



42B09NE0004 21 MONTCALM

010

DIAMOND DRILLING

TOWNSHIP: MONTCALM

REPORT No.: 21

WORK PERFORMED BY: GEOPHYSICAL ENGINEERING LTD.

<u>CLAIM No.</u>	<u>HOLE No.</u>	<u>FOOTAGE</u>	<u>DATE</u>	<u>NOTE</u>
P 437993	EE-23 ✓	247.5 m	Dec./76	(1)
	EE-30 ✓	160.6 m	Jan./77	(1)
	EE-62 ✓	207.0 m	Aug./77	(1)
	EE-66C ✓	706.2 m	Feb./78	(1)
	EE-33 ✓	380.1 m	Jan./77	(1)
		<u>1701.4</u>		

NOTES: (1) # 287-80



## GEOPHYSICAL ENGINEERING LIMITED

## DIAMOND DRILL LOG

HOLE NO. EE-23SHEET 1 OF 3

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
0	28.8	Casing	
28.8	50.5	Granite	Typical - badly broken up, numerous large seams & faults. At 41.4 Core ground 2.8 meters - sand seam.
50.5	71.3	Gabbro	Felsic, coarse, porphyritic, scattered blue quartz eyes. Contact broken (50°?) 53.8-54.2
71.3	72.3	Dyke F.P.	30° to CA. Typical, numerous zoned feldspars.
72.3	80.9	Gabbro	Felsic, coarse, porphyritic. At 72.8, 3cm F.P. dykelet 40° to CA.
80.9	84.6	Dyke F.P.	65,80° to CA. Typical with zoned feldspars
84.6	85.6	Gabbro	Felsic, coarse, porphyritic. Rare trace PY.
85.6	100.6	Sulphide Zone in Felsic Gabbro	85.6-90.5 10% PO,PY,CPY, as scattered segregations & sections of massive "net" texture to 20cm 90.5-93.8 <1/2% PO,PY,CPY - Rare clots of PO,PY(CPY) to 1cm. Sparse feldspars, coarse porphyritic, no contacts, <u>not</u> a dyke. 93.8-100.6 2% PO,PY(CPY) - local patches to 2cm & weak local segregations.
100.6	102.5	Dyke, Mafic	Contact sharp 25° to CA. Dark green, hard, fine grained, dioritic. Second contact sharp 70° to CA. Barren of sulphides.
102.5	109.3	Sulphide Zone in Felsic Gabbro	102.5-106.5 3% PO,PY(CPY). Local patches to 5cm 106.5-107.2 Actinolite dykelet, both contacts sharp but broken. Barren of sulphides. 107.2-108.4 20% PO,PY(CPY) in sections to 30cm of massive "net" texture. 108.4-109.0 Dyke- F.P. 55°,45° no sulphides. 109-109.3 70% PO,PY,CPY - massive "net" texture in felsic gabbro
109.3	110.5	Gabbro	Felsic, barren of sulphides.
110.5	112.7	Dyke F.P.	Typical, zoned feldspars, contacts 65°,45° to CA. Rare trace PY.
112.7	177.2	Gabbro	Felsic, coarse, porphyritic to equigranular strong 20° open fault at 120.2. At 152.6 0.9m ground core - fault seam. 128.3-128.8 1% PO,PY,CPY segregation. 128.8-129.5 barren

## GEOPHYSICAL ENGINEERING LIMITED

## DIAMOND DRILL LOG

HOLE NO. EE-23SHEET 2 OF 3

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
			129.5-130.1 One 10 cm massive PO, minor PY(CPY) & associated segregated PO, PY(CPY) 40% sulphides over the 0.6 meters
177.2	179.0	Dyke Q.F.P.	Typical hazy feldspars & bluish quartz eyes. First contact strongly sheared & brecciated in a high angle fault. Second contact sharp 55° to CA. 10cm gabbro inclusion.
179.0	190.8	Gabbro	Felsic, coarse equigranular. 1.2 m ground at 181.0 184.4-184.8 Q.F.P. dykelet, broken & 40° to CA.
190.8	192.3	Dyke Q.F.P.	Typical as 172-179.0, granitic, hazy
192.3	194.3	Gabbro	Felsic, coarse, equigranular. Strong fault at 194.2
194.3	197.3	Dyke Q.F.P.	Contact sharp, 85° typical, 40cm gabbro inclusion, badly broken up.
197.3	199.6	Gabbro	Felsic, coarse, porphyritic. At 199, two 10cm Q.F.P. 55° opposing
199.6	207.7	Dyke Q.F.P.	80° & broken. Typical. 40cm gabbro inclusion.
207.7	207.8	Gabbro	Intensely sheared, felsic, 3cm grey fault gouge.
207.8	208.2	Dyke - Felsite	Typical, waxy aphanitic, pale salmon pink. Core broken.
208.2	208.6	Dyke Q.F.P.	Typical, with white quartz chlorite veining (20cm)
208.6	208.9	Gabbro	Sheared! 90° to CA.
208.9	209.3	Dyke Q.F.P.	Fairly typical, feldspars & quartz eyes <u>very</u> faint. Contacts sharp 85°
209.3	209.9	Dyke - Intermediate	Dark brownish grey, intensely sheared 85° to CA. Cut by 3cm Q.F.P. dykelet 85° to CA.
209.9	222.0	Dyke Actinolite	Actinolite, typical dark green, soft, large blady amphiboles. Contacts broken (high angle). 212.9-213.1 Q.F.P. - core shattered. Could be a xenolith <u>or</u> a dykelet.
222.0	223.7	Gabbro	Felsic, hybrid, medium equigranular.
223.7	224.6	Dyke Intermediate	Dark grey, aphanitic, hard. Contacts broken (high angle). Contacts chilled.

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DIAMOND DRILL LOG

HOLE NO. EE-23

SHEET 3 OF 3

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
224.6	225.1	Gabbro	Felsic, coarse, porphyritic.
225.1	225.3	Dyke - Intermediate	Dark grey, contacts broken, (chilled contact areas)
225.3	225.6	Gabbro	Felsic coarse, porphyritic
225.6	225.9	Dyke Q.F.P.	Typical contacts sharp, 30°, 60° to CA
225.9	235.3	Gabbro	Felsic coarse porphyritic. At 228.5, 10cm Q.F.P. dykelet, 30° to CA.
235.3	236.4	Dyke Q.F.P.	Typical, contacts broken, high angle(?) 20cm gabbro inclusion
236.4	247.5	Gabbro	Felsic coarse, porphyritic At 236.9, 10cm Q.F.P. dykelet 40°, 80° 244-244.4 Q.F.P. dykelet 40° to CA  End of hole 247.5



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DIAMOND DRILL LOG

HOLE NO. EE30

SHEET 1 OF 2

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
0	15.2	Casing	
15.2	61.9	Gabbro	<p>15.2-17.5 Mafic, coarse (scattered) porphyritic.                      -at 16.0, 20cm corelength of (gradational) felsic, medium equigranular.                      17.5-61.9 Felsic, medium equigranular.                      Strong faults as follows (to 43.0)                      24.8, 40° to CA with 80cm of strong shearing.                      25.7, 40° to CA with gouge.                      26.9, 30° to CA.                      31.4, 65° with gouge &amp; slickensides                      43.0 Intense 40° shear, (10cm)                      57.5-58.3 Mafic, with sharp 50°,40° contacts, appears to be a dyke.                      60.5-61.9 Strongly sheared, chloritized ±90° to CA.</p>
61.9	82.2	Granite	<p>61.9-62.3 Intensely sheared 90° to CA                      62.3-82.2 Typical coarse, porphyritic with innumerable bluish quartz eyes throughout. Feldspars orange (haematized). Second contact sheared at 85° to CA.</p>
82.2	100.1	Gabbro	<p>82.2-100.1 Felsic, medium equigranular with short intermediate phases which tend to be coarse porphyritic.                      91.9-92.1 and 92.9-95.3 dark mafic gabbro, sparse feldspars to 3mm. These are dykelike with sharp ±50° contacts. Local minor fine PY (&lt;1%)                      Strong 3cm indurated shear at 95.3                      96.8-97.6 Dyke? intermediate dark grey, hard, aphanitic, trace PY. Contacts sharp 55°                      97.6-100.1 Considerable pale brown biotite throughout.</p>
100.1	109.6	Dyke Q.F.P.	<p>Typical hazy granitic appearance, feldspars indistinct. Quite different appearance from the granite at 61.9 where the feldspars are prominent. Contacts sharp 70° to CA.</p>
109.6	123.8	Gabbro	<p>109.6-123.8 Felsic(?) grey, considerable pale brown biotite to 109.9. Presumably altered by the Q.F.P. dyke. Blotchy, heterogeneous appearance to 111.8, then more uniform &amp; more typical.                      At 118.8 strong 20° fault seam with carbonate.</p>
123.8	153.3	Sulphide Zone in Mafic Gabbro,	<p>123.8-134.7 Mafic - abrupt change, coarse porphyritic, locally equigranular, with the white feldspars prominent against the dark background.</p>

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## DIAMOND DRILL LOG

HOLE NO. EE30

SHEET 2 OF 2

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
		locally with fragments	<p>123.8-128.2 2% finely dissem. PO,PY,CPY &amp; local "aggregates" in rounded clots to 2cm.</p> <p>128.2-128.5 80% PO,PY,CPY "net" texture with sparse amphibole porphyroblasts to 3mm. <math>\pm 70^\circ</math> to CA. <u>N.B.</u> This may be a large "clot" of sulphides.</p> <p>128.5-129.0 1% finely dissem. PO,PY,CPY &amp; local rounded "clots" to 5mm.</p> <p>129.0-131.4 50% heavily disseminated PO,PY,CPY with locally abundant CPY</p> <p>131.4-131.6 2% locally disseminated PO,PY,CPY with considerable ankerite veining at <math>15^\circ</math> to CA.</p> <p>131.6-132.7 50% heavily segregated PO,PY(CPY) with local PY porphyroblasts to 1cm at 131.8 over 10cm corelength.</p> <p>132.7-133.0 60% PY porphyroblasts in massive PO groundmass.</p> <p>133.0-134.7 Massive PO with fine PY &amp; local interstitial CPY &amp; scattered PY porphyroblasts from 133.7-134.7</p> <p>134.7-136.2 &lt;1% fine disseminated sulphides in intermediate gabbro, coarsely porphyritic</p> <p>136.2-146.6 2% local fine disseminated PO,PY(CPY) &amp; occasional concentrations over corelengths to 10cm.</p> <p>146.6-149.2 30% patchy disseminated PO,PY(CPY)</p> <p>149.2-150.8 Massive PO with PY porphyroblasts to 5cm largely replaced by CPY! Local strong banding of sulphides at <math>70^\circ</math> to CA.</p> <p>150.8-153.3 30% PO,PY(CPY) as fine dissemination throughout. <u>N.B.</u> Several distinct well rounded fragments of felsic gabbro to 15mm occur in the section.</p>
153.3	160.6	Gabbro	<p>Felsic, coarse, porphyritic, unmineralized. Contact with preceding unit is sharp at a sulphide stringer <math>60^\circ</math> to CA.</p> <p style="text-align: center;">End of hole 160.6 meters</p>





GEOPHYSICAL ENGINEERING LIMITED

DIAMOND DRILL LOG

HOLE NO. EE-62

SHEET 1 OF 4

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
0	16.4	Casing	
16.4	18.0	Gabbro	16.4 - 18.0 Felsic, coarse (to 5 mm) porphyritic locally weakly magnetic.
18.0	39.5	Dyke - granitic	18.0 - 39.5 Fine, equigranular, hard, grey to reddish pink (haematized) granitic (or dioritic) dyke. 1 mm cream feldspars in quartz rich groundmass. Rare trace PY. Not magnetic. Local streaks and areas of epidote and zoisite. Contact broken. 22.3 - 23.5 core ground, probable seam. 27.5 - 28.1 xenolith (?) of silicified, epidotized fine grained rock. Sharp 70° contacts. 31.1 - 31.4 core ground. 38.7 - 39.5 as 27.5 - 28.1 xenolith? Contacts hazy and irregular.
39.5	40.2	Gabbro ?	39.5 - 40.2 Highly altered, feldspars yellow - was probably felsic, coarse porphyritic.
40.2	41.9	Dyke, granitic	as 18.0 - 39.5 40.2 - 40.8 core ground. Second contact high angle, indistinct due to epidote.
41.9	44.1	Granite dyke	Coarse, equigranular, feldspars locally haematized, abundant bluish quartz. Considerable epidote.
44.1	45.2	Dyke - F.P.?	Brownish grey, locally fairly typical, numerous feldspars to 2 mm, locally zoned. Not magnetic. Contacts sharp, irregular. Ore 2 cm granite xenolith.
45.2	59.4	Granite dyke	as 41.9 - 44.1 Considerable epidote. 50.3 - 51.4 xenolith of felsic, coarse porphyritic gabbro, local rare traces PY, CPY. 53.7 - 54.1 Weak local quartz stringers to 2 cm. Irregular, (high angle).
59.4	60.6	Dyke, granitic	as 18.0 - 39.5, local slight resemblance to F.P. Contacts sharp, irregular.
60.6	61.5	Granite dyke	Coarse, equigranular, as 41.9 - 44.1

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DIAMOND DRILL LOG

HOLE NO. EE-62

SHEET 2 OF 4

...TERS

FROM	TO	ROCK TYPE	DESCRIPTION
61.5	63.2	Gabbro	Felsic, coarse porphyritic, cut by numerous granitic dykelets at various angles. First and second contacts high angle.
63.2	64.8	Dyke, granitic	as 18.0 - 39.5, strongly epidotized, fine equigranular. Two 10 cm xenoliths of gabbro (Felsic, coarse porphyritic.)
64.8	66.3	Gabbro	Felsic, coarse porphyritic, not magnetic. Contacts high angle.
66.3	67.8	Dyke, granitic	as 18.0 - 39.5, fine equigranular.
67.8	68.2	Dyke, mafic	Black, finely gabbroic. One 1 cm granite xenolith. Contacts sharp, high angle, chilled.
68.2	165.6	Gabbro	68.2 - 165.6 Felsic, coarse porphyritic, rare fine trace PY. Patchy epidote. 69.0 - 69.2 granitic dykelet as 18.0 - 39.5, fine equigranular, (hazy). Contacts sharp, low angle. 71.4 - 71.6 Pink granite/QFP dykelet. <u>N.B.</u> At 73.0 Fault plane 40° to CA. 3 mm of haematized gouge. At 81.4 Fault plane, as above. 83.7 - 84.0 QFP dykelet, locally brecciated, pink, high angle sharp contacts. 87.1 - 87.2, 87.5 - 87.9 QFP dykelets, sharp 40° contacts. 98.1 - 98.2 QFP dykelet, high angle. 99.2 - 99.3 QFP dykelet, high angle. 99.4 - 102.7 Strongly epidotized, and brecciated with fault + 1 cm of grey gouge at 101.7. 103.9 - 104.2 QFP dyke, irregular high angle contacts. 104.7 - 104.8 QFP dykelet, irregular high angle contacts. 106.1 - 106.7 QFP dyke, 30° to CA. One 2 cm gabbro inclusion. Local epidote, quartz carbonate and some shear banding 30° to CA. 108.0 - 108.1 QFP dykelet, irregular contacts. At 112.2 low angle fault slip. 113.2 - 113.8 QFP dykelet rolling along CA. 114.3 - 114.6 QFP dykelet 50° to CA.

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DIAMOND DRILL LOG

HOLE NO. EE-62

SHEET 3 OF 4

MEIERS

FROM	TO	ROCK TYPE	DESCRIPTION
			<p>At 119.5 low angle fault slip.                      120.0 - 123.0 Blocky ground, some fault slips, low and high angles.                      125.5 - 125.7 Two granite dykelets, prominent tabular feldspars. 40° to CA.                      129.8 - 133.8 Blocky ground, some fault slips, low and high angle. Feldspars locally haematized.                      134.8 - 137.0 QFP dyke, contacts irregular.                      138.4 - 138.8 QFP dykelet rolling along CA.                      139.1 - 139.2 QFP dykelet, high angle.                      147.4 - 148.7 Mafic dykelet, dark grey, finely equigranular with minute pinkish feldspars. Soft, similar to pyroxenite (which it may be a variety of). Rare trace PY. Contacts sharp 30° to CA and 60° to CA. This dyke is cut by a low angle 2 cm QFP dykelet.                      148.7 - 151 Patchy areas of the above PX(?) dykelet occur on the gabbro at low angles, along with occasional 2-5 cm QFP dykelets with irregular contacts.                      161.7 - 162.0 QFP dykelet, high (irregular) angle.                      N.B. 162.4 - 162.9 Ultramafic, dark green, soft, coarse equigranular. Prominent phenocrysts of hornblende after pyroxene. Moderately magnetic. &lt;1% finely disseminated PO, PY, (trace CPY). Contact sharp, irregular high angle(?), second contact at a strong low angle fault slip.</p>
165.6	166.1	Ultramafic	as 162.4 - 162.9 unmineralized, 40° to CA.
166.1	167.1	Gabbro	Felsic coarse porphyritic not magnetic.
167.1	173.7	Ultramafic	as 162.4 - 162.9 Very rare trace PO, CPY.
173.7	176.6	Gabbro	Highly epidotized, probably originally felsic, coarse porphyritic. N.B. at 174.1 strong 50° fault with 2 cm grey gouge. N.B. at 176.5 strong high angle fault.
176.6	177.6	QFP dyke	Pinkish, typical. Minor quartz stringers to 1 cm. Unmineralized, contacts broken (high angle?)

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DIAMOND DRILL LOG

HOLE NO. EE-62

SHEET 4 OF 4

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
177.6	186.3	Gabbro	Core largely rubble, numerous high angle faults. Felsic, coarse porphyritic.
186.3	186.6	QFP dyke	as 176.6 - 177.6 Contacts broken.
186.8	188.0	Gabbro	as 177.6 - 186.3 blocky, low and high angle faults.
188.0	189.3	QFP dyke	as 176.6 - 177.6 Contacts broken - high angle(?)
189.3	190.3	Gabbro	Felsic, medium equigranular.
190.3	198.0	Gabbro, Pegmatite	Very coarse, pegmatitic, with patchy blue quartz and orange feldspars. Not magnetic. High angle contacts.
198.0	206.7	Gabbro	Felsic, coarse, porphyritic, feldspars yellow to orange. At 206.5, 3 cm QFP dykelet, high angle.
206.7	207.0	QFP dyke	Typical, hazy granitic appearance, orange.
			End of Hole 207.0 meters.



GEOPHYSICAL ENGINEERING LIMITED

DIAMOND DRILL LOG

HOLE NO. EE66

SHEET 1 OF 5

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
0	14.9	CASING	
14.9	240.6	GABBRO FELSIC	<p>Felsic to medium to coarse porphyritic, 3mm. Granitized throughout, with blue quartz eyes. The granitization is patchy and gradational, giving the core a heterogeneous appearance. Epidote is ubiquitous but local in seams and patchy areas.</p> <p>23.2-23.7 Dyke, intermediate, dark grey-green with scattered 1mm cream feldspar contacts high and low angle, sharp.</p> <p>27.0-27.6 Granite, pink, high angle (?)</p> <p>30.0-30.2 Quartz stringers to 5cm T.W. 1% py in wallrock at second contact.</p> <p>34.3-34.8 Dyke, intermediate as 23.2-23.7 with 10cm granitic section at 34.6 contacts sharp, high angle..</p> <p>37.4-37.7 White quartz, minor epidote.</p> <p>47.1-49.9 Dyke intermediate as 23.2-23.7 core shattered to 48.8 probable fault.</p> <p>N.B. - 49.3-49.9 almost black, may be a separate dyke as there is 5cm of granitized gabbro at 49.2. Contacts of dyke sharp, high angle.</p> <p>52.8-53.8 Dyke, intermediate as 23.2-23.7.</p> <p>54.8-57.8 Highly granitized plot as granite. Feldspars all haematized.</p> <p>57.8-60.0 Probably all more or less dyke, intermediate as 23.2-23.7 with 30cm of highly granitized gabbro from 59.2.</p> <p>±61.0-63.3 Dyke as 23.2-23.7 cut by numerous 2-5cm granite dykelets, all high angle. First contact broken, second high angle? Local trace py.</p> <p>65.5-66.5 Dyke as above ± 45° to core axis (sharp)</p> <p>71.9-76.2 Dyke as above epidotized and with local granitic sections.</p> <p>NB at 83.4 Strong 60° fault slip, slickensides ±40° to core axis.</p> <p>88.1-88.5 Dyke as above, core shattered, probable fault.</p> <p>100.4-102.8 Dyke, pale to dark grey/green, brecciated appearance. Minor fine traces cpy and py. Contacts high angle (?) obscured by the epidotization.</p> <p>NB at 101.9 strong fault, parallel to core axis some gouge.</p> <p>From ±106.6 the gabbro is much less granitized and the epidote is less pervasive. Local minor specks of py occur in 1-3cm patchy areas.</p> <p>At 140.0 good evidence of strong low angle faults.</p> <p>At 144.2-178.9 Numerous low angle faults.</p> <p>164.5-166.0 Dyke, intermediate dark grey/green minor fine streaky py at first contact. Both contacts broken, one 3cm xenolith of felsic</p>

## GEOPHYSICAL ENGINEERING LIMITED

## DIAMOND DRILL LOG

HOLE NO. EE66SHEET 2 OF 5

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
			gabbro at 165.5. 168.2-175.4 Dyke, intermediate, pale/dark grey/green, high angle (broken contacts) rare traces py. 176.9-178.0 Granitic dykes to 40cm, high angles. 181.6-185.3 QFP? grey, finely equigranular, contacts sharp 60°, 80° to core axis. Hazy feldspars, very hard. 187.8 -188.7 QFP (?) dyke as 181.6-185.3 contacts sharp, high angle. 190.1-191.0 QFP (?) dykelets to 30cm as 181.6-185.3 all high angle. 192.7-193.5 QFP (?) dyke as 181.6-185.3. High and low angle contacts. NB - 196.9-198.6 Intensely epidotized and numerous strong faults along core axis. 201.5-202.2 Ultramafic dyke, almost black, soft, strongly schistose parallel to core axis. Strongly magnetic. High angle. 202.2-204.5 Dyke pale green, intermediate no feldspar seen, strongly epidotized. Contacts sharp high angle. 205.1-205.5 Granitic dyke (QFP?). High angle. 205.9-207.0 Granitic dyke (QFP?). High angle. 209.1-209.6 Granitic dyke (QFP?). High angle. NB - The gabbro locally appears to be <u>slightly</u> less felsic to 240.6. 237.2-237.4 QFP dykelet haematized, high angle.
240.6	254.7	MAFIC GABBRO POSSIBLY U.M (?)	Dark green soft, fine sparse buff leucoxene throughout. Traces cpy, py, locally. NB 244.6-247.0 Strong low angle fault with gouge.
254.7	273.8	INTERMEDIATE/ FELSIC GABBRO	254.7-273.8 medium porphyritic cut by dykes (below). 254.7-255.2 Dyke intermediate, pale grey, epidotized, finely pyritic (< 1%) 60°, 40° to core axis. 256.6-257.6 Dyke identical to 254.7-255.2 high and low angle contacts. 258.5-261.4 Dyke identical to 254.7-255.2. NB - 263.0-263.6 Strong fault zone, core all rubble. Low angle (?). 267.5-269.7 Dyke intermediate, locally haematized and brecciated. Unmineralized, high angle 269.1-269.4 Quartz vein, 70° to core axis. At 270.6 Major fault with 2cm gouge, 60° to core axis. 272.3-272.7 Granite dykelet, haematized, high angle to core axis. NB - At 273.8 Gabbro becomes much more felsic, medium porphyritic, with orange feldspars, more massive. At 277.0 and 278.1 probable faults core rubbly, and some low and high angle slips with gouge.



GEOPHYSICAL ENGINEERING LIMITED

DIAMOND DRILL LOG

HOLE NO. EE66

SHEET 3 OF 5

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
			NB - At 297.6 Strong 30° fault seam with gouge. NB - At 309.2 Strong 30° fault seam with gouge.
318.2	326.7	ULTRAMAFIC	318.2-326.7 Ultramafic, very dark grey/green, soft, strong 60° schistosity <1% fine py and local traces cpy. 322.4-322.6 QFP dykelet, 45° to core axis. NB - At 326.6 Strong 60° gouge-filled fault.
326.7	328.1	QFP DYKE	Haematized contacts sharp 60° to core axis.
328.1	335.5	MAFIC GABBRO	Dark grey/green, faint scattered yellowish feldspar gradational second contact.
335.5	519.6	GABBRO	Felsic-intermediate. 361.3-363.6 Numerous low angle fault slips 366.5-366.7 Strong fault core rubbly. 372.8-373.1 Strong fault 30° to core axis with gouge. 375.3-375.8 Strong fault core rubbly. At 401.6 5cm QFP dykelet 90° to core axis. 416.6-420.5 F.P. dyke (?) pale brown with scattered feldspars to 3mm. Contacts sharp 50° to core axis not typical. 420.5-420.7 QFP dykelet, 50°, 70° to core axis. 426.4-428.0 QFP dyke, very low angle, with patches of intensely chloritic and schistose gabbro along core axis. 428.0-428.5 Intermediate gabbro, sheared, altered. 428.5-431.0 QFP/Felsite (?) Haematized, second contact brecciated. 431.0-437.9 F.P. (?) dyke not typical, as 416.6-420.5 but grey groundmass and scattered orange feldspars. First contact brecciated, second contact well chilled ±40° to core axis. Strong fault at 434.3, 30° to core axis with gouge. 437.9-442.9 QFP/Felsite-grey to orange, brecciated, haematized, low angle contacts. Plot as felsite. 441.7-441.9 Strong 20° fault with gouge.  446.0-446.1 QFP/Felsite as 437.9-442.9 rolling along core axis. Plot as felsite, moderate 70° schistosity. 465.0-465.3 and 467.8-468.3 F.P. dykes grey, fairly typical, 45° to core axis. 485.8-487.0 Granite? fairly typical, medium equigranular pink, haematized low and high angle contacts. 494.1-494.5 QFP pink, ± 40° to core axis. At 496.0 strong open fault 10° to core axis with slickensides 80° to core axis.

GEOPHYSICAL ENGINEERING LIMITED

DIAMOND DRILL LOG.

HOLE NO. EE66

SHEET 4 OF 5

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
			<p>NB at 498.8 Major 10° gouge filled fault for 0.5m.                      NB 501.4-502.0 and 506.5-507.2 Major low angle faults with high angle slickensides.                      507.5-509.0 strong 60° schistosity.                      509.0-511.2 QFP dyke, orange, high angle (irregular).                      511.2-511.4 Dyke-Pyroxenite (?) fairly typical but well chilled with minor fine traces py. High angle contacts.                      NB 511.4-513.5 The gabbro gradually becomes more felsic.                      513.5-519.6 Dyke-pyroxenite, typical, 60° to core axis.                      519.6-527.9 Gabbro-Felsic! Closepacked coarse, (3mm) porphyritic. Trace cpy at 519.6.                      527.9-532.7 Dyke-Pyroxenite, typical! Local traces fine py. Rare trace cpy in later high angle hairline quartz carbonate threads. Contacts well chilled, weakly pyritic, high angle.                      532.7-545.3 Gabbro-Felsic! as 519.6-527.9.                      543.1-543.3 Granite dykelet high angle (±80°) pale grey with distinct porphyritic cream feldspars.                      545.3-551.0 QFP/granite dyke, plot as QFP orange. Local hairline epidote threads 50° to core axis.                      551.0-705.2 Gabbro, Felsic! as 519.6-527.9, but chloritic, altered, 50° schistosity to 555.6 then much fresher unaltered.                      NB - Intense fault shear 551.0-551.3 50° to core axis.                      At - 583.9 strong low-angle fault with gouge.                      584.6-584.8 Granitic dykelet, 50° to core axis.                      At 592.5 strong low angle fault with high angle slickensides                      At 595.0 Strong low angle fault with high angle slickensides                      NB at 598.6 10cm well rounded inclusion of felsic (?) equigranular closepacked gabbro which has been faulted a few cm, py, minor cpy on slip face.                      599.8-600.4 Trace py on longitudinal hairline clorite slip.                      603.5-603.9 and 604.7-605.2 QFP dykelets, high angle (Academic) trace cpy.                      614.7-617.6 Granite, pinkish/grey, contacts 40° (weak shearing in the adjacent gabbro for 20cm). Abundant blue quartz eyes to 3mm.                      620.4-620.5 Grantic dykelet, 50° to core axis.                      NB - The gabbro from 619.6-623.4 is chloritized but still felsic, weak 50° foliation.                      667.2-668.3 F.P. dyke, typical, sharp 50° contacts.                      670.3-672.9 Granite, as 614.7-617.6.                      NB - 672.2-672.6 Pyroxenite dykelet, 70° to core axis.                      672.9-674.3 Pyroxenite dyke, 50° to core axis. Contacts slightly sheared.                      674.4-676.2 Granite, as 614.7-617.6.                      685.3-686.4 Pyroxenite dyke 70° to core axis.                      691.5-692.0 Pyroxenite dyke 80° to core axis.</p>

GEOPHYSICAL ENGINEERING LIMITED

DIAMOND DRILL LOG

HOLE NO. EE66

SHEET 5 OF 5

METERS

FROM	TO	ROCK TYPE	DESCRIPTION
706.2		END OF HOLE	<p>At 693.5, 2cm quartz stringer 60° to core axis, academic trace cpy (one 2mm bleb).                      694.1-694.5 Intermediate dyke, pale brown, aphanitic.                      694.5-700.8 Felsite dyke typical, salmon pink, 40° schistosity.                      NB At 694.7, 4cm intermediate dykelet as 694.1-694.5 cuts the felsite 30° to core axis.                      NB! 700.8-701.0 Major fault, 40° to core axis with slickensides 80° to core axis. Grey fault gouge.                      NB 705.2-706.2 <u>Mafic gabbro</u> one minute grain of cpy (?) seen. Contact very abrupt but not sharp.</p>



GEOPHYSICAL ENGINEERING LIMITED

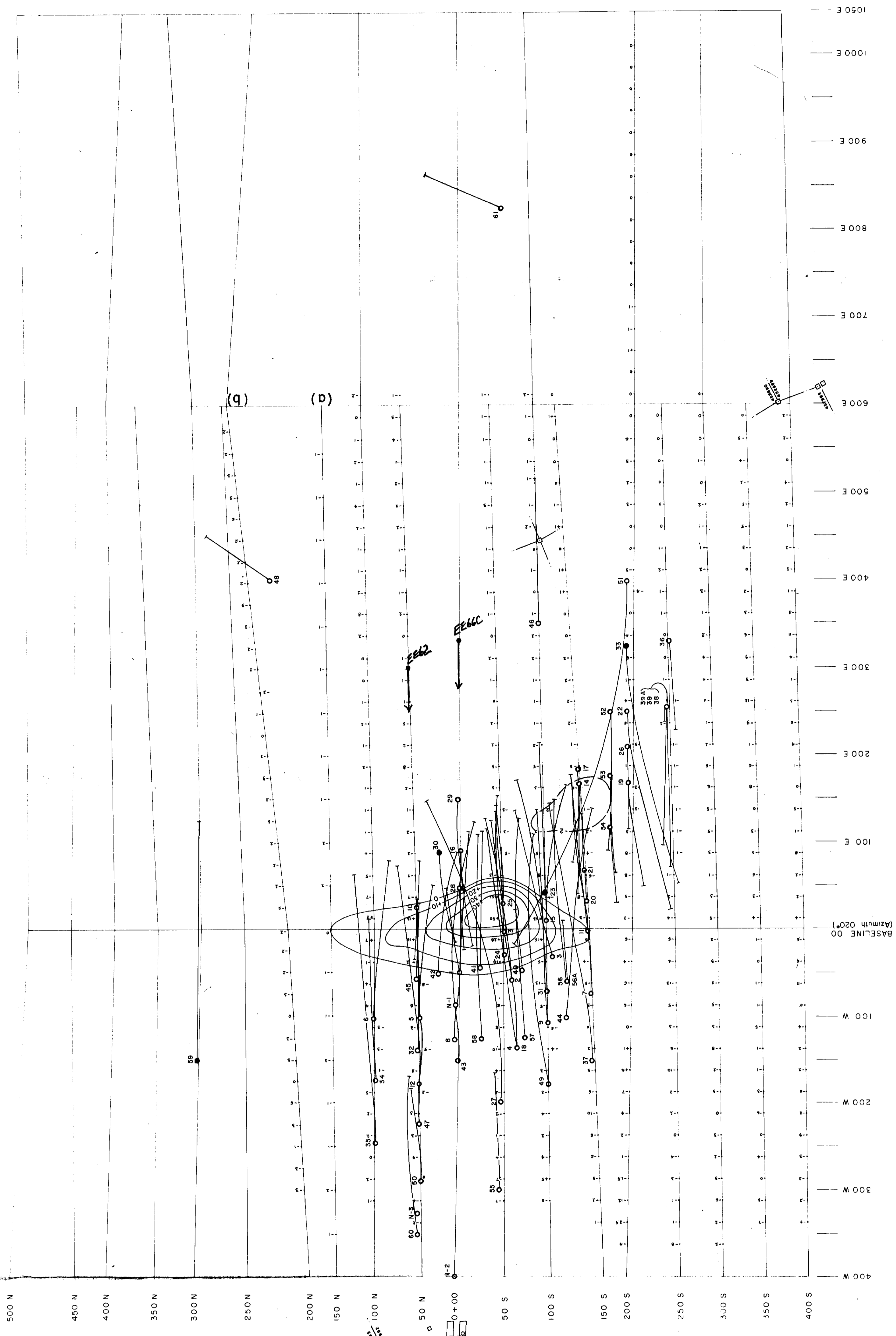
DIAMOND DRILL LOG

HOLE NO. EE33

SHEET 5 OF 5

MEAS

FROM	TO	ROCK TYPE	DESCRIPTION
319.4	322.0	Dyke P.X.	Pyroxenite dyke -typical, contacts sharp, 50°,80° to CA. Dark green almost black, with characteristic "pock marks". <u>N.B.</u> 320.1-320.3 core shattered, fault seam.
322.0	324.2	Dyke F.P.	Typical, grey brown. Age relationship to P.X. unclear, but numerous contraction cracks at contact suggest the F.P. is younger. Contacts sharp, 80°,65° to CA.
324.2	348.8	Gabbro	324.2-348.8 Felsic, equigranular, chloritic, altered, feldspars yellowish. At 333.4 strong fault slip, 20° to CA with prominent slickensides parallel to hole direction.
348.8	350.0	Dyke Intermediate	Dark grey, aphanitic, contacts sharp 55° to CA. Trace fine PY locally.
350.0	380.1	Gabbro	350.0-380.1 Mafic, medium equigranular, dark grey/green, hard, relatively "fresh", this phase not seen before.
			End of hole 380.1 meters



LEGEND

— VALUE OF CHANNEL 3 - READING

CONTOURS AT 0, +10, +20, +30, +40

(a) 100m COIL SPACING, AMPLITUDES ADJUSTED TO 75m COIL SPACING

(b) 50m COIL SPACING, AMPLITUDES ADJUSTED TO 75m COIL SPACING

DIGHEM SYNDICATE #28780

MONTCALM TWP. PROPERTY

PEM - SURVEY

75 m COIL SPACING

0 50 100 150 200 METERS

SCALE 1:2500

JULY 25/77

DATE/APRIL 27/77

JOB 1984-EE-1

N.T.S. 42-8-9

DWR No. 5317

