	<5	

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 015-4011

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-20-01		152	50	0.4	46	470	
CW-85-20-02		100	130	0.4	29	70	
CW-85-20-03		133	105	0.6	<2	140	
CW-85-20-04		119	124	0.7	16	90	
CW-85-20-05		93	110	0.8	17	580	9.00
CW-85-20-06		91	120	0.7	7	75	
CW-85-21-01		28	19	0.1	33	1120	9.00
CW-85-21-02		24	37	0.2	2	310	
CW-85-21-03		83	40	0.3	2	50	
CW-85-21-04		135	70	0.2	2	10	
CW-85-21-05		197	105	0.4	3	15	
CW-85-21-06		130	42	0.3	5	150	
CW-85-21-07		170	80	0.7	<2	15	6.00
CW-85-22-01		19	15	0.2	2	<5	9.00
CW-85-22-02		23	14	0.4	<2	5	
CW-85-22-03		28	15	0.1	<2	1170	
CW-85-22-04		22	70	0.4	2	535	9.50
CW-85-22-05		19	20	0.1	<2	35	
CW-85-22-06		26	80	0.2	<2	310	9.50
CW-85-22-07		84	80	0.3	<2	180	9.00
CW-85-23-01		96	26	0.4	<2	10	9.50
CW-85-24-01		189	60	0.2	<2	60	
CW-85-24-02		136	48	0.6	2	335	
CW-85-24-03		119	50	0.6	2	60	
CW-85-24-04		111	145	0.3	<2	15	
CW-85-24-05		110	84	0.2	2	5	
CW-85-24-06		107	75	0.2	<2	85	
CW-85-24-07		137	80	0.3	2	10	
CW-85-24-08		100	58	0.2	<2	205	
CW-85-24-09		75	54	0.3	<2	15	
CW-85-24-10		73	54	0.3	5	15	9.00
CW-85-24-11		121	1700	0.2	<2	20	
CW-85-24-12		99	90	0.2	2	15	
CW-85-24-13		113	100	0.3	3	35	
CW-85-24-14		116	59	0.3	112	565	
CW-85-24-15		267	450	1.3	298	70	
CW-85-25-01		249	76	0.8	129	345	
CW-85-26-01		43	45	0.2	6	100	7.50
CW-85-26-02		45	35	0.1	3	100	9.50
CW-85-26-03		26	44	0.1	<2	100	

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 015-4011

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-26-04		32	95	0.3	5	45	
CW-85-26-05		56	120	0.4	11	5	8.00

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0243

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-27-04		90	42	0.2	25	<10	9.00
CW-85-27-05		120	27	0.3	47	40	
CW-85-27-06		74	56	0.1	108	5	
CW-85-27-07		112	45	0.3	238	15	
CW-85-27-08		120	120	0.3	173	10	
CW-85-27-09		185	80	0.2	145	15	
CW-85-27-10		250	110	0.4	236	15	
CW-85-27-11		90	44	0.2	130	5	
CW-85-27-12		150	55	0.4	133	3920	
CW-85-27-13		120	40	0.4	112	15	
CW-85-27-14		100	45	0.2	62	10	
CW-85-27-15		98	50	0.2	58	10	
CW-85-27-16		130	55	0.3	122	15	
CW-85-27-17		144	45	0.3	189	15	
CW-85-27-18		400	270	0.4	334	75	
CW-85-27-19		520	235	0.9	456	1600	
CW-85-27-20		400	250	0.7	480	60	
CW-85-27-21		450	275	0.6	356	85	7.00
CW-85-27-22		400	470	0.5	310	60	
CW-85-27-23		430	500	0.6	378	340	
CW-85-27-24		830	510	1.2	472	175	
CW-85-28-01		42	32	0.1	5	40	
CW-85-28-02		46	33	0.1	8	10	8.50
CW-85-28-03		70	55	0.2	37	25	2.60
CW-85-28-04		125	60	0.1	97	55	
CW-85-28-05		28	32	0.1	4	40	
CW-85-28-06		125	57	0.3	81	55	
CW-85-28-09		120	68	0.7	83	10	
CW-85-28-10		110	88	0.1	53	45	
CW-85-28-11		150	54	0.3	51	35	
CW-85-28-12		124	50	0.1	57	190	
CW-85-28-13		83	28	0.1	38	45	
CW-85-28-14		190	36	0.2	71	2155	
CW-85-28-15		110	40	0.1	39	30	
CW-85-28-16		128	78	0.2	121	50	
CW-85-28-17		98	24	0.2	75	25	
CW-85-28-18		108	75	0.1	83	40	
CW-85-28-19		78	20	0.2	169	40	
CW-85-28-20		76	22	0.1	76	85	
CW-85-28-21		88	20	0.2	103	245	

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0248

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-28-22		156	25	0.2	102	15	
CW-85-28-23		89	26	0.2	100	35	
CW-85-28-24		80	20	0.4	62	95	
CW-85-28-25		97	30	0.3	118	230	
CW-85-28-26		94	22	0.3	54	35	
CW-85-28-27		170	40	0.1	128	75	
CW-85-28-28		75	32	0.2	142	50	
CW-85-28-29		128	28	0.2	103	185	
CW-85-28-30		56	28	0.2	82	15	
CW-85-28-31		70	36	0.2	91	75	
CW-85-28-33		200	75	0.1	77	25	
CW-85-28-34		270	110	0.2	100	25	
CW-85-28-35		300	177	0.4	232	35	
CW-85-29-01		34	18	0.1	13	140	
CW-85-29-02		55	24	0.2	80	15	
CW-85-29-03		87	30	0.1	146	35	
CW-85-29-04		116	36	0.1	89	10	
CW-85-29-05		92	44	0.2	65	<5	
CW-85-29-06		93	36	0.1	66	250	
CW-85-29-07		155	36	0.2	66	60	
CW-85-29-08		136	34	0.2	71	60	
CW-85-29-09		80	40	0.1	48	10	9.00
CW-85-29-10		68	28	0.7	70	540	9.00
CW-85-29-11		155	30	0.3	26	505	
CW-85-29-12		95	40	0.6	37	15	
CW-85-29-13		152	34	0.3	46	10	
CW-85-29-14		90	35	0.3	52	65	
CW-85-29-15		110	43	0.2	54	20	
CW-85-29-16		134	58	0.5	57	20	
CW-85-29-17		110	38	0.2	47	70	
CW-85-29-18		120	40	2.0	70	20	
CW-85-29-19		198	47	0.5	95	45	
CW-85-29-20		140	38	0.3	51	410	
CW-85-29-21		130	47	0.3	85	90	
CW-85-29-22		140	50	0.4	80	20	
CW-85-29-23		125	40	0.2	92	20	
CW-85-29-24		145	44	0.2	119	585	
CW-85-30-02		30	20	<0.1	2	5	
CW-85-30-03		42	36	<0.1	9	10	
CW-85-30-04		165	24	<0.1	4	15	

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-30-05		42	22	<0.1	13	40	
CW-85-30-06		138	54	<0.1	67	45	
CW-85-30-07		129	46	0.3	66	60	
CW-85-30-08		130	68	0.2	177	475	
CW-85-30-09		173	56	0.2	75	115	
CW-85-30-10		98	70	<0.1	79	50	
CW-85-30-11		76	39	<0.1	57	10	
CW-85-30-12		97	40	0.1	80	20	
CW-85-30-13		105	38	0.2	102	1030	
CW-85-30-14		160	90	0.5	270	30	5.00
CW-85-30-15		127	33	0.3	80	10	
CW-85-30-16		94	32	0.2	60	60	
CW-85-30-17		85	35	<0.1	67	15	
CW-85-30-18		110	32	<0.1	145	25	
CW-85-30-19		112	28	0.2	152	25	
CW-85-30-20		140	30	0.2	240	60	
CW-85-30-21		118	24	0.2	252	30	
CW-85-30-22		110	36	<0.1	246	25	
CW-85-30-23		120	30	<0.1	179	95	
CW-85-31-01		22	20	<0.1	3	205	3.50
CW-85-31-02		28	44	<0.1	2	<5	
CW-85-31-03		22	14	<0.1	<2	5	
CW-85-31-04		42	15	<0.1	13	50	
CW-85-31-05		108	42	<0.1	59	10	
CW-85-31-06		114	40	<0.1	113	110	
CW-85-31-07		122	40	<0.1	123	20	
CW-85-31-08		95	29	<0.1	13	20	
CW-85-31-09		130	46	0.3	71	20	
CW-85-31-10		130	37	0.3	74	15	
CW-85-31-11		98	40	<0.1	54	10	
CW-85-31-12		145	40	0.7	72	25	
CW-85-31-13		85	38	0.2	69	30	
CW-85-31-14		56	26	0.2	19	<10	5.70
CW-85-31-15		128	26	0.2	36	5	
CW-85-31-16		118	58	0.4	104	15	
CW-85-31-17		185	50	0.4	73	210	8.10

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0315

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85 32-01 3/4		105	36	0.3	55	30	
CW-85 32-02 3/4		65	76	0.1	32	320	
CW-85 32-03 3/4		26	20	<0.1	6	515	9.50
CW-85 32-04 3/4		29	20	<0.1	3	30	
CW-85 32A-01 3/4		80	26	<0.1	48	10	
CW-85 32A-02 3/4		32	14	<0.1	26	10	
CW-85 32A-03 3/4		24	20	<0.1	13	40	7.50
CW-85 32A-04 3/4		25	23	<0.1	<2	<15	4.50
CW-85 33-01 3/4		38	13	<0.1	<2	15	
CW-85 33-02 3/4		12	10	<0.1	<2	10	
CW-85 33-03 3/4		28	17	<0.1	6	5	
CW-85 33-04 3/4		200	57	0.9	164	220	
CW-85 33-05 3/4		190	56	0.2	73	150	
CW-85 33-06 3/4		145	51	0.1	41	15	
CW-85 33-07 3/4		165	75	0.2	173	915	3.50
CW-85 33-08 3/4		105	46	<0.1	125	10	
CW-85 33-09 3/4		120	42	0.2	93	15	
CW-85 33-10 3/4		130	57	0.6	66	20	
CW-85 33-11 3/4		140	54	0.3	113	30	
CW-85 34-01 3/4		75	28	<0.1	9	25	2.00
CW-85 34-02 3/4		105	44	<0.1	66	10	8.50
CW-85 34-03 3/4		185	77	0.4	278	65	4.50
CW-85 35-01 3/4		70	18	0.2	59	<10	7.00
CW-85 36-01 3/4		2900	9470	2.5	496	230	
CW-85 37-01 3/4		88	108	0.3	280	110	
CW-85 38-01 3/4		105	200	0.2	35	155	4.50
CW-85 38-02 3/4		70	52	<0.1	150	45	6.50
CW-85 38-03 3/4		108	108	0.2	29	<15	4.00
CW-85 39-01 3/4		14	17	<0.1	<2	<5	
CW-85 39-02 3/4		24	26	<0.1	<2	5	
CW-85 40-01 3/4		12	14	<0.1	<2	35	3.00
CW-85 40-02 3/4		220	58	0.3	25	10	
CW-85 41-01 3/4		155	52	2.8	119	90	3.10
CW-85 43-01 3/4		170	87	0.4	131	15	
CW-85 43-02 3/4		200	120	0.5	149	470	
CW-85 44-02 3/4		180	37	0.2	55	30	
CW-85 45-01 3/4		16	14	<0.1	4	75	
CW-85 45-02 3/4		20	16	<0.1	<2	<10	8.30
CW-85 45-03 3/4		84	22	0.2	38	10	
CW-85 45-04 3/4		165	55	0.4	69	15	

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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PROJECT: NONE PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85 45-05 3/4		124	38	0.3	47	10	
CW-85 45-06 3/4		135	21	0.1	33	15	
CW-85 45-07 3/4		110	18	0.2	77	5	
CW-85 45-08 3/4		108	26	0.9	39	30	7.40
CW-85 46-01 3/4		16	34	<0.1	<2	5	
CW-85 46-02 3/4		26	21	<0.1	<2	15	6.60
CW-85 46-03 3/4		41	23	<0.1	<2	15	
CW-85 46-04 3/4		68	35	<0.1	68	5	
CW-85 46-05 3/4		70	31	<0.1	6	<5	
CW-85 46-06 3/4		76	28	<0.1	61	<5	
CW-85 46-07 3/4		65	26	<0.1	4	<10	9.50
CW-85 46-08 3/4		70	27	<0.1	141	30	
CW-85 46-09 3/4		42	34	<0.1	5	40	
CW-85 46-10 3/4		50	32	<0.1	11	85	9.20
CW-85 46-11 3/4		65	28	<0.1	5	5	
CW-85 46-12 3/4		80	28	<0.1	5	230	8.70
CW-85 46-13 3/4		88	38	<0.1	4	110	
CW-85 46-14 3/4		125	44	<0.1	42	10	
CW-85 46-15 3/4		145	54	<0.1	85	20	
CW-85 46-16 3/4		175	68	0.5	144	180	
CW-85 46-17 3/4		300	52	0.4	144	35	6.30
CW-85 46A-18		270	80	0.8	334	420	8.80
CW-85 46A-19		290	73	2.9	330	40	6.70
CW-85 46A-20		300	60	0.6	172	30	8.70
CW-85 46A-21		190	45	0.5	188	20	
CW-85 46A-22		210	56	0.4	159	30	9.00
CW-85 46A-23		340	110	0.3	133	15	
CW-85 46A-24		125	35	0.2	91	260	
CW-85 46A-25		65	26	0.3	57	15	
CW-85 47-01 3/4		15	14	<0.1	<2	5	

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 015-0331

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-44-01	3/4	79	26	0.2	30	35	
CW-85-48-01	3/4	16	16	0.1	<2	<5	
CW-85-49-01	3/4	121	38	0.2	53	135	
CW-85-50-01	3/4	32	34	0.1	14	<10	7.09
CW-85-51-01	3/4	70	45	<0.1	42	5	
CW-85-52-01	3/4	35	20	<0.1	5	110	
CW-85-52-02	3/4	147	84	0.5	109	100	6.00
CW-85-53-01	3/4	36	21	<0.1	14	<5	
CW-85-53-02	3/4	67	40	0.1	160	70	
CW-85-54-01	3/4	13	17	<0.1	2	<5	
CW-85-54-02	3/4	16	16	<0.1	<2	<5	
CW-85-55-01	3/4	37	18	<0.1	3	565	
CW-85-55-02	3/4	54	43	0.4	80	90	
CW-85-56-01	3/4	37	21	0.2	17	15	
CW-85-56-02	3/4	19	18	<0.1	<2	170	
CW-85-56-03	3/4	240	85	0.6	185	35	
CW-85-57-01	3/4	33	21	0.2	10	5	
CW-85-57-02	3/4	79	44	0.3	63	340	
CW-85-57-03	3/4	167	75	0.3	383	80	
CW-85-58-01	3/4	104	17	0.2	295	35	3.50
CW-85-58-02	3/4	95	34	0.3	69	5	
CW-85-58-03	3/4	62	28	0.2	374	60	
CW-85-58-04	3/4	101	39	0.2	45	15	
CW-85-58-05	3/4	55	29	0.1	19	15	
CW-85-58-06	3/4	69	32	0.2	15	5	
CW-85-58-07	3/4	113	28	0.2	30	10	
CW-85-59-02	3/4	84	45	0.2	19	190	
CW-85-59-03	3/4	108	40	0.3	63	30	
CW-85-59-04	3/4	125	30	0.3	34	20	
CW-85-59-05	3/4	213	56	0.3	43	20	
CW-85-59-06	3/4	238	36	0.4	27	5	
CW-85-59-07	3/4	122	40	0.3	27	10	
CW-85-59-08	3/4	96	29	0.2	32	5	
CW-85-60-01	3/4	25	15	<0.1	<2	690	
CW-85-61-01	3/4	14	15	0.1	<2	245	
CW-85-62-01	3/4	10	14	<0.1	<2	5	
CW-85-62-02	3/4	27	20	0.1	4	40	
CW-85-63-01	3/4	14	14	0.2	3	35	
CW-85-63-02	3/4	16	15	0.3	7	10	
CW-85-63-03	3/4	30	50	0.1	5	160	

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-63-04	3/4	47	19	0.2	2	25	
CW-85-64-01	3/4	17	18	<0.1	42	20	8.90
CW-85-66-01	3/4	11	18	<0.1	6	25	9.70
CW-85-66-02	3/4	303	34	1.7	304	80	5.50
CW-85-67-01	3/4	13	15	0.1	6	10	
CW-85-67-02	3/4	12	16	<0.1	2	20	
CW-85-67-03	3/4	47	26	0.1	5	5	
CW-85-67-04	3/4	31	24	<0.1	42	135	3.50
CW-85-70-01	3/4	112	22	0.2	39	10	
CW-85-70-02	3/4	103	26	0.1	30	<5	
CW-85-70-03	3/4	102	47	0.1	97	30	
CW-85-70-04	3/4	76	31	0.2	55	15	
CW-85-70-05	3/4	125	40	0.3	31	53	
CW-85-70-06	3/4	146	40	0.3	43	20	
CW-85-70-07	3/4	115	34	0.2	34	15	
CW-85-70-08	3/4	197	31	0.4	23	5	
CW-85-70-10	3/4	192	36	0.3	624	15	
CW-85-70-11	3/4	90	42	0.2	54	<5	
CW-85-70-12	3/4	92	30	0.3	43	10	
CW-85-70-13	3/4	97	35	0.2	25	10	
CW-85-70-14	3/4	95	47	0.3	22	5	
CW-85-70-15	3/4	135	34	0.2	28	10	
CW-85-70-16	3/4	153	29	0.1	27	20	
CW-85-70-17	3/4	103	34	0.3	74	5	
CW-85-71-01	3/4	96	34	<0.1	61	565	
CW-85-71-02	3/4	108	30	0.3	39	10	
CW-85-71-03	3/4	145	59	0.1	104	140	
CW-85-71-04	3/4	165	65	0.5	902	25	6.70

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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SAMPLE NUMBER	ELEMENT UNITS	Au PPB	TestWt gms
CW-85-54-03		210	6.18

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Geochemical Lab Report

REPORT: 016-0558

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-46A-26-3/4		84	23	0.2	129	465	
CW-85-68-01-3/4		9	14	<0.1	<2	60	
CW-85-68-02-3/4		10	12	<0.1	2	365	
CW-85-68-03-3/4		16	16	<0.1	2	230	
CW-85-68-04-3/4		22	20	<0.1	2	10	
CW-85-68-05-3/4		27	51	<0.1	7	45	9.00
CW-85-68-06-3/4		25	20	<0.1	3	400	
CW-85-71-05-3/4		144	65	0.6	138	20	
CW-85-71-06-3/4		220	145	0.6	182	165	
CW-85-71-07-3/4		275	90	0.7	138	130	
CW-85-71-08-3/4		168	72	0.6	128	50	
CW-85-71-09-3/4		160	73	0.4	121	75	
CW-85-71-11-3/4		160	35	0.3	41	35	
CW-85-71-12-3/4		142	35	0.5	53	80	
CW-85-72-01-3/4		38	20	<0.1	25	220	
CW-85-72-02-3/4		87	27	0.1	25	45	
CW-85-72-03-3/4		158	35	0.3	55	60	
CW-85-72-04-3/4		127	30	0.2	63	15	
CW-85-72-05-3/4		98	30	0.2	59	60	
CW-85-72-06-3/4		108	27	0.1	42	20	
CW-85-72-07-3/4		110	25	0.2	48	30	
CW-85-72-08-3/4		87	24	0.2	53	<5	
CW-85-72-09-3/4		92	24	0.1	40	10	
CW-85-72-10-3/4		100	30	<0.1	39	5	
CW-85-72-11-3/4		98	30	0.3	28	10	
CW-85-72-12-3/4		100	30	0.3	41	45	
CW-85-73-01-3/4		180	65	0.1	130	20	6.00
CW-85-74-01-3/4		70	20	<0.1	22	40	
CW-85-74-02-3/4		15	15	<0.1	2	5	
CW-85-75-01-3/4		26	13	<0.1	7	<5	
CW-85-75-02-3/4		70	17	<0.1	31	<10	6.00
CW-85-75-03-3/4		88	94	0.3	180	10	
CW-85-75-04-3/4		122	105	1.1	258	5	
CW-85-75-05-3/4		198	120	0.4	302	15	
CW-85-75-06-3/4		160	113	0.7	222	370	
CW-85-76-01-3/4		200	110	0.3	150	35	2.00
CW-85-76-02-3/4		78	35	0.6	58	15	
CW-85-77-01-3/4		225	186	0.5	260	35	8.00
CW-85-77-02-3/4		192	195	0.3	236	980	
CW-85-78-01-3/4		58	35	0.4	12	20	6.00

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-79-01-3/4		195	70	0.3	93	125	
CW-85-80-01-3/4		128	42	0.1	27	20	4.00
CW-85-81-01-3/4		60	20	0.1	5	55	
CW-85-81-02-3/4		19	12	0.2	<2	50	
CW-85-81-03-3/4		124	18	0.2	40	20	
CW-85-81-04-3/4		126	55	0.3	80	10	
CW-85-81-05-3/4		98	35	0.2	25	10	
CW-85-81-07-3/4		147	37	0.4	68	10	
CW-85-81-08-3/4		290	53	0.5	300	60	
CW-85-82-01-3/4		44	38	0.2	36	40	
CW-85-83-01-3/4		184	70	0.7	58	40	5.00
CW-85-86-01-3/4		26	20	0.1	11	160	
CW-85-87-01-3/4		41	35	0.1	38	20	4.00
CW-85-88-01-3/4		60	18	0.2	<2	190	
CW-85-88-02-3/4		64	14	0.1	5	<5	
CW-85-89-01-3/4		13	15	0.1	2	20	9.00
CW-85-89-03-H		28	25	0.1	2	<20	3.00
CW-85-89-04-H		40	40	<0.1	2	<50	1.00
CW-85-89-05-3/4		152	25	0.1	26	<10	8.00
CW-85-89-06-3/4		58	28	0.1	8	10	8.00
CW-85-89-07-3/4		73	35	0.2	202	1290	6.00
CW-85-89-08-3/4		64	35	0.2	12	195	8.00
CW-85-89-09-3/4		43	27	<0.1	6	35	3.00
CW-85-89-10-3/4		56	30	0.1	5	<10	8.00
CW-85-89-11-3/4		64	30	<0.1	9	<10	8.00
CW-85-89-12-3/4		64	33	<0.1	7	605	6.00
CW-85-89-14-3/4		33	20	<0.1	3	15	
CW-85-89-15-3/4		47	20	<0.1	<2	10	
CW-85-90-01-3/4		31	23	0.1	7	70	8.00
CW-85-90-02-3/4		24	20	0.1	4	15	9.00
CW-85-90-03-3/4		44	32	0.1	5	<25	2.00
CW-85-90-04-3/4		49	30	0.1	6	<15	4.00
CW-85-90-05-3/4		28	25	0.1	15	20	
CW-85-90-06-3/4		86	40	0.2	3	15	
CW-85-90-07-3/4		162	50	0.2	212	<10	7.00
CW-85-90-08-3/4		58	50	0.2	16	10	6.00
CW-85-90-09-3/4		166	40	0.2	20	50	9.00
CW-85-90-10-3/4		78	43	0.2	18	15	
CW-85-90-11-3/4		138	30	0.3	72	15	
CW-85-91-01-3/4		36	25	0.3	8	5	

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-91-02-3/4		16	23	<0.1	2	30	
CW-85-91-03-3/4		35	20	<0.1	14	200	
CW-85-91-04-3/4		100	72	0.1	102	20	
CW-85-91-05-3/4		184	62	0.5	150	80	
CW-85-92-01-3/4		11	15	0.2	5	20	
CW-85-92-02-3/4		76	27	0.1	30	10	
CW-85-92-03-3/4		140	45	0.4	47	165	
CW-85-93-01-3/4		40	27	0.2	7	5	
CW-85-93-02-3/4		32	30	0.2	12	20	8.00
CW-85-93-03-3/4		32	20	0.1	59	<5	
CW-85-93-04-3/4		23	17	0.1	2	80	
CW-85-93-05-3/4		45	20	0.1	19	50	
CW-85-93-06-3/4		34	15	0.1	3	10	
CW-85-93-07-3/4		50	18	0.1	9	310	
CW-85-93-08-3/4		43	15	0.2	5	560	
CW-85-93-09-3/4		104	45	0.3	200	50	
CW-85-93-10-3/4		220	58	0.6	456	225	
CW-85-93-11-3/4		104	40	0.4	236	190	
CW-85-94-01-3/4		56	10	0.1	2	190	
CW-85-94-02-3/4		19	16	0.2	5	40	
CW-85-94-03-3/4		90	28	0.3	13	230	
CW-85-94-04-3/4		160	40	0.4	22	<20	3.00
CW-85-94-05-H		290	53	0.8	29	260	2.00
CW-85-95-01-3/4		14	15	<0.1	9	10	
CW-85-95-02-3/4		18	18	<0.1	142	110	
CW-85-95-03-3/4		33	52	0.1	14	145	
CW-85-96-01-3/4		12	10	<0.1	7	30	
CW-85-96-02-3/4		10	15	<0.1	7	<5	
CW-85-96-03-3/4		16	16	<0.1	5	10	
CW-85-96-04-3/4		26	20	0.1	3	295	
CW-85-96-05-3/4		69	22	0.2	234	10	
CW-85-96-06-3/4		60	90	0.8	39	10	
CW-85-97-01-3/4		18	15	0.1	7	<5	
CW-85-97-02-3/4		15	15	<0.1	6	60	
CW-85-97-03-3/4		44	23	0.2	30	<5	
CW-85-98-01-3/4		136	70	0.3	100	15	
CW-85-98-02-3/4		144	58	0.3	104	10	
CW-85-98-03-3/4		140	95	0.4	120	25	
CW-85-99-01-3/4		14	14	0.1	5	75	
CW-85-101-01-3/4		33	13	0.1	13	10	

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-101-02-3/4		31	25	0.1	8	190	
CW-85-101-03-3/4		44	25	0.1	8	340	
CW-85-101-04-3/4		77	27	0.2	51	70	
CW-85-101-07-3/4		146	45	0.3	93	705	
CW-85-101-08-3/4		100	40	0.4	102	95	
CW-85-101-09-3/4		230	62	0.3	106	135	
CW-85-103-03-3/4		92	95	0.3	136	30	
CW-85-103-04-3/4		167	80	0.4	260	40	
CW-85-103-05-3/4		1450	100	0.7	294	75	
CW-85-107-01-3/4		24	20	0.2	8	100	
CW-85-107-02-3/4		100	30	0.2	10	<25	2.00
CW-85-108-01-3/4		192	45	0.2	21	<10	9.00
CW-85-110-01-3/4		85	25	0.1	80	<20	3.00
CW-85-110-02-3/4		40	20	0.1	38	<20	3.00
CW-85-110-03-3/4		36	20	0.1	6	50	
CW-85-110-04-3/4		56	22	0.2	6	105	9.00
CW-85-110-05-3/4		35	19	0.1	34	<10	6.00
CW-85-110-06-3/4		90	23	0.1	43	730	6.00
CW-85-110-07-3/4		69	45	0.1	128	35	6.00
CW-85-110-08-3/4		60	20	0.2	37	30	7.00
CW-85-110-09-3/4		184	82	39.0	304	>20000	8.00
CW-85-110-10-3/4		310	85	0.6	220	80	
CW-85-111-01-3/4		265	113	1.0	592	6050	
CW-85-112-01-3/4		27	27	1.0	21	15425	4.00
CW-85-112-02-3/4		164	68	0.6	354	155	3.00
CW-85-113-02-3/4		168	75	0.7	364	1300	5.00
CW-85-113-03-3/4		158	75	0.3	184	100	9.00
CW-85-113-04-3/4		345	50	0.7	110	370	7.00
CW-85-113-05-3/4		250	105	0.5	158	10	6.00
CW-85-114-01-3/4		142	28	0.2	14	123	
CW-85-114-02-3/4		174	20	0.2	13	<10	8.00
CW-85-114-03-3/4		110	25	0.3	19	45	
CW-85-114-04-3/4		80	25	0.1	13	170	
CW-85-115-01-3/4		45	16	0.2	7	175	
CW-85-115-02-3/4		48	20	0.1	11	<10	8.50
CW-85-115-04-3/4		28	18	0.1	7	3620	
CW-85-115-05-3/4		28	19	0.2	5	<20	3.00
CW-85-115-06-3/4		160	48	0.4	190	50	
CW-85-115-07-3/4		300	60	0.8	248	35	7.00
CW-85-116-01-3/4		31	17	0.1	4	75	

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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REPORT: 016-0558

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	Test[illegible] [illegible]
CW-85-116-02-3/4		30	16	0.1	5	75	
CW-85-116-03-3/4		38	17	0.1	7	15	
CW-85-116-04-3/4		52	20	0.3	19	<5	
CW-85-116-05-3/4		54	101	0.1	34	30	
CW-85-116-06-3/4		164	64	0.4	145	30	
CW-85-116-07-3/4		192	76	1.3	254	50	
CW-85-116-08-3/4		172	199	0.5	136	220	
CW-85-116-09-3/4		176	100	0.4	118	350	
CW-85-116-10-3/4		260	90	0.5	266	190	
CW-85-116-11-3/4		245	78	0.5	254	45	
CW-85-116-12-3/4		240	105	0.5	536	35	
CW-85-116-13-3/4		200	118	0.7	324	130	
CW-85-116-14-3/4		200	170	0.8	276	50	9.00
CW-85-116-15-3/4		164	62	0.7	314	35	9.00
CW-85-116-16-3/4		185	65	0.6	528	40	
CW-85-117-02-3/4		87	58	0.3	12	5	
CW-85-117-03-3/4		152	52	0.4	158	65	
CW-85-117-04-3/4		172	90	0.5	183	240	
CW-85-117-05-3/4		180	190	0.5	184	55	
CW-85-117-06-3/4		196	90	0.5	316	20	
CW-85-117-07-3/4		73	57	0.5	107	35	
CW-85-118-01-3/4		72	17	0.1	7	<5	
CW-85-118-02-3/4		129	23	0.1	6	95	7.50
CW-85-118-03-3/4		42	15	0.1	3	140	
CW-85-119-01-3/4		515	20	0.4	84	105	
CW-85-120-01-3/4		133	186	0.3	27	10	
CW-85-121-01-3/4		48	34	0.2	7	<5	
CW-85-123-01-3/4		100	112	0.3	74	20	
CW-85-124-01-3/4		27	17	0.2	4	<5	
CW-85-125-01-3/4		42	15	0.1	2	<5	
CW-85-126-01-3/4		27	17	0.1	5	265	7.00
CW-85-127-01-3/4		45	17	0.1	13	80	
CW-85-127-02-3/4		144	30	0.3	39	10	
CW-85-127-03-3/4		113	36	0.6	169	30	9.00
CW-85-127-04-3/4		260	47	0.7	91	75	
CW-85-127-05-3/4		117	37	0.3	97	35	

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
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Geochemical Lab Report

REPORT: 016-0600

PROJECT: NONE   PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-127-06-3/4		151	51	0.2	111	70	
CW-85-128-01-3/4		22	15	<0.1	2	20	
CW-85-129-01-3/4		87	27	0.1	25	30	
CW-85-129-02-3/4		312	56	0.2	78	20	
CW-85-129-03-3/4		307	84	0.2	68	85	
CW-85-130-01-3/4		37	18	0.1	29	25	
CW-85-130-02-3/4		24	15	<0.1	2	<5	
CW-85-130-03-3/4		91	37	0.2	90	25	
CW-85-130-04-3/4		334	132	0.2	139	55	
CW-85-131-01-3/4		224	82	0.3	118	15	
CW-85-132-02-3/4		145	34	0.3	6	250	5.00
CW-85-133-01-3/4		116	40	0.1	63	35	
CW-85-133-02-3/4		149	42	0.4	123	15	
CW-85-134-01-3/4		60	25	<0.1	25	60	
CW-85-134-02-3/4		94	33	0.1	47	215	
CW-85-134-03-3/4		106	44	0.2	76	35	
CW-85-134-04-3/4		128	58	0.2	141	35	
CW-85-134-05-3/4		124	89	0.2	110	40	
CW-85-134-06-3/4		321	62	0.1	118	70	
CW-85-135-01-3/4		86	33	0.1	82	160	
CW-85-135-02-3/4		87	33	0.2	85	15	
CW-85-135-03-3/4		299	33	0.6	40	245	9.00
CW-85-136-01-3/4		209	53	0.8	130	190	
CW-85-136-02-3/4		405	250	1.4	42	20	
CW-85-138-01-3/4		241	134	2.3	59	125	
CW-85-138-02-3/4		192	86	0.3	79	325	
CW-85-138-03-3/4		141	49	0.1	23	270	
CW-85-138-04-3/4		115	28	<0.1	9	15	
CW-85-139-01-3/4		199	142	0.5	86	20	
CW-85-139-02-3/4		203	92	0.4	55	25	
CW-85-139-03-3/4		137	74	0.4	110	25	
CW-85-139-05-3/4		85	37	<0.1	42	325	
CW-85-139-06-3/4		67	32	<0.1	42	170	
CW-85-139-07-3/4		70	29	<0.1	25	190	
CW-85-139-08-3/4		70	29	0.1	22	30	
CW-85-139-09-3/4		55	23	0.1	28	10	
CW-85-139-10-3/4		57	29	<0.1	43	10	
CW-85-139-11-3/4		183	59	0.5	276	45	
CW-85-139-12-3/4		146	46	0.6	258	55	
CW-85-139-13-3/4		129	39	0.5	232	95	

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Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 015-0600

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-140-01-3/4		37	25	0.1	18	10	
CW-85-140-02-3/4		61	19	3.2	44	10	
CW-85-140-04A-3/4		126	33	0.1	48	3815	8.50
CW-85-140-04B-3/4		86	26	0.2	47	15	
CW-85-141-01		139	61	0.3	130	65	

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Canada K1J 8X5
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Geochemical Lab Report

REPORT: 016-0724

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-141-02-3/4		110	46	0.1	105	25	
CW-85-141-03-3/4		171	128	<0.1	386	70	
CW-85-141-04-3/4		164	68	<0.1	178	65	
CW-85-141-05-3/4		182	95	0.6	238	85	
CW-85-141-06-3/4		195	85	<0.1	308	45	
CW-85-141-07-3/4		137	20	<0.1	79	100	
CW-85-141-08-3/4		42	18	<0.1	6	25	
CW-85-141-10-3/4		141	54	<0.1	85	115	
CW-85-141-11-3/4		474	175	<0.1	73	40	
CW-85-142-01-3/4		16	16	<0.1	2	220	
CW-85-142-02-3/4		82	26	<0.1	49	25	
CW-85-142-03-3/4		87	33	<0.1	51	15	
CW-85-142-04-3/4		200	170	<0.1	872	55	
CW-85-142-05-3/4		232	94	<0.1	416	40	
CW-85-142-06-3/4		272	175	<0.1	244	95	
CW-85-142-07-3/4		152	80	<0.1	238	25	
CW-85-142-08-3/4		156	57	<0.1	126	325	
CW-85-142-09-3/4		306	135	0.1	130	190	
CW-85-142-11-3/4		154	50	<0.1	45	40	
CW-85-142-12-3/4		236	30	<0.1	28	35	
CW-85-142-13-3/4		365	135	0.2	91	15	
CW-85-142-14-3/4		179	120	<0.1	42	5	7.50
CW-85-142-15-3/4		171	53	<0.1	27	10	
CW-85-142-16-3/4		180	69	0.1	218	15	
CW-85-143-01-3/4		31	14	<0.1	3	150	
CW-85-143-02-3/4		55	30	<0.1	13	5	
CW-85-143-03-3/4		156	125	0.3	234	170	
CW-85-143-04-3/4		193	80	0.1	314	100	
CW-85-143-05-3/4		224	160	0.5	234	105	
CW-85-143-06-3/4		231	73	0.2	157	1990	
CW-85-143-07-3/4		163	26	<0.1	64	45	
CW-85-143-08-3/4		257	35	<0.1	148	20	8.50
CW-85-143-09-3/4		434	270	0.4	552	50	
CW-85-143-10-3/4		484	230	0.7	173	60	
CW-85-143-11-3/4		568	110	0.4	249	50	
CW-85-144-01-3/4		715	110	0.2	212	55	
CW-85-145-01-3/4		37	15	<0.1	<2	140	9.00
CW-85-145-02-3/4		25	16	<0.1	2	130	
CW-85-145-03-3/4		121	105	0.1	266	25	
CW-85-146-01-3/4		27	22	<0.1	21	2185	6.00

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REPORT: 016-0726

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-147-01-3/4		170	24	0.1	135	50	
CW-85-148-01-3/4		18	17	<0.1	2	5	
CW-85-148-02-3/4		23	13	<0.1	2	135	
CW-85-148-03-3/4		167	50	<0.1	291	75	
CW-85-150-01-3/4		40	18	<0.1	11	<15	3.50
CW-85-151-01-3/4		365	135	<0.1	176	75	2.00

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Geochemical Lab Report

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PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-152-01-3/4		60	28	<0.1	12	110	8.43
CW-85-152-02-3/4		87	23	<0.1	17	165	8.37
CW-85-153-01-3/4		79	33	0.1	52	95	
CW-85-153-02-3/4		245	81	0.2	210	85	
CW-85-154-01-3/4		155	51	<0.1	71	55	
CW-85-154A-02-3/4		166	54	0.2	104	115	
CW-85-156-01-3/4		60	23	0.1	21	285	4.00
CW-85-156-02-3/4		77	25	0.8	15	55	
CW-85-156-03-3/4		132	39	0.1	36	15	8.54
CW-85-156-04-3/4		270	110	0.1	61	60	
CW-85-156-05-3/4		146	40	0.1	24	90	
CW-85-157-01-3/4		300	43	0.7	44	1310	9.45
CW-85-158-01-3/4		752	140	0.6	394	275	
CW-85-159-01-3/4		250	45	<0.1	53	90	3.05
CW-85-160-01-3/4		295	132	0.3	62	50	
CW-85-161-01-3/4		138	48	0.2	100	375	
CW-85-161-02-3/4		151	62	0.3	86	45	9.17
CW-85-161-03-3/4		82	31	0.1	72	360	
CW-85-161-04-3/4		70	26	0.1	57	20	
CW-85-161-05-3/4		117	30	0.1	31	5	
CW-85-161-06-3/4		110	35	0.3	109	55	
CW-85-161-07-3/4		97	28	<0.1	34	15	
CW-85-161-08-3/4		150	33	0.1	53	325	

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Ottawa, Ontario.
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Geochemical Lab Report

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-161-10-3/4		104	37	0.2	164	145	
CW-85-161-11-3/4		104	32	<0.1	22	15	
CW-85-161-12-3/4		237	254	0.3	133	35	
CW-85-161-13-3/4		273	259	0.5	258	35	
CW-85-161-14-3/4		294	266	0.5	138	15	
CW-85-161-15-3/4		72	48	<0.1	17	<15	3.50
CW-85-162-01-3/4		181	82	0.3	200	125	
CW-85-162-02-3/4		201	71	0.2	214	645	
CW-85-163-01-3/4		192	78	0.2	250	880	
CW-85-163-02-3/4		167	68	0.2	361	1005	
CW-85-163-03-3/4		210	93	0.2	170	20	
CW-85-163-04-3/4		164	149	0.2	358	45	
CW-85-163-05-3/4		228	82	0.3	168	65	
CW-85-163-06-3/4		381	109	0.4	196	45	
CW-85-163-07-3/4		310	101	0.5	196	55	
CW-85-164-01-3/4		126	41	0.1	87	125	
CW-85-164-02-3/4		107	38	<0.1	72	225	
CW-85-164-03-3/4		150	50	0.2	171	25	
CW-85-164-04-3/4		494	60	0.2	140	60	
CW-85-165-01-3/4		101	32	<0.1	82	35	
CW-85-165-02-3/4		191	55	0.3	392	30	
CW-85-166-01-3/4		21	12	<0.1	6	85	
CW-85-166-02-3/4		77	17	<0.1	7	30	
CW-85-166-03-3/4		52	25	0.1	116	25	

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-166-04-3/4		104	53	0.3	287	40	
CW-85-166-05-3/4		234	120	0.1	276	80	
CW-85-166-06-3/4		133	69	0.1	186	145	
CW-85-166-07-3/4		152	62	0.3	214	45	
CW-85-166-08-3/4		153	66	<0.1	96	245	6.00
CW-85-166-09-3/4		107	44	0.1	119	30	
CW-85-166-10-3/4		101	53	<0.1	147	55	
CW-85-166-11-3/4		146	54	0.4	174	155	
CW-85-167-01-3/4		73	44	<0.1	4	100	7.00
CW-85-168-01-3/4		183	87	0.6	278	50	
CW-85-168-02-3/4		232	132	0.9	314	35	
CW-85-168-03-3/4		184	52	0.4	290	60	
CW-85-168-04-3/4		129	49	0.4	158	30	
CW-85-168-05-3/4		246	112	0.5	284	40	
CW-85-168-06-3/4		295	188	0.4	250	40	
CW-85-168-07-3/4		118	32	0.1	51	85	
CW-85-168-08-3/4		179	40	0.3	73	25	
CW-85-168-09-3/4		348	265	0.8	217	75	
CW-85-168-10-3/4		356	290	1.3	280	40	
CW-85-168-11-3/4		397	365	0.9	376	220	
CW-85-169-01-3/4		104	52	<0.1	246	235	
CW-85-169-02-3/4		134	53	<0.1	280	270	
CW-85-169-03-3/4		130	48	0.6	192	35	
CW-85-169-04-3/4		110	56	0.5	252	150	

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Geochemical Lab Report

REPORT: 016-1062

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-169-05	3/4	204	118	0.5	220	300	
CW-85-169-06	3/4	296	106	0.7	324	120	
CW-85-169-07	3/4	309	118	0.5	318	365	
CW-85-169-08	3/4	332	132	0.7	274	150	
CW-85-169-09	3/4	370	125	0.7	182	50	
CW-85-170-01	3/4	340	170	0.4	178	40	
CW-85-170-02	3/4	326	125	0.6	278	30	
CW-85-170-03	3/4	384	122	0.6	104	20	
CW-85-171-01	3/4	448	172	0.4	77	10	
CW-85-171-02	3/4	515	200	0.4	148	100	
CW-85-171-03	3/4	371	158	0.2	110	245	
CW-85-171-04	3/4	319	148	0.4	158	55	
CW-85-171-05	3/4	985	148	0.8	284	55	
CW-85-172-01	3/4	368	134	0.3	147	100	
CW-85-172-02	3/4	193	86	0.4	128	130	
CW-85-173-01	3/4	392	104	0.7	142	30	
CW-85-175-01	3/4	57	16	<0.1	11	45	
CW-85-176-01	3/4	163	43	0.4	284	110	
CW-85-176-02	3/4	206	84	0.5	326	85	
CW-85-176-03	3/4	204	92	0.9	280	85	
CW-85-176-04	3/4	200	80	0.4	268	80	
CW-85-176-05	3/4	173	70	0.4	260	45	
CW-85-176-06	3/4	183	92	0.5	246	90	
CW-85-176-07	3/4	171	104	0.7	262	600	
CW-85-176-08	3/4	179	90	0.4	242	600	
CW-85-176-09	3/4	163	86	0.4	195	60	
CW-85-176-10	3/4	164	75	0.4	180	40	
CW-85-176-11	3/4	186	84	0.4	214	140	
CW-85-176-12	3/4	169	78	0.5	204	60	
CW-85-176-13	3/4	167	76	0.5	262	50	
CW-85-176-14	3/4	330	100	0.9	132	40	
CW-85-176-15	3/4	291	130	0.3	68	35	
CW-85-176-16	3/4	308	87	0.4	92	25	
CW-85-176-17	3/4	444	102	0.4	116	95	
CW-85-176-18	3/4	IS	IS	IS	IS	IS	
CW-85-176-19	3/4	345	118	0.6	132	180	
CW-85-176-20	3/4	264	75	0.4	154	175	8.00
CW-85-177-01	3/4	74	20	0.1	8	60	
CW-85-177-02	3/4	273	72	0.2	17	5	
CW-85-177-03	3/4	189	86	0.2	134	20	

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PROJECT: NONE PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-177-04	3/4	173	43	2.1	87	40	
CW-85-177-05	3/4	2084	290	0.6	352	40	
CW-85-178-01	3/4	165	26	0.1	37	145	
CW-85-178-02	3/4	126	30	0.1	33	105	
CW-85-178-03	3/4	126	26	0.1	18	65	
CW-85-178-04	3/4	50	20	<0.1	6	10	
CW-85-178-05	3/4	36	20	0.1	3	20	
CW-85-178-06	3/4	46	20	<0.1	13	130	
CW-85-178-07	3/4	129	28	0.4	76	30	
CW-85-180-03	3/4	79	22	<0.1	3	5	
CW-85-180-04	3/4	55	19	0.1	4	95	
CW-85-180-06	3/4	95	25	0.4	65	5	
CW-85-181-01	3/4	35	18	<0.1	5	5	
CW-85-181-02	3/4	74	57	0.3	6	45	
CW-85-181-04	3/4	93	40	0.1	37	55	7.00
CW-85-181-05	3/4	159	92	0.2	164	110	
CW-85-181-06	3/4	194	88	0.4	151	20	
CW-85-181-07	3/4	232	74	0.3	146	80	
CW-85-182-01	3/4	83	21	0.1	10	170	
CW-85-183-01	3/4	38	53	0.1	5	15	7.00
CW-85-183-02	3/4	111	32	0.3	23	<10	6.00
CW-85-183-03	3/4	119	35	0.3	17	5	
CW-85-184-01	3/4	25	20	0.1	5	35	9.00
CW-85-184-02	3/4	62	25	0.2	12	10	7.00
CW-85-184-03	3/4	203	112	0.2	44	355	5.00
CW-85-184-04	3/4	148	32	<0.1	43	10	
CW-85-184-05	3/4	315	163	0.4	258	150	
CW-85-187-01	3/4	63	18	0.2	10	5	
CW-85-190-01	3/4	62	18	0.2	7	15	
CW-85-190-02	3/4	39	18	0.2	10	55	
CW-85-190-03	3/4	504	20	0.5	140	115	
CW-85-191-01	3/4	20	17	0.2	2	20	
CW-85-191-02	3/4	44	32	0.2	4	180	
CW-85-192-01	3/4	76	20	0.4	21	110	
CW-85-192-02	3/4	34	18	0.1	3	<5	
CW-85-192-03	3/4	42	23	0.2	5	<5	
CW-85-192-04	3/4	37	22	0.1	5	<10	7.00
CW-85-192-05	3/4	60	27	0.2	5	<20	3.05
CW-85-192-06	3/4	32	33	0.2	2	<10	6.00
CW-85-193-01	3/4	102	22	0.3	20	50	5.00

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Geochemical Lab Report

REPORT: 016-1374

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-180-01-3/4		40	20	0.1	6	5	
CW-85-180-02-3/4		210	19	<0.1	4	165	8.00

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Geochemical Lab Report

REPORT: 016-1062

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-193-02	3/4	87	33	0.2	9	230	9.55
CW-85-193-03	3/4	87	40	0.3	11	125	2.00
CW-85-194-01	3/4	21	20	0.2	7	85	
CW-85-194-02	3/4	209	74	0.3	12	<10	7.00
CW-85-195-01	3/4	31	25	0.2	6	<5	
CW-85-195-02	3/4	49	23	0.3	9	50	9.50
CW-85-195-03	3/4	47	20	0.1	16	<5	
CW-85-195-04	3/4	40	19	0.2	6	155	7.00
CW-85-195-05	3/4	44	34	0.1	27	65	8.00

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Geochemical Lab Report

REPORT: 016-1100

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-195-06-3/4		60	13	<0.1	63	30	
CW-85-196-01-3/4		390	80	0.2	272	100	8.00
CW-85-197-01-3/4		116	37	<0.1	106	130	9.00
CW-85-197-03-3/4		240	52	0.1	194	70	8.00
CW-85-197-04-3/4		317	171	0.4	314	105	
CW-85-197-05-3/4		440	185	0.3	464	90	
CW-85-197-06-3/4		345	124	0.4	236	110	
CW-85-197-07-3/4		420	117	0.2	696	345	7.00
CW-85-197-08-3/4		400	92	0.6	266	105	
CW-85-197-09-3/4		265	71	0.2	108	4700	
CW-85-197-10-3/4		470	185	0.1	162	305	
CW-85-197-11-3/4		450	616	0.6	57	25	
CW-85-198-01-3/4		200	298	0.2	47	15	
CW-85-198-02-3/4		220	59	0.1	121	180	
CW-85-198-03-3/4		20	55	<0.1	316	170	
W-85-198-04-3/4		235	60	0.1	156	35	
CW-85-198-05-3/4		174	55	<0.1	81	90	
CW-85-198-06-3/4		106	34	<0.1	105	155	7.00
CW-85-198-07-3/4		178	66	<0.1	155	30	
CW-85-198-08-3/4		136	50	0.1	159	125	
CW-85-198-09-3/4		335	109	0.1	272	55	
CW-85-198-10-3/4		340	303	0.4	552	85	
CW-85-198-11-3/4		345	262	0.4	520	785	
CW-85-198-12-3/4		390	164	0.4	332	175	
CW-85-198-13-3/4		670	208	0.7	356	85	
CW-85-198-14-3/4		520	328	0.5	256	70	
CW-85-199-01-3/4		188	53	<0.1	170	50	
CW-85-199-02-3/4		140	60	0.2	164	40	
CW-85-199-03-3/4		138	40	0.1	108	5290	
CW-85-199-05-3/4		265	58	<0.1	108	40	
CW-85-199-06-3/4		176	43	<0.1	84	955	
CW-85-199-07-3/4		215	36	<0.1	142	50	
CW-85-199-08-3/4		186	39	0.1	92	40	
CW-85-199-09-3/4		160	37	<0.1	162	35	
CW-85-199-10-3/4		220	62	0.3	117	65	
CW-85-199-12-3/4		790	521	1.0	440	135	
W-85-199-13-3/4		1120	579	1.1	568	95	
-85-199-14-3/4		730	502	0.8	520	170	
CW-85-199-15-3/4		600	454	0.9	504	85	
CW-85-199-16-3/4		550	440	0.7	343	80	

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REPORT: 016-1100

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-199-17-3/4		760	476	1.2	472	110	
CW-85-199-18-3/4		355	176	0.4	330	160	
CW-85-199-19-3/4		275	100	0.3	190	50	
CW-85-199-20-3/4		335	40	0.1	137	20	

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Geochemical Lab Report

REPORT: 016-1218

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-200-01-3/4		26	18	<0.1	6	220	9.00
CW-85-200-02-3/4		29	16	<0.1	6	130	9.00
CW-85-200-03-3/4		36	17	0.1	7	15	
CW-85-200-04-3/4		56	24	<0.1	33	190	
CW-85-200-05-3/4		29	16	<0.1	32	50	
CW-85-200-06-3/4		49	23	<0.1	188	45	
CW-85-200-07-3/4		81	33	0.1	108	70	
CW-85-200-08-3/4		172	59	0.5	552	80	
CW-85-200-09-3/4		260	63	0.5	172	30	
CW-85-200-10-3/4		157	60	0.3	124	10	5.00
CW-85-201-01-3/4		28	23	<0.1	7	<5	
CW-85-201-02-3/4		116	24	0.3	22	<5	
CW-85-201-03-3/4		123	38	0.2	70	10	
CW-85-201-04-3/4		203	51	0.3	52	250	
CW-85-201-05-3/4		164	42	0.3	103	200	
CW-85-201-06-3/4		244	52	0.2	59	65	
CW-85-201-07-3/4		185	59	0.3	111	230	
CW-85-201-08-3/4		239	63	0.4	143	70	
CW-85-201-09-3/4		206	52	0.2	168	900	
CW-85-201-10-3/4		175	62	0.4	194	50	
CW-85-201-11-3/4		307	245	0.7	236	65	
CW-85-201-12-3/4		284	150	0.6	276	335	
CW-85-201-13-3/4		203	94	0.7	280	115	7.00
CW-85-201-14-3/4		265	107	0.7	338	160	
CW-85-201-15-3/4		290	151	1.2	318	385	
CW-85-201-16-3/4		1336	63	0.9	176	160	
CW-85-201-17-3/4		265	39	0.4	133	50	
CW-85-202-02-3/4		51	15	0.1	13	195	
CW-85-202-03-3/4		109	35	<0.1	112	55	
CW-85-202-04-3/4		133	40	0.3	93	140	
CW-85-202-05-3/4		175	53	0.4	132	40	
CW-85-202-06-3/4		184	48	0.4	100	30	
CW-85-202-07-3/4		784	20	0.3	22	<5	
CW-85-203-01-3/4		866	33	0.2	139	140	
CW-85-204-01-3/4		999	28	0.4	92	105	
CW-85-205-02-3/4		536	37	0.3	110	385	
CW-85-206-01-3/4		50	16	0.1	23	90	
CW-85-206-02-3/4		90	19	0.1	18	3690	5.00
CW-85-206-03-3/4		136	17	0.1	8	10	
CW-85-206-04-3/4		58	28	0.2	40	465	

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REPORT: 016-1218

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB	TestWt gm
CW-85-206-05-3/4		158	129	0.3	282	430	
CW-85-207-01-3/4		40	43	0.4	18	145	3.00
CW-85-207-02-3/4		46	23	0.5	8	10	9.00
CW-85-207-03-3/4		58	16	0.2	4	<5	
CW-85-207-04-3/4		63	22	<0.1	21	600	8.00
CW-85-207-05-3/4		176	34	0.3	53	385	5.00

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PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB
CW-85-207-06-3/4		225	51	0.2	151	40
CW-85-207-07-3/4		1350	93	0.6	278	30
CW-85-207-08-3/4		415	121	0.2	424	125
CW-85-207-09-3/4		935	103	0.8	191	440
CW-85-208-01-3/4		42	33	<0.1	6	195
CW-85-208-02-3/4		38	17	0.1	10	60
CW-85-208-03-3/4		72	18	0.1	36	70
CW-85-208-04-3/4		78	24	0.1	9	10
CW-85-208-05-3/4		94	26	<0.1	14	<5
CW-85-208-06-3/4		94	40	0.1	122	60
CW-85-208-07-3/4		240	91	0.2	198	25
CW-85-209-01-3/4		250	79	0.4	114	55
CW-85-209-02-3/4		310	96	0.3	147	50
CW-85-209-03-3/4		177	59	0.3	85	25
CW-85-209-04-3/4		197	75	0.1	104	30
CW-85-209-05-3/4		199	85	0.1	117	30
CW-85-209-06-3/4		185	75	0.1	100	25
CW-85-209-07-3/4		185	100	0.3	79	15
CW-85-209-08-3/4		185	116	0.2	180	65
CW-85-209-09-H		1850	126	0.6	130	<70
CW-85-210-01-3/4		36	21	<0.1	9	20
CW-85-210-02-3/4		81	32	<0.1	38	15
CW-85-210-03-3/4		90	27	0.2	70	35
CW-85-210-04-3/4		460	34	0.5	179	50
CW-85-210-05-3/4		175	44	0.4	91	330
CW-85-210-06-3/4		172	61	0.4	131	95
CW-85-210-07-3/4		72	29	<0.1	30	185
CW-85-211-01-3/4		230	28	<0.1	19	50
CW-85-212-01-3/4		31	19	<0.1	<2	115
CW-85-213-01-3/4		176	29	0.1	10	15
CW-85-213-02-3/4		140	73	<0.1	12	25
CW-85-213-03-3/4		175	77	0.4	105	20
CW-85-213-04-3/4		183	100	5.4	62	15
CW-85-213-05-3/4		240	93	0.8	70	185
CW-85-213-06-3/4		510	59	0.2	55	20
CW-85-214-01-3/4		37	26	<0.1	8	15
CW-85-214-02-3/4		115	28	0.1	10	5
CW-85-214-03-3/4		126	70	<0.1	11	5
CW-85-214-04-3/4		93	30	0.2	21	160
CW-85-214-05-3/4		295	65	0.9	66	220

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REPORT: 016-1242

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB
CW-85-215-01-3/4		44	22	0.3	4	110
CW-85-215-02-H		103	34	0.1	10	<30
CW-85-215-03-3/4		28	18	<0.1	7	15
CW-85-215-04-3/4		240	275	0.8	504	15
CW-85-216-01-3/4		27	30	0.2	19	375
CW-85-216-02-3/4		86	43	0.3	35	55
CW-85-217-01-3/4		18	18	<0.1	2	25
CW-85-217-02-3/4		20	19	0.1	5	140
CW-85-217-03-3/4		32	26	<0.1	3	<10
CW-85-217-04-3/4		69	27	<0.1	27	850
CW-85-218-01-3/4		295	144	0.4	180	55
CW-85-218-03-3/4		290	310	0.9	636	120
CW-85-219-01-3/4		280	79	0.7	330	190
CW-85-220-01-3/4		270	63	2.9	133	455
CW-85-220-02-3/4		320	144	1.0	153	65
CW-85-221-01-3/4		146	29	0.2	158	80
CW-85-221-02-3/4		54	32	0.1	14	50
CW-85-221-03-3/4		170	34	0.1	81	5
CW-85-222-01-H		230	32	<0.1	46	1190
CW-85-223-01-3/4		144	65	0.2	110	30
CW-85-223-02-3/4		340	295	0.5	166	80
CW-85-224-01-3/4		31	23	0.2	7	80
CW-85-225-01-3/4		62	27	0.1	18	60
CW-85-226-01-3/4		103	41	0.3	98	5
CW-85-226-02-3/4		154	56	0.4	83	15
CW-85-226-03-3/4		385	132	0.4	>2000	365
CW-85-227-01-3/4		61	27	<0.1	112	105
CW-85-227-02-3/4		112	38	0.3	87	120
CW-85-227-03-3/4		90	27	0.1	65	50
CW-85-227-05-3/4		200	36	<0.1	88	15
CW-85-227-06-3/4		200	72	0.3	244	30
CW-85-227-07-3/4		270	90	0.3	258	40
CW-85-227-08-3/4		230	325	0.1	184	795
CW-85-227-09-3/4		199	51	0.1	127	30
CW-85-227-10-3/4		151	56	0.2	141	10
CW-85-227-11-3/4		270	66	0.4	93	45

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REPORT: 016-1777

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Sc PPM	Cr PPM	Fe PCT	Co PPM	Ni PPM	Zn PPM	As PPM	Se PPM	Rb PPM	Mo PPM	Ag PPM
CW-85-111-01		41.0	530	23.0	250	79	<200	513	<13	<15	7	<6
CW-85-170-04		26.0	250	26.0	470	170	<200	170	<10	17	8	<5

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REPORT: 016-1777

PROJECT: NONE PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	Cd PPM	Sb PPM	Cs PPM	Ba PPM	La PPM	Eu PPM	Tb PPM	Yb PPM	Hf PPM	Ta PPM	W PPM
CW-85-111-01		<10	3.0	<1	<110	120	3	3	14	110	9	<3
CW-85-170-04		<10	1.3	1	<100	66	3	2	10	58	5	7

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REPORT: 016-1777

PROJECT: NONE PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	Ir PPB	Au PPB	Th PPM	U PPM	WT g
CW-85-111-01		<100	250	37.0	8.5	4.66
CW-85-170-04		<100	90	17.0	4.0	14.20

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Geochemical Lab Report

REPORT: 016-0195

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-02-01-3/4		60	18	0.2	40	0.50	0.36	0.50		25.16	0.16
CW-85-02-03-3/4		110	30	0.2	234	0.27	0.08	0.26		21.62	1.19
CW-85-05-01-3/4		124	34	0.2	180	0.62	0.06	0.57	18.00	19.87	1.29
CW-85-06-08-3/4		120	31	0.1	68	1.36	0.04	1.26	16.00	17.92	1.45
CW-85-06-16-3/4		88	37	0.2	147	0.61	0.05	0.57	16.00	18.25	1.57
CW-85-06-24-3/4		110	18	<0.1	7	0.03	0.01	0.03	6.80	8.47	1.34
CW-85-07-09-3/4		300	32	0.1	35	0.07	71.65	3.53	2.20	3.82	0.19
CW-85-07-16-3/4		180	30	<0.1	61	0.13	0.07	0.13	13.50	15.24	1.16

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Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0246

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-28-07-3/4		138	45	0.2	58	0.02	2.00	0.02	16.00	19.44	0.01
CW-85-28-08-3/4		114	71	<0.1	91	0.01	24.64	0.48	20.00	25.07	0.50
CW-85-28-32-3/4		66	28	<0.1	71	0.08	30.43	0.98	17.00	19.72	0.60
CW-85-30-01-3/4		64	20	<0.1	2	0.02	40.00	0.02	16.00	18.24	0.01

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
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Geochemical Lab Report

REPORT: 016-0220

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-09-02-3/4		90	35	0.3	129	0.37	9.03	2.38	10.73	11.98	3.52
CW-85-09-04-3/4		133	34	0.1	96	0.18	44.35	10.88	12.13	12.81	4.12
CW-85-10-02-3/4		95	32	<0.1	105	0.07	2.33	0.53	13.05	13.79	4.01
CW-85-12-01-3/4		36	15	0.5	<2	<0.01	5.08	0.70	20.00	21.92	3.51
CW-85-12-03-3/4		77	41	<0.1	107	1.04	2.06	1.25	11.87	12.51	3.16
CW-85-19-02-3/4		138	30	0.1	119	0.36	0.82	0.30	14.10	14.78	3.47

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
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Geochemical Lab Report

REPORT: 016-0316

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW 85 33-12 3/4		36	38	0.2	158	0.15	<0.01	0.15	14.00	16.75	0.55
CW 85 47-02 3/4		145	12	<0.1	14	0.16	<0.01	0.16	14.00	16.15	0.34

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
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Geochemical Lab Report

REPORT: 016-0335

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-49-02 3/4		230	33	0.6	101	2.78	21.31	4.27	12.00	15.00	1.31
CW-85-54-03 3/4		66	78	0.4	97	13.70	2.54	13.21	20.00	31.19	1.44
CW-85-59-01 3/4		45	13	0.3	16	0.37	0.08	0.36	20.00	22.07	0.78
CW-85-70-02 3/4		90	30	0.4	31	0.11	0.02	0.10	20.00	23.32	2.15

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
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Geochemical Lab Report

REPORT: 016-0555

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-71-10-3/4		143	54	0.7	124	0.10	98.67	0.99	15.00	19.66	0.18
CW-85-81-06-3/4		102	32	0.4	110	0.06	0.03	0.06	15.00	18.69	0.62
CW-85-85-01-3/4		16	13	<0.1	20	0.01	7.61	0.56	12.80	15.20	1.18
CW-85-88-03-3/4		118	45	0.4	197	2.12	0.05	2.04	14.00	20.66	0.85
CW-85-89-02-3/4		28	20	0.2	3	0.01	<0.01	<0.01	5.50	7.38	1.11
CW-85-89-13-3/4		50	33	0.2	4	1.92	41.90	3.66	12.50	17.55	0.80
CW-85-93-12-3/4		226	66	0.9	256	0.45	0.10	0.44	20.00	34.69	1.21
CW-85-101-05-3/4		159	50	0.4	206	4.00	53.55	5.93	15.50	18.52	0.75
CW-85-101-06-3/4		185	46	0.2	210	0.93	234.55	6.73	16.40	21.62	0.55
CW-85-103-01-3/4		34	16	0.1	17	0.17	0.18	0.17	17.00	20.29	0.89
CW-85-103-02-3/4		49	22	0.3	27	1.15	0.02	1.08	14.00	16.31	1.10
CW-85-105-01-3/4		690	61	0.2	145	0.03	133.13	7.04	9.50	12.06	0.67
CW-85-106-01-3/4		55	21	0.1	4	0.54	10.60	0.79	9.00	11.87	0.30
CW-85-112-03-3/4		177	20	1.2	42	9.52	202.60	11.38	6.50	10.28	0.10
CW-85-113-01-3/4		142	99	0.4	504	0.87	166.18	2.68	7.00	9.93	0.11
CW-85-115-03-3/4		31	19	<0.1	3	<0.01	1.00	0.02	8.70	11.73	0.18
CW-85-117-01-3/4		48	19	0.2	40	0.02	40.11	0.52	10.00	14.12	0.18
CW-85-118-04-3/4		52	19	0.1	4	0.03	28.63	0.97	16.00	20.53	0.70
CW-85-118-05-3/4		603	92	0.7	236	0.29	0.07	0.29	20.00	30.69	0.60
CW-85-122-01-3/4		18	27	0.2	3	0.24	<0.01	0.24	17.00	20.03	0.20

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0555

PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-71-10-3/4		143	54	0.7	124	0.10	93.67	0.99	15.00	19.66	0.18
CW-85-81-06-3/4		102	32	0.4	110	0.06	0.03	0.06	15.00	18.69	0.62
CW-85-85-01-3/4		16	13	<0.1	20	0.01	7.51	0.56	12.80	15.20	1.18
CW-85-88-03-3/4		118	45	0.4	197	2.12	0.05	2.04	14.00	20.66	0.85
CW-85-89-02-3/4		28	20	0.2	3	0.01	<0.01	<0.01	5.50	7.38	1.11
CW-85-89-13-3/4		50	33	0.2	4	1.92	41.90	3.66	12.50	17.55	0.80
CW-85-93-12-3/4		226	66	0.9	256	0.45	0.10	0.44	20.00	34.69	1.21
CW-85-101-05-3/4		159	50	0.4	206	4.00	53.55	5.93	15.50	18.52	0.75
CW-85-101-06-3/4		185	46	0.2	210	0.93	234.55	6.73	15.40	21.62	0.55
CW-85-102-01-3/4		34	16	0.1	17	0.17	0.18	0.17	17.00	20.29	0.99
CW-85-103-02-3/4		49	22	0.3	27	1.15	0.02	1.08	14.00	16.31	1.10
CW-85-105-01-3/4		690	61	0.2	145	0.03	133.13	7.04	9.50	12.06	0.67
CW-85-106-01-3/4		55	21	0.1	4	0.54	10.60	0.79	9.00	11.87	0.30
CW-85-112-03-3/4		177	20	1.2	42	9.52	202.60	11.38	6.50	10.28	0.10
CW-85-113-01-3/4		142	99	0.4	504	0.87	166.18	2.63	7.00	9.93	0.11
CW-85-115-03-3/4		31	19	<0.1	3	<0.01	1.00	0.02	8.70	11.73	0.13
CW-85-117-01-3/4		48	19	0.2	40	0.02	40.11	0.52	10.00	14.12	0.18
CW-85-118-04-3/4		52	19	0.1	4	0.03	28.63	0.97	16.00	20.53	0.70
CW-85-118-05-3/4		603	92	0.7	236	0.29	0.07	0.29	20.00	30.69	0.60
CW-85-122-01-3/4		18	27	0.2	3	0.24	<0.01	0.24	17.00	20.03	0.20

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-132-01		63	22	0.4	71	<0.01	0.93	0.06	15.00	17.07	1.10
CW-85-138-05		253	24	0.5	11	<0.01	0.80	0.05	6.50	8.94	0.50
CW-85-139-04		107	40	0.5	27	<0.01	0.67	0.01	20.00	33.23	0.48

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-132-01		63	22	0.4	71	<0.01	0.93	0.06	15.00	17.07	1.10
CW-85-138-05		253	24	0.5	[illegible]	<0.01	0.80	0.05	6.50	8.94	0.50
CW-85-139-04		107	40	0.5	27	<0.01	0.67	0.01	20.00	33.23	0.48

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Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
DW-85-141-07-3/4		153	85	0.5	456	0.76		1303	20.83	18.00	21.29	0.33
DW-85-142-10-3/4		320	100	0.2	165	0.28	2.18		0.29	14.00	15.79	0.11

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-161-09		147	32	0.3	116	0.03	11.02	1.34	17.00	18.72	2.54

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-170-04 3/4		413	158	0.8	325	0.19	224.76	1.48	20.00	36.36	0.21
CW-85-172-03 3/4		612	93	0.5	152	0.04	0.13	0.04	20.00	30.96	0.61
CW-85-174-01 3/4		70	24	<0.1	22	0.02	<0.01	0.02	12.00	16.59	0.78
CW-85-176-18 3/4		311	118	0.7	164	0.04	43.40	1.26	13.00	17.29	0.50
CW-85-180-05 3/4		53	18	0.1	4	<0.01	<0.01	<0.01	9.00	11.50	0.63
CW-85-181-03 3/4		48	22	0.1	5	0.19	<0.01	0.17	8.00	10.35	1.27
CW-85-191-03 3/4		207	137	0.1	15	0.31	15.19	1.75	8.00	10.85	1.16
CW-85-192-07 3/4		420	25	0.3	274	0.07	33.91	1.68	3.00	4.41	0.22

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PROJECT: NONE PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-195-07-3/4		265	82	1.2	174	1.56	0.02	0.85	4.00	7.27	6.15
CW-85-197-02-3/4		380	116	0.6	222	0.30	2.29	1.08	6.00	8.07	5.16
CW-85-199-04-3/4		320	106	0.3	110	0.03	0.03	0.03	6.00	7.91	3.87
CW-85-199-11-3/4		270	75	0.3	115	0.35	0.02	0.25	11.00	13.76	6.42

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Canada K1J 8X5
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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-202-01-3/4		36	15	<0.1	6	0.44	0.11	0.43	16.50	18.90	0.38
CW-85-205-01-3/4		121	20	0.5	120	<0.01	0.67	0.05	14.00	15.22	1.05

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Canada K1J 8X5
Phone: (613) 749-2220
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REPORT: 016-1241

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au-150 PPM	Au+150 PPM	Au AV PPM	TestWt gms	-150Wt gms	+150Wt gms
CW-85-218-02-3/4		339	166	1.4	708	0.30	0.13	0.29	16.00	18.60	0.78
CW-85-227-04-3/4		142	29	0.7	77	1.02	0.10	0.99	15.00	17.72	0.61

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APPENDIX E

BONDAR-CLEGG BEDROCK ANALYSES

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB
CW-85-01-03-B		6	125	0.1	75	<5
CW-85-02-04-B		43	98	0.1	65	<5
CW-85-03-03-B		22	50	<0.1	77	<5
CW-85-04-03-B		60	84	0.5	91	<5
CW-85-05-11-B		92	96	<0.1	60	5
CW-85-06-26-B		25	75	<0.1	98	<5
CW-85-07-17-B		56	65	<0.1	<2	5
CW-85-08-12-B		91	50	<0.1	<2	<5
CW-85-09-21-B		77	55	<0.1	47	<5
CW-85-10-07-B		101	36	0.1	134	<5
CW-85-11-12-B		31	36	0.1	75	<5
CW-85-12-08-B		33	26	<0.1	103	<5
CW-85-13-02-B		54	26	0.1	83	<5
CW-85-14-01-B		240	3600	2.1	<2	<5
CW-85-15-02-B		19	30	<0.1	2	<5
CW-85-16-02-B		53	36	<0.1	2	<5
CW-85-17-01-B		260	75	0.4	6	5
CW-85-18-02-B		36	20	<0.1	4	<5
CW-85-19-15-B		18	58	<0.1	19	<5
CW-85-20-07-B		12	60	<0.1	8	<5
CW-85-21-08-B		86	28	0.2	3	<5
CW-85-22-03-B		55	46	<0.1	100	<5
CW-85-23-02-B		65	40	<0.1	175	<5
CW-85-24-16-B		82	24	0.1	105	<5
CW-85-25-02-B		96	84	0.1	136	<5
CW-85-26-14-B		51	26	<0.1	89	10
CW-85-27-25-B		21	52	<0.1	96	<5
CW-85-29-25-B		21	60	<0.1	79	<5
CW-85-30-24-B		20	48	<0.1	98	<5
CW-85-31-16-B		23	64	<0.1	95	<5
CW-85-32-05-B		181	82	0.2	65	<5
CW-85-33-13-B		28	58	<0.1	127	<5
CW-85-34-04-B		48	78	<0.1	117	<5
CW-85-35-02-B		54	76	<0.1	150	90
CW-85-36-02-B		359	600	0.4	100	20
CW-85-37-02-B		9	76	<0.1	376	10
CW-85-38-04-B		34	64	0.2	4	<5
CW-85-39-03-B		24	60	<0.1	3	<5
CW-85-50-02-B		28	58	2.5	2	<5
CW-85-51-02-B		29	54	0.1	144	<5

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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REPORT: 015-4000

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB
CW-85-52-03-B		24	29	<0.1	27	<5
CW-85-53-03-B		46	100	0.2	14	<5

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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REPORT: 015-4253

PROJECT: NONE PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB
CW-85-40-03B		64	76	<0.1	6	<5
CW-85-41-02B		60	108	<0.1	2	<5
CW-85-42-01B		55	102	<0.1	6	<5
CW-85-43-03B		54	96	<0.1	15	<5
CW-85-44-03B		24	225	<0.1	<2	<5
CW-85-45-09B		26	51	<0.1	<2	<5
CW-85-46A-27B		26	52	<0.1	2	<5
CW-85-47-03B		24	63	<0.1	4	<5
CW-85-48-02B		25	55	<0.1	3	<5
CW-85-49-03B		22	50	<0.1	<2	<5
CW-85-54-04B		42	87	<0.1	25	<5
CW-85-55-03B		32	164	<0.1	7	<5
CW-85-56-04B		12	26	<0.1	2	<5
CW-85-57-04B		105	58	<0.1	114	15
CW-85-58-08B		42	97	<0.1	3	<5
CW-85-59-05B		30	48	<0.1	3	<5
CW-85-60-02B		28	84	<0.1	2	<5
CW-85-61-02B		14	62	<0.1	2	<5
CW-85-62-03B		27	57	<0.1	2	<5
CW-85-63-05B		23	52	<0.1	4	<5
CW-85-64-03B		35	155	<0.1	7	<5
CW-85-65-01B		24	49	<0.1	2	<5
CW-85-66-03B		50	56	<0.1	<2	<5
CW-85-67-03B		25	140	<0.1	2	<5
CW-85-68-03B		28	57	<0.1	4	<5
CW-85-69-01B		70	55	<0.1	<2	<5
CW-85-70-10B		38	54	<0.1	2	<5

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0060

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB
CW-85-71-13-B		251	75	0.1	<2	5
CW-85-72-13-B		231	105	0.1	2	5
CW-85-73-02-B		40	34	<0.1	66	<5
CW-85-74-03-B		92	60	<0.1	<2	<5
CW-85-75-07-B		37	58	0.1	<2	<5
CW-85-76-03-B		73	69	0.1	<2	<5
CW-85-77-03-B		30	58	0.1	<2	<5
CW-85-78-02-B		35	65	<0.1	<2	<5
CW-85-79-02-B		31	65	<0.1	<2	<5
CW-85-80-02-B		39	74	0.1	<2	<5
CW-85-81-09-B		50	55	0.1	15	<5
CW-85-82-02-B		52	93	0.1	30	<5
CW-85-83-02-B		36	62	0.1	104	<5
CW-85-84-01-B		57	110	<0.1	44	<5
CW-85-85-02-B		12	44	<0.1	5	<5
CW-85-86-02-B		45	95	0.1	16	<5
CW-85-87-02-B		44	110	0.1	14	<5
CW-85-88-04-B		54	106	0.1	61	<5
CW-85-89-16-B		19	62	<0.1	5	<5
CW-85-90-12-B		20	46	<0.1	5	<5
CW-85-91-06-B		20	63	<0.1	<2	<5
CW-85-92-05-B		29	64	<0.1	<2	<5
CW-85-93-13-B		16	59	0.1	6	<5
CW-85-94-06-B		8	64	<0.1	<2	<5
CW-85-95-04-B		30	85	<0.1	2	<5
CW-85-96-07-B		4	16	<0.1	2	<5
CW-85-97-04-B		22	59	<0.1	6	<5
CW-85-98-04-B		23	14	<0.1	<2	<5
CW-85-99-02-B		27	62	<0.1	<2	<5
CW-85-100-01-B		93	68	0.1	<2	<5
CW-85-101-10-B		70	36	<0.1	<2	<5
CW-85-102-01-B		105	84	0.6	17	<5
CW-85-103-06-B		83	95	<0.1	32	<5
CW-85-104-01-B		150	380	<0.1	29	<5
CW-85-105-02-B		86	125	0.1	12	<5
CW-85-106-02-B		43	99	0.1	11	<5
CW-85-107-03-B		166	105	<0.1	13	<5
CW-85-108-02-B		90	114	<0.1	4	<5
CW-85-109-01-B		144	160	<0.1	<2	<5
CW-85-110-11-B		41	45	0.1	<2	<5

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB
CW-85-111-02-B		7	38	0.1	<2	<5
CW-85-112-04-B		68	122	0.1	<2	<5
CW-85-113-06-B		12	30	0.1	<2	<5
CW-85-114-05-B		33	50	0.1	2	<5
CW-85-115-08-B		30	74	<0.1	23	<5
CW-85-116-17-B		49	74	<0.1	34	<5
CW-85-117-08-B		63	60	0.1	<2	<5
CW-85-118-06-B		53	44	0.1	<2	<5
CW-85-119-02-B		67	52	<0.1	<2	<5
CW-85-120-02-B		19	70	<0.1	<2	<5
CW-85-121-02		8	98	<0.1	<2	<5
CW-85-122-02		8	54	<0.1	<2	<5
CW-85-123-02		61	115	0.1	<2	<5
CW-85-124-02		60	45	0.1	<2	<5
CW-85-125-02		552	34	0.1	<2	5
CW-85-126-02		26	23	0.1	<2	<5
CW-85-127-07-B		60	36	0.1	<2	<5
CW-85-128-02-B		5	30	0.1	<2	<5
CW-85-129-04-B		18	30	<0.1	<2	5
CW-85-130-05-B		103	56	0.2	<2	<5
CW-85-131-02-B		30	48	<0.1	<2	<5
CW-85-132-03-B		54	45	0.1	<2	<5
CW-85-133-03-B		51	60	0.1	<2	<5
CW-85-134-07-B		33	45	0.1	<2	<5
CW-85-135-04-B		31	70	0.3	<2	<5
CW-85-136-03-B		92	28	0.1	<2	<5
CW-85-137-01-B		45	600	0.1	<2	<5
CW-85-138-06-B		34	45	<0.1	<2	<5
CW-85-139-14-B		8	45	<0.1	<2	<5
CW-85-140-05-B		107	64	<0.1	<2	<5
CW-85-141-12-B		97	40	<0.1	<2	<5
CW-85-142-17-B		109	23	<0.1	<2	<5
CW-85-143-12-B		91	75	<0.1	<2	<5
CW-85-144-02-B		67	95	<0.1	<2	<5
CW-85-145-04-B		29	58	<0.1	37	<5
CW-85-146-02-B		44	88	<0.1	50	<5
CW-85-147-02-B		22	85	<0.1	2	<5
CW-85-148-04-B		38	55	<0.1	77	<5
CW-85-149-01-B		24	125	<0.1	195	<5

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0064

PROJECT: NONE PAGE 18

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Au PPB
CW-85 150-02 B		47	52	5
CW-85 151-02 B		97	146	<5
CW-85 152-03 B		456	131	<5
CW-85 153-03 B		28	90	15
CW-85 154A-03 B		37	60	<5
CW-85 155-01 B		101	53	<5
CW-85 156-06 B		86	100	<5
CW-85 157-02 B		88	650	<5
CW-85 158-02 B		21	110	<5
CW-85 159-02 B		85	28	<5
CW-85 160-02 B		61	36	<5
CW-85 161-16 B		12	46	<5
CW-85 162-03 B		5	28	<5
CW-85 163-08 B		32	45	5
CW-85 164-05 B		124	60	<5
CW-85 165-03 B		63	76	<5
CW-85 166-12 B		52	30	<5
CW-85 167-02 B		98	50	<5
CW-85 168-12 B		11	35	<5
CW-85 169-10 B		125	27	<5
CW-85 170-05 B		110	132	5
CW-85 171-06 B		128	28	5
CW-85 172-04 B		95	50	<5
CW-85 173-02 B		122	28	<5
CW-85 174-02 B		100	39	<5
CW-85 175-02 B		41	68	<5
CW-85 177-06 B		155	112	<5
CW-85 178-08 B		70	40	<5
CW-85 179-01 B		44	60	<5
CW-85 180-07 B		8	72	<5
CW-85 181-08 B		135	82	<5
CW-85 182-02 B		124	79	<5
CW-85 183-04 B		103	60	<5
CW-85 184-06 B		115	120	<5
CW-85 185-01 B		86	56	<5
CW-85 186-01 B		152	115	<5
CW-85 187-02 B		51	62	<5
CW-85 188-01 B		107	105	<5
CW-85 189-01 B		103	63	<5
CW-85 190-04 B		155	55	<5

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0064

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Au PPB
CW-85 191-04 B		113	90	<5
CW-85 192-08 B		79	55	<5
CW-85 193-04 B		111	72	<5
CW-85 194-03 B		65	88	<5

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 116-0064

PROJECT: NONE

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SAMPLE NUMBER	ELEMENT UNITS	Ag PPM	As PPM
CW-85 150-02 B		0.1	32
CW-85 151-02 B		0.2	28
CW-85 152-03 B		0.1	9
CW-85 153-03 B		<0.1	2
CW-85 154A-03 B		0.1	13
CW-85 155-01 B		0.1	15
CW-85 156-06 B		<0.1	7
CW-85 157-02 B		0.3	2
CW-85 158-02 B		0.1	7
CW-85 159-02 B		0.1	2
CW-85 160-02 B		0.2	<2
CW-85 161-16 B		0.2	<2
CW-85 162-03 B		<0.1	<2
CW-85 163-08 B		<0.1	3
CW-85 164-05 B		0.1	<2
CW-85 165-03 B		<0.1	2
CW-85 166-12 B		<0.1	<2
CW-85 167-02 B		<0.1	2
CW-85 168-12 B		<0.1	<2
CW-85 169-10 B		0.1	<2
CW-85 170-05 B		0.1	<2
CW-85 171-06 B		<0.1	6
CW-85 172-04 B		<0.1	<2
CW-85 173-02 B		<0.1	2
CW-85 174-02 B		<0.1	7
CW-85 175-02 B		0.1	32
CW-85 177-06 B		0.2	19
CW-85 178-08 B		0.2	3
CW-85 179-01 B		0.1	19
CW-85 180-07 B		0.1	3
CW-85 181-02 B		<0.1	3
CW-85 182-01 B		0.1	<2
CW-85 183-04 B		<0.1	3
CW-85 184-04 B		0.1	7
CW-85 185-01 B		<0.1	3
CW-85 186-01 B		0.1	2
CW-85 187-02 B		0.2	<2
CW-85 188-01 B		<0.1	4
CW-85 189-01 B		<0.1	10
CW-85 190-04 B		0.1	18
CW-85 191-04 B		0.1	9
CW-85 192-08 B		0.1	8
CW-85 193-04 B		<0.1	9
CW-85 194-03 B		0.1	10

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5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0890

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	As PPM	Au PPB
CW-85-195-08	B	35	86	<0.1	<2	<5
CW-85-196-02	B	31	76	<0.1	4	<5
CW-85-197-12	B	61	520	<0.1	2	<5
CW-85-198-15	B	148	118	<0.1	<2	<5
CW-85 199-21	B	82	32	<0.1	<2	<5
CW-85 200-11	B	120	50	<0.1	5	<5
CW-85 201-18	B	146	39	<0.1	6	<5
CW-85 202-08	B	152	66	<0.1	3	<5
CW-85 203-02	B	106	68	<0.1	3	<5
CW-85 204-02	B	104	80	<0.1	2	<5
CW-85 205-03	B	113	86	<0.1	2	<5
CW-85 206-06	B	124	129	<0.1	<2	<5
CW-85 207-10	B	106	102	<0.1	2	<5
CW-85 208-08	B	100	114	<0.1	<2	<5
CW-85 209-10	B	84	135	<0.1	3	<5
CW-85 210-08	B	81	121	<0.1	8	<5
CW-85 211-02	B	125	108	<0.1	3	<5
CW-85 212-02	B	6	25	<0.1	<2	<5
CW-85 213-07	B	124	96	<0.1	3	<5
CW-85 214-06	B	13	127	0.1	2	<5
CW-85 215-05	B	54	112	<0.1	81	<5
CW-85 216-03	B	134	130	<0.1	45	5
CW-85 217-05	B	136	121	<0.1	27	5
CW-85 218-04	B	52	101	<0.1	27	<5
CW-85 219-02	B	53	63	<0.1	4	<5
CW-85 220-03	B	24	117	<0.1	2	<5
CW-85 221-04	B	84	77	<0.1	7	<5
CW-85 222-02	B	108	103	<0.1	7	<5
CW-85 223-03	B	77	113	<0.1	13	5
CW-85 224-02	B	119	102	<0.1	15	<5
CW-85 225-02	B	66	113	<0.1	2	<5
CW-85 226-04	B	63	90	<0.1	274	45
CW-85 227-12	B	98	98	<0.1	3	5

APPENDIX F

BONDAR-CLEGG DC PLASMA WHOLE ROCK ANALYSIS

BEDROCK CHIP SAMPLES

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 015-4000

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT
CW-85-01-03-B		58.20	0.58	14.30	6.00	0.09	4.72	5.05	2.01	1.80	0.22	6.40	99.37
CW-85-02-04-B		68.80	0.38	15.00	3.09	0.05	1.00	3.54	4.13	2.45	0.23	2.65	101.32
CW-85-03-03-B		59.80	0.73	15.30	8.85	0.15	4.24	5.02	3.02	1.37	0.23	2.30	101.00
CW-85-04-03-B		57.50	0.67	15.70	9.27	0.13	3.39	3.08	2.92	1.09	0.19	4.05	97.99
CW-85-05-11-B		48.80	1.90	15.00	12.90	0.17	5.00	6.15	3.93	1.86	0.35	4.75	100.81
CW-85-06-26-B		60.80	0.62	14.30	6.99	0.10	5.03	5.23	2.16	1.95	0.31	2.95	100.44
CW-85-07-17-B		53.40	0.67	14.80	14.40	0.14	3.87	4.64	2.72	0.22	0.17	6.25	101.28
CW-85-08-12-B		61.70	0.49	17.40	4.89	0.07	2.74	4.78	6.83	2.02	0.45	0.45	101.82
CW-85-09-21-B		63.40	0.35	15.90	3.65	0.06	2.07	3.30	6.41	2.69	0.28	1.15	99.24
CW-85-10-07-B		47.70	1.83	14.50	17.30	0.23	5.86	6.50	4.39	1.84	0.32	0.75	101.22
CW-85-11-12-B		59.20	0.69	16.70	10.08	0.13	3.54	3.20	3.09	1.48	0.06	0.40	98.56
CW-85-12-08-B		62.40	0.60	14.40	6.71	0.10	4.92	5.00	2.04	2.01	0.12	0.30	98.59
CW-85-13-02-B		65.20	0.54	14.90	5.59	0.07	2.46	3.13	3.53	2.00	0.09	0.75	98.26
CW-85-14-01-B		58.50	0.36	11.90	6.20	0.03	1.63	0.97	3.23	1.97	0.09	13.20	98.08
CW-85-15-02-B		63.60	0.35	16.60	3.66	0.06	1.78	3.62	6.04	2.88	0.40	0.15	99.15
CW-85-16-02-B		46.60	1.84	13.80	18.60	0.27	6.47	9.78	3.07	0.44	0.23	0.20	101.30
CW-85-17-01-B		53.70	0.86	13.60	14.70	0.25	3.76	6.77	3.21	1.15	0.21	1.95	100.16
CW-85-18-02-B		50.40	1.61	13.10	16.00	0.22	6.17	8.11	3.79	0.46	0.28	0.60	100.74
CW-85-19-15-B		70.70	0.24	13.20	2.07	0.04	0.78	1.98	5.45	1.37	0.18	1.55	97.55
CW-85-20-07-B		64.80	0.44	15.30	3.55	0.05	1.37	3.48	5.75	2.45	0.23	1.40	98.81
CW-85-21-08-B		49.30	0.74	14.70	13.70	0.24	7.06	8.58	3.19	1.33	0.26	2.05	101.15
CW-85-22-08-B		56.10	0.94	17.70	10.90	0.24	2.20	5.44	5.29	1.26	0.13	1.50	101.69
CW-85-23-02-B		61.10	0.64	15.40	6.01	0.10	4.16	5.26	5.03	1.34	0.31	1.35	100.70
CW-85-24-16-B		53.30	1.86	13.80	14.70	0.24	4.42	7.31	3.77	0.74	0.35	1.15	101.64
CW-85-25-02-B		53.40	1.49	13.80	14.20	0.27	5.58	6.43	3.05	0.61	0.34	1.50	100.68
CW-85-26-14-B		52.60	1.27	14.50	12.50	0.21	4.36	9.30	2.63	1.05	0.28	1.55	100.25
CW-85-27-25-B		65.50	0.57	14.30	4.91	0.08	1.45	4.18	4.65	1.43	0.31	3.70	101.08
CW-85-29-25-B		62.50	0.56	13.80	5.09	0.08	1.24	5.75	4.15	1.60	0.30	5.15	100.22
CW-85-30-24-B		50.10	0.43	11.20	3.93	0.14	1.78	15.60	3.18	1.06	0.25	12.80	100.48
CW-85-31-19-B		64.90	0.55	14.20	5.40	0.09	1.95	5.12	3.66	1.22	0.36	5.15	101.70
CW-85-32-05-B		65.50	0.46	13.90	8.46	0.12	3.42	1.90	2.37	1.13	0.17	2.75	100.19
CW-85-33-13-B		63.10	0.54	15.10	6.64	0.07	2.06	5.13	4.63	0.98	0.38	2.75	101.38
CW-85-34-04-B		56.10	0.98	14.40	8.41	0.14	5.54	6.31	3.05	0.53	0.43	4.90	100.79
CW-85-35-02-B		51.60	0.71	16.60	7.15	0.13	3.70	6.80	5.08	1.33	0.51	6.60	100.20
CW-85-36-02-B		64.70	0.55	12.40	5.01	0.09	1.89	3.16	2.23	2.11	0.18	5.45	97.76
CW-85-37-02-B		41.00	0.42	6.75	7.77	0.16	9.50	12.30	0.50	2.74	0.38	19.20	100.74
CW-85-38-04-B		66.80	0.36	15.40	3.59	0.04	2.03	1.59	3.03	3.26	0.07	1.95	98.13
CW-85-39-03-B		69.30	0.37	16.60	3.71	0.04	2.09	1.71	3.15	0.30	0.11	1.90	99.27
CW-85-50-02-B		60.40	0.53	14.80	4.60	0.11	0.78	4.72	2.83	3.99	0.19	4.95	97.89
CW-85-51-02-B		77.00	0.30	8.05	2.66	0.09	0.66	2.21	1.60	1.62	0.28	2.90	97.31

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 015-4000

PROJECT: NONE PAGE 2A

SAMPLE NUMBER	ELEMENT UNITS	SiO_2 PCT	TiO_2 PCT	Al_2O_3 PCT	Fe_2O_3* PCT	MnO PCT	MgO PCT	CaO PCT	Na_2O PCT	K_2O PCT	P_2O_5 PCT	LOI PCT	Total PCT
CW-85-52-03-B		70.70	0.41	11.20	3.49	0.11	0.74	2.06	2.95	2.16	0.20	3.25	97.27
CW-85-53-03-B		61.60	0.58	14.70	6.16	0.13	2.43	3.95	4.04	1.24	0.19	6.00	101.02

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 015-4253

PROJECT: NONE PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT
CW-85-40-03B		51.20	0.81	13.20	7.72	0.12	2.26	9.76	1.48	1.11	0.60	9.50	97.76
CW-85-41-02B		47.20	1.54	13.70	10.30	0.17	1.86	9.79	2.31	2.00	0.55	8.75	98.16
CW-85-42-01B		57.10	0.58	15.50	6.04	0.07	2.39	5.95	2.22	1.75	0.23	6.05	97.88
CW-85-43-03B		54.50	0.68	14.00	8.24	0.10	2.02	7.84	4.02	1.03	0.29	8.80	101.53
CW-85-44-03B		63.10	0.52	14.50	6.01	0.14	3.53	1.34	1.61	0.88	0.32	5.70	97.86
CW-85-45-09B		65.80	0.47	15.00	3.86	0.04	1.70	3.65	4.34	1.24	0.25	1.40	97.75
CW-85-46A-27B		62.10	0.55	14.40	4.64	0.07	1.69	5.07	3.30	1.82	0.32	3.60	97.56
CW-85-47-03B		68.20	0.48	14.30	3.39	0.05	1.24	3.15	3.81	1.79	0.15	1.10	97.65
CW-85-48-03B		60.30	0.43	13.30	3.01	0.06	1.31	3.81	4.45	1.36	0.25	9.70	97.98
CW-85-49-03B		63.00	0.53	15.10	4.34	0.07	1.76	4.56	4.34	1.06	0.29	2.70	97.75
CW-85-54-04B		59.60	0.48	12.70	6.03	0.11	2.27	4.37	2.96	1.16	0.20	7.75	97.63
CW-85-55-03B		63.10	0.62	15.10	6.38	0.09	2.36	2.34	3.68	1.16	0.18	3.65	98.66
CW-85-56-04B		71.60	0.15	5.10	3.12	0.08	2.78	5.59	1.21	0.31	0.25	7.60	97.78
CW-85-57-04B		60.10	0.62	15.00	6.78	0.19	2.54	4.96	3.08	1.18	0.21	6.90	101.57
CW-85-58-08B		62.90	0.60	14.50	5.33	0.15	1.52	2.70	4.84	1.20	0.23	3.50	97.47
CW-85-59-09B		65.00	0.39	13.30	5.17	0.17	1.34	3.88	3.52	1.35	0.18	4.40	98.70
CW-85-60-02B		60.70	0.45	13.10	4.84	0.09	2.13	6.51	2.86	1.48	0.21	4.65	97.02
CW-85-61-02B		61.20	0.47	13.50	5.14	0.09	1.76	5.87	3.77	1.03	0.07	5.45	98.35
CW-85-62-02B		55.30	0.48	15.60	14.30	0.09	1.76	3.83	4.40	1.35	0.28	3.90	101.28
CW-85-63-05B		63.10	0.49	13.70	5.07	0.12	1.86	5.97	2.64	1.23	0.19	2.90	97.27
CW-85-64-02B		67.00	0.54	14.90	3.82	0.02	1.27	0.42	4.83	1.64	0.22	2.90	97.56
CW-85-65-01B		66.20	0.50	12.30	3.57	0.08	1.27	4.41	2.60	1.79	0.29	4.85	97.85
CW-85-66-03B		53.40	0.55	10.70	6.51	0.13	7.36	8.13	3.16	0.22	0.31	7.35	97.81
CW-85-67-05B		58.20	0.50	13.50	3.69	0.13	0.98	8.48	3.64	1.87	0.37	6.25	97.61
CW-85-68-07B		62.80	0.47	12.80	5.02	0.09	2.50	4.98	3.07	1.72	0.20	4.10	97.74
CW-85-69-01B		51.00	0.85	15.50	7.15	0.10	2.93	9.04	1.66	2.78	0.57	8.90	100.48
CW-85-70-12B		59.60	0.48	14.10	7.68	0.35	2.08	5.13	4.70	1.40	0.09	4.40	100.01

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0060

PROJECT: NONE PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	SiO_2 PCT	TiO_2 PCT	Al_2O_3 PCT	Fe_2O_3* PCT	MnO PCT	MgO PCT	CaO PCT	Na_2O PCT	K_2O PCT	P_2O_5 PCT	LOI PCT	Total PCT
CW-85-71-13-B		52.10	1.04	16.80	10.90	0.16	4.24	7.83	3.76	2.83	0.33	1.00	100.99
CW-85-72-13-B		56.20	1.12	16.90	10.60	0.07	3.01	0.60	4.25	3.20	0.44	2.60	99.00
CW-85-73-02-B		63.20	0.30	11.30	4.32	0.02	0.90	0.63	2.83	1.39	<0.01	12.15	97.04
CW-85-74-03-B		64.60	0.49	15.50	5.54	0.13	1.02	5.09	2.70	2.11	0.06	4.25	101.49
CW-85-75-07-B		65.50	0.61	16.20	5.09	0.08	2.50	4.31	4.55	1.42	0.22	1.10	101.58
CW-85-76-03-B		48.10	0.80	12.40	9.50	0.21	7.69	12.50	0.47	0.09	0.32	9.10	101.18
CW-85-77-03-B		68.90	0.56	15.10	4.01	0.07	1.95	4.19	4.65	1.21	0.22	1.00	101.86
CW-85-78-02-B		64.20	0.51	14.50	6.99	0.22	1.70	3.66	3.30	1.31	0.19	1.00	97.58
CW-85-79-02-B		64.20	0.59	14.50	5.06	0.10	1.95	4.87	4.00	1.29	0.30	1.60	98.47
CW-85-80-02-B		64.20	0.65	15.70	5.13	0.08	2.67	3.74	5.05	1.49	0.23	1.10	100.04
CW-85-81-09-B		60.90	0.46	13.40	5.05	0.08	2.95	3.77	3.94	1.51	0.24	5.40	97.70
CW-85-82-02-B		58.50	0.66	14.90	7.32	0.13	2.42	3.73	2.52	1.42	0.28	6.40	98.28
CW-85-83-02-B		62.90	0.51	14.90	4.99	0.08	2.00	3.84	3.31	1.47	0.28	4.30	98.58
CW-85-84-01-B		57.10	0.67	15.80	7.81	0.13	3.31	4.36	2.72	1.44	0.20	6.00	99.55
CW-85-85-02-B		64.40	0.26	15.70	2.65	0.09	1.47	5.50	3.93	1.51	0.28	5.50	101.29
CW-85-86-02-B		64.30	0.69	16.20	6.88	0.09	2.45	2.19	2.71	2.32	0.34	3.40	101.57
CW-85-87-02-B		60.90	0.62	14.20	7.16	0.15	2.32	3.86	2.28	1.71	0.20	4.60	98.01
CW-85-88-04-B		60.60	0.70	17.30	7.91	0.10	2.62	2.73	2.98	1.96	0.24	4.00	101.13
CW-85-89-16-B		57.00	0.59	15.40	5.47	0.11	2.29	8.08	3.83	1.74	0.27	6.50	101.28
CW-85-90-12-B		62.40	0.41	12.80	4.40	0.12	2.61	9.07	2.97	1.88	0.16	4.85	101.68
CW-85-91-06-B		66.10	0.49	14.00	4.09	0.04	1.02	4.71	3.74	1.55	0.14	4.35	100.23
CW-85-92-05-B		64.40	0.50	14.80	4.29	0.07	1.29	5.34	3.82	1.48	0.20	5.20	101.39
CW-85-93-13-B		61.40	0.53	14.70	4.62	0.06	2.45	4.43	4.08	1.37	0.32	4.20	98.16
CW-85-94-06-B		65.30	0.56	15.50	4.80	0.05	1.87	3.37	4.10	1.66	0.20	4.00	101.42
CW-85-95-04-B		69.90	0.42	12.90	3.64	0.04	1.51	1.91	2.99	1.19	0.27	2.60	97.37
CW-85-96-07-B		64.50	0.44	12.90	3.94	0.07	1.63	4.58	2.47	2.23	0.22	4.25	97.23
CW-85-97-04-B		61.90	0.50	14.30	4.40	0.06	1.32	5.82	3.73	1.82	0.17	5.10	99.12
CW-85-98-04-B		67.70	0.49	14.60	1.21	0.03	0.45	3.98	3.72	1.75	0.21	3.95	98.08
CW-85-99-02-B		63.00	0.51	14.50	4.94	0.09	1.89	4.63	4.54	1.55	0.24	2.35	98.23
CW-85-100-01-B		44.70	0.70	10.10	9.67	0.18	12.40	9.99	1.49	0.99	0.43	8.65	99.30
CW-85-101-10-B		49.90	1.31	13.10	15.90	0.23	4.84	7.34	3.55	0.66	0.25	0.45	97.53
CW-85-102-01-B		65.60	0.83	10.40	9.96	0.19	1.96	2.81	3.26	0.76	0.17	1.20	97.14
CW-85-103-06-B		49.70	2.09	11.70	16.50	0.35	3.40	8.85	2.41	0.68	0.24	5.90	101.82
CW-85-104-01-B		53.20	1.55	15.20	13.40	0.31	5.11	4.02	3.03	0.77	0.34	4.75	101.68
CW-85-105-02-B		52.50	2.07	13.50	12.20	0.25	3.92	6.48	2.72	0.69	0.55	5.60	100.48
CW-85-106-02-B		52.20	2.13	12.40	11.80	0.29	3.69	6.71	2.54	0.51	0.50	6.20	98.97
CW-85-107-03-B		54.20	2.39	13.10	13.80	0.29	4.05	7.35	1.53	0.30	0.51	3.20	100.72
CW-85-108-02-B		55.50	1.96	13.50	8.72	0.22	3.30	6.29	4.37	0.32	0.59	4.45	99.22
CW-85-109-01-B		47.40	2.29	12.70	18.30	0.40	4.19	9.68	0.55	0.85	0.46	4.95	101.78
CW-85-110-11-B		53.80	1.50	14.80	11.00	0.31	5.12	8.67	3.99	0.52	0.45	1.15	101.31

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0060

PROJECT: NONE PAGE 2A

SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT
CW-85-111-02-B		51.60	1.03	14.70	10.70	0.20	6.74	11.60	1.77	0.28	0.35	2.05	101.02
CW-85-112-04-B		44.40	1.83	15.00	15.80	0.18	5.20	8.08	5.05	1.45	0.51	4.30	101.80
CW-85-113-06-B		52.00	1.61	13.20	14.00	0.26	4.38	9.73	5.21	0.31	0.40	0.55	101.65
CW-85-114-05-B		66.00	0.33	14.70	2.90	0.07	1.15	3.37	5.26	1.02	0.03	3.20	98.03
CW-85-115-08-B		63.80	0.51	15.30	4.95	0.09	2.16	3.01	2.61	2.00	0.30	4.35	98.09
CW-85-116-17-B		60.40	0.57	15.00	5.93	0.11	2.11	3.03	2.40	1.92	0.23	6.10	97.80
CW-85-117-08-B		47.80	1.35	13.60	15.20	0.30	5.58	8.32	2.52	0.27	0.27	2.75	97.97
CW-85-118-06-B		49.70	1.87	12.30	16.70	0.21	3.85	7.27	5.10	0.70	0.33	0.20	98.22
CW-85-119-02-B		56.30	1.30	14.10	7.39	0.18	3.46	8.22	5.08	0.90	0.31	0.70	97.94
CW-85-120-02-B		65.50	0.57	13.30	5.86	0.11	1.09	3.28	3.46	2.57	0.23	1.40	97.37
CW-85-121-02		59.10	1.07	14.80	8.72	0.18	1.86	4.44	3.56	1.69	0.59	1.30	97.31
CW-85-122-02		63.90	0.47	14.80	4.17	0.07	1.23	4.01	4.33	2.45	0.22	1.75	97.40
CW-85-123-02		54.30	1.65	13.40	12.30	0.22	5.86	6.33	2.64	1.09	0.14	1.20	99.13
CW-85-124-02		51.40	0.80	12.50	8.87	0.15	9.23	9.30	3.54	1.92	0.55	2.00	100.26
CW-85-125-02		45.80	1.62	15.40	16.70	0.20	6.52	11.80	1.65	0.46	0.12	0.90	101.17
CW-85-126-02		53.60	0.59	11.50	8.88	0.16	10.10	10.60	3.51	1.01	0.30	1.65	101.90
CW-85-127-07-B		58.20	0.57	15.80	6.33	0.12	5.33	7.18	4.98	1.98	0.29	0.70	101.48
CW-85-128-02-B		50.70	0.59	17.40	8.57	0.15	6.51	10.70	2.21	1.63	0.10	1.55	100.11
CW-85-129-04-B		59.60	0.53	16.40	6.08	0.10	4.38	7.15	5.13	1.11	0.29	1.10	101.87
CW-85-130-05-B		58.70	1.13	13.40	10.00	0.22	4.40	8.18	3.73	1.22	0.12	0.65	101.75
CW-85-131-02-B		64.80	0.40	14.40	3.80	0.07	2.42	6.59	2.13	1.76	0.13	1.00	97.50
CW-85-132-03-B		65.30	0.41	14.60	3.91	0.05	2.50	4.40	3.84	1.41	0.17	0.65	97.25
CW-85-133-03-B		61.70	0.60	15.70	5.43	0.08	3.04	5.10	4.56	1.72	0.06	0.65	98.63
CW-85-134-07-B		63.10	0.51	14.90	5.18	0.08	3.32	4.43	3.76	1.04	0.15	1.00	97.47
CW-85-135-04-B		64.00	0.58	15.00	4.72	0.06	3.01	3.16	5.00	1.60	0.25	0.30	97.68
CW-85-136-03-B		51.80	1.46	14.00	14.80	0.20	5.10	9.34	2.77	0.51	0.17	0.80	100.95
CW-85-137-01-B		63.90	0.52	15.60	5.93	0.15	4.04	4.26	3.57	1.58	0.16	1.60	101.31
CW-85-138-06-B		63.40	0.56	15.40	6.67	0.09	3.47	4.17	4.20	1.48	0.21	1.80	101.45
CW-85-139-14-B		65.00	0.31	16.30	3.20	0.05	1.68	3.55	5.96	2.09	0.08	0.80	99.03
CW-85-140-05-B		46.90	1.12	15.00	12.90	0.23	6.03	9.70	3.88	0.68	0.10	1.20	97.74
CW-85-141-12-B		51.90	1.85	14.90	9.48	0.22	4.35	9.68	4.31	0.73	0.20	1.10	98.72
CW-85-142-17-B		49.60	0.91	14.70	10.36	0.19	6.63	10.50	3.55	0.18	0.06	1.30	97.98
CW-85-143-12-B		49.70	1.88	14.70	13.90	0.20	2.88	6.44	5.68	1.02	0.10	0.85	97.34
CW-85-144-02-B		54.80	1.78	12.60	11.30	0.29	3.93	7.23	3.21	0.74	0.31	1.10	97.29
CW-85-145-04-B		58.20	0.98	8.95	9.55	0.15	4.20	6.29	1.01	0.50	0.03	10.00	99.87
CW-85-146-02-B		59.90	0.59	16.40	6.10	0.09	1.83	2.02	2.74	2.30	0.04	5.45	97.46
CW-85-147-02-B		48.40	2.03	12.60	14.80	0.23	3.72	8.31	3.04	0.22	0.24	8.05	101.63
CW-85-148-04-B		46.40	1.74	14.00	10.10	0.20	4.48	7.47	2.22	0.95	0.31	11.70	99.56
CW-85-149-01-B		42.50	1.22	14.00	12.50	0.20	8.03	5.80	1.02	0.30	0.30	12.20	98.08

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0064

PROJECT: NONE

SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT
CW-85 150-02 B		44.50	0.94	15.60	7.88	0.17	4.91	7.22	3.99	1.20	0.26	11.80	98.46
CW-85 151-02 B		51.90	1.97	12.40	14.40	0.26	4.11	5.40	2.14	0.43	0.24	5.11	98.36
CW-85 152-03 B		44.60	1.23	8.77	25.10	0.59	4.52	9.11	1.07	0.75	0.19	2.60	98.53
CW-85 153-03 B		51.90	2.11	11.30	18.10	0.24	3.45	4.80	2.57	0.44	0.41	3.10	98.42
CW-85 154A-03 B		61.70	0.61	13.50	9.53	0.10	2.70	2.70	2.29	1.73	0.25	2.95	98.09
CW-85 155-01 B		48.60	0.60	15.00	9.41	0.16	4.26	10.00	2.81	0.03	0.22	6.80	97.89
CW-85 156-06 B		55.40	1.86	13.10	13.20	0.16	0.95	3.74	1.96	0.40	0.54	5.90	97.21
CW-85 157-02 B		36.40	0.72	8.69	20.60	0.49	3.29	12.10	0.29	0.31	0.33	15.45	98.67
CW-85 158-02 B		61.10	1.02	14.50	6.73	0.12	1.21	3.54	5.69	0.68	0.38	2.95	97.92
CW-85 159-02 B		49.40	0.81	6.30	12.30	0.23	13.50	16.20	1.42	0.09	0.24	0.75	101.23
CW-85 160-02 B		69.30	0.47	13.50	3.23	0.05	2.93	3.07	0.65	1.81	0.35	2.05	97.41
CW-85 161-16 B		65.20	0.35	15.70	3.48	0.06	1.92	3.85	5.42	2.43	0.32	0.50	99.23
CW-85 162-03 B		49.90	1.90	13.30	16.80	0.34	4.00	9.71	3.79	0.72	0.40	<0.01	100.86
CW-85 163-08 B		48.50	1.46	13.60	12.80	0.42	6.21	10.70	4.61	0.90	0.40	1.65	101.15
CW-85 164-05 B		51.80	1.53	11.90	12.40	0.20	3.26	7.03	5.65	0.94	0.35	2.50	97.56
CW-85 165-03 B		55.10	2.03	14.00	14.50	0.25	2.40	6.73	2.64	0.85	0.33	2.00	100.83
CW-85 166-12 B		51.40	1.84	13.80	14.60	0.27	2.74	9.07	3.62	0.45	0.46	1.30	99.55
CW-85 167-02 B		45.60	1.68	12.60	21.70	0.44	4.55	7.22	3.43	0.68	0.31	1.05	99.26
CW-85 168-12 B		72.90	0.14	13.00	1.57	0.03	0.44	1.10	5.81	1.91	0.11	0.40	97.42
CW-85 169-10 B		49.50	1.57	14.20	16.40	0.24	4.23	8.59	3.95	0.37	0.27	0.65	99.96
CW-85 170-05 B		48.30	0.61	15.60	11.90	0.21	6.46	13.50	2.39	0.34	0.10	1.55	100.95
CW-85 171-06 B		47.30	0.56	14.90	10.70	0.18	7.48	9.92	2.13	2.07	0.12	3.35	98.71
CW-85 172-04 B		50.30	1.77	14.90	14.80	0.20	2.90	7.66	3.75	0.61	0.26	0.85	98.00
CW-85 173-02 B		48.60	1.15	13.40	15.60	0.21	6.37	9.83	2.80	0.22	0.31	0.65	99.14
CW-85 174-02 B		50.30	0.81	17.20	9.28	0.18	5.40	9.14	3.64	0.34	0.25	3.67	100.22
CW-85 175-02 B		49.20	1.70	12.40	14.70	0.35	4.38	7.57	1.70	0.71	0.32	8.95	101.98
CW-85 177-06 B		46.70	1.26	10.10	14.60	0.20	5.18	9.02	2.19	0.71	0.14	8.70	98.79
CW-85 178-08 B		44.50	0.62	10.60	7.32	0.16	11.50	9.72	3.06	0.10	0.36	13.85	101.80
CW-85 179-01 B		54.10	1.89	11.80	13.60	0.23	3.26	5.81	3.65	0.20	0.29	5.40	100.23
CW-85 180-07 B		61.40	1.11	15.70	7.32	0.12	2.72	2.65	6.77	0.07	0.41	1.80	100.08
CW-85 181-08 B		42.10	1.12	13.10	10.90	0.21	2.53	12.20	2.92	1.31	0.20	11.70	98.29
CW-85 182-02 B		42.40	0.80	12.70	12.50	0.22	4.04	12.60	0.55	0.37	0.09	12.95	99.22
CW-85 183-04 B		49.20	1.00	13.60	13.90	0.24	8.13	7.08	2.95	0.10	0.13	3.55	99.88
CW-85 184-06 B		42.50	1.06	10.30	17.80	0.61	3.11	10.10	1.12	0.29	0.17	13.85	100.91
CW-85 185-01 B		49.40	0.47	11.40	10.80	0.15	8.79	7.09	1.07	0.03	0.04	9.15	98.39
CW-85 186-01 B		45.70	1.65	11.80	17.30	0.25	4.34	8.37	2.06	0.14	0.03	6.85	98.48
CW-85 187-02 B		47.40	0.51	12.20	8.18	0.23	4.68	9.40	1.92	0.59	0.18	13.80	99.09
CW-85 188-01 B		49.10	0.63	15.30	12.90	0.20	4.91	9.18	0.92	0.01	0.04	5.85	99.05
CW-85 189-01 B		47.40	0.57	16.40	11.70	0.20	6.03	10.70	2.24	0.19	0.15	4.50	100.08
CW-85 190-04 B		46.80	1.01	11.70	14.50	0.25	5.96	10.90	2.18	0.24	0.01	4.80	98.35

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

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Geochemical Lab Report

REPORT: 016-0064

PROJECT: NONE PAGE 2A

SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT
CW-85 191-04 B		48.10	0.91	19.90	10.50	0.18	3.38	9.10	3.65	0.19	0.14	3.20	99.24
CW-85 192-08 B		38.80	0.47	11.10	9.25	0.19	8.07	11.40	0.26	1.44	0.18	15.95	97.10
CW-85 193-04 B		46.80	1.27	14.00	13.70	0.20	6.45	8.49	2.27	0.10	0.16	4.45	97.89
CW-85 194-03 B		47.10	1.20	15.00	12.50	0.19	5.16	7.67	3.39	0.42	0.17	7.60	100.40

egg & Company Ltd.
anotek Rd.,
a, Ontario,
ada K1J 8X5
none: (613) 749-2220
Telex: 053-3233

BONDAR-CLEGG

Geochemical Lab Report

REPORT: 016-0890

PROJECT: NONE PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	Total PCT
CW-85-195-08	B	54.20	3.48	13.40	13.10	0.24	3.24	6.73	3.45	0.27	0.60	2.80	101.51
CW-85-196-02	B	62.60	0.58	16.00	5.61	0.09	3.97	2.66	4.85	1.34	0.54	2.55	100.79
CW-85-197-12	B	61.60	1.31	15.80	6.36	0.13	2.02	4.17	5.57	2.36	0.67	1.05	101.04
CW-85-198-15	B	45.50	1.82	13.50	20.50	0.42	2.57	6.72	4.83	1.12	0.23	2.20	99.41
CW-85 199-21	B	47.30	0.63	15.60	11.60	0.20	7.19	13.90	2.45	0.54	0.33	1.60	101.34
CW-85 200-11	B	46.80	0.84	13.70	10.70	0.20	6.33	11.00	1.52	0.15	0.27	6.60	98.11
CW-85 201-18	B	49.80	0.64	14.90	11.00	0.16	5.54	10.80	3.56	0.53	0.15	2.30	99.38
CW-85 202-08	B	51.50	1.23	14.10	16.20	0.20	3.81	6.24	5.56	1.34	0.09	1.15	101.42
CW-85 203-02	B	49.00	0.89	14.00	9.80	0.18	4.21	9.09	2.48	1.20	0.15	9.25	100.25
CW-85 204-02	B	46.50	0.81	12.40	11.30	0.20	3.70	11.30	1.98	0.33	0.19	12.30	101.01
CW-85 205-03	B	41.40	0.70	11.10	11.60	0.26	4.68	13.20	1.73	0.40	0.09	16.25	101.41
CW-85 206-06	B	45.80	1.63	11.90	15.80	0.21	3.69	7.50	2.60	0.29	0.19	11.40	101.01
CW-85 207-10	B	48.60	1.53	10.80	13.00	0.29	2.95	8.50	2.37	0.27	0.24	10.95	99.50
CW-85 208-08	B	50.60	1.28	10.20	12.70	0.31	3.05	9.17	2.18	0.51	0.10	10.95	101.05
CW-85 209-10	B	43.20	1.23	8.85	17.80	0.42	3.03	8.26	1.82	0.24	0.18	13.75	98.78
CW-85 210-08	B	47.20	1.33	12.70	15.40	0.27	3.97	5.79	2.65	0.79	0.12	9.50	99.72
CW-85 211-02	B	40.80	1.10	10.80	14.70	0.31	4.00	10.80	2.40	0.38	0.18	16.35	101.82
CW-85 212-02	B	49.10	1.00	13.70	10.90	0.16	6.28	11.10	4.08	0.08	0.18	5.05	101.63
CW-85 213-07	B	46.20	1.54	12.40	15.30	0.28	2.88	7.50	2.48	0.38	0.21	11.35	100.52
CW-85 214-06	B	25.90	0.34	6.57	32.80	0.88	5.18	5.61	0.85	0.38	0.21	22.20	100.92
CW-85 215-05	B	56.60	0.54	15.80	8.40	0.09	2.79	2.61	2.99	1.91	0.25	8.35	100.33
CW-85 216-03	B	44.00	1.24	11.20	13.30	0.28	2.88	7.56	2.02	0.38	0.23	16.10	99.19
CW-85 217-05	B	44.10	1.43	12.60	14.00	0.31	2.98	8.42	2.23	0.38	0.29	13.50	100.24
CW-85 218-04	B	47.40	1.14	15.20	10.30	0.21	4.41	6.92	2.59	1.59	0.42	11.10	101.28
CW-85 219-02	B	62.80	0.83	13.10	7.66	0.15	1.66	3.88	3.04	0.70	0.36	5.65	99.83
CW-85 220-03	B	64.30	0.42	13.80	5.01	0.10	1.12	4.08	2.12	2.16	0.26	5.25	98.62
CW-85 221-04	B	43.30	0.99	13.50	10.80	0.17	5.94	9.07	1.36	0.81	0.21	15.10	101.25
CW-85 222-02	B	45.70	0.67	10.70	11.60	0.24	3.40	13.20	0.61	1.17	0.10	12.30	99.69
CW-85 223-03	B	40.40	1.39	11.80	17.30	0.47	3.83	10.00	1.57	0.69	0.11	13.05	100.61
CW-85 224-02	B	51.90	1.64	14.70	12.00	0.18	3.05	5.32	4.37	0.23	0.30	6.55	100.24
CW-85 225-02	B	45.50	3.30	15.90	15.30	0.20	4.08	8.94	3.02	1.53	0.40	2.30	100.47
CW-85 226-04	B	50.40	1.70	12.40	12.00	0.17	2.06	5.97	3.83	0.46	0.19	12.05	101.23
CW-85 227-12	B	44.80	0.69	13.40	10.50	0.23	2.83	12.30	1.77	0.38	0.13	13.05	100.08

APPENDIX G

BINOCULAR LOGS - BEDROCK CHIP SAMPLES

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
CW-85 01-03	light green to medium grey-black	schistose	0.1 (matrix) to 0.4 (grains)	quartz and feldspar grit to 0.4 mm scattered in a fine matrix of similar composition with light green to dark green chlorite; possibly minor graphite	quartz - 20% plagioclase - 50% biotite - 5% chlorite - 10-12%	5-7% interstitial calcite	—		greywacke
02-04	black to dark grey	fissile	<0.05	very fine, graphitic(?) sediment	undifferentiated due to fine grain size	1% calcite - thin stringers along fissility	1% pyrite + pyrrhotite - disseminated cubes and stringer like concentrations along fissility		mudstone (graphitic?)
03-03	medium grey	indistinctly foliated	0.1-0.2(?) (indistinct)	no distinct grain boundaries visible; biotite has a very poor preferred orientation; rock appears bleached - possibly hornfelsic	quartzo-feldspathic 5-7% biotite	3-4% calcite stringers and <1% interstitial calcite	<0.5% pyrite - disseminated		greywacke
04-03	medium grey to black	finely schistose to fissile 5-8% quartz-calcite veinlets/stringers parallel to foliation	<0.1	too fine grained to determine	quartzo-feldspathic with a minimum of 20% chlorite and minor sericite	2-4% calcite in veinlets	<0.5% pyrite - disseminated and as stringers and coatings along schistosity		siltstone
05-11	medium grey	finely schistose to fissile; crenulated 2-3% quartz-calcite veinlets/stringers	<0.1	too fine grained to determine	quartzo-feldspathic with 25% or more, light grey chlorite ± sericite	3% calcite - associated with veinlet quartz and interstitial within host rock	Faint trace disseminated pyrite		siltstone

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
06-26	a) medium grey (30%) to b) dark grey (70%)	a) schistose to b) Fissile 10-15% veinlet quartz	a) 0.1-0.5 b) <0.05	dark grey, very fine, fissile siltstone and medium grey, granular greywacke consisting of grains to 0.5 mm — (qz, plag) in a matrix of similar composition	—	—	0.5% pyrite associated with siltstone - disseminated and as stringers; 0.5% pyrite disseminated in vein material		greywacke and siltstone
07-17	medium to dark grey - local orange brown oxidation	schistose to fissile; approximately 5% veinlet and stringer quartz (rare calcite) paralleling Foliation	<0.1	very fine grained; a few chips display a spotted Foliation surface - incipient growth of metamorphic minerals	—	1% calcite associated with veinlet quartz and as coating along foliation planes	0.5-1.0% pyrite - disseminated and as local, stretched concentrations along foliation		siltstone
08-12	black	poorly foliated; fine hornblende imparts a lineation	0.1-0.2	sub-sugary - partially recrystallized; composed of plagioclase and finely crystalline black hornblende and biotite - upper greenschist to lower amphibolite grade metamorphism	plagioclase - 65% biotite - 15% hornblende - 5-10% chlorite - minor	trace calcite as Fracture coating	0.5% pyrite - disseminated and fracture Filling		greywacke
09-21	dark grey - black	foliated; banded	0.2-0.4	appears to possess a poor banding with hornblende rich laminae and plagioclase + biotite + hornblende layers - pseudo-gneissic; sugary texture (recrystallization) not readily apparent	plagioclase - 50% biotite - 15% hornblende - 10% chlorite - 5-8% quartz - >10 ?	<0.5% calcite as Fracture coating & interstitial	0.5%, or less, pyrite - local concentrations along Foliation		greywacke
10-07	black	massive - a poor lineation due to preferred orientation of hornblende is apparent	0.1-0.2	equigranular, interlocking; development of hornblende but recrystallization of plagioclase in not apparent	plagioclase - 35% hornblende - 55% (+ minor pyroxene) chlorite - 5% biotite - 5%	trace calcite along fractures	0.5% pyrite - disseminated and along Fractures	trace magnetite - disseminated	mafic volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
11-12	pink white-speckled black	massive	1-2 mm	hypidiomorphic -pink coloration may be due to Fe-staining or alteration or may be primary K-spar	feldspar {pink - 35 %, white - 35 %} quartz - 10% hornblende - 15% chlorite - 2-3 (alteration of hornblende) epidote - 3-5% - associated with hornblende	—	faint trace disseminated pyrite	<0.5% sphene - disseminated	syenite
12-08	pink-speckled black	massive	1-1.5mm	hypidiomorphic; pink color may be staining or alteration	Feldspar {pink - 55%, white - 20%} 15% hornblende with associated chlorite and epidote alteration - 2% chlorite, 2% epidote quartz - 5%	trace interstitial calcite	faint trace disseminated pyrite	0.5% sphene - disseminated trace magnetite - disseminated	syenite
13-02	dark green to black	schistose - sheared	0.3-1.0	much of original texture destroyed by shearing; relatively coarse grained with some relict grains which are stretched in plane of foliation; sheared example of bedrock from holes 11, 12	Feldspar - 65% hornblende - 25% chlorite - 10%	—	faint trace pyrite - disseminated		syenite
14-01	black	schistose 1-2% veinlet quartz	<0.1 to 0.1	slightly graphitic; minor amounts of grit in a very fine matrix	—	—	1-2% pyrite - disseminated and stringer like along foliation -trace chalcopyrite -0.5-1% sphalerite associated with veinlet quartz and stringer pyrite and disseminated		siltstone
15-02	pinkish white-speckled black	massive	0.5-2.0	hypidiomorphic	Feldspar {pink-, white-} 55% quartz - 20-25% hornblende - 15% epidote - 3-5% - associated with chloritic alteration of hornblende	—	—	0.5% sphene - disseminated	granodiorite

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
16-02	black	foliated - poor orientation of mafic minerals	0.2	generally equigranular with hornblende and plagioclase metacrysts to 2.0 mm (relict phenocrysts?); hornblende is euhedral -amphibolite-	plagioclase - 35% hornblende - 60% quartz - 5% (?)	—	0.5%, or less, pyrite - local concentration	trace sphene - disseminated	mafic volcanic
17-01	grey-green	very poor foliation - alignment of hornblende and possibly plagioclase	0.2-0.5	equigranular; 5% (or less) plagioclase phenocrysts to 3.0 mm	plagioclase - 70% hornblende - 20% chlorite - 3% quartz - 5%	—	2-3% pyrite/pyrrhotite throughout rock; no chalcopyrite observed in logging although noted previously		gabbro
18-01	black	foliated - alignment of prismatic hornblende and plagioclase; Fractured; 1% vein material - appears to be epidote and plagioclase - parallel to Foliation	0.1-0.2	equigranular; interlocking; amphibolite	plagioclase - 45% hornblende - 55%	—	trace pyrite - disseminated	minor red hematite staining	mafic volcanic
19-15	dark grey	foliated	aphanitic	siliceous - hard where massive; softer (chlorite ± sericite) along foliation; minor "knots" of chlorite to 0.5 mm are present	quartzo-feldspathic with chlorite	1-2% calcite - coating Fractures	trace pyrite - disseminated		rhyolite
20-07	greyish-white	massive	1.0	hypidiomorphic	plagioclase - 65% (white) quartz - 20% mafics - 10-12% - appears to be mostly chloritized hornblende but biotite may be present epidote - 1-2%	2% calcite - associated with chloritized mafics and as a Fracture coating	—		granodiorite

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
21-08	black	Foliated - orientation of prismatic horneblende 2% veinlet quartz-calcite	0.1-0.2	equigranular; retrograde alteration of horneblende to chlorite - incomplete	plagioclase - 60% hornblende - 40% (retrograded to chlorite to a small extent)	1% calcite - interstitial and within vein material	—		mafic volcanic
22-08	grey to pinkish grey	poorly gneissic	0.1 (or less)	sub-sugary; mafic rich and mafic poor bands - mafic poor bands are a pinkish color & resemble aplite	plagioclase - 70% mafics {hornblende - 5-10%, biotite - 15 mafic minerals are very fine and difficult to distinguish	1% moderately reactive carbonate - interstitial and as fracture filling	—		greywacke (gneissic)
23-02	grey to pinkish grey	poorly gneissic SIMILAR TO 22-08	0.1-0.2	Feldspathic, granulose layers with minor biotite and mafic rich layers consisting of plagioclase, biotite and amphibole	plagioclase - 80% biotite (altered to chlorite) - 20% in 80% of bedrock chips amphibole - 10% in 20% of bedrock chips	trace interstitial carbonate	trace pyrite - disseminated		greywacke (gneissic)
24-16	black	Foliated	0.2	black mafic rich and lighter colored Feldspathic material - may represent gneissic banding; possibly some relict plagioclase phenocrysts or porphyroblasts; minor alteration of mafics to chlorite and saussuritization of plagioclase	plagioclase - 50% amphibole (hornblende) - 40% chlorite - 10%	0.5% calcite - interstitial and fracture filling	0.5%, or less, pyrite - disseminated		mafic volcanic
25-02	black	foliated	0.1-0.4	appears micro-porphyritic or porphyroblastic with minor plagioclase crystals of 0.4mm in a matrix of 0.1-0.2 mm; somewhat similar in appearance to 24-16	plagioclase - 60% amphibole - 25% chlorite - 8-10%	—	trace pyrite - disseminated		mafic volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
26-14	black	foliated - alignment of prismatic amphibole - poorly gneissic	0.2	sub-sugary texture - recrystallized to a degree;	plagioclase - 60% amphibole - 30-40% (+ minor retrograde chlorite)	1-2% moderately reactive carbonate - interstitial and fracture/ Foliation coating	trace pyrite - disseminated		mafic volcanic
27-25	medium greenish-grey	poor Foliation	0.1 (matrix) to 2 mm (phenocrysts)	porphyritic - 25% plagioclase phenocrysts to 2.0 mm and 1-2% quartz phenocrysts in a fine grained, poorly foliated Feldspathic matrix	plagioclase - phenocrysts - 25 - matrix - mafics - 15-20% chlorite + light colored pyroxene/ amphibole	5-7% calcite - interstitial and stringer	<0.5% pyrite - local concentration along Foliation		intermediate volcanic (porphyritic)
28				NO BEDROCK SAMPLE					
29-25	light to medium greenish grey	foliated to schistose	<0.1 (matrix) to 1. mm (phenocrysts)	fine, Feldspathic matrix with 40% subhedral plagioclase phenocrysts and 1% blue quartz phenocrysts - masked to a degree by pervasive Foliation;	plagioclase - phenocrysts - 40% - matrix - 30% chlorite (+amphibole?) - 20% 5%, or less, quartz	3-5% calcite - interstitial and foliation plane coating	trace pyrite - disseminated		intermediate volcanic (porphyritic)
30-24	light to medium greenish-grey - bleached to a slight degree by vein material	schistose 15% vein calcite (+ minor quartz)	<0.2 (matrix) to 1.0 mm (phenocrysts)	porphyritic - 15% plagioclase phenocrysts to 1.0 mm - may be >15% phenocrysts but schistosity obscures this; 1%, or less, quartz phenocrysts	plagioclase - phenocrysts - 15% - matrix chlorite - 25-30% (± amphibole/pyroxene)	15% calcite - veins and interstitial within host rock	trace pyrite - disseminated		intermediate volcanic (porphyritic)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
31-18	medium greenish grey	highly schistose 1-2% quartz-carbonate vein material paralleling foliation	<0.1 (matrix) to 0.5 (phenocrysts)	5% plagioclase phenocrysts to 0.5mm and rare blue quartz phenocrysts in a fine, highly schistose, feldspar-chlorite matrix	plagioclase - 65% (total) chlorite - 25-30% quartz - 1%	5-7% calcite - interstitial & with qz veinlets along foliation	—	<0.5% leucoxene along foliation surfaces	intermediate volcanic (porphyritic)
32-05	medium greenish-grey -brown oxidation locally	schistose 10% vein quartz with local, minor tourmaline needles	<0.1 (matrix) to 1.0mm (phenocrysts)	porphyritic - 15% plagioclase and 1% or less quartz phenocrysts in a fine feldspar-chlorite ± amphibole/pyroxene matrix	plagioclase -phenos - 15% -matrix - 60% mafics — 25% (chlorite ± amphibole/pyroxene) quartz - 1-3%	—	<0.5% pyrite - associated with vein material and possibly a trace of bornite		intermediate volcanic (porphyritic)
33-13	medium greenish-grey	massive to very poorly foliated	<0.1 (matrix) to 2.0mm (phenocrysts)	porphyritic; 50% phenocrysts — 40-45% subhedral plagioclase phenocrysts and 5-10% anhedral clear to blue quartz phenocrysts in a feldspar-chlorite matrix	plagioclase -phenocrysts - 40% -matrix - 25% chlorite - 25% quartz - 5-10%	1-2% calcite - interstitial and associated with chloritic alteration	faint trace disseminated pyrite		intermediate volcanic (porphyritic)
34-04	medium green	foliated - finely to very finely banded (flow banding ??) 1-2% carbonate-quartz veinlets - crosscutting and parallel to foliation	<0.1	very finely banded, almost tuffaceous appearance but banding appears continuous	undifferentiated (due to fine grain size) feldspar and chlorite	1-2% calcite - mostly in veins - minor fracture coatings	—		intermediate volcanic
35-02	dark greenish grey	schistose 5% veinlet calcite + minor quartz	0.1 (matrix) to 0.6 (phenocrysts)	50% anhedral plagioclase phenocrysts to 0.6 mm in a fine chloritic matrix; the phenocrysts appear stretched in plane of foliation	plagioclase phenocrysts - 50% matrix - 15% chlorite - 25-30%	5% calcite - mostly in veinlets; minor interstitial calcite	to 0.5% pyrite - local concentrations in vein material and disseminated in rock		intermediate volcanic (porphyritic)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY Silicates	Carbonates	Sulphides	Other	NAME
36-02	grey	schistose; Fractured veined - silicified, carbonated; brecciated or sheared ?? - 20% "pure" vein material-remainder of rock highly altered - due to veining	?	complete destruction of original rock by introduction of silica and carbonate - remnant(?) chloritic-sericitic patches/stringers	chlorite/sericite - 15-20%	10% moderately to slowly reactive carbonate associated with silica	0.5%, or less, pyrite - disseminated	trace graphite	vein material-silica & carbonate (host rock unknown)
37-02	grey	foliated, fractured and sheared veined - silicified, carbonated 25% "pure" vein material-remainder of rock highly altered - due to veining SIMILAR TO 36-02	?	completely altered; similar in appearance to 36-02 but carbonate more pervasive; minor, thin chlorite-rich shear planes	chlorite/sericite - 15% to 20%	15-20% (or greater) moderately to slowly reactive pervasive carbonate	0.5-1% pyrite- disseminated and local concentrations associated with quartz	trace graphite	vein material-silica and carbonate (host rock unknown)
38-04	dark grey - slightly oxidized to beige	massive - Fractured; compositional (Flow?) banding in some chips; may be poorly foliated, may contain a few fine tuff laminae	aphanitic to 0.1 mm	hard - silica rich; compositional banding appears to indicate volcanic rather than pyroclastic origin	quartzo-Feldspathic	1% moderately reactive carbonate as a Fracture coating	Faint trace pyrite		Felsic volcanic (rhyolite to rhyodacite)
39-03	black	sub-conchoidal Fracture; may possess a poor Foliation	aphanitic	indistinct compositional (defined by slight color variations) banding; relatively hard - silica rich; - possibly very minor graphite	quartzo-Feldspathic	trace Fracture calcite	trace pyrite - disseminated		Felsic volcanic (rhyolite to rhyodacite)
40-03	medium greenish grey	strongly schistose; crenulated; schistosity may Follow a primary bedding	0.1	faintly tuffaceous, ashy appearance; light greenish white sericite (chlorite ?) defining Foliation	quartzo-Feldspathic chlorite/sericite - 15-20%	12-15% calcite - interstitial/ foliation coating	trace pyrite- disseminated		intermediate tuff

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
41-02	dark greenish grey	schistose; 10% veinlet/stringer carbonate along foliation	< 0.1	similar to 40, 42, etc, but more chlorite; no distinct tuffaceous appearance – more mafic than surrounding samples – imferred to be tuff due to similarity to other samples in the area & finely schistose nature	chlorite (green) – 20-25%	10-12% pervasive calcite in rock and along foliation	0.1-0.5% pyrite – finely discemmated		intermediate – mafic tuff
42-01	light green	highly schistose to fissile	aphanitic	very fine; appears bedded but too fine to determine if it is truly pyroclastic; moderately hard; appears bedded – light grey and medium green colored band; rare quartzitic bands (<0.2 mm in thickness)	(quartzo) feldspathic sericite – 20-25%	10-12% calcite – interstitial and along foliation	<0.5% pyrite – strung out along foliation surface		intermediate tuff
43-03	light grey	foliated – banded; compositional banding on the scale of 0.4 mm or less in thickness – mafic rich and mafic poor bands	<0.1 to aphanitic	banding very regular; very fine ath tuff with sericitic/chloritic foliation and light colored, hard siliceous material SIMILAR TO 42	(quartzo) Feldspathic 10-20% sericite 0-10% chlorite	15% interstitial calcite			intermediate tuff
44-03				a few weathered chips of sericite schist but not enough to log with confidence					
45-09	light to medium green	poorly foliated to massive	0.1	hard, light green volcanic with local lighter or darker elongated "spots" – stretched amygdules or possibly fragments; 1% chlorite filled amygdules to 0.6 mm	Feldspathic to quartzo-feldspathic – proportion and type of mafic minerals unknown	< 1% fracture and interstitial carbonate	trace pyrite – disseminated		intermediate volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
46A-27	medium to light green	foliated - schistose	0.1-0.2	10% distinct grains (plagioclase and rare quartz) to 0.8mm in a fine 0.1-0.2 mm matrix; much of matrix also appears to be sand grains	plagioclase - 70% quartz - 5% chlorite (grey) - 20-30%	5-7% calcite - interstitial and foliation	trace pyrite - disseminated		greywacke
47-03	dark grey to black	schistose	<0.1-0.2	sub-sugary, recrystallized texture; development of biotite defines foliation; granular texture locally visible in coarser portions of sample - 70% sand grains(?)	plagioclase - 70-80 quartz - ? biotite - 10-12% chlorite - 10%(?)	1% calcite - fracture and foliation coating	<0.5% pyrite - concentrated along foliation		greywacke
48-02	medium to pale grey	foliated; alignment of micas may define a primary flow banding	0.1 (matrix) phenocrysts to 3.0mm	porphyritic; subhedral feldspar phenocrysts to 3.0 mm (20-40%) and <5% quartz phenocrysts to 1.0mm; sub-sugary texture; aligned biotite curves around phenocrysts	plagioclase - 65% (total) quartz - 5-10% biotite - 15% chlorite - 10%	1% calcite - interstitial			feldspar porphyry
49-03	medium greenish grey	foliated - alignment of biotite and chlorite SIMILAR TO 48-02	0.1-0.2 matrix to 2.0mm (phenocrysts)	sub-sugary matrix; porphyritic; 20% feldspar phenocrysts of 0.3-2.0 mm in size; <5% blue quartz phenocrysts to 1.0 mm; local pink discoloration - iron staining	plagioclase - phenocrysts - 20 - matrix - 40% quartz - 5-10% biotite - 8% chlorite - 15%	3-4% calcite - interstitial and coating foliation planes			feldspar porphyry
50-02	dark grey	poorly foliated to massive; indistinct banding in some chips 3% veinlet carbonate - quartz	<0.1 to aphanitic	fine grained to aphanitic, greenish brown, faintly tuffaceous chips, and 15% grey blue aphanitic cherty fragments of 1mm in size	quartzo-feldspathic 15% mafic minerals (?)	3-5% interstitial & fracture carbonate	<0.5% pyrite - disseminated		intermediate lapilli tuff

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
51-02	light green host with 5% black rock chips, and 50% vein material (white)	foliated; 50% vein quartz - dark colored rock chips are vein material as well (chlorite rich) and possibly represent vein margins & silicified country rock	aphanitic	veining, silicification obscures much of texture; host is light green (-yellow), quartzo-feldspathic, and sericitic to a small extent	(quartzo?)-feldspathic with minor sericite	0.5-1% slowly reactive interstitial and fracture carbonate	0.5% pyrite + pyrrhotite - disseminated and as concentrations along foliation planes	green Fuchsite noted in a few chips	intermediate - Felsic volcanic -veined
52-03	light to medium grey - minor brown oxidation	may posses a poor foliation; 5% quartz veining	<0.1	siliceous - hard; too fine to observe texture; possibly silicified	quartzo-Feldspathic	1-2% slowly reactive interstitial carbonate	0.5% pyrite - mostly as fracture plane coating, but minor amounts are disseminated in rock	Faint dusting (<0.1%) of very fine black mineral - chlorite or possibly very fine pyrite	Felsic volcanic (rhyolite)
53-03	light to medium grey green	highly schistose; crenulated; 5% quartz segregations paralleling foliation - primary?	0.1-0.2(?)	sample is tuff or volcanic - 2 foliations impart a rubbly, tuffaceous appearance; 5% quartz eyes to 1.0mm; 5% quartz segregations; light beige yellow sericite defines foliation	quartzo-Feldspathic sericite - 15-20% (+chlorite)	1-2% moderately reactive carbonate - interstitial and associated with quartz segregations	0.5% pyrite - disseminated and local stringer-like concentrations		intermediate tuFF
54-04	medium grey-green	schistose - foliation appears to follow primary banding/bedding (?) - similar to 53-03 but crenulation cleavage less well developed - to 5% vein quartz	0.1	faintly rubbly tuffaceous appearance with fine yellow greenish-grey sericite defining foliation; thin seams of quartz along foliation - veins or quartz segregations as in 53-03; 1-3% quartz eyes to 1.5mm	quartzo-Feldspathic sericite - 10-15% (?) chlorite - 75% (?)	3-5% slowly reactive carbonate - interstitial, along foliation and associated with quartz segregations/veins	<0.5% pyrite - disseminated along foliation		intermediate tuFF
55-03	medium grey-green - slightly weathered	schistose - crenulated 2% veinlet carbonate (+ quartz) SIMILAR TO 53,54	0.1-0.2	ashy - appears to be at least 50% fragments in a greenish sericite, chlorite, ash matrix; 3% quartz eyes to 0.8mm (most <0.5)	quartzo-Feldspathic sericite chlorite } 15-20%	1-2% calcite in vein material; <1% interstitial calcite	<0.1 pyrite - disseminated		intermediate tuFF

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
56-04	greenish-yellow (host) and white veining; local beige brown oxidation	host is schistose; 95% of sample is white vein quartz - locally black (chlorite or graphite?) at margins of veins - slickensides in host	<0.1 (host)	host is yellowish green, very fine sericite schist - felsic volcanic (?)	vein quartz - 90%	—	—	trace Fuchsite in host; very fine, dark, needle like mineral (trace amounts) in vein material - tourmaline - may also be black mineral in vein	vein quartz + intermediate - Felsic volcanic
57-04	grey green - local brown oxidation	highly schistose - sheared; crenulated; schistosity appears to follow a fine banding - primary banding/bedding or possibly tectonic (?); 20-25% quartz - carbonate vein material - much of this is oxidized	0.1	chlorite - sericite schist; light yellowish - green, very fine (<0.2mm) silty rich (quartzo Feldspathic) and sericite or chlorite rich bands; highly sheared - banding may be tectonic	Feldspathic to quartzo - Feldspathic sericite - 10-15% chlorite - 10-15%	3-5% calcite - predominantly with vein quartz	trace pyrite - disseminated		intermediate tuff (sheared)
58-08	medium green	schistose; banded - thin bands to 0.2 mm in thickness - appears to be stretched fragments separated by thin chlorite - sericite foliation planes SOMEWHAT SIMILAR TO 57-04	0.1-0.2	5% plagioclase fragments to 0.5mm and 1-2% quartz eyes of a similar size; unable to accurately determine % of fragments but may be >50%; also thin quartzo - Feldspathic bands and chlorite/sericitic foliation planes	Feldspathic to quartzo - Feldspathic 25% combined sericite and chlorite	0.5% calcite - interstitial and stringer - like along foliation	—	<0.5% disseminated magnetite or hematite pseudo-morphing magnetite	intermediate tuFF
59-09	medium grey-green - both light and dark colored chips	Schistose to phyllitic; very regular foliation and light and dark colored laminae - compositional banding - tectonic (?)	<0.1	80% medium to dark green chlorite - Feldspar material and 20% light greenish white sericite - quartz - Feldspar bands - banding may be partially primary and partially as a result of deformation	Feldspathic to quartzo - Feldspathic with chlorite and sericite	5% calcite - generally along foliation planes	<0.1% pyrite - disseminated		intermediate tuff (or sheared Flow)
60-02	medium grey	poor foliation - alignment of elongated pyrite in plane of foliation	0.2 or less	granular - sedimentary; visible sand grains of 0.2 mm - plagioclase and some quartz - in a matrix of similar quartzo - Feldspathic composition; exact proportion of grains versus matrix not determined	quartzo - Feldspathic chlorite - <15% (+ sericite ?)	10% calcite - interstitial and along foliation	1-2% pyrite - disseminated		greywacke

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
61-02	dark grey	schistose	0.1 to 0.5(grains)	~60% feldspar and quartz grains to 0.5mm in a dark matrix composed of qz-feldspar-chlorite-carbonate	quartz } feldspar } 70% chlorite (grey) -15% (± sericite)	10% calcite - pervasive	trace pyrite - disseminated		greywacke
62-03	dark grey to grey-green	schistose ; 3-5% veinlet quartz ; chlorite defines schistosity	0.2	>50% rounded grains (quartz and plagioclase) in a quartz-feldspar-chlorite matrix	—	10% calcite - pervasive	—		greywacke
63-05	medium grey green	schistose ; faint banding - (may be due to schistosity	<0.1	porphyritic ; 3% subhedral plagioclase phenocrysts to 1.5mm in a fine interlocking feldspar + chlorite matrix	feldspathic (+quartz?) chlorite -15%(?) - difficult to differentiate	5-8% calcite - mostly concentrated along schistosity	—		intermediate volcanic
64-02	black ; minor oxidation	schistose	aphanitic to 0.1	black, very fine grained, schistose to fissile, hard silt/mudstone (silicified?) ; slightly graphitic with 40% dark grey slightly coarser greywacke with grains/fragments of quartz and feldspar to 0.6 mm scattered in a fine (0.1) matrix may be silicified to a small extent	undifferentiated	—	0.5 - 1% pyrite - local concentrations, and stringers along foliation		siltstone and greywacke (silicified ?)
65-01	medium green with a pinkish tint	very finely schistose ; rock appears laminated - darker green chlorite rich bands and lighter colored chlorite poor bands with a pinkish tint ; almost a gneissic banding but does not appear recrystallized ; 3-5% veinlet quartz-carbonate	matrix <0.1 ; fragments to 1.5mm	light colored bands appear to contain granules of clear and blue quartz, and feldspar to 1.5mm (elongated parallel to foliation) scattered thinly in a qz-feldspar (±chlorite) matrix ; although less obvious, granules are also observed in darker material (good example of greywacke + more "felsic" sediment (arkose?)	quartzo-feldspathic chlorite - 15-20%(?) (minor sericite)	5% calcite - stringer like along foliation and associated with vein quartz	trace pyrite - disseminated		greywacke

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY Silicates	Carbonates	Sulphides	Other	NAME
66-03	a) green (60%) b) dark orange red (40%)	schistose - sheared; crenulated	0.2-1.5 (indistinct due to shearing)	a) highly schistose, sheared and crenulated - grain size appears in excess of 1.0 mm - a few "relatively" unsheared chips consist of a coarse intergrowth of plagioclase, chlorite and what appears to be actinolite	a) plagioclase - 45% chlorite/actinolite - 57%	a) 8% calcite - pervasive	a) —		a) gabbro b) syenite dyke
				b) red, hydrothermally altered intrusive, although not so altered as "a"; possesses a foliation due to alignment of dark mafics (biotite-chlorite); grain size of ~0.1 to 1.0 (indistinct) with 2% blue quartz eyes to 1 mm; intrudes gabbro(?) or fault contact(?)	b) pink feldspar - 80% quartz - 2% (eyes), unknown % in "matrix"; chloritized - 10-12% mafics	b) 2-3% calcite - along fractures	b) trace pyrite - disseminated		
67-05	light green	well foliated; alignment of biotite-chlorite defines foliation	0.1-0.2	indistinct granular material in a similar light colored matrix with biotite & chlorite - textures obscured by pervasive carbonitization; also ~20% light green rock chips with no biotite	Feldspar + quartz } 75% chlorite - biotite } 10-12%	10-15% calcite throughout rock	trace pyrite - disseminated		greywacke
68-07	light to medium grey green	schistose; 5% veinlet quartz-carbonate	0.1-0.3	30-50% (?) feldspar and minor quartz grains in a matrix of similar composition with chlorite defining foliation	feldspar quartz } 75% chlorite - 15%	5-7% calcite - interstitial and along foliation	trace pyrite - disseminated		greywacke
69-01	medium grey-green	schistose	0.1 or less	equigranular, interlocking; rare plagioclase phenocrysts to 0.5 mm; pervasive carbonitization	Feldspathic, chloritic	10-12% calcite - pervasive	0.1% pyrite - disseminated cubes		intermediate-mafic volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY Silicates	Carbonates	Sulphides	Other	NAME
70-18	a) dark green (60%) b) pink-beige (40%)	strongly schistose - Field log indicates fine banding of "a" and "b"	a) 0.1 b) <0.1 matrix	a) rare plagioclase phenocrysts (or fragments) to 1.mm, and rare lighter colored material within and interfingering with "b"; appears to be a faint banding parallel to schistosity b) pink-beige felsic tuff with discontinuous convex shards to 2.0 mm - 10% shards	a) plagioclase - 60% chlorite - 40% b) quartzo-feldspathic	3-5% calcite - interstitial	trace pyrite - disseminated		intermediate tuff (mafic tuff/volcanic and felsic lapilli tuff ??)
71-13	dark green	massive to poorly foliated; minor shear planes with rare hematite staining	~1.0 mm	relatively coarse but alteration obscures grain outlines; plagioclase has a greenish tint - saussuritized - and some has a pinkish tint which appears to be hematite staining; mafic minerals wholly altered to chlorite	50:50 to 60:40 plagioclase versus mafic minerals	0.5% calcite - interstitial	0.1% pyrite - disseminated trace chalcopyrite - disseminated	trace magnetite - disseminated	gabbro
72-13	dark grey-green	schistose; minor shearing	0.5 mm	highly altered; similar to 71-13 but finer grained	plagioclase - 60% (locally saussuritized) chlorite - 40%	—	0.5-1% pyrite - disseminated and local concentrations along foliation	trace magnetite - disseminated	gabbro
73-02	black	fissile; 2-3% veinlet quartz - generally parallel to foliation	aphanitic	black; very fine grained - aphanitic; fissile; graphitic	—	—	1% pyrite - most as elongate concentrations along foliations and associated with vein quartz		mudstone (graphitic)
74-03	light to medium green	massive to poorly foliated; 1-2% veinlet quartz-carbonate	<0.1	light colored, hard; undifferentiated intergrowth of feldspar - quartz - and mafics - silica rich	undifferentiated 5% chlorite as local concentrations along fractures & dispersed in rock	3-5% calcite - along fractures, interstitial, and associated with chlorite		trace magnetite - disseminated in chloritic patches	intermediate volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY Silicates	Carbonates	Sulphides	Other	NAME
75-07	medium greenish grey	massive to poorly Foliated	<0.1	very fine - appears devitrified with incipient growth of minerals (Feldspar, quartz); also present are 10-15% elongated (along Foliation) chloritic material (60%) or light colored "knots" - may be amygdules; possibly a few quartz and feldspar eyes as well; silica rich	quartzo-Feldspathic chlorite - 10-15%	0.5% calcite - appears associated with chlorite	—		intermediate volcanic
76-03	medium green	schistose	<0.1	10-15% chlorite and/or glass (soft) filled amygdules to 1.5mm in a very fine Feldspathic-chloritic matrix; pervasive carbonitization	undifferentiated	20% calcite - pervasive	trace pyrite - disseminated		mafic volcanic
77-03	light greenish grey	massive to poorly Schistose 1-2% veinlet qz	0.1	porphyritic; 10% subhedral plagioclase phenocrysts in a fine Feldspar, chlorite (biotite) > quartz matrix	quartzo-Feldspathic 10-15% mafics (chlorite, biotite)	trace calcite	0.1% pyrite - disseminated		Feldspar porphyry
78-02	medium to dark grey-green	poorly schistose - schistosity appears localized in some chips	<0.1	both dark and lighter grey material - light grey material slightly harder with ~10% black "clots" to 1.0mm - amygdules(?); rare amygdules also present in darker more chloritic material silica rich	quartzo-Feldspathic chlorite - 15%	<0.5% calcite - interstitial and along Fractures	<0.5% pyrite - disseminated, mostly in schistose chips		intermediate volcanic
79-02	medium to dark grey-greenish	massive - may be poorly schistose	matrix to 0.1	porphyritic - 40-45% sub- to euhedral feldspar phenocrysts in a dark grey Feldspar - chlorite (± biotite) ± quartz matrix - also 10% lighter colored bleached matrix	feldspathic to quartzo-Feldspathic	1% calcite - mostly in light colored chips	<0.1 pyrite - disseminated		Feldspar porphyry

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
80-02	medium to dark grey	massive to poorly schistose 2% veinlet quartz	<0.1 to 0.1	both light (grey-white) Felsic and darker chloritic chips – both are Feldspar porphyritic with up to 10% subhedral plagioclase phenocrysts in an aphanitic Felsic matrix or a darker, slightly coarser chlorite rich matrix; also present are upwards of 10% dark chloritic "knots" which	quartzo-Feldspathic chlorite – 15-20% (± biotite)	<0.5% calcite - interstitial	trace pyrite - disseminated		Feldspar porphyry
				may represent mafic phenocrysts or possibly amygdules; possibly some of the light colored material may represent large (>1cm) phenocrysts					
81-09	light grey beige local brown oxidation	highly schistose	aphanitic to 0.1mm	light beige-white quartzo-Feldspathic material (to 1mm in thickness) and darker, more chloritic, coarser, ashy material separated by sericite-chlorite schistosity planes	(quartzo)-feldspathic chlorite + sericite – 20%	0.5% calcite - along Fractures 1-2% slowly reactive interstitial carbonate	0.5% pyrite - disseminated		intermediate tuFF
82-02	medium to dark grey	schistose to Fissile 1-2% veinlet quartz	<0.1	very fine - silt size material and grey chlorite	feldspar + quartz and >15% grey chlorite	3-5% moderately reactive interstitial carbonate	<0.5 pyrite - disseminated and concentrations along foliation		siltstone
83-02	medium to dark grey	schistose	0.1-0.2	to 40% quartz and Feldspar grit to 0.4mm in a finer qz-feldspar - grey chlorite matrix	feldspar - 60-70% quartz - 5% (visible) chlorite - 15-20%	5-7% calcite - interstitial	0.5% pyrite - disseminated		greywacke

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
84-01	dark grey-black	schistose - dark chloritic slickensides present 1% vein quartz	0.1-grains to 0.2 mm	similar to 83-02 but darker - more chloritic thus obscuring textures; Feldspar (± quartz ?) grit locally to 0.4mm in a finer chlorite rich matrix	feldspar quartz } 60% chlorite -25-30%	8% calcite - interstitial and along Foliation	1% pyrite - local concentrations along schistosity and disseminated		greywacke
85-02	dark grey to black	schistose to sheared; 1-2% veinlet quartz	0.1-0.2	dark, very fine chloritic material (5-10% of sample) and coarser material with granules to 0.5mm (minimum of 30% granules) in a grey Feldspar-chlorite matrix	Feldspar ± quartz } -60% chlorite - 25%	8% interstitial calcite	trace pyrite - disseminated		greywacke
86-02	dark grey	schistose - almost Fissile; 5-7% veinlet quartz + carbonate	<0.1	very fine; poorly fissile with grey chlorite; grain relationships not obvious	—	2% calcite - mostly associated with veinlet quartz; possibly 0.5% <u>slowly reactive</u> interstitial carbonate	0.5-1.0 percent pyrite - stringer like along foliation and disseminated		siltstone
87-02	dark grey	schistose; 1% veinlet/stringer quartz-carbonate paralleling foliation	0.1-0.2	feldspar and quartz grains to 0.2 mm (~30% grains ??) scattered in a silt sized matrix; also a few, thin chloritic siltstone/mudstone partings	—	2-3% calcite - interstitial, along Foliation and associated with vein quartz	1% or less short stringer-like concentrations of pyrite paralleled to Foliation		greywacke
88-04	dark grey	schistose - fissile; minor crenulations; 2% quartz-carbonate veinlets, and stringers paralleling Foliation	<0.1 to 0.1	uniformly fine grained with rare scattered grit of 0.1-0.2 mm; finely foliated with grey chlorite	quartzo-Feldspathic; chlorite -20-25%	1% calcite - with quartz in veinlets/stringers	0.5% pyrite - disseminated and local concentrations to 1.0mm associated with quartz-calcite veining		siltstone

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
89-16	medium to dark grey-green	schistose	0.1-0.2 matrix; granules to 3.0mm	sandy-granular; anhedral feldspar grains to 3.0mm form 30-35 % of sample and quartz grains to 0.5mm are present in concentrations of 2-5 % - all in a fine (0.1-0.2mm) matrix of feldspar ± quartz + grey green chlorite	Feldspar { grains - 35% matrix - 35% quartz { grains - 5% matrix - 5% chlorite - 20%	5 % calcite - interstitial	trace pyrite - disseminated	0.5 % leucoxene	greywacke
90-12	light grey-green	schistose - very regular Foliation	0.1 mm, or less	well foliated, sericitic; light colored, feldspathic to quartzo-feldspathic - ashy ??; relatively hard	quartzo Feldspathic sericite - 15 % chlorite - 5 %	5 % moderately reactive interstitial carbonate	—		intermediate tuff or volcanic (sericite schist)
91-06	medium grey	schistose; 1-2 % quartz - carbonate veining	0.1mm	very fine grained with indistinct feldspar and/or quartz grains (0.1-0.2mm) scattered in a light colored feldspar - quartz - sericite/chlorite matrix	Feldspar quartz } 75 % chlorite/ sericite } - 20%(?)	2-3 % calcite - interstitial and with quartz in vein material	0.5-1% pyrite - local, stringer like concentrations along foliations		siltstone/ greywacke
92-05	medium grey	schistose to phyllitic; poorly crenulated; 1-2 % veinlet quartz carbonate	<0.1 to 0.2	both very fine light grey to medium grey green chips (70% of sample) and slightly coarser chips of grey color with minor visible quartz and feldspar grains to 0.6 mm scattered thinly throughout; possibly minor local graphite	Feldspar quartz } 65% chlorite - 20% sericite - 5 %	3-5 % calcite; interstitial and associated with quartz in veinlets	0.5 %, or less, pyrite - disseminated and local concentrations		siltstone / greywacke
93-13	medium green	foliated to schistose	<0.1 matrix; to 0.8mm - grains	5 % very fine, convoluted bands to 2.0mm - siltstone/mudstone; remainder of rock is fine grained (<0.1mm) with 25-40 % anhedral feldspar grains to 0.8mm; also a minor number of quartz grains	Feldspathic with chlorite	3 % calcite - interstitial	trace pyrite - disseminated		greywacke

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
94 - 06	medium to dark grey local yellow-beige oxidation	schistose	0.1 - 0.2	indistinct feldspar and quartz grains to 0.3 mm in a fine matrix of similar composition + chlorite and sericite; percentage of grains versus matrix indeterminate	Feldspar quartz } 75% chlorite - 15% sericite - < 5%	3-4% calcite - interstitial	trace pyrite - disseminated		greywacke
95 - 04	dark grey to black	fissile	< 0.05	chips range from light to dark grey and black; very finely foliated - fissility defines primary bedding; - black chips (5%) may be graphitic	—	1% calcite - interstitial and Fracture coating	< 0.5% pyrite - disseminated and stringer-like along Foliation		siltstone
96 - 07	dark grey to black	fissile to schistose; banded - bedded; 3-5% carbonate ± quartz veining	< 0.1 to 0.2	primary sedimentary bedding parallel to fissility; black; graphitic(?) mudstone bands to 1mm in thickness (10% of sample) along with gritty light to medium grey wacke (30%) and siltstone (60%); grey chloritic to sericitic foliation planes	Feldspar quartz } chlorite - 20% sericite - 5-8%	3% calcite along Foliation planes	1-2% pyrite - coating Fracture and Foliation planes and as thin massive bands (<0.5%) - mostly in black mudstone	graphite - 1-2%	siltstone, greywacke, and mudstone
97 - 04	medium grey green	strongly Foliated	0.1 - 0.2 - matrix; grains to 0.8 mm	sandy; indistinct Feldspar (15-20%) and clear to blue quartz (2%) to 0.8 mm in a quartz - Feldspar - chlorite - sericite matrix	feldspar quartz } - 65% chlorite - 15% sericite - 5-8% (grey chlorite ??)	8-10% calcite - pervasive	trace pyrite - disseminated		greywacke
98 - 04	light grey white	schistose; sericitic	0.1 or less	very fine with a few visible Fragments or eyes to 0.4 mm; faintly ashy but may be strongly foliated Flow	quartzo - Feldspathic; sericite - 20-25%	5-7% calcite - interstitial	0.5% pyrite - disseminated cubes		intermediate - Felsic tuff (possibly volcanic)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY Silicates	Carbonates	Sulphides	Other	NAME
99-02	dark grey green - locally pinkish	massive but may posses a poor Foliation	0.1 (matrix)	40% of sample is pinkish-grey porphyry with 50% pink to white subhedral Feldspar phenocrysts to 1.5mm in a quartz-Feldspar-biotite/chlorite matrix; minor pink Feldspathic veinlets; 60% of sample is greyish (greenish?) sugary Felsite with rare indistinct Feldspar phenocrysts in a quartz-Feldspar-biotite (to 25%) matrix	Feldspar phenocrysts - 50% white and 50% pink; total of ~25% biotite or biotite altered to chlorite	1-2% calcite - interstitial	0.5% pyrite - disseminated	<0.5% magnetite - disseminated -1% epidote - local alteration	Feldspary porphyry and Felsite
100-01	dark green	schistose - sheared; crenulated; highly chloritic Foliation planes separating light colored material - largely calcite + Feldspar ± quartz	<0.1	very highly altered - chloritic schistosity planes separated by pervasively carbonated feldspathic(?) material	Feldspar - 45% chlorite - 30%	15-20% calcite - pervasive	0.5% pyrite - disseminated		mafic volcanic
101-10	black	appears massive but may possess a poor Foliation; gneissic	0.2	completely recrystallized; sugary, hornblende rich rock (90% of sample) and white hornblende poor material - gneissic banding; light colored bands show incipient development of Feldspar porphyroblasts	Feldspar - 30-40% (± quartz) hornblende - 60-70%	trace calcite - interstitial	<0.1% pyrite - disseminated		mafic volcanic (amphibole gneiss)
102-01	dark grey to black with oxidized Fracture surfaces	well foliated - platy; gneissic; 3% veinlet quartz	0.1-0.2	sugary - recrystallized; light colored minerals and hornblende oriented in plane of foliation - lineated; distinct banding with light colored "Felsic" bands containing <10% mafic minerals, and black hornblende rich bands with 10% or less plagioclase - also variations between the two extremes	plagioclase - 60% hornblende - 40%	—	—		mafic volcanic (amphibole gneiss)
103-06	dark green	foliated - schistose; sheared - chloritic shear planes; 1-2% quartz - carbonate veining	0.5-0.7	much obliterated by Foliation and carbonitization; relatively coarse with greenish white anhedral Feldspar and anhedral chloritized mafic minerals and 2-4% quartz	Feldspar - 45% chlorite - 30-35% quartz - 2-4%	12-15% calcite - pervasive	1-1.5% sulfides - mostly disseminated pyrrhotite, minor pyrite	trace magnetite - disseminated	gabbro

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
104-01	dark green - ~20% of chips display beige-brown oxidation	Foliated	0.1 or less	10% fine, black graphitic mudstone; remainder of rock is a medium grey-green, soft, Feldspar + chlorite; appears to be fine sedimentary bands within volcanic	—	< 0.5% calcite - interstitial	1-2% pyrite - Finely disseminated and local concentrations, and as thin "semi"-massive bands associated with mudstone		mafic volcanic and mudstone
105-02	medium grey-green; oxidized Fracture surfaces	Foliated; sheared - slickensides present	0.5-1.0	foliation, alteration of mafics makes grain relationships indistinct; equigranular, coarse grained with 10-15% anhedral bluish quartz	Feldspar - 45% mafics (chlorite) - 25-30 + light green pyroxene-actinolite quartz - 10-15%	3-5% calcite - interstitial	0.5-1.0% pyrite - along foliation, disseminated, and stringer like concentrations	1-2% leucoxene	quartz gabbro
106-02	medium to dark green	Foliated	~0.5	grain sizes and relationships obscured by foliation and alteration; coarse, equigranular	Feldspar - 50-55% mafics (chloritized) - 40% quartz - 2%	5% calcite - interstitial			gabbro
107-03	dark green - locally oxidized, especially along foliation	Foliated; minor shearing - slickensides visible on some chips	0.5-1.0	appears slightly coarser than 106-02 - mafics completely chloritized and minor saussuritization of Feldspar so grain outlines and relationships are indistinct except for the presence of ~10% feldspar crystals of 0.8-1.0 mm	plagioclase - 55% mafics (chloritized) - 40%	1-2% calcite - interstitial	0.1% pyrite - disseminated		gabbro
108-02	medium green	well foliated - sheared; slickensides observed locally	0.5-1.0 (indistinct)	Foliation - shearing obscures grain relationships and outlines; primary grain size in excess of 1.0 mm; anhedral quartz & plagioclase and anhedral completely chloritized mafic minerals	plagioclase - 55% mafics (chlorite) - 40%	3-4% calcite - interstitial	0.1% disseminated pyrite and/or pyrrhotite		gabbro

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
109-01	dark green; locally oxidized	Foliated, sheared;	0.5-1.0	medium to coarse grained; alteration obliterates much of grain relationships except the ~10% blue quartz; composed of partially saussuritized plag. and completely chloritized mafics	plagioclase - 50% (partially saussuritized) mafics - 35% (chlorite) quartz - 10% (blue)	3% calcite - interstitial	0.1-0.5 % pyrrhotite - disseminated	1-2% greyish leucoxene and indistinct gray-black ilmenite	quartz gabbro
110-11	dark green to black	schistose; sheared - slickensides on foliation planes - foliation/shear planes strongly chloritic; 1-2% veinlet quartz-carbonate	0.3-0.5	equigranular, interlocking; composed of partially saussuritized plagioclase, rodded hornblende (variably chloritized) and chlorite - may be partially recrystallized	plagioclase - 50-60% hornblende - 20% chlorite - 15-20%	<0.5% calcite - with veinlet quartz	to 0.5% pyrite - disseminated		mafic volcanic (coarse)
111-02	dark green	possesses a poor, widely spaced foliation - possibly due to shearing(?)	1-2mm	anhedral, greenish-white feldspar (may be finer than 1.0mm) and coarse slightly chloritized, subhedral hornblende; appears to be partially recrystallized	plagioclase - 50% hornblende - 35% chlorite - 10% quartz - 1-2%	faint trace interstitial calcite	trace pyrite - disseminated		gabbro
112-04	medium to dark green and pink-orange	well foliated - sheared; sub-gneissic; 2% quartz-carbonate veinlets	0.2-0.5	highly sheared and altered (chlorite, epidote) obscuring textures; relatively coarse but primary grain size difficult to determine; pinkish alteration of feldspar appears prominent near quartz - carbonate veining & fractures - not K-spar but stained plagioclase	plagioclase - 55% (saussuritized) mafics - 40% (chlorite) 1-2% epidote	1-2% calcite - interstitial; 1% calcite with veinlet quartz	1% pyrite - disseminated and local crystalline concentrations	2% magnetite - disseminated	mafic volcanic (coarse)
113-06	dark green	Foliated; 2% veinlet quartz	0.2-0.4	anhedral, equigranular minerals; medium grained; highly altered - plagioclase is saussuritized and mafic minerals are altered to chlorite; sugary to sub-sugary - partially recrystallized	plagioclase - 40% epidote - 15-20 chlorite - 20% }? hornblende 20% }? quartz - <2%(?)	trace calcite - interstitial	trace pyrite - disseminated	2% magnetite - disseminated	mafic volcanic (coarse)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
114-05	light grey	Foliated	<0.1 matrix; phenocrysts to 1.0mm	porphyritic; light color of matrix - phenocrysts obscures % of phenocrysts; ~5-10% anhedral clear quartz to 1.0mm and ~20% off-white, translucent Feldspar phenocrysts to 0.8mm in a quartzo-Feldspathic matrix	quartzo-Feldspathic matrix plagioclase phenocrysts - 20%(?) quartz phenocrysts - 5-10%(?) chlorite - 5%	2% calcite - interstitial	0.1% pyrite - disseminated		quartz-Feldspar porphyry
115-08	dark grey black	Fissile; 3% veinlet quartz - carbonate	<0.05	very fine grained; soft; ranges in color from medium grey to black - may be slightly <u>graphitic</u>	quartzo-Feldspathic; chloritic	1-1.5% calcite with quartz in veinlets	<0.1% pyrite - disseminated		siltstone
116-17	dark grey to black	fissile to phyllitic; 2-3% quartz-carbonate veinlets	<0.05	very fine grained; soft; minor primary banding/Bedding with highly chloritic very fine grained material and to 10% medium grey, slightly coarser (~0.1mm) carbonated material	quartzo(?) - Feldspathic chloritic	0.5% calcite - associated with vein material; 3-5% <u>moderately</u> reactive carbonate in medium grey bands	<0.5% pyrite - disseminated and stringer like concentrations along Foliations and Fractures		siltstone/greywacke
117-08	dark green	foliated - schistose and sheared; poorly lineated	0.2-0.5	similar to 110-13 and 113-06; shearing, alteration obliterates grain relationships; locally appears sugary, recrystallized; saussuritization of plagioclase and chloritization of mafic minerals	plagioclase - 50% epidote - 15% mafics (chloritized) - 35%	0.5% calcite along Fractures/Foliation surfaces and disseminated	0.5-1.0 pyrite - disseminated	2-5% magnetite - disseminated	mafic volcanic (coarse)
118-06	dark green	foliated; sheared to a slight degree	0.2-0.4	equigranular - fine to medium grained; ~60% of chips are dark green with 60:40 Feldspar versus chloritized hornblende; 40% of chips composed of >60% black, slightly chloritic hornblende, and plagioclase - recrystallized	plagioclase - 50% hornblende - 50% (partially chloritized)	1% calcite - stringer and interstitial	0.1% pyrite - disseminated		mafic volcanic (coarse)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
119-02	dark green	foliated; elongation of minerals in plane of foliation; minor shear planes with slickensides; 5-8% veinlet quartz-carbonate	0.2-0.4	equigranular, interlocking; saussuritized plagioclase; and chloritized mafics; very slightly magnetic	plagioclase - 50% mafics (chloritized) - 25-35% epidote - 10-12%	1% calcite with veinlet quartz and 1% interstitial calcite associated with epidote alteration	<0.5% pyrite - disseminated		mafic volcanic (coarse)
120-02	dark grey to pinkish	poorly gneissic; pinkish orange Feldspathic laminae and grey, biotite rich laminae	0.1	sugary - recrystallized; appears to be incipient development of feldspar porphyroblasts	quartz, Feldspar } 75% biotite - 15-20%	1% calcite - interstitial and Fracture Filling - only a small number of chips	—		greywacke (gneiss)
121-02	dark grey to black	Foliated; poorly gneissic; 10% epidote veinlets	<0.1 to 0.1	sugary; recrystallized; very finely Biotitic; poor, local segregation into light colored Felsic bands and darker biotite rich bands	quartz, Feldspar } 80% biotite - 15-20%	0.5%, or less, moderately reactive interstitial and stringer carbonate	—	<1% magnetite - finely disseminated	greywacke (gneiss)
122-02	dark grey	well foliated; poorly gneissic to schistose	<0.2	sugary - recrystallized; appears to be a poor segregation into Felsic rich and mafic rich laminae but schistosity is more apparent - defined by aligned biotite; incipient development of feldspar porphyroblasts to 1.0mm	quartz, Feldspar } 80% biotite - 15-20%	1% calcite - interstitial			greywacke (schist/gneiss)
123-02	black	Foliated	0.1 or less	equigranular; intergrowth of plagioclase and partially chloritized mafic minerals (mostly hornblende)	plagioclase - 50% mafics - 50 (partially chloritized hornblende)	0.5% calcite - stringers	0.5% pyrite - disseminated and stringers		-mafic volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
124-02	dark grey	foliated - discontinuous alignment of biotite, chlorite	0.2 - grains to 0.8mm	sugary, recrystallized biotite schist with retrograde alteration of biotite → chlorite; large (0.8mm) "grains" may be coarse relict granules or porphyroblasts; 15-20% of rock chips are coarse (1.0mm) intrusive composed of feldspar - actinolite - chlorite (gabbro)	greywacke feldspar } 70% quartz } biotite - 15% chlorite - 10% gabbro plagioclase - 40% chlorite - 20% actinolite - 35%	2-3% calcite in greywacke - interstitial 1% calcite in gabbro - interstitial	0.5% pyrite - disseminated		greywacke and gabbro
125-02	black; brown oxidation along fractures containing stringer/veinlet quartz - carbonate	foliated - lineated; alignment of hornblende 1% veinlet quartz - carbonate	0.1 locally to 0.2	recrystallized - development of metamorphic hornblende; equigranular, interlocking	plagioclase - 50% hornblende - 50%	0.5% calcite - interstitial & associated with quartz in veinlets - oxidized veinlets have no calcite	<0.5% pyrite - disseminated and associated with veinlet quartz - carbonate		mafic volcanic (amphibolite)
126-02	mottled - black and white	massive - poor fracture foliation (?) <1% quartz - carbonate veinlets	1-2	hypidiomorphic	feldspar (white) - 30% quartz - 20% hornblende - 30-35% actinolite (?) - 10% chlorite - 5-10%	1-2% calcite - interstitial and with quartz - carbonate veins	—	0.5% sphene 1-2% epidote trace zircon	quartz diorite
127-07	mottled - dark green & pinkish white	massive	1-2	hypidiomorphic; pinkish - orange color of feldspar may be due to Fe-staining - discoloration appears more intense marginal to fractures	feldspar pink - 20%, white - 35% quartz - ~10% hornblende - 25-30% chlorite - 2-5%	trace calcite - interstitial	trace pyrite - disseminated	5% epidote	quartz diorite
128-02	mottled - greenish black and white	massive (?) - may possess a very poor localized alignment of mafic minerals	0.5-1.5	hypidiomorphic	feldspar (white) - 50% quartz - 5% hornblende - 35% chlorite - ~10%	—	—		quartz diorite (to diorite)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
129-04	mottled-green black and pinkish to white	massive; fractured	1-2 mm	hypidiomorphic; pinkish-orange to yellowish feldspar may be due to Fe-staining marginal to fractures	feldspar / pink - 10% white - 40% quartz - 15% hornblende - 25-30% chlorite - <5%	trace calcite - disseminated	—	trace sphene; epidote - 2%	quartz diorite
130-05	black to greenish-black and white	gneissic - mafic rich and mafic poor bands	0.2	sugary; recrystallized; mafic rich bands containing >50% and often >70% mafics - black hornblende and lesser lesser chlorite/biotite & local actinolite; felsic bands of feldspar, quartz and <10% mafics - hornblende, chlorite, biotite; locally looks almost intrusive - affected by marginal intrusion - addition of Fe: hornblende (??)	plagioclase - quartz - 10-12% hornblende - 20% biotite - 10-15% actinolite - 5% chlorite - 5%	0.5% calcite - interstitial and along fractures	<0.5% pyrite - disseminated	1-2% epidote	greywacke (Fe-rich)
131-02	medium grey	schistose to gneissic; 2% vein quartz	0.1-0.2	sugary; recrystallized; alignment of biotite imparts foliation; in some chips there appears to be an incipient growth of feldspar porphyroblasts imparting an almost granitic texture	Feldspar - 65% quartz - 15% (?) biotite - 20%	0.5% or less calcite - disseminated	<0.5% pyrite - disseminated		greywacke (biotite schist)
132-03	medium grey - locally greenish	schistose to gneissic; 1% veinlet quartz	0.1-0.2	sugary; recrystallized; biotitic bands and 10% light colored, felsic bands with an almost granitic texture	quartz, Feldspar } - 80-85% biotite - 15% - minor retrograde chlorite	—	<0.5% pyrite - disseminated		greywacke (biotite schist-gneiss)
133-03	dark grey	foliated - schistose; distinct but poor foliation - due to poor alignment of biotite 1%, or less, veinlet quartz	0.1-0.2	sugary; recrystallized	feldspar, quartz } 75% biotite - 20-22%	<0.5% calcite - disseminated	<0.5% pyrite - disseminated		greywacke (biotite schist)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
134-07	medium to dark grey	schistose - biotitic	matrix @0.2mm;	15-20% plagioclase and 2-5% quartz porphyroblasts or relict grains to 3.0mm in a sugary, recrystallized, biotitic matrix	granules/porphyroblasts of feldspar & quartz ~20% matrix feldspar quartz } 60% biotite (locally chloritized) - 20%	—	0.5% pyrite + pyrrhotite - disseminated		greywacke (biotite schist)
135-04	medium grey to dark grey	foliated to schistose - defined by alignment of biotite	0.1-0.2	sugary, recrystallized; translucent to clear quartz and feldspar - undifferentiated	Feldspar quartz } 80% biotite - 20%	—	0.1% pyrite - disseminated		greywacke (biotite schistose)
136-03	black with white "Felsic" segregations	massive - may be poorly foliated	0.2	recrystallized mafic volcanic (amphibolite) with ~10% white vein material - granitic; volcanic composed of locally saussuritized plagioclase and euhedral hornblende; vein material hypidiomorphic	volcanic feldspar - 50% hornblende - 50% granitic vein Feldspar (white) - 60% quartz - 35% biotite - 5%	—	1% pyrite - disseminated and rare stringers to 0.8 mm in width		mafic volcanic (amphibolite) and granitic vein
137-01	medium to dark grey	foliated - schistose	0.1-0.2 biotite locally to 0.4mm	sugary, recrystallized biotite schist; 3-5% relict granules to 0.8mm; local retrograde alteration of biotite → chlorite	Feldspar quartz } 80% biotite - 20%	0.5% or less calcite - interstitial	0.1% pyrite - disseminated cubes		greywacke (biotite schist)
138-06	medium grey - locally greenish	poorly Foliated, Fractured	0.2 mm (matrix)	10% subhedral feldspar porphyroblasts to 2.0 mm. in a matrix of recrystallized feldspar, quartz and biotite; biotite is patchily distributed	feldspar porphyroblasts - 10% matrix - 60% quartz - 10% (??) biotite - 15% (locally chloritic) hornblende/pyroxene - 3%	0.5% calcite - interstitial	0.1% pyrite - disseminated		greywacke (biotite schist)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY Silicates	Carbonates	Sulphides	Other	NAME
139-14	mottled black and white to pinkish white	massive	2 mm	hypidiomorphic - subhedral white to pinkish white feldspar, quartz, and chloritized hornblende; a few feldspar crystals show an almost perthite like twinning (pinkish)	Feldspar pink - 5-8%, white - 20-25%; quartz - 30%; hornblende - 25% (locally chloritic)	0.5% calcite - interstitial	—	0.5%, or less, sphene; 5% epidote - associated with mafic minerals	granodiorite
140-05	dark green; local red Fe oxide staining marginal to fractures	massive to poorly, indistinctly foliated	0.4-1.0	anhedral saussuritized plagioclase and subhedral hornblende - intrusive	plagioclase - 60% (saussuritized); horneblende - 30% (minor chloritization); pyroxene(?) - <10%(?)	0.5%, or less, calcite - interstitial	1% pyrite - disseminated	1% magnetite - disseminated	gabbro
141-12	medium to dark green - local red Fe-oxide staining	massive	1-2 mm	hypidiomorphic - altered; subhedral, partially chloritized hornblende, and actinolite, and anhedral quartz and feldspar; feldspar (plagioclase) has been strongly saussuritized - development of sugary epidote; grain boundaries not evident	plagioclase - 50%, epidote - 10-15% } %'s questionable; quartz - 5-8%; hornblende - 35% (+ chloritized hornblende + fibrous actinolite	<0.5% calcite - interstitial	1% pyrite - disseminated & local concentrations	0.5% magnetite - disseminated	quartz gabbro
142-17	medium green	massive	1-2 (may be greater)	coarse grained, sub- to euhedral horneblende (minor alteration to chlorite & actinolite), in a saussuritized, almost sugary epidote-plagioclase matrix - grain outlines apparent only in hornblende	plagioclase + associated epidote } 65%; hornblende - 35% (+ associated chlorite, actinolite)	—	<0.1% pyrite - disseminated	0.1% magnetite - disseminated; rare leucoxene	gabbro
143-12	dark green	foliated	0.1-0.2	sugary to sub-sugary; saussuritized plagioclase and hornblende + associated chlorite & minor actinolite	plagioclase, epidote (>10%) } 60%; hornblende - 35-40% (+ chlorite, actinolite)	1% calcite - interstitial	0.5% pyrite - disseminated	2% magnetite - disseminated but some chips with abundant fine magnetite	mafic volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
144-02	dark green	schistose; strongly sheared-slickensides; poorly gneissic(??) 2% veinlet carbonate + minor quartz	0.1	strong fabric and highly altered; schistosity defined by green-black chlorite (after hornblende), and actinolite; some lighter colored felsic bands with a sugary texture (sub-gneissic); 2-4% blue quartz eyes to 0.8mm; also rare relict plagioclase phenocrysts(?)	plagioclase - 40-50% (saussuritized locally) mafics - 30-35% (hornblende, actinolite, but mostly chlorite) quartz - 2-4%	10-15% calcite - mostly interstitial and in vein material	0.1% pyrite - disseminated		mafic volcanic (possibly a strongly sheared gabbro)
145-04	medium grey green with white veining	host is sheared; 50% quartz-carbonate veining	0.5-1.0 (host)	pervasive alteration - shearing; host is a dark green, coarse, intrusive composed of plagioclase and greenish pyroxene, but pervasive veining obscures much of grain relationships; rare blue quartz eyes	host plagioclase, pyroxene } 50:50 quartz-<5%	2-5% slowly reactive carbonate in host; 8-10% slowly reactive carbonate associated with grey-green portions of veins marginal to host, and along fractures in veins	0.5%, or less, pyrite - local concentrations in veins and disseminated	leucoxene - 2-3% in host rock	gabbro and vein material
146-02	black	fissile; 3-5% veinlet quartz-carbonate - as distinct vein material and impregnating host rock	aphanitic	very fine, fissile sediment; locally graphitic	—	1% carbonate - moderately reactive; associated with vein quartz and along fractures	<0.5% pyrite; local concentrations marginal to or within vein material		mudstone
147-02	dark green	foliated to schistose; sheared	coarse; visible quartz and feldspar to 2.0mm	highly sheared/foliated and altered obscuring textures; coarse, subhedral blue quartz and a few coarse feldspar grains may define primary grain size	plagioclase - 50% quartz - 8% mafics - 40% (chlorite alteration of hornblende or pyroxene)	10% calcite - interstitial - pervasive	0.5% pyrite - local concentrations	2% magnetite - disseminated; 2% leucoxene replacing ilmenite/rutile	quartz gabbro
148-04	medium grey-green	foliated; 2% veinlet quartz-carbonate	0.5-2.0	well foliated; highly altered - chlorite/carbonate; appears coarse grained with blue quartz eyes to 2.0mm - defining primary grain size	plagioclase - 40% quartz - 10% chlorite - 35%	10-15% calcite - pervasive	0.5-1.0% pyrite - disseminated	2-3% leucoxene (to 2 mm - pseudomorphing ilmenite?)	quartz gabbro

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY Silicates	Carbonates	Sulphides	Other	NAME
149-01	medium grey-green; brown oxidation marginal to veins - oxidation of pyrite	foliated - sheared; 10-15% distinct carbonate + quartz veining - also pervasive alteration of host by vein material	0.1-0.2	much of texture completely destroyed by shearing and alteration; appears fine to medium grained but may be coarser; chloritic and highly calcareous	plagioclase - 40% quartz - 5% chlorite - 35%	>15% moderately reactive carbonate - veining & pervasive within host	0.5% pyrite - disseminated	trace Fuchsite	mafic volcanic
150-02	light to medium greyish green	Fractured - may be poorly foliated; minor shearing; 10% quartz - carbonate veining	< 0.2	highly altered - bleached; <15% mafic minerals, and no quartz; grain boundaries not distinct;	plagioclase - 60-70%(?) mafics - <15% (chlorite)	>15% - associated with quartz (white) in veins and pervasive throughout rock; carbonate is moderately reactive	0.1-0.5% pyrite - disseminated	1-2% leucoxene	mafic volcanic
151-02	dark green	foliated; sheared - local slickensides; 1-2% veinlet carbonate (± quartz)	0.2-0.3 matrix	much of texture obscured by shearing/foliation and pervasive alteration - chloritization, carbonitization; locally appears gabbroic	plagioclase - 50% mafics (chlorite, actinolite) - 35% quartz - 1-2%	2% veinlet calcite; 3% interstitial calcite	0.1% pyrite - disseminated	2% leucoxene	mafic volcanic
152-03	a) dark green (50%) b) dark green to black (50%)	a) schistose - sheared b) schistose	a) 0.5-1.0 (indistinct) b) < 0.2	a) schistosity, alteration (chloritized mafics, saussuritized plagioclase) obscures texture; appears coarse, intrusive b) equigranular, interlocking; undifferentiated plagioclase and mafics (chlorite and/or chloritized hornblende; minor green, glassy material - flow or pillow margins	a) plagioclase - 60% (partially saussuritized) chlorite - 35% quartz - 2-4% b) plagioclase - mafics - } 60:40(?)	a) 2% calcite - interstitial, stringer b) 3% interstitial and stringer calcite	a) trace pyrite b) 2% coarse cubic pyrite; 8-10% pyrite/pyrrhotite - strung out along foliation (mostly pyrrhotite?) 0.1% chalcopyrite	a) 2% leucoxene	a) gabbro b) mafic volcanic
153-03	dark green	foliated; fractured; sheared - possibly brecciated(?)	1.0	appears coarse - intrusive but texture is indistinct due to pervasive chloritization and deformation	plagioclase - 50% chlorite - 30-35% quartz - 5-10%	< 2% calcite - interstitial and stringer	< 0.5% pyrite - disseminated	2-3% leucoxene	quartz gabbro

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
154A-03	black	Fissile ; 1-2% stringer carbonate	aphanitic	very fine	——	<2% calcite - stringers & along foliation	<0.5% pyrite - disseminated		siltstone
155-01	beige to very light greenish beige	poorly foliated; slight concentration of mafics (chlorite) along foliation planes	0.1-0.3(?)	quite hard; appears like fine anhedral white feldspar in a light green glassy matrix - devitrified(?); bleached	Feldspathic ; appears to be <5% mafic minerals	5-7% calcite - interstitial and stringer	<0.1% pyrite - disseminated		mafic volcanic (bleached)
156-06	light beige-brown - oxidized	very highly schistose - almost fissile ; possibly sheared ; 2-4% veinlet quartz carbonate	<0.1 to aphanitic	oxidation, fine schistosity, sericite obscures texture; a few less oxidized chips display discontinuous fragments (to 1mm) in the plane of foliation - possibly due to shearing and not fragments; soft	feldspathic to quartzo-feldspathic(?) sericite -25%	2% calcite - with quartz in veins and minor interstitial calcite	nil; may have been rusted away		intermediate tuff
157-02	dark green	foliated to schistose; 3-5% veinlet/stringer quartz - carbonate	0.1	equigranular, interlocking; pervasive carbonate alteration imparts an almost sugary texture to sample	plagioclase + chlorite + carbonate	>20% calcite - pervasive	0.5-1% pyrite - disseminated cubes		mafic volcanic
158-02	a) medium green (60%) b) white (40%)	a) schistose to fissile - very fine (0.3mm thick or less) banding b) massive to poorly banded	a) <0.05 to aphanitic b) aphanitic	a) very fine with distinct banding parallel to schistosity - possibly very fine ash beds b) white to greenish white - appears to grade into "a" - bleached equivalent of "a" (?); locally siliceous	feldspathic, with chlorite	2-3% calcite - mostly in light colored material as stringers & interstitial; minor interstitial calcite in "a"	0.1% pyrite - disseminated cubes		intermediate tuFF

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
159-02	medium to dark green	massive	0.5-1.0 (locally coarser)	hypidiomorphic; sub- to euhedral green translucent pyroxene	plagioclase - 20% pyroxene - 80%	<0.5% calcite - disseminated	trace pyrite - disseminated		pyroxenite
160-02	light to medium grey (slightly greenish)	appears to be a vague compositional banding - light and medium grey-green laminae; 1-2% veinlet quartz	0.1-0.2	granular; 70% or greater subrounded, undifferentiated quartz and Feldspar grains in a matrix of similar composition	plagioclase - 20% quartz - 50% } grains 20% quartz-Feldspar matrix <10% chlorite	—	0.1-0.5% pyrite - disseminated		greywacke (arkose)
161-16	mottled; pinkish white and black	massive	>2mm	hypidiomorphic; anhedral quartz, subhedral to euhedral plagioclase and chloritized relict hornblende	Feldspar pink - 10%, white - 30% quartz - 35% hornblende/chlorite - 20% epidote - 4% (associated with altered hornblende)	trace calcite - interstitial	—	1% sphene	granodiorite
162-03	dark green; local hematite staining along fractures	foliated - elongation of needle-like mafic minerals (hb) in plane of foliation	0.1-0.3	intergrowth of saussuritized plagioclase and chloritized mafics; recrystallized; 2-4% pinkish-hematite stained-feldspar rich zones	plagioclase (saussuritized) - 55% mafics - 35% (chlorite & hornblende) epidote - 5-7%	trace calcite - disseminated	1% pyrite - disseminated coarse cubes to 1.0mm	2-3% finely disseminated magnetite	mafic volcanic (coarse)
163-08	dark green	foliated - preferred orientation of altered mafic minerals - may be due to shearing as slickensides invariably present and preferred orientation of minerals appears more well developed marginal to these shear planes; 2% veinlet calcite	0.2-0.5	equigranular; fairly coarse with anhedral saussuritized plagioclase and anhedral chloritized mafic minerals;	plagioclase - 50% chloritized mafics - 40% epidote - 3-5% (?)	2% calcite veinlets	0.5%, or less, pyrite - disseminated & local concentrations along foliation/shear planes	2% magnetite - finely disseminated	mafic volcanic (coarse)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY Silicates	Carbonates	Sulphides	Other	NAME
164-05	dark green to black	foliated; sheared - 10-15% of chips are dark green, finely foliated (shear planes) chlorite/fibrous amphibole material; 2-4% veinlet carbonate	<0.2-0.4	sub-sugary - partially recrystallized; exclusive of shear plane material, rock is medium green and composed of an intergrowth of locally saussuritized plagioclase and chloritized mafic minerals	plagioclase - 55% mafics - 30% (chlorite, local chloritized amphibole, actinolite) biotite - 2-4% (?)	2-4 veinlet calcite; 2-3% interstitial calcite	0.5-1.0% pyrite - disseminated	3-4% magnetite - disseminated	mafic volcanic
165-03	dark green	poorly foliated; preferred orientation of elongate hornblende in plane of foliation (possibly a schistosity or minor shearing) 2% veinlet quartz-calcite	0.2-0.6 plagioclase ~0.2, local mafic minerals to 0.6	sub-sugary - partially recrystallized; composed of anhedral, partially saussuritized plagioclase and chloritized mafic minerals (hornblende observed locally)	plagioclase - 60% mafics (chlorite) - 30% epidote - 2%	1% calcite - with quartz in veinlets and interstitial	0.1% pyrite - disseminated	1% magnetite - disseminated; some chips contain upwards of 5% magnetite	mafic volcanic (course)
166 - 12	medium to dark green	Foliated; shear planes present; minor quartz - calcite veinlets	0.1-0.2	both dark green to black foliated mafic volcanic composed of equigranular, undifferentiated saussuritized plagioclase and chloritized mafic minerals, and medium green, finer grained to aphanitic material representing pillow or flow selvages	plagioclase - 60% (saussuritized) chloritized mafics - 35	1% calcite - with veinlet quartz, fracture fillings, and interstitial	0.5-1% pyrite - disseminated and local concentrations along fractures and foliation	0.5%, or less, disseminated magnetite	mafic volcanic
167-02	dark green to black; minor oxidation along fractures	Foliated; poorly gneissic	0.1-0.2 (hornblende to 0.4 - parallel to long axis)	essentially a black hornblende rich rock with 10% laminae of feldspathic material (locally sugary) - gneissic banding ?; also observe mafic/hornblende rich layers grading to feldspathic layers	plagioclase - 30 hornblende - 50-60	1% calcite - interstitial and foliation/fracture fillings	1% pyrite - disseminated and local concentrations	1% magnetite - disseminated	mafic volcanic (gneiss)
168 - 12	grey-white	Foliated - poor; preferred orientation of biotite	0.2 (?) indistinct to 2.0 for phenocrysts	porphyritic - due to light color phenocryst - matrix outlines indistinct as is grain size; appears to be ~20% subhedral feldspar phenos and 10-20% clear, anhedral quartz phenos in a sugary (?) quartz - feldspar - biotite matrix	phenocrysts plagioclase - 20% quartz - 10-20% matrix plagioclase, quartz } 40% biotite - 15% epidote - 1%	trace calcite - disseminated	trace pyrite - disseminated		quartz - feldspar porphyry

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
169-10	dark green to black	massive to poorly foliated	0.2 (plagioclase) to 0.4 (mafic minerals)	fairly coarse intergrowth of saussuritized plagioclase and slightly chloritized hornblende — recrystallized	plagioclase - 50% (saussuritized) hornblende - 50%	0.5% calcite - interstitial	0.5% pyrite - disseminated	1-2% magnetite - disseminated	mafic volcanic (coarse)
170-05	dark to medium green	poor foliation	<0.2	equigranular, interlocking; undifferentiated saussuritized plagioclase and chloritized mafics - local, fine grained, hornblende rich sections; mafics represented by chlorite, actinolite, hornblende	plagioclase : mafics - 60:40(?)	1% calcite - stringer and interstitial	0.5% pyrite - disseminated and local stringer like concentrations		mafic volcanic
171-06	dark green with pink-white vein material	poorly foliated - minor shear planes; 5% vein material - quartz-carbonate of a pink color; either pink calcite or hematite staining; vein-host rock contacts not distinct	0.2 or less	equigranular, interlocking; undifferentiated plagioclase and chlorite/actinolite	plagioclase: mafics - probably in the range of 60-70: 30:40	5% calcite - interstitial and in vein material	<0.1% pyrite - disseminated		mafic volcanic
172-04	dark green to black	foliated; minor slickensides - shear planes; 1-2% veinlet quartz-calcite	0.2	partially recrystallized with poorly prismatic, elongate hornblende and anhedral grey-white plagioclase; looks slightly coarser - gabbroic - but this may be increase in grain size with metamorphism	plagioclase - 47% hornblende - 47% (slightly chloritic) biotite - 3%	<1% calcite - veinlets & stringers	0.1-0.5% pyrite - disseminated	1%, ilmenite	mafic volcanic (amphibolite)
173-02	dark green to black	foliated - alignment of prismatic hornblende	0.1-0.3	inequigranular, elongate hornblende to 0.3mm oriented in plane of foliation along with finer, interstitial, anhedral plagioclase; recrystallized	plagioclase - 60% hornblende - 35-40% (local chlorite)	<0.5 calcite - local stringers	0.1% pyrite - disseminated		mafic volcanic (amphibolite)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
174-02	light to medium green	generally massive - minor shear planes - slickensides; 1%, or less, veinlet quartz-carbonate	1-3 mm	anhedral greenish white plagioclase (rare, distinct grain outlines) and subhedral mafic minerals altered to chlorite and/or actinolite hypidiomorphic	plagioclase - 60% mafic minerals - 40% (pyroxene - variably altered to chlorite and actinolite)	1% calcite - interstitial and with qz. in veinlets	0.1% pyrite - disseminated	<0.5% leucoxene	gabbro
175-02	dark green	schistose - sheared (slickensides present); 5% white quartz-carbonate veinlets	0.5-1.5	highly schistose to sheared; appears coarse grained with relict quartz to 1.5 (or greater) of a clear to blue color, and lesser relict plagioclase in chloritized matrix	plagioclase - 50% chlorite - 35-40% quartz - 5-7%	15, or greater, interstitial and veinlet calcite	trace pyrite - disseminated	1% ilmenite and/or hematite	quartz gabbro
176				BEDROCK NOT REACHED					
177-06	dark green	schistose - poorly sheared(?) possibly fragmental or brecciated - schistosity appears to wrap around fragments (?)	0.1 matrix - fragments to 80(?)	20% brownish-green elliptical altered fragments (mafic in character) to 8mm in a dark green saussuritized plagioclase - chlorite - carbonate matrix	undifferentiated plagioclase, chlorite - appears to be at least 35% chlorite	15-20% (possibly more) calcite - pervasive	0.5% pyrite - disseminated		mafic volcanic (possibly fragmental or brecciated)
178-08	medium green	foliated; local slickensides; 1% veinlet/stringer quartz and carbonate	0.5-1.0	hypidiomorphic - anhedral plagioclase and subhedral to anhedral chloritized mafic minerals	plagioclase - 50-60% chloritized mafics — 35%	5% calcite - interstitial	0.1% pyrite - disseminated		gabbro

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
179-01	dark green	possesses a poor foliation; 3-4% veinlet quartz-carbonate	1.0-2.0	indistinct subhedral to anhedral plagioclase and sub- to anhedral chloritized mafics along with ~5-7% clear to blue quartz	plagioclase - 50% mafic minerals - 40% (chloritized pyroxene) quartz - 5-7%	1-2% calcite, with quartz in veinlets	trace pyrite - disseminated	<0.5% magnetite - local concentrations; 0.5-1% leucoxene	quartz gabbro
180-07	medium green	schistose; 1% quartz-carbonate stringers	<0.05 to aphanitic	minor variations in color and grain size may define flow or pillow margins; generally equigranular and interlocking texture with 1% green chloritic "clots"/stringers parallel to and crosscutting foliation	undifferentiated - too fine grained	0.5% calcite - with quartz in stringers and along fractures	trace pyrite - disseminated		intermediate volcanic
181-08	dark green	schistose; minor shear planes - slickensides; 5-10% quartz-carbonate veining	0.1	equigranular and interlocking - intergrowth of plagioclase and chlorite; rock is carbonated marginal to veins.	undifferentiated plagioclase and chlorite	total of ~20 calcite & with quartz in vein & pervasive throughout rock	0.5-1% pyrite - disseminated cubes in veins and host		mafic volcanic
182-02	medium green	strongly sheared; 5% veinlet quartz-carbonate (mostly calcite)	0.1 or less	strong schistosity/alteration and shearing appears to produce a banding (tectonic); textures obliterated; fine grained, chloritic, carbonated	undifferentiated	calcite constitutes greater than 15% of the sample - both veins and pervasive within host	—		mafic volcanic (strongly sheared)
183-04	medium to dark green	highly schistose	<0.1	undifferentiated intergrowth of plagioclase and chlorite (& actinolite); some sections appear poorly granular or slightly gabbroic but this may be due to strong schistosity	~60:40 plagioclase : mafics, but this is uncertain	1-2% calcite - interstitial	trace pyrite - disseminated		mafic volcanic (possibly a highly schistose and altered gabbro)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
184-06	medium to dark green (greyish)	strongly schistose; 5-10% white to grey quartz-carbonate veinlets cross-cutting schistosity; possibly 2 generations of veining - a) white & b) grey but relative ages unknown	< 0.1	undifferentiated intergrowth of plagioclase, chlorite and carbonate	undiFFerentiated	10-15% calcite - in veins with quartz and throughout host	0.5%, or less, pyrite - disseminated		maFic volcanic
185-01	dark green	strongly schistose - sheared; 7% quartz-carbonate veinlets	0.1 (?) to 0.5 (locally); too sheared to determine accurately	strong Fabric and carbonate alteration obscures texture; appears fine grained but coarse sections have a relict gabbroic texture	plagioclase and chlorite - appears to be ~40% chlorite	~15% calcite - in vein material and pervasive throughout host	—		gabbro (sheared)
186-01	dark green	schistose - sheared; 2% carbonate + quartz veinlets & stringers	0.5 and greater - schistosity and shearing imparts a Finer appearance	texture disrupted by shearing and alteration - relict anhedral quartz and plagioclase crystals	plagioclase - 50% maFic minerals - 40% (chlorite) quartz (blue) - 5-7%	5-10% calcite - in veinlets and interstitial	< 0.1% pyrite - disseminated	1% magnetite - disseminated	quartz gabbro
187-02	medium green - local oxidation along Fractures	strongly schistose - sheared; almost a fissile parting; appears to be a poor banding - primary or tectonic (?); to 5% veinlet quartz carbonate, roughly paralleling Foliation	< 0.1	strong Foliation obscures texture; amygdules observed locally	undifferentiated plagioclase and chlorite and possibly to 5% sericite or light colored chlorite	5% calcite - interstitial & in veinlets	0.1% pyrite - disseminated	—	maFic volcanic
188-01	medium green	schistose with dark green very chloritic schistosity planes; 3% veinlet quartz-carbonate	< 0.1 (matrix) phenocrysts to 1.0 mm	porphyritic; < 5% white sub- to euhedral plagioclase phenocrysts to 1.0 mm in a green plagioclase-chlorite (+ actinolite) matrix	undiFFerentiated	2-3% calcite - with vein material and interstitial	< 0.1% pyrite - disseminated		maFic volcanic (porphyritic)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
189-01	medium to dark green	schistose - minor shearing; 3% veinlet quartz-carbonate; host is bleached marginal to veins	0.1	undifferentiated plagioclase-chlorite (+ actinolite) matrix with 2%, or less, scattered quartz and lesser chlorite filled amygdules to 2 mm; ~2% of chips display indistinct feldspar phenocrysts to 0.7 mm	undifferentiated	2% calcite - mostly in veinlets and ~0.5% interstitial within host	trace pyrite - disseminated		mafic volcanic
190-04	dark green; local reddish hematite staining along fractures & veinlets	foliated; shear planes present; 3-4% veinlet quartz carbonate	1-3mm	hypidiomorphic; composed essentially of sub- to anhedral saussuritized plagioclase and sub- to euhedral chloritized hornblende - relict hornblende coarser than plagioclase	plagioclase - 50% (saussuritized) mafics - 40% (chloritized hornblende and possibly minor pyroxene)	3% calcite - mostly in veinlets and 0.5%, or less, interstitial	0.5% sulfides - disseminated; pyrite, pyrrhotite and a trace amount of chalcopyrite	1% leucoxene 0.1-0.5% magnetite	gabbro
191-04	medium green	massive with rare shear planes; 1% veinlet quartz-carbonate	0.1-0.2	relatively coarse grained with 10-20% sub- to anhedral plagioclase phenocrysts from 0.2-2 mm in size, in a matrix of plagioclase, chlorite and medium green pyroxene or actinolite; coarse grain size imparts local gabbroic appearance	plagioclase -55-60% (total with phenocrysts) mafic minerals - 25% (pyroxene and/or actinolite) chlorite - 15%	< 0.5% calcite - in veinlets & disseminated	trace pyrite - disseminated		intermediate - mafic volcanic (porphyry)
192-08	light greyish-green; local oxidation	schistose - almost fissile (tectonic?) or tuffaceous?	< 0.1 to aphanitic	very fine grained with an almost fissile structure (possibly tectonic); highly altered (carbonate) and chloritic foliation planes obscures textures	undifferentiated with a minimum of 20% chlorite	15%, or greater, calcite - pervasive	0.1% pyrite - disseminated	trace Fuchsite	mafic volcanic (tuff?)
193-04	dark green	foliated; slickensides - shear planes present; 3-5% quartz-carbonate veinlets and epidotized stringers	0.2-0.3	generally equigranular and interlocking - fairly coarse with anhedral plagioclase (saussuritized?) and poorly prismatic subhedral actinolite - chlorite partially replacing primary pyroxene	50:50 plagioclase (saussuritized): chlorite-actinolite-pyroxene	1-2% calcite - mostly in veinlets - minor interstitial calcite	0.1% pyrite - disseminated		mafic volcanic (coarse flow)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
194-03	dark green	schistose to sheared-minor slickensides	0.1-0.2	equigranular and interlocking with saussuritized plagioclase and chloritized mafic minerals - possibly some actinolite and pyroxene as well(?); local, minor quartz eyes; very altered-chlorite, saussurite, carbonate	plagioclase : mafics - 60:40 <2% quartz	10-12% calcite -interstitial	<0.5% pyrite-disseminated		mafic volcanic
195-08	dark green	Foliated	0.5-2.0 indistinct except for quartz	coarse grained-altered; alteration of plagioclase (saussurite) and mafics (hornblende to chlorite-possibly some pyroxene); foliation, alteration obscures grain size	plagioclase -40% (saussuritized) chlorite - 45% (after hornblende) quartz (blue) - 5-10%	2% calcite-interstitial	0.5-1% pyrite-disseminated	2-4% ilmenite	quartz gabbro
196-02	medium green	foliated - sheared; 1% or less, veinlet quartz	matrix 0.1-0.2 phenocrysts to 1.0 mm	medium green, fine plagioclase and chlorite matrix with 40% or greater sub-to euhedral plagioclase phenocrysts to 1.0 mm and ~1% quartz phenocrysts to 0.6 mm	plagioclase phenocrysts - 40% matrix - 35% quartz - <3% chlorite - 15-20%	0.1% calcite-interstitial	0.5% pyrite-disseminated		Feldspar porphyry
197-12	medium grey-green - red hematite staining along fractures	gneissic - mafic rich and mafic poor bands; ~2% sugary, quartz + minor carbonate vein material	0.1	sugary-recrystallized; abundant epidote alteration and retrograde biotite to chlorite; "original" mafic mineral appears to be biotite, but possibly may have been hornblende - i.e. rock volcanic not greywacke	plagioclase +quartz(?) } 55% mafics (chlorite) - 20-25% epidote - 10-15%	<0.5% calcite-with quartz in veinlets	1% pyrite-disseminated cubes	2-3 hematite-alteration/staining	greywacke (gneiss)
198-15	dark green to black	Foliated - poorly gneissic; 1-2 % carbonate (+quartz) veinlets	<0.1	sub-sugary; recrystallized; retrograde alteration of mafic minerals (hornblende?) to chlorite and possibly some actinolite; epidote alteration of some plagioclase (saussurite)	plagioclase - 50% (saussuritization) mafic minerals - 35% (chlorite ± actinolite) epidote - 3-5%	3-5% calcite-interstitial and in veinlets with quartz	2% pyrite-disseminated	5-8% magnetite-very finely disseminated	mafic volcanic (gneiss)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
199-21	dark green	massive; 2% veinlet quartz with local red staining - veins are vuggy, possibly leached of carbonate; 1% epidote stringers	0.1	equigranular and interlocking with green, saussuritized plagioclase and chloritized mafic minerals (pyroxene)	plagioclase - 60% (saussuritized) chloritized mafics (pyroxene) - 35%	trace calcite	0.1-0.5% pyrite - disseminated	0.1% fine, disseminated ilmenite	mafic volcanic
200-11	medium to dark green	well foliated due to shearing	0.5-1.0	shearing obscures texture; relict, "unsheared" chips are hypidiomorphic with light green-white anhedral plagioclase and subhedral medium to dark green pyroxene altered to chlorite and actinolite - possibly some hornblende initially as well	plagioclase - 60% pyroxene - 30-35% (actinolite - chlorite alteration) quartz (blue) - 1-2%	2% calcite - interstitial & along shear planes	0.1-0.5 pyrite - disseminated	0.5% leucoxene	gabbro
201-18	dark green	poorly foliated; 1% veinlet quartz - carbonate	generally 0.2-0.3 - locally to 0.5	equigranular and interlocking; greenish saussuritized plagioclase and dark green chlorite and actinolite alteration of primary pyroxene	plagioclase - 60% (saussuritized) chlorite - actinolite - 40%	<0.5% calcite - in veinlets with quartz and associated with epidote stringers	0.5% pyrite - disseminated		mafic volcanic (coarse flow)
202-08	dark green	well foliated - defined by preferred orientation of prismatic mafic minerals - sub-gneissic; may be minor shearing defined by light green-white fibrous actinolite(?) on a few foliation planes	0.2	recrystallized and then retrograded; plagioclase and epidote (saussurite) and chlorite (+actinolite) after hornblende(?)	plagioclase - 50-55% (saussuritized) mafics - 30-35% (chlorite, actinolite) epidote - 10%	1% calcite - interstitial and with quartz in the estimated 1% vein material	0.5-1% pyrite - disseminated cubes	2% magnetite - finely disseminated	mafic volcanic (sub-gneissic)
203-02	medium to dark green	strongly schistose to sheared; 1% veinlet/stringer quartz - carbonate parallel to foliation	0.1 (?)	schistosity, alteration (chlorite, carbonate) obscures textures; appears to be rare relict amygdules but this is questionable	plagioclase - 50% chlorite - 35%	10-12% calcite - pervasive	trace pyrite - disseminated	0.1, or less, magnetite - disseminated	mafic volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
204-02	dark green	strongly schistose - sheared (minor slickensides along foliation planes) 2% quartz-carbonate stringers parallel to foliation	< 0.1	fine schistosity; chloritic and carbonate alteration obscures textures	plagioclase - 45% chlorite - 35%	15%, or greater, pervasive calcite alteration	0.1% pyrite - disseminated		mafic volcanic
205-03	medium to dark green	strongly schistose; 15% carbonate - quartz - chlorite veining	< 0.1	host is partially bleached and composed of undifferentiated plagioclase and chlorite; abundant veining (may be >15%); there appears to be ~1% calcite filled amygdules to 1.5 mm in size	undifferentiated plagioclase and chlorite.	15-20% calcite - in veins and interstitial	0.1% pyrite - disseminated		mafic volcanic
206-06	dark green	schistose - chlorite schistosity planes; 1% veinlet quartz carbonate	0.1-0.2	equigranular and interlocking; appear to be 1-2% quartz and calcite filled amygdules to 1.0mm in size	plagioclase - 50% chlorite - 35%	10% calcite - pervasive, interstitial	0.1% pyrite - disseminated	0.1% magnetite - disseminated	mafic volcanic
207-10	dark green	schistose - sheared; minor slickensides along shear planes; 1% veinlet stringer quartz/carbonate	0.1-0.2	similar to 206-06, but no obvious amygdules	undifferentiated (may be ~50:40, plag: chlorite)	6-8% calcite - pervasive	0.1-0.5% pyrite - disseminated		mafic volcanic
208-08	medium to dark green	schistose, sheared; 2% veinlet quartz - carbonate	<0.1-0.1	similar to 206-207; some chips appear bleached - due to veinlets and possible surface exposure (oxidation?)	undifferentiated plagioclase and chlorite - possibly minor amounts of sericite	5-7% calcite - pervasive	0.5%, or less, pyrite - mostly as disseminated cubes in veinlet quartz-carbonate		mafic volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
209-10	medium to dark green with ~10% oxidized chips	schistose; 2-4% veinlet stringer carbonate-quartz	0.1	rock is locally bleached (due to veining?) and oxidized; generally equigranular and interlocking	undifferentiated but there appears to be ~15-20% chlorite	10% <u>moderately</u> reactive carbonate - pervasive (carbonate may be Fe-rich as whole rock data gives 17.8% Fe_2O_3)	0.1% pyrite - disseminated		mafic volcanic
210-08	dark green - 30-40% of sample is oxidized	schistose - sheared; 5% beige-white, opaque carbonate veinlets - massive; probably calcite but not as reactive as other examples of calcite	0.1	dark green rock is composed of chlorite ± hornblende elongated in plane of foliation, and plagioclase; oxidized material may represent preferred alteration and oxidation along foliation planes, or result from exposure	undifferentiated plagioclase and chlorite/hornblende	<1% stringer foliation calcite in unoxidized rock chips; 1-2% carbonate (calcite?) within oxidized material	—		mafic volcanic (oxidized)
211-02	medium to dark green	schistose - sheared; 5% veinlet/stringer calcite (+ quartz)	0.1-0.2	fine grained, highly schistose and altered - chlorite, carbonate; 2-3% calcite and chlorite filled amygdules to 0.6mm	undifferentiated plagioclase and chlorite	15%, or greater, calcite - pervasive	—		mafic volcanic
212-02	dark green	poorly foliated; 3% carbonate (+ quartz?) veinlets	0.1-0.2	equigranular, interlocking; composed of saussuritized(?) plagioclase, and chlorite and actinolite	undifferentiated plagioclase and mafics - ratio may be ~ 50:50	3% calcite - mostly in veinlets or marginal to veins - minor amounts disseminated	0.5% pyrite - disseminated		mafic volcanic
213-07	medium grey (to beige) green	finely schistose - almost fissile; to 5% veinlet and stringer carbonate (+ quartz) along foliation	<0.1 (to 0.8 amygdules or fragments?)	very finely schistose; fine matrix with ~10% fragments or stretched amygdules from 0.1-1.0mm in plane of foliation - appear to be composed of quartz, carbonate, or/and chlorite suggesting amygdules; carbonitization of rocks may enhance fragment/amygdule boundaries enhancing tuffaceous appearance	undifferentiated	10-12% <u>moderately</u> reactive carbonate as veinlets and interstitial within rock	0.5% pyrite - disseminated and rare, massive stringers		mafic volcanic (bleached)

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
214-06	medium to dark grey - local oxidized chips	poorly foliated; 2% quartz veinlets	0.1	equigranular and interlocking; very highly altered * considering high Fe_2O_3 and LOI, carbonate should be iron rich	undifferentiated	>20% moderately to slowly reactive interstitial carbonate	trace pyrite - disseminated cubes		mafic volcanic (carbonated)
215-05	black	schistose; 5-7% veinlet quartz and carbonate	<0.1 to 0.8 (grains)	very fine black, locally graphitic mud/siltstone, and slightly coarser material (siltstone/greywacke) with 20-30% elliptical, dark grey-black inclusions to 0.8 mm - possibly andalusite or sericite replacing andalusite	----	3-5% slowly reactive carbonate - mostly in vein material	1% pyrite - disseminated in rock and in quartz-carbonate veinlets	trace magnetite; trace tourmaline	siltstone/wacke
216-03	medium grey green	foliated; both medium grey-green and dark green chips - locally bleached; 2% quartz-carbonate stringers	0.1 or less	equigranular and interlocking; highly altered (carbonate) and locally bleached	undifferentiated	15% moderately reactive (to slowly reactive) interstitial carbonate	—		mafic volcanic
217-05	medium green - minor oxidation	foliated to schistose; 2-3% veinlet-stringer quartz-carbonate	< 0.1	equigranular and interlocking; pervasively carbonatized and bleached to a degree; rare quartz amygdules to 0.6 mm	undifferentiated plagioclase and chloritized mafics	12-15% pervasive carbonate - calcite to a moderately reactive variety - possibly >15% carbonate	trace pyrite - disseminated		mafic volcanic
218-04	medium grey	moderately well foliated	0.1-0.2	equigranular and interlocking; bleached	undifferentiated plagioclase and mafic minerals	8% moderately to slowly reactive carbonate, appears as small (to 0.4 mm) white grains which look like plagioclase phenocrysts	<0.1% pyrite - disseminated	—	intermediate - mafic volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE (mm)	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
219-02	dark grey; local oxidation	Foliated to schistose - minor shear planes; 3% veinlet quartz - oxidized	0.1-0.2	chloritic and quartzo-Feldspathic; a minor number of chips display blue-grey aphanitic cherty Fragments (?) to 1.0 mm; elsewhere some chips display the same blue-grey material as erratically planar material which appears to be Flow banded - brecciated (?)	quartzo-Feldspathic; chloritic	3-5% slowly to moderately reactive carbonate - interstitial, stringer and with veinlet quartz	to 0.5% pyrite - mostly in vein material & minor amounts disseminated in host		intermediate volcanic (possibly a Flow breccia)
220-03	medium grey to dark grey - banded	weakly Foliated - banding parallel to foliation; 2%, or less, veinlet quartz	< 0.1 to aphanitic	aphanitic to very fine grained; aphanitic Flow material and black more schistose, slightly coarser bands/beds - tuff (?) aphanitic material contains rare small quartz amygdules	quartzo-Feldspathic with chlorite	to 3% calcite - interstitial - mostly in darker more schistose bands	< 0.1% pyrite - disseminated		intermediate volcanic
221-04	pale green (bleached)	moderately to well Foliated; sheared	0.5 and greater	equigranular; intrusive appearance; indistinct outlines due to shearing, alteration and bleaching	plagioclase - 50% mafics - 40% (pyroxene - actinolite - chlorite)	5-10% pervasive, moderately reactive calcite	rare trace pyrite - disseminated	trace ilmenite; 1% leucoxene	gabbro
222-02	medium green (bleached)	strongly schistose; 5-7% calcite veinlets	< 0.1	equigranular, interlocking; saussuritized plagioclase and chlorite	plagioclase - 45% (saussuritized) chlorite - 40%	5% pervasive disseminated calcite, and 5-7% calcite veinlets	1% finely disseminated pyrite and local stringer-like concentrations associated with vein material		mafic volcanic
223-03	a) medium grey (60%) b) medium green (40%)	a) Fractured - may be poorly schistose b) schistose, highly altered; possibly a small percentage of amygdules	a) —— b) 0.1	a) mostly grey to white and clear vein material - carbonate, quartz (?) & digested chloritic host; possibly a faint trace of graphite b) highly altered and bleached; composed of plagioclase, chlorite and carbonate		a) 25% calcite in vein material b) 5-8% calcite - along schistosity planes and minor stringers	a) 3-4% pyrite - disseminated and local concentrations b) < 0.1% pyrite - disseminated		a) vein carbonate (+ quartz) + highly altered chloritic host b) mafic volcanic

SAMPLE NUMBER	COLOR	STRUCTURE	GRAIN SIZE(mm	TEXTURE	MINERALOGY				NAME
					Silicates	Carbonates	Sulphides	Other	
224-02	medium grey-green	well foliated	matrix <0.1; phenocrysts 0.2-0.5	porphyritic; ~30% indistinct plagioclase phenocrysts in a fine plagioclase, pyroxene, chlorite matrix; rare quartz eyes	undifferentiated plagioclase and pyroxene with ~15% chlorite along foliation planes; minor sericitic alteration of plagioclase phenocrysts	8% pervasive calcite	trace pyrite - disseminated	1-2% leucoxene	mafic volcanic (porph
225-02	dark green to black - flecked white and pink	massive; fresh	1.0 - 3.0	sub-ophitic texture	plagioclase - 45% pink feldspar - 3% pyroxene - 10% (brown) hornblende - 25% biotite - 5% epidote - 2%	1% calcite - disseminated	trace pyrite - disseminated	3% ilmenite with minor leucoxene alteration; 0.5% magnetite	gabbro
226-04	medium to dark grey; local oxidation	weakly foliated; 7% quartz-carbonate vein material	0.1	fine grained; bleached-carbonated; equigranular and interlocking	undifferentiated	8% calcite - interstitial; 3% calcite in vein material	0.5% pyrite - mostly along carbonate-qz veins but also disseminated; <0.1% arsenopyrite - disseminated		mafic volcanic
227-12	medium green (bleached)	finely schistose - sheared; 5% white to grey-white carbonate veinlets/ stringers	<0.1 to aphanitic	equigranular and interlocking	plagioclase with 25% chlorite	15% calcite - pervasive	0.1-0.5 pyrite - local concentrations in vein material		mafic volcanic