E1

ESSO RESOURCES CANADA LIMITED

ESSO MINERALS CANADA

DRILL LOG

PROJECT: 2153	GROUND ELEV.: 1376.8m
HOLE NO.: 96	BEARING: 205°
LOCATION: Section 3880 W	DIP: -40°
	TOTAL LENGTH: 524' (159.7m)
LOGGED BY: W. Melnyk	HORIZONTAL PROJECT
DATE: Aug 7, 1983	VERTICAL PROJECT
CONTRACTOR: Ultra Mobile Diamond Drillings	
CORE SIZE: BDB	
DATE STARTED: Aug 6, 1983	
DATE COMPLETED: Aug 9, 1983	

ALTERATION SCALE

absent
slight
moderate
intense

TOTAL SULPHIDE SCALE

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

DIP TESTS

150' (45.7m)	etched	48.5°	True 39°
350' (106.7m)	etched	49.0°	True 37°
500' (152.4m)	etched	42.5°	True 35°

COMMENTS

qtz vn stwk zones: 74.35 - 77.90

89.47 - 105.76

Argentite 66.13 to 69.41 : 3 Vns.

92.0 : 1 Vn

LEGEND

Part 2 of 2

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,667

Walter Melnyk

PAGE 1 OF 14	PROJECT: 2153	HOLE NO. 96

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				0-20.0 Casing + overburden stick-up 1.01 m							
5											
10											
20				20.0- : Mafic Volcanic Fragmental 20.33-22.45: Very light pale whitish grey color. foliated at 60° w.c.A. Rock is intensely sericitized and contains minute black grains of pyrite. Rock is broken intensely initial 0.5m. 21.64-21.89 gouge clay							

fragments ~10% 3mm to 2cm
NO qtz veining

Part of

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
2033-2245: Disseminated pyrite to 5% by vol										

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				22.45 - 30.31 : Coarse fragmental section characterized by V. dark grey colour. Intensely sericitic - soft contains variable fragments to > 7 cm larger fragments are feldspathic and rpt. Smaller fragments are occasionally rounded and silicic and slightly pale greenish-milky white. Fabric of rock - lineation is 40 - 50° w.c.a. Unit contains carbonate healed fractures and only weak qtz veining. Most carb veinlets are at 45° w.c.a						
25				Section is weakly calcareous. 25.20 - 25.28 : gouge - clay 28.53 - 29.23 : gouge - clay 28.37 - 29.59 : Badly broken ground. V. weak qtz						
30				29.48 - 29.59 : qtz irreg barren 29.65 : qtz. 8cm 95° 30.31 - 36.60 : Vaguely banded, fine grained dark grey mafic tuff, odd larger fragment to .5cm. Rock is intensely sericitized - foliated at about 50° w.c.a. Several qtz - carb roughly parallel with foliation, mostly barren. Pyrite picks up with the odd tiny veinlet. Generally v.f.g.						
35				32.81 - 33.17 : crushed broken core 34.57 - 36.60 : badly broken core							
				36.60 - 43.05 Rock has been badly broken and is now healed with qtz-carbonate veinlets all of which are barren. qtz-carb constitutes 15% of rock. all veins are irregular ptygmatic and all are barren.							
40				42.00 - 42.37 : rock badly broken Some gouge. 42.80 - 43.05 : qtz. 35° barren							
				43.05 - 44.40 : Flow : Pale apple green, intensely sericitized, diss py, homogeneous equigranular - vaguely foliated, thin whisps of pyrite. Only three thin qtz barren.							
45				44.40 - 46.06 : Mafic Tuff same as 36.60 - 43.05 - Not as much qtz-carb veining.							

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/T Au	ASSAYS oz/T Ag			
22.45 - 30.31 : Disseminated fine grained pyrite to 5% by volume										
29.65 : Trace Sphal, 8mm q.v.										
30.31 - : v.f.g. pyrite with add. copper veinlet to 7% by volume.										
30.31 - 31.20 : Traces +/- tetra.										
32.20 : Sphal in 3mm q.v. 30° w.c.a.										
36.60 - 43.05 : qtz - carb veining all barren, 3% diss py through rock										
		36.60	39.00	2.40	11001	.005	.24			
		39.00	41.00	2.00	11002	.025	.15			
		41.00	43.05	2.05	11003	.008	.16			
43.05 - 44.40 : Peppered with py thin whisps 7% py										
44.40 - 46.06 : 3% py diss.										

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				46.06 : 9.v. veins 4cm Tr. Tetra							
				46.06-56.45 : Mafic - Intermediate Tuff. This unit is uniform in appearance light greyish to slightly pale green in color with dark irregular whisps of v.f. grained pyrite and scattered small patches of pyrite 2-3 mm across. Section is typified by qtz-carbonate blebs : very irregular patches of variable outline and size. These patches are a creamy-tan color and are fairly diagnostic.							
50				Rock is sericitized intensely but also contains siliceous ellipsoidal fragments. Unit also gets more siliceous with depth. Overall the qtz-carb veining constitutes about 5-7% of the rock. All veining < 3mm is barren.							
				46.06-98.13 : Rock is broken significantly many short clayey slips. fragments are ragged but are up to 2cm and are either silicified or sericitized							
55				54.19-55.80 : Strongly veined + silicified							
				56.45-82.91 : Mafic Flows and/or Tuffs. Section is fairly uniform generally a light pale green color with white or cream colored mineral aggregates along fractures. Foliation is very weak to non-existent. Rock is extremely sericitized and reasonably soft. Quartz veining is present constituting 10-12% of the interval. Most veins are at 50-80° w.c.a							
60			70/Fol.	56.45-62.55 : Weak foliation at 70° w.c.a, most 9.v. some mineralization. 13 qtz-carb veins .5-1 cm. All barren.							
				62.55-66.13 : Rock is still Int. sericitic, have 4 9.v mineralized							
65				66.13-73.29 : Rock is still intensely alt'd although fragments (?) appear to be more common this section. Fragments are darker green than matrix and usually 2mm - 4mm							

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS g/t Au	ASSAYS g/t Ag			
46.06-56.45 : Pyrite is small round patches 2mm and odd veinlet 7% by volume.										
54.17-55.80 : minor Cpy + tetra in qtz veins. also sphal.		54.15	56.45	2.30	11004	.029	0.50			
56.45-82.91 : Entire unit is peppered with pyrite euhedral grains 3-4%										
62.55 : sil, 8cm, irreg, Tr. Cpy, Tetra										
63.85 : q.v. 4cm, 40°, Cpy, Tet weak		62.55	64.00	1.45	11005	.082	.35			
64.18 q.v. 1.5cm, 35°, weak Tet										
66.13 : q.v. 3cm, 80°, Tetra, Arg weak		64.00	66.65	2.65	11006	.102	.85			

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				68.50 - 69.00 : Irregular qtz vn. with 7cm section at 68.95 which contains grains of argentite & tetrahedrite.							
70				69.41 : 1.5cm q.v.-c 80° Ag (?) and tetra							
				70.04 - 70.23 : q.v.-c 85° barren							
				70.85 : 5mm q.v.-c 75° Tr. Tetra.							
				72.10 : 3cm q.v.-c 30° Barren							
				72.57 : 2.5cm q.v.-c 30° Barren							
				73.29 - 73.90 : 30% qtz-carb 80° All barren.							
				74.35 - 77.90 : Weak to moderate qtz-carbonate stockwk. ~ 20% qtz-carb. Good deal of carbonate. No mineralization.							
75				77.40 - 77.90 : Coarse carbonate vn. at 25° barren							
				77.90 - 81.85 : Flows (?) This section may represent flows - section is uniform. Section contains black whisps of pyrite along fractures. Very weak qtz-carbonate veining mostly at 75° w.c.a.							
80				81.85 - 82.91 : qtz-carb stockwork mainly parallel qtz-carb veinlets at 80° w.c.a.							
			80° 30°	82.91 - 83.27 : Dike : V.f grained, light brown-tan rock mottled, tiny calcareous inclusions (mm both contacts 80° w.c.a. (Identical to DDH 71)							
				83.27 - 105.76 Fragmental (?)							
85				83.27 - 84.62 : Qtz-carb stockwk. 40% qtz-carbonate qtz veins and vein material. Veins are at 80° w.c.a. Rock is progressively more silicified							
				84.62 - 87.47 : Rock is strongly silicified and sericitised, Qtz veining picks up near bottom of interval. Pyrite veinlets 2mm are common.							
				87.47 - 105.76 : Major silicified and quartz veined zone.							
90											

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/T Au	ASSAYS oz/T Ag
68.5 - 69.0 : 9.v. irreg. 7cm contains grains of agentite and tetrahedrite at 70° w.c.a.		68.50	70.00	1.50	11007	.009	.33
69.41 1.5 cm g.v. 80° Ag(?) and tetra		70.00	70.90	0.90	11008	.010	.23
70.85 : 5mm g.v. 75° Tr Tetra.							
		74.35	76.0	1.65	11009	.002	.11
		76.0	77.90	1.90	11010	.002	.10
		80.85	81.85	1.00	11011	.015	.18
		81.85	82.91	1.06	11012	.011	.26
83.27 - 83.95 : 80% qtz - carb. with minor grains of tetra + pyrite <1%		83.27	84.62	1.35	11013	.069	1.81
84.62 - 87.47 : approx. 8% py in veinlets and diss.							
83.27 - 105.76 : pyrite diss and veinlets 8 - 10% by volume		84.62	86.50	2.12	11014	.007	.12
		86.50	89.47	2.97	11015	.009	.12
89.47 - 91.12 : Scattered grains Tetra.							

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
		S		89.47 - 97.17 : Intense qtz stwk with scattered mineralization. Zone is about 60% qtz and 40% intensely alt'd country rock. Host appears to be brecciated in places.							
		S		91.12 - 92.4 : Bout mineralized section with scattered grains of tetrahedrite sphalerite and grains of Argentite. Mineralization may be associated with a qtz vn(s) at 35° w.c.a							
95		S		92.4 - 97.17 : Qtz flooded zones carrying weak mineralization. Traces of Tet							
		S		94.78 - 95.95 : Qtz vein minor carbonate - only weakly mineralized							
		S		95.95 - 97.17 : 50% qtz possibly traces of tetra primarily a qtz flooding. Near bottom of interval veining at 45° w.c.a							
		S		97.17 - 101.50 : Contains about 20-25% qtz vn + sil patches. Host rock is intensely alt'd + pyritized light, pale green fairly coarse grained - could be a fragmental, many slightly darker 2mm frags scattered through rock. Preferred orientation to qtz about 45° w.c.a.							
100		S	Intense Qtz-sericite stwk.								
		S		101.50 - 105.76 : Intense silicified zone about 50% qtz. Zone is a hap-hazard series of veins + Vnlts Not preferred orientation. Weak carbonate associated. Country rock is intensely silicified + sericitized.							
		S		104.57 - 105.76 : Rock is badly shattered with clay gouge present.							
105		S		105.76 - 106.17 : Gouge - clay, dark grey							
		A		106.17 - 107.28 : Siltstone - Brecciated and qtz. healed. Lower contact at 25° with clay parting							
		B									
		A		107.28 - 110.95 : Volcanic fragmental. Med grained (fo wlc) intensely alt'd to Sericite, unit has been brecciated and veined with qtz moderately. Top 44cm and bottom 90cm							
		A									
		B									
110				is intensely silicified. Rock is a mottled green contains 20% qtz							
				110.95 - 111.90 : Siltstone - Same as 106.17 - 107.28 Minor black carbonaceous material in qtz vein							
				111.90 - 112.52 : Wacke - Grey equigranular contains small 2-4mm black shale fragments							

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/T Au	ASSAYS oz/T Ag
		89.47	91.12	1.65	11016	.013	1.70
91.12 - 92.4 : Scattered tetra sphal							
Trace cpy, and Ag at 92.0m							
92.4 - 97.17 : Sil zone only odd		91.12	92.4	1.28	11017	.114	2.24
Specks of Tetra, weak py < 1%							
		92.4	94.78	2.38	11018	.022	.21
94.78 - 95.85 : v.v. carb Trace Tetra(?)							
and v.f grained pyrite < 1%							
95.85 - 97.17 : Possibly trace tetra.							
with 5-7% diss py		94.78	95.85	1.07	11019	.010	.06
		95.85	97.17	1.32	11020	.023	.15
97.17 - 101.50 : Veinlets + diss							
pyrite to 10% Mainly sub parallel							
with veining.							
		97.17	99.50	2.33	11021	.008	.15
		99.50	101.5	2.00	11022	.020	.29
101.50 - 105.76 : Very weak mineralization							
only possible traces of tetra with							
weak f.g. black pyrite in qtz							
102.20 : Speck sphal		101.5	103.0	1.50	11023	.016	.47
		103.0	105.76	2.76	11024	.022	.19
107.28 - 110.95 : Diss py 4%							
		106.17	109.0	2.83	11025	.007	.12
		109.0	110.95	1.95	10901	.002	.08
111.90 - 112.52 : Diss py 5%		110.95	111.90	0.95	10902	.002	.06

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ
				112.52 – 117.72 : Mafic Tuff / Sediment. Possibly water lain. Intensely alt'd rock, sericitized light pale green color. 2-4 mm pyritic blotchs over entire core length. Rock fairly hard and complete to 115.90 beyond which rock is sheared. Several qtz veins < 1 cm (8)							
115				115.90 – 117.72 : Rock is badly fractured, some clay along fractures, rock has in part been brecciated near bottom and re-cemented by qtz.							
			B / 30°	117.72 – 119.89 : Wacke. Gray, gritty unit - competent not fractured. Granular contains qtz and feldspar grains < 1 m to 2 mm - vaguely graded. This unit is characterized by black irregular pieces (shale) and thin wiry black whisps.							
120			C / 80°	119.89 – 122.10 : Tuffaceous - sedimentary Breccia: Short segments (7-13 cm) of v.f. grained material in part brecciated, light pale gray and green to minor black material. 5% qtz v. all less than 3 mm most at 80° w.c.a. Variably silicified and sericitized.							
125				122.10 – 126.92 : Siltstone. V. fine grained to fine grained tuffaceous (?) sediment. Rock is a pale green color with individual constituents difficult to identify. Coarse, calcareous, pyritic rounded accretions occur through section but constitute only 10-15% of rock. Weakly qv'd 15%							
				126.92 – 128.46 : Siltstone (?) V.f. grained arenaceous unit : no large accretions. Section is veined with qtz v's & carb accounting for 40% of section.							
			C / 45°	128.46 – 129.39 : Arkose. Fairly coarse, consistent, well developed mature sediment. Contains no accretions, does have shale rip-up clasts : no bedding.							
130			B / 55°	129.39 – 131.00 : Siltstone - Pale green, off white, pale accretions to two cm. Shaley / blk whisps.							
135				131.00 – 137.75 : Siltstone. Light pale green near top but gets distinctly darker with depth to black - large amount of muddy material. Accretions are very common are rounded to quite irregular - from 2 mm to 3 cm account for 15% of rock. Groundmass is very fine grained - uniform - no bedding or banding or lineation.							

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
112.52 - 117.72 : blebby py 8-10% some dis.										
117.72 - 119.89 : 2-3% dis py										
119.89 - 122.10 : 4% dis py.										
122.10 - 126.92 : 1-3% dis py										
126.92 - 128.46 : 1-3% dis py 127.25 : q.c.v^n . 8mm 65° Tr. Cpy Sph										
129.32 - 131.00 : 4% dis py										
131.00 - 137.75 : 3% py mainly in accretions as coarse grains. Very little in ground mass.										

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				only minor qtz-carb veining 5% - all barren							
				137.75 - 138.46 : Arkose. Med grained - Mature, well sorted minor Agillaceous material							
			C/50°	138.46 - 141.67 : Siltstone Very similar to section 131.00 - 137.75. Rock is dark grey to black - well sorted - no bedding - accretions account for 7% of rock							
140				only severed to 4cm. qtz-carb veining near bottom.							
			C/50°	Contains ripe up clasts of Agillite.							
			C/55°	141.67 - 142.01 : Siltstone							
			C/55°	142.01 - 142.56 : Andesite Dike							
				142.56 - 146.20 : Siltstone							
				V. f-g pale green rock massive no discernable bedding. Only vague accretionary growths. More pyritic than normal							
145											
			C/35°	sharp 146.20 - 148.74 : Siltstone							
				V. f-g grained, medium dark green-grey rock totally uniform - no accretions no structure, bedding etc. hair line fractures healed with							
			C/45°	carbonate. Minimal veining.							
				148.74 - 159.82 : Siltstone							
				V. f-m grained, medium green color - distinctly mottled with pyrite-carbonate accretions							
150				some of which have green chloritic fringes with bleaching in the siltstone							
				Siltstone is very non-discript uniform.							
				Weak qtz-carb veining, 17 veins >1cm but < 2cm - accounts for all the							
				veining. Most veins at > 45° w.c.a.							
				only weakly mineralized in py.							
155											
				159.82 END OF HOLE							

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
137.75 - 138.46 : 2% diss py										
138.46 - 141.67 : 3-5% diss py										
142.56 - 146.20 : 7% coarse pyrite in veinlets and diss										
146.20 - 148.74 : 4% py										
148.74 - 159.82 : 4% py diss and veinlets										

N2/E2

E1

ESSO RESOURCES CANADA LIMITED

ESSO MINERALS CANADA

DRILL LOG

PROJECT 2153	**GROUND ELEV.** 1376.8 m
HOLE NO. DDH 97	**BEARING** 205°
LOCATION Section 388.0 W	**DIP** -60°
	TOTAL LENGTH 520' (158.50)
LOGGED BY W. Melnyk	**HORIZONTAL PROJECT**
DATE Aug 10, 1983	**VERTICAL PROJECT**
CONTRACTOR Ultra Mobile Diamond Drilling	**ALTERATION SCALE**
CORE SIZE BDB	
DATE STARTED Aug 9, 1983	
DATE COMPLETED Aug 11, 1983	**TOTAL SULPHIDE SCALE**
DIP TESTS 46m - 58.5 83m - 58.0 119m - 56.0 assumed 156m - 54.5	

COMMENTS

Stwork qtz vn zones + silicification

48.10 - 57.26
76.13 - 76.07
123.06 - 137.03
140.76 - 152.41

Electrum observed at: 74.10, 74.69, 75.50, 75.96, 76.05, 107.27, 131.72

Argentite observed at: 74.10, 74.69, 75.50, 75.96, 76.03, 76.68, 80.15, 81.36, 88.10, 90.41, 97.35, 101.40, 107.27, 129.99, 131.72, 137.02

LEGEND

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Stick-up 0.75 m 0 - 15.24 : Casing							
5											
10											
				15.10 - 27.41 : Conglomerate							
15				Hap-hazard assortment of variable material rounded to angular clasts, unsorted varying in color from black to varying shades of green to bleached off white. Black clasts of argillite are randomly distributed through matrix and probably account for dark color of unit. Rock over all is intensely altered sericitic.							
				fragments (pebbles) Dark pyritic : 1 - > 5cm Dark green-purple <1 - > 10cm Creamy <1 - 3 cm							
20				Pebbles & fragments constitute > 50% of rock.							
				18.25 15cm silt patch Barren 17.20 - 17.35 silt patch Barren							

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
15.10 - 27.41 : Total pyrite could be 10% by volume - mostly in pyritic pebbles. All diss.										

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
			c/65	23.00 : Crude foliation at ~45°							
				qtz-carb veining is minimal. Section contains rip-up clasts of Argillite or shale.							
25											
				27.41 – 30.55 : Arenaceous Sediment							
				Well sorted sediment. Vaguely graded. Most constituents remain < 1mm. Rock is variably greenish to shades of grey. Tiny qtz grains are scattered esp in darker sections. qtz veining is minimal.							
				28.28 : q.v. 3cm, 65°. Tr. cpy.							
30				30.20 : Bedding – 75° w.c.a.							
				30.55 – 36.00 : Conglomerate							
				Very similar to 15.10 – 27.41 : Rock is intensely alt'd with an identical assortment of pebbles to previous section. Appears to have a stronger lineation of fragments at about 60° w.c.a.							
				33.50 – 36.00 : brecciated sections containing qtz flooding. qtz is generally barren, on occasion may contain minimal diss. Py							
35											
			f ~75	**36.00 – 36.13 : Gouge clay**							
				36.13 – 40.66 : Wacke (?)							
				Fairly well sorted sediment contains detrital grains intensely sericitized. Not much qtz. Section again contains rip-up clasts of argillite finely comminuted accounting for darker bands of material.							
				38.15 – 38.75 : Brecciated material and flooded with qtz + silicified.							
40				40.00 – 40.66 : Section is strongly fractured and qtz veined							
				40.66 – 57.26 : Arkosic Wacke							
			b/40°	Unit is probably a sediment as it contains short segments of black material, v.f. grained which is probably reworked argillaceous material.							
				Graded bedding is vaguely observed even though the rock is generally intensely alt'd. lighter - pale green sections are more feldspathic							
45			b/40°								

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
27.41 - 30.55 : f-g diss py - 8%										
28.28 : 9.v. 3cm 45° Tr. Sph										
28.86 : 9.v. 4cm 50° Tr. Tetra										
30.55 - 36.00 : 8-10% diss py										
35.30 : 9.v 3cm, 60° Tr. Tetra										
36.13 - 40.66 : 10-12% v.f.g. py.										
40.66 - 57.26 : 10% diss py										

N2/E2

PROJECT: 2153

HOLE NO. 97

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
			10/55								
				48.10 - 57.26 : Strongly silicified zone with irregular qtz vns and sil patches. The rock has a brecciated texture with the pieces cemented by qtz. The rock still maintains a sedimentary character with vague							
50				graded bedding and the presence of black argillite material. Most of the quartz is barren of sulphides except for traces of pyrite.							
			5/40°	The qtz contains carbonate which imparts a creamy yellow color to the veining.							
55				55.67 - 57.26 : Bedding (?) is much more regular this section at 70-80° w.c.a. thin qtz-carb veinlets are frequent but thin ~3cm 1mm pyrite veining to coarse aggregates 2-3mm conformable with the qtz-carb veining/bedding							
			6/75								
				57.26 : 3.5 cm gouge 80°							
				57.26 - 110.56 Volcanic Flows. Intensely alt'd, medium grained pyritic, non foliated Rock is a pale green color, uniform over section. Texturally consistent over interval. Constituents unidentifyable due to alteration - all sericitized.							
60				59.5 - 59.66 : qtz vein or sil patch few scattered grains of pyrite							
			2-3% 50	64.24 - 64.66 : qtz veined section							
65				+ silicified host. 70% qtz barren. 90°							
			2-3% 50	66.08 - 66.51 : qtz vein section 60% qtz at 50° w.c.a, possibly trace of tuff							
				66.87 - 67.32 : qtz vn section 85% qtz at 50° only 5-6 py.							

PAGE 6 OF 14	PROJECT: 2153	HOLE NO. 97

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/T Au	ASSAYS oz/T Ag			
		48.10	51.00	1.90	10903	.015	.15			
		51.00	52.85	1.85	10904	.011	.16			
53.14: q.v. Irreg. 1.5cm Tr. Cpy. Tet.						g/T	g/T			
		52.85	54.86	2.01	10905	.07	56.8			
55.17: s.l. 3cm Tr. Tet. 56.10: Tetra grains scattered in q/z veining.		54.86	57.26	2.40	10906	1.13	18.5			
57.26-110.26: diss euhedral crystals Py: Tr. 7-10%.										
66.08-66.51: q.v's at 50° Tr. Tetra		64.00	66.00	2.00	10907	.20	12.0			
		66.00	67.32	1.32	10908	.72	17.4			

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				67.32 - 73.15: Mafic flow and/or Tuff uniform section pale green color medium grained, intensely alt'd to sericite, possibly minor chlorite, and pyrite. Unit is weakly fractured, these are healed with qtz-carbonate veinlets. Rock is very weakly foliated at ~ 30° w.c.a.						
70			5/30								
				73.15 - 74.10: This section of mafic is intensely foliated - subjected to shearing. Consists of grey sericite-carbonate with 50% qtz.						
			0/35	74.10 - 74.69: Quartz vein.							
75				74.69 - 75.34: Intensely sericitized volcanic pale greenish white							
				75.34 - 76.07: Intensely silicified section with qtz-sulfide veining at 50° w.c.a.							
				76.07 - 110.56: Mafic volcanic Flows (?) Uniform section, rock is consistently medium grained, weakly foliated with a pale green to medium green cast. Unit has been variously alt'd to varying degrees of sericitization.							
80				79.23 9.v. 1.5cm 45° Barren							
				79.59: S:I 2cm 45° Barren							
				80.05: 9.v 3.5cm 30° To Tot.							
				80.15 9.v 1.5cm 30° Arg. Tot.							
				Sphal cog - Not same stuff as 80.05							
				80.75: 9.v. 1.5cm 35° Barren							
				81.20: S:I 13cm, py							
				late stage barren 9.v at 81.40 crosscuts mineralized vein at 81.36 mutually perpendicular.							
85				81.45 - 87.87: Very weakly Veined accounting for 5% of rock - 15 vns between 3mm to 3cm							
				87.87 - 91.44: Very weak qtz-sulfide vein zone five veins carry sulfides including tetra, argentite, sphal. Rock is a shade lighter in color and may be slightly more siliceous.							
90											

PAGE 8 OF 14	PROJECT: 2153	HOLE NO. 97

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Ag g/t
67.32-73.15: Coarse diss py-Tr to 10%							
73.15-74.07: 10-12% py through section. Trace tetrahedrite at 73.31° in qtz vn at ~95°, 1cm wide.		73.15	74.10	0.95	10909	.14	21.2
74.10-74.69: qtz vn, 35° w.c.a contains		74.10	74.69	0.59	10910	1.78	17.8
* electrum at both margins w/ sphal, tetra cpy, Arg-tite		74.69	75.34	0.65	10911	.24	9.6
75.34-76.07: sil zone with mineralized qtz vns		75.34	76.07	0.73	10912	2.97	37.6
* 75.52: Calc vein 7mm, 50°, Electrum, Arg, Pyrar, cpy, sphal py		76.07	77.10	1.03	10913	.34	4.1
75.81-76.07: q.v. 40-50° Electrum at							
* 75.96, 76.05 with Arg sphal, cpy, bltc, py							
76.90-77.04: q.v. 40°, only Tr. cpy		77.10	80.00	2.90	10914	.20	4.1
76.68: q.v. 2.5cm 45° Arg Tet sphal							
80.15: q.v 1.5cm 30° Arg Tet.							
81.20: sil 17cm 35°, Py		80.00	81.45	1.45	10915	.68	14.4
81.36: q.v. 1.5cm, 35°, Arg, cpy.							
81.40: q.v 2cm, 60° Barren							
		81.45	84.50	3.05	10916	.44	5.1
		84.50	87.87	3.37	10917	.10	3.7
87.92 q.v. 3cm 30° Tet, py							
88.10 q.v 3mm 45° Tetra, Arg							
87.31-87.87: Veined + sil zone ~45°, all barren quartz but py		87.87	91.44	3.57	10918	.61	13.0

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
				89.58: Fine parallel veins total 4.5 cm qtz at ~45° only trace of py. 90.41: qtz vein at 30° with sulphides. Most of the mineralized veins have a bleached zone associated with them. 91.44 - 108.03: Again a massive unit shades of green to grays obvious bleaching near mineralized qtz-sulfide veins and approaching silicified unit below. Only 4 qtz veins are mineralized. Qtz veining represents ~5% of unit. Unit contains coarse subedral pyrite grains. 10%							
95			qtz/45	97.35 - 97.48: qtz vein, 45° mineralized							
				pyrite is apparently more in the made of veinlets this varies from hairline to 2mm							
100			qtz/45	101.40: qtz vn, 45° mineralized bleached halo. 80cm total							
105			qtz/35	105.87: qtz vn 35°, mineralized slight narrow bleaching. 107.27: qtz vn with chlorite							
				108.03 - 110.56: Intensely silicified zone. Composed of 70% qtz - milky white with fg. pyrite aggregates & thin wavy bands.							
110			c/20°, c/20°	110.56 - 111.66: Andesite dike. contacts are bleached and at shallow angles to c.a. 111.61 - 152.41: Mafic Flows and/or Tuffs. May also be a sequence of well sorted, alt'd sediments. Rock is pale green generally, except							

 PROJECT: 2153 HOLE NO. 97

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/T	ASSAYS Ag g/T			
89.11-89.36: Veined zone + sil. irreg to shallow. Tetra + Arg.										
90.41: 7mm qv. 30°, sphal, Arg. tetra.										
91.44: qtz v. 8cm, 45° sphal tetra.										
		91.44	94.00	2.56	10919	1.88	4.1			
		94.00	97.00	3.00	10920	1.02	3.1			
97.35-97.48: qtz vn, 45°, sphal Arg. Tetra		97.00	98.00	1.00	10921	.27	3.7			
		98.00	100.80	2.80	10922	.07	2.4			
101.40: qtz vn, 45°, 3cm, Sphal, Arg, cpy, Tetra, pyrr		100.80	101.30	0.50	10923	.15	63.6			
		101.30	104.00	2.70	10924	.07	3.4			
105.87: qtz vn, 35° 2cm, cpy, tet.		104.00	107.00	3.00	10925	.34	5.1			
* 107.27: qtz vn 35° 3cm, cpy, tet, Arg, electrum.		107.00	107.50	0.50	10926	1.23	54.4			
108.03-110.56: 15% f.g. py. only Traces of tetra.		107.50	108.03	0.53	10927	.10	10.6			
		108.03	110.56	2.53	10928	.41	11.6			
111.61-152.41: Variable Sulfides										
111.61-116.61: 7% py. diss and occasional stringers granular euhedral										

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
115				Where altered it assumes a grey silicified appearance 111.66 - 116.61 : Pale to medium green color rock is moderately alt'd, Rock contains about 5% qtz veining - generally tension gash type Carbonate also present. Veins are at shallow angles with core axis and all are barren. foliation poor							
				116.61 - 119.50: Silicified zone about 50% silica in form of irregular qtz blebs Section contains some qtz veins at ~45° and an increased number of pyrite veinlets + patches							
				No other mineralization							
120				119.50 - 123.06 : Section is less intensely silicified, contains ~ 10% q.v. only. Veins contain only weak py. Foliation is v. shallow at 20°. Six qtz vns 1cm to 9cm are at angles 45° to 80°.							
	5/20			123.06 - 128.64 : Grey, vaguely bedded - may be a sediment. This section picks up in qtz carbonate veining. 21% veining measured. Many veins are >1cm and at >45° w.c.a.							
125				123.28 q.v. 36cm 45° py.							
				123.83 : q.c. 7cm 80° Tr py							
				124.03 : q.c. 5cm 45° Barren							
				124.27 : q.v. 2cm 80° Tet							
				124.88 : q.v. 5cm 60° barren							
				125.20 : q.v. 8cm 50° Barren							
				125.42 - 125.68 : Brecciated, irreg. Barren							
				127.75 - 128.06 : 2 vn's, ~60°, py.							
				128.64 - 137.03 : Intensely silicified and veined zone. Many of the veins carry fair							
130				mineralization. Section contains 60 - 70% qtz.							
				129.99 - 131.45 : q.v. milky white speckled with coarse py. Also contains, Tetra, Asp, cpy in lesser amounts							
				131.45 - 137.03 : More country rock this section. reserbed. Section is weakly mineralized by tet + py, cpy, sphal, and irreg.							
				Most veins are irreg. gash fillings regular veins are at ~45 to 80° w.c.a. both mineralized + barren.							
135											

60-70% q.v. est.

21% q.v.

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Ag g/t
116.61 - 119.50 : 12% py as diss, patches and veinlets from v.f.g to coarse aggregates		116.61	119.50	2.89	10929	.03	2.7
119.50 - 123.06 : 8% py. diss.		119.50	121.00	1.50	10930	.14	4.4
		121.00	123.06	2.06	10931	.51	4.8
123.06 - 128.64 : 10-12% py diss. Several qtz vns, only one coarse below others barren or have weak pyrite		123.06	125.00	1.94	10932	.07	7.2
		125.00	128.64	3.64	10933	.03	6.5
128.64 - 137.03 : 15% pyrite as diss in g.v. and blebs. 129.99 - 131.45 : g.v., 15% py <1% combined Arg. Tet. Cpy.		128.64	129.99	1.35	10934	.14	9.9
131.72 : Sil patch cross cuts vaguely by g.v. 35° coarse electrum, cpy, Arg, Tet.		129.99	131.45	1.46	10935	1.64	33.5
131.45 - 137.03 : Moderate silic. mineralized throughout with Tet, cpy, sphal + arg combined <1%.		131.45	132.00	0.55	10936	.68	16.4
		132.00	134.00	2.00	10937	.51	9.2
		134.00	135.50	1.50	10938	.61	7.5

N2/E2

 | PROJECT: 2153 | HOLE NO. 97

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				137.03-140.76: Intensely Sericitized - Sediment (?) or extrusive. qtz-carb Veining drops off to 10%, and non of the seven veins greater than 1cm is mineralized. Rock is massive, non foliated, core surface is speckled with py.							
140				140.76-152.41: This section of Sediments (?) is well silicified and veined. Unit is characterized by spotty clay (white) alt'n of portions of rock. Section has also been extensively fractured especially beyond 146.3 m where only segments of core were recovered. Difficult to estimate qtz content ~ 40%.							
145	40-50% q.v. + sil.			146.3-152.41: Extensively fractured ground - appears main fracture - slip direction is parallel with core axis. Very little clay - gouge only thin partings.							
				Regular qtz veining is not very significant - instead a pervasive silicification is present. The silicification is not well mineralized							
150				152.41-158.50: Siltstone. Similar to siltstone section in DDH 96. Unit is competent and well bedded near top - a bit coarser grained. Very weakly qtz veined. Dark grey/black to pale green							
			b/55°	152.41-154.73: Well bedded siltstone - at 55° w.c.a.							
155				154.73-158.50. Very fine grained siltstone light pale green color with darker grey-black bands. Characteristic accretions present. carbonate with coarse pyrite crystal.							
				156.45: Bedding 45° w.c.a.							
				qtz-carb. veining is minimal.							
				158.50 END OF HOLE							

PAGE 14 OF 14	PROJECT: 2153	HOLE NO. 37

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/T	ASSAYS Ag g/T
		135.50	137.03	1.53	10939	.89	6.8
137.03 - 140.76 : 7 - 9% dis coarse py							
No other mineralization this section.							
		137.03	140.76	3.79	10940	.55	5.8
140.76 - 152.41 : Section is well pyritized mainly f.g. patchy or irregular veinlets 15% py							
only odd grain of tetra observed in both qtz vn + sil		140.76	144.00	3.24	10941	.65	10.9
		144.00	147.00	3.00	10942	.31	8.9
		147.00	150.00	3.00	10943	.07	3.1
		150.00	152.41	2.41	10944	.03	4.8
152.41 - 158.50 : 8% py dis + vnlts							

N2/E2

E1

ESSO RESOURCES CANADA LIMITED

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DRILL LOG

PROJECT 2153	**GROUND ELEV.** 1377.0 m
HOLE NO. DDH 88	**BEARING** 205°
LOCATION Section - 438 W	**DIP** -45°
	TOTAL LENGTH 303' (92.42m)
LOGGED BY W Melnyk	**HORIZONTAL PROJECT**
DATE Aug 13 1983	**VERTICAL PROJECT**
CONTRACTOR Ultra Mobile Diamond Drilling	
CORE SIZE BDB	
DATE STARTED Aug 12, 1983	
DATE COMPLETED Aug 13, 1983	

DIP TESTS

	Dip	Azimuth
28 m	-44°	205.5°
59 m	-42°	206.5°
89 m	-40°	207.5°

ALTERATION SCALE

absent

slight

moderate

intense

TOTAL SULPHIDE SCALE

traces only

< 1%

1% – 3%

3% – 10%

> 10%

COMMENTS

stuk alt vn zones + silicification

19.75 - 20.92

25.19 - 27.76

42.80 - 64.18

Electrum observed at : 27.32, 45.07, 45.17, 47.15, 47.43

Argentite observed at : 19.75, 27.32, 30.48, 36.93, 45.07, 45.17, 47.15, 47.43, 60.21

LEGEND

PAGE 1 OF 10 | PROJECT: 2153 | HOLE NO. 98

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Stick up 0.66m 0 – 2.73 casing, overburden							
				2.73 – 9.36: Conglomerate: Distinct coarse clastic unit with fragments from <1cm to >10cm. Frags constitute ~40% of unit. Unit varies in color from pale shades of green to black fragments vary from 1–2cm rounded silt pebbles to large ~16cm blocks of feldspathic material, med grained, dk grey. Section is an unsorted mess very pyritic particularly in dark sections.							
5				qtz veining is negligible Thinly laminated near bottom at 65°							
			b/65°	9.36 – 12.80: Siltstone Dark grey to black finely sorted f.g. – med grained material. Graded material. Five qtz veins >1cm <3cm all barren. Bedding is quite variable 50 – 80°.							
10			b/50° b/80°	12.39 3cm gouge							
			~~	12.80 – 14.29: Conglomerate: similar to 2.73 – 9.36 – v. dk grey brecciated – 13.15 : 13.76' brecciated, healed with qtz. ~50% qtz barren. Bedding 13.80 – 60°							
			b/60°	14.29 – 16.15: Siltstone: shades of green and grey, chaotic section.							
15			b/70°	Bedding appears to be fairly steep w.r.t. CA. thin and parallel with bedding – Not significant 16.15 – 17.89: Conglomerate similar to previous sections, two Silicified patches 30cm + 10cm both barren.							
				17.89 – 21.85: Siltstone: Slightly coarser section of material – Wacke or dirty sandstone. Section is characteristically grey, uniform – massive nature, with sericitic fragments 3mm in a fine matted matrix.							
20	5										
	5			19.75 – 20.98: Siltstone with 5cm qtz							
	5			weakly mineralized							
				21.85 – 23.75: Conglomerate Grey coarse fragments and pebbles, pyrite very similar to previous sections.							

PAGE 2 OF 10	PROJECT: 2153	HOLE NO. 98

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
2.73-9.36: Extensively pyritic esp in darker portions, fine grained sections 15% py by volume v.f.g. to f.g.										
9.36-12.80: v.f.g. py to 15% Fine gb vns all barren.										
12.80-14.29: 15% v.f.g. py										
14.29-16.15: 15% f.g. py										
16.15-17.89: 15-20% f.g. py										
17.75-20.92: s.l. t.g.v. Tet. sphal. Ag. <1%		19.75	20.92	1.17	10945	.24	44.8			
21.85-23.75: 15% f.g. py		20.92	23.75	2.83	10946	.03	5.5			

N2/E2

 | PROJECT: 2153 | HOLE NO. 98

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				23.75 – 27.76 : Siltstone grey – non bedded weakly to intensely sericitized with depth							
25	70% qtz.			25.19 – 27.76 : Intensely silicified and veined, 70% qtz – rest is sericite. Scattered grains of Tetra through section with sphal. 27.07 – 27.45 : better mineralization with slickens							
				27.76 – 34.14 siltstone / sandstone This is the v.f. grained pale green unit encountered in DDH 97 + 96. contains coarse sections – gritty, bedding observed in several spots. Sandy sections							
30	20% qtz. barite			27.76 – 28.60 : Sandstone – epigean vaguely bedded 28.60 – 34.14 : Siltstone v.f. grained light, pale green-grey color. Contains many ptygmatic irregular qtz veins, also contains coarse clusters of pyrite, also two barite veins. Contains 20% qtz-barite veining							
35			6/50	34.14 – 37.61 : Sandstone gritty, grey-green – not nearly as intensely veined as previous section. Only three short sil. patches. Bedding appears to be about 50°.							
			6/20	37.61 – 38.84 : Siltstone v.f. grained, pale green, well bedded at 20° w.c.a.							
40				38.84 – 41.16 : Sandstone ; well sorted, light colored blemishes bedding is vague, groundmass is light green alt^d. sericitic.							
				41.16 – 45.52 : Siltstone Similar to S.S. unit above with blemishes, pyrite increases as does qtz veining but still insignificant							
45				42.80 – 45.52 : Intensely silicified and veined with variable mineralization 44.00 – 44.18 : some clay gouge along slip planes at 45° and 80°. Section is totally silicified							

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/T	ASSAYS Ag g/T
23.75 - 25.19 : 15% py							
		23.75	25.19	1.44	10947	.03	4.8
25.19 - 27.76 : 15% f.g. to coarse pyrite weak tetrahedrite through section. Electrum at 27.32							
		25.19	27.07	1.88	10948	.34	12.6
* 27.07 - 27.45 : Electrum, Arg, sphal, gal. Electrum is brassy - Ag(?)		27.07	27.76	0.69	10949	3.83	107.8
28.6 - 28.98 : 5:1 patch pegmatite veining Barren							
28.6 - 34.14 . 15-20% py.							
29.75 - qtz vn, 14cm, irreg. py		27.76	30.50	2.74	10950	.21	9.9
30.98 - Barite 17cm, 60°, Sphal, Tet Arg.							
30.84 qtz, 6cm, 50°, py							
31.45 qtz, 7cm, 40°, py							
31.83 Barite 3cm 45°, barren							
32.0 - 32.30 : qtz vn, irreg, Tetra sphal		30.50	32.50	2.00	10951	.14	17.4
34.12 : 5:1 silicified patch 12cm. Tr. Tetra		32.50	35.50	3.00	10952	.17	13.7
34.14 - 37.61 : 4% py dis.							
36.49 . 5:1 patch 1cm, Tr Tetra							
36.93 q.v. 20°, 1.5cm Tetra Arg (Barren)		35.50	36.60	1.10	10953	.07	5.5
37.61 - 38.84 : py 2% dis.		36.60	37.10	0.50	10954	.17	15.0
38.84 - 41.16 : py 5% dis.							
41.16 - 42.80 : Py 5-7% dis.							
42.80 - 44.18 : Py 15-20% Irreg masses py + dis. Tr Tet + sphal with depth							
		42.80	44.18	1.38	10955	.86	20.5
44.18 - 45.52 : Reasonably well mineralized Tr sphal, tet, cpy, gal, Arg and possibly Electrum at 45.07 and 45.17							
* But short section is 45.07 - 45.40		44.18	45.52	1.34	10956	2.05	162.8

N2/E2

 PROJECT: 2153 HOLE NO. 98

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ
				45.52 - 55.44 : Sandstone. This section is intensely silicified although arenaceous character is evident. Qtz veining is intense, stwk irregular veinlets and regular bull qtz. Rock is competent good recovery.							
				the best mineralized section is from 44.18 to 47.52, with possibly Electrum although quite silvery Mineralization is restricted to qtz-sulfide vein part stwk.							
50				veins are usually ~45° and 1-5 cm thick these veins contain abundant granular py.							
				52.34 18 cm Barite vn							
55				55.44 - 69.39 Conglomerate.							
				Typical coarse conglomerate =							
				54.44 - 64.18 : Intensely silicified section only fragments of Sil - reworked host rock remain - but coarse clast is native readily observed in this section.							
				Excellent qtz stwk & vein zone							
				Mineralization is v. poor.							
				Unit is competent - exc recovery							
60				Sil zone slope very abruptly at 64.18 - Not faulted							
				64.18 - 69.39 :							
65				Section is characterized by clasts of argillite throughout - 0.5 - 1.5 cm from angular to subrounded							
				Sil & qtz veining drops off considerably Unit has a high qtz constituent - pebbles etc. making it quite hard. Not sorted							

60 - 70° qtz - carb - barite

PAGE 6 OF 10	PROJECT: 2153	HOLE NO. 98

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/T	ASSAYS Ag g/T
45.52 - 46.68 : Not as intensely veined							
loose stub veins 45° - 80° all barren							
46.68 - 47.52 : Good veining better mineralization		45.52	46.68	1.16	10957	.17	5.5
* Visible Elec at 47.15 and 47.43. Interval							
contains sphal Tet Ag gal + fg black mineral		46.68	47.52	0.84	10958	2.09	80.4
combined <2%							
47.52 - 49.25 : Scattered Tetra + fg		47.52	49.25	1.73	10959	.24	21.9
black metallic mineral. <1% pyrite							
is weak ~ 5% disc in alt^{d} host.							
49.25 - 51.50 : V. weakly mineralized							
with disc py only scattered grains		49.25	51.50	2.25	10960	.21	9.9
& tetra at 50.0 m							
51.50 - 52.50 : very weakly mineralized							
only scattered tet and several specks							
& sphal.		51.50	52.50	1.00	10961	.48	30.1
52.50 - 54.35 : Relatively good q.v. + stub							
scattered grains tet <1%.		52.50	54.35	1.85	10962	.75	52.3
Trace pyrargyrite at 52.88							
54.35 - 55.44 : Good stub but barren							
		54.35	55.44	1.09	10963	.27	5.5
55.44 - 57.00 : Traces & sphal gal							
cpy tet + fine grained black mineral							
		55.44	57.00	1.56	10964	.21	9.6
57.00 - 58.10 Odd specks & tetra.							
58.10 - 61.00 : Barren py 8% fg		57.00	58.10	1.10	10965	.68	20.9
possibly Ag at 60.21							
		58.10	61.00	1.90	10966	.38	12.3
61.00 - 62.00 Barren fg. py 8-10%							
62.00 - 64.18 : Traces tet, sphal, gal		61.00	62.00	1.00	10967	.58	16.4
<1%, py ~ 10% fg							
		62.00	64.18	2.18	10968	.65	8.2
64.18 - 69.32 : 12-15% py - lots!							

N2/E2

PROJECT: 2153

HOLE NO. 93

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				final 1.5 m somewhat better sorted qtz veining drops off to non.							
			70° b	69.39 - 71.27: Mix Zone							
70			b/20°	Conglomeratic debris intermixed with short segments of sandstone and black pyritic argillite. Contains small 1cm Carb accretions							
				71.27 - 71.76: Siltstone							
				V.f.g. grey, pyritic							
				71.76 - 82.12: Sandstone							
				Mid grained clastic sediment. grey - well bedded. Contains odd qtz or sil patch but all barren							
			c 60° / c 60°	74.09 - 74.14: Dike - light coloured							
75			b/60°	75.25: Ex bedding at 60° then shallows out very quickly to 35°							
			b/35°	at 76.0 m at 77.0 m bedding is 15°							
			b/15°	78.0 - 78.6: q. veined section barren Irregular vns ~20°							
				78.84 - 79.38: Broken ground with qtz veining - several black arg clasts present							
80			b/45°	80.25: Ex bedding 45°							
			b/45°	81.00: bedding 45°							
				82.12 - 85.02: Conglomerate							
				Same as 64.13 - 69.39							
			c 45° / c 45°	84.30 - 84.58: Dike light colored bleached margins (dike - not congl.)							
85				85.02 - 87.10: Silty Argillite							
				Black irregularly bedded material contains a great deal of pyrite as bedded bands clusters and disseminations. May contain some silty material							
				87.10 - 87.73: Conglomerate							
				87.73 - 89.33: Sandstone							
				Grey pyritic fairly uniform qtz grains to 3mm bedding is vague							
90				89.33 - 91.64: Conglomerate							

PAGE 8 OF 10	PROJECT: 2153	HOLE NO. 98

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
69.39 - 71.27 : 20% py f.g. blebs, clusters, diss. through rock										
71.27 - 71.76 : Py 12%										
71.76 - 82.12 : Py - 7 - 12% diss locally some coarse pyrite clusters or sweats veins										
82.12 - 85.02 : 10 - % py diss.										
85.02 - 87.10 20 - 25% py mainly clots, crude bands, + diss.										
87.10 - 87.73 : 15 - 20% py.										
87.10 - 89.33 : 15% py										
89.33 - 91.64 : ~20% py										

 | PROJECT: 2153 | HOLE NO. 98

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Black, pebbly rock containing the dark argillaceous clasts as well as sil pebbles. All pebbles are ≤ 1.5cm. Rock is sl. pyritic, e.g. as rounded inclusions & thin wavy bands.							
				Bedding is vague - Sandy towards bottom. 91.64 - 92.42 Sandstone Similar to previous sections - contains odd 2mm black arg fragments.							
95				92.42 END OF HOLE							
100											
105											
110											

PAGE 10 OF 10	PROJECT: 2153	HOLE NO. 89

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
91.64 - 92.42 : V.f.g. py 10-15%.										

N2/E2

ET

ESSO RESOURCES CANADA LIMITED

ESSO MINERALS CANADA

DRILL LOG

PROJECT: 2153	GROUND ELEV.: 1377.0 m
HOLE NO.: DDH 99	BEARING: 205°
LOCATION: Section 438W	DIP: -65°
	TOTAL LENGTH: 142.75 m
LOGGED BY: W. Melnyk	HORIZONTAL PROJECT
DATE: Aug. 15, 1983	VERTICAL PROJECT
CONTRACTOR: Ultra Mobile Diamond Drilling	
CORE SIZE: BDB / BQ	
DATE STARTED: Aug 14, 1983	
DATE COMPLETED: Aug 15, 1983	

DIP TESTS

48m	63.5°	207°
94m	62.0°	207.5°
140m	61.0°	209.5°

ALTERATION SCALE

absent

slight

moderate

intense

TOTAL SULPHIDE SCALE

traces only

< 1%

1% – 3%

3% – 10%

> 10%

COMMENTS

stwk qtz vn zones + silicification

18.29 - 20.21

31.21 - 38.63

61.29 - 83.33

86.28 - 108.07

120.00 - 136.35

Electrum observed at: 31.47, 37.22, 37.70

122.0 - 124.0

Argentite observed at: 31.22, 37.70, 71.70

LEGEND

PAGE 1 OF 14 | PROJECT: 2153 | HOLE NO. 99

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ
				Stickup : 0.43m 0 – 3.85 : Overburden							
				3.85 – 7.04 : Conglomerate Dark green to black, coarse pebbly unit both rounded and angular pebbles							
5			b/45°	mainly 5 – 5cm – one feldspathic boulder is 27 cm. Near bottom bedded at 45°							
				7.04 – 8.54 : Sandstone – Arkosic (?) Med grained <2mm green uniform							
				5mm graded sections – only vague bedding							
				8.54 – 13.30 : Conglomerate A chaotic jumble of pebbles, fragments, possibly slump material and in part some brecciation. Section includes short							
10			b/45°	segments that may be sandy 11.43 : Bedded sandy section at 45° 10.10 – 10.95 : silicified section							
				clay seam 3cm at 10.95							
				13.30 – 31.21 : Sandstone – Arkosic (?) Consistent unit – grey, med grained pyritic very weakly bedded locally							
15				qtz veining and silicification thru section Many qtz-carb veinlets on fracture bedings							
				Recovery is v. good							
	50% qtz			18.29 – 20.21 : Veined 3mm above 50% qtz All bearing 30 – 50° w.c.a + loose							
				silt.							
20			b/30°	loose vein system veinlets 1mm to to 5mm, all bearing except for occasional grain of py							

PAGE 2 OF 14	PROJECT: 2153	HOLE NO. 99

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
3.85 - 7.04 : 10-15% py diss										
7.04 - 8.54 : 5-7 % diss py										
8.54 - 13.30 : Diss py 7%										
13.30 - 21.21 : 10-12 % finely diss and hairline fracture fillings										

PAGE 3 OF 14	PROJECT: 2153	HOLE NO. 99

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				23.63 - 25.24 : Good silicification 50% qtz again all barren most veins are ptygmatic . odd pyrite grain in veins							
25				26.11 : 2cm clayey zone.							
			b/45°	26.51 - 31.21 : Section still maintains it's granularity but is darker here may be some shaley - argillite source. v. weak veining. Bedding vague.							
30				31.21 - 38.63 : Sandstone (?) Extremely well veined and silicified zone. qtz-carbonate veins within a stock zone. Section is moderately well mineralized with Electrum. Ag. Cpy. sphal. gal. tetra + pyrargyrite. Zone is flooded with qtz - host is brecciated.							
35	70% qtz - carb			36.07 - 36.65 : Section is badly broken substantial amt. core lost. 37.86 - 38.63 : lost core Intensely broken .45m recovered.							
				38.44 - 38.63 : qtz barite vein barren 38.07 . Clay gouge zone							
				38.63 - 61.29 : Siltstone. Very fine grained clastic sediment - well bedded some graded bedding with several short sandy sections. Qtz veining is weak - many parallel veins w. C.A. Pyrite locally is v. heavy.							
40			b/30°	38.63 - 39.42 : Sandy section 40.09 - 40.67 : Sandy section 41.96 - 42.46 : Sandy section 43.79 - 44.52 : Sandy section Bedding is quite shallow w. C.A							
45			b/45°								

PAGE 4 OF 14	PROJECT: 2153	HOLE NO. 99

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/T	ASSAYS Ag g/T			
31.21 - 31.50 . two qtz vns @ 45° in sil carry sphal gal Tetra. arg(?)		30.00	31.21	1.21	10969	.03	4.1			
* Electrum at 31.49		31.21	31.75	0.54	10970	4.04	77.7			
31.21 - 34.08 : Disc grains & tetra <1%. occasional grain of sphal		31.75	33.00	1.25	10971	.31	51.0			
		33.00	34.08	1.08	10972	.24	12.0			
34.08 - 35.50 : Trace tetra through Section - v. weak										
		34.08	35.50	1.42	10973	.34	30.4			
35.50 - 36.65 : Trace tetra midway through section .		35.50	36.65	1.15	10974	.89	43.1			
36.65 - 38.00 well mineralized 5 qtz sulf vns all 35 - 40° . 1 - 4cm - with sphal gal tet trg py, Ag pyrargyrite		36.65	38.00	1.35	10975	16.93	3129			
* Electrum at 37.23 , 37.70 .										
38.00 - 38.63 : short section altd mch. gouge and bowlder - qtz vn		38.00	38.63	0.63	10976	.21	3.7			
38.63 - 53.65 : py d-s + clasts + lower veins - 12 - 15% - locally very high py content		38.63	40.90	2.27	10977	.10	10.9			
41.52 - 41.60 : sil 3cm Tr tet.										
45.92 - 46.96 : py to 30% in veins + clusters veins sheeted parallel with bedding										

N2/E2

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				45.75 - 47.00 : Intensely pyritic veins appear to be parallel with bedding associated with qtz							
				48.00 : change to B.Q. 44.50 - 53.65 : Rather uniform section of siltstone - grainsize is somewhat variable but generally fine. Several qtz veins <1cm parallel with core axis - barren.							
50				53.65 - 61.29 : Siltstone Similar to previous section except that the pyrite content increases considerably and the qtz veining is of an increased quantity, however most of the veining is parallel with the core axis							
				53.65 - 54.9 : Zone of qtz, barite and pyrite, possibly vein very closely parallel with core axis.							
55				55.68 - 55.88 : qtz - pyrite vein at 35°							
				58.23 - 58.73 : qtz - barite - pyrite vein No other sulfides							
				58.90 - 59.22 : qtz pyrite vein parallel w.c.a.							
60				61.29 - 108.07 Siltstone / Sandstone Intense qtz stock and silicification many large qtz veins but almost all are barren. Rock is variably colored greens and grays. Siltstone remnants are easily recognized by the fine grained nature. Total qtz - carb is variable 25% - 40% mostly barren.							
65				66.12 - 66.72 q.v. 30° w.c.a contains only v. f-g. py < 1%							

PAGE 6 OF 14	PROJECT: 1153	HOLE NO. 99

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/T	ASSAYS Ag g/T			
		45.75	47.00	1.25	10978	.62	24.3			
		47.00	50.00	3.00	10979	.07	11.3			
		50.00	53.65	3.65	10980	.10	4.4			
53.65 - 61.29 : Overall - 20 - 25 % pyrite very strongly pyritic sections. No other mineralization.										
53.65 - 54.4 : 30% py. in silicified patch		53.65	55.95	2.30	10981	1.93	11.3			
55.68 - 55.88 : 25% py. No other sulfides										
		55.95	58.90	2.95	10982	.03	4.4			
58.23 - 58.73 : py - 20% No other sulfides										
58.90 - 59.22 : py - 70% by volume // to with core axis										
		58.90	61.29	2.39	10983	.14	10.2			
61.29 - 73.15 : pyrite in diss. from										
only 7% -		61.29	62.23	0.94	10984	.03	7.2			
62.00 - 62.23 : dis. grains of sphal and tetra ~ 2%										
62.23 - 64.70 - only py. in scattered qtz veins.		62.23	65.00	2.77	10985	.14	19.5			
64.70 : 15cm q.v. // to c.a. Trace Tet, sphal										
		65.00	66.12	1.12	10986	.27	22.2			
66.12 - 66.72 : q.v. < 1% v.fg. py		66.12	66.72	0.60	10987	.07	9.9			

N2/E2

 PROJECT: 2153 HOLE NO. 99

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				68.20 - 69.45: q.v. - irreg. contacts only diss traces of sphal otherwise the qtz-carb vein is barren.							
70				69.45 - 71.68: Extensive qtz veining and sil. but barren. Rock is broken recovery not too good. Many slickensided surfaces.							
				71.68 - 72.68: qtz-sulf vein in stwk carrying Tr. py, Ag and base minerals							
				72.68 - 83.33: Ex. stwk qtz flooding host is virtually completely reworked							
75				Some v. weak mineralization scattered through section contained in secondary q.v. post dating the stwk.							
80				81.50 - 83.33: Slightly better mineralized part stwk veins at 30°							
				83.33 - 86.28: Sandy - silty unit the stwk drops off considerably but section still silicified. Remnant bedding is at 30-35° w.c.A., rather vague. Section is not mineralized.							
85				86.28 - 87.82. Ex. veined + silicified v. poorly mineralized							
				87.82 - 88.55: Bedded sandy siltstone pyritic. Bedding (?) 25° w.c.A.							
				88.55 - 108.07: Intense silicification + stwk about 80% qtz with some carbonate beyond 100 m.							
90											

 PROJECT: 2153 HOLE NO. 99

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/T	ASSAYS Ag g/T			
		66.72	68.20	0.48	10988	.14	5.5			
68.20-69.45 : q.v. Trace sphal		68.20	69.45	1.25	10989	.03	2.7			
69.45-71.68 : Py diss. 7% No other sulfides 71.19-72.04 : sil blebs + qtz sulf vein - sphal, gal, Tet, pyrar, Arg.		69.45	71.68	2.23	10990	.34	19.8			
72.04-72.68 good q.v. but only py diss to 5%		71.68	72.68	1.00	10991	.31	20.5			
72.68-74.50: Ex q.v only traces of py in q.v 3% diss q.v. in host - Speck sphal at 74.13		72.68	74.50	1.82	10992	.21	7.5			
74.50-76.00- only pyrite, in qtz + host		74.50	76.00	1.50	10993	.14	7.8			
76.00-77.50 : Traces of tetra + sphal from 76.31-76.54 again at 76.63 in 30° + 40° qtz veins approx 2cm + 1cm.		76.00	77.50	1.50	10994	.07	7.8			
77.50-79.00 : 8% py in host mainly. Tetra in 2cm q.v. 30° and Tr. sphal at 78.10 in q.v.(?)		77.50	79.00	1.50	10995	.14	8.9			
79.00-81.50: Ex q.v. only py with specks of tetra, pyrar(?) in two q.v. at 50° + 30° < 1cm at 80.84.		79.00	81.50	2.50	10996	.03	4.8			
81.50-83.33 : Slightly better min. 81.84 sulf vn 3mm 40° sphal tet pyrar(?) 83.00-83.33. scatt sphal gal. tet Ag(?) pyrar(?)		81.50	83.33	1.83	10997	.65	23.6			
83.33-86.28: Diss py only 8%.		83.33	86.28	2.95	10998	.58	21.5			
86.28-87.82: Possibly trace of Ag at 86.56. otherwise only py		86.28	87.82	1.54	10999	.79	34.2			
87.82-88.55: 15% py diss whisps parallel with core axis:		87.82	88.55	0.73	11000	.79	27.7			
88.55-89.50 : Int s.v. diss of sphal gal, Arg?, Tet. 89.50-91.50 : Trace sphal at top of interval		88.55	89.50	0.95	11026	2.15	16.7			

N2/E2

PAGE 9 OF 14 | PROJECT: 2153 | HOLE NO. 99

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
				Lithology is uniform. Remnant pieces of host are partially recorded. Overall section contains v-f.g. py. Mineralized sections appear to be diffuse veins often at shallow angles with drill core axis. Whole silicified + veined section is monotonously similar. Very weakly mineralized							
95											
100				100.00 - 101.00 : Siginificant amount of carbonate with qtz - still barren 101.00 - 108.07 : Final segment of pervasive sil + silica flooding, qtz veining is vague + mineralizing event is only weakly evident 103.23 - 103.67 : 9.V. at 25° containing vaporable mineralization							
105				105.75 - 107.60 : Barite Vn. coarse granular with v. weak mineralization							
110				108.07 - 112.00 : Siltstone / argillaceous Fine grained bedded, grey-green to black unit, increasing with depth greater argillite content. Very strongly pyritic. Pyrite occurs as coarse grained accretionary clusters with carbonate. Low contact and bedding at 25° 112.00 - 120.41 : Sandstone - Grit Very coarse grained sandstone with							

PAGE 10 OF 14	PROJECT: 2153	HOLE NO. 99

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/T	ASSAYS Ag g/T
91.50 - 93.00: odd speck of sphal, gal, tet <1%		89.50	91.50	2.00	11027	.79	9.6
		91.50	93.00	1.50	11028	.55	13.3
93.00 - 94.00: odd grain of tet		93.00	94.00	1.00	11029	.37	15.4
94.00 - 96.00: consistent diss and localized mineralization. Scattered grains of sphal, gal, tet and possibly Ag		94.00	96.00	2.00	11030	.72	19.1
96.00 - 97.50: poorly mineralized with specks of gal, cpy, and tet. 97.50 - 99.50: Minor scattered grains of sphal, gal & tet. py 15%		96.00	97.50	1.50	11031	.86	15.7
					↓	oz/T	oz/T ↓
		97.50	99.50	2.00	11032	.019	.25
99.50 - 101.00: Only pyrite 10%							
		99.50	101.00	1.50	11033	.005	.20
101.00 - 102.50: only pyrite 10%							
		101.00	102.50	1.50	11034	.015	.37
102.50 - 104.40: Only one min. 9.V. - 12% py. 103.23 - 103.67: 9.V., 25°, Tet, sphal, gal, Tr. cpy, Ag(?)		102.50	104.40	1.90	11035	.026	.28
104.40 - 105.75: Ex. Sil but not mineralized. Diss & blebby py ~ 15%							
105.75 - 107.60: barite Va minor qtz. 105.90: loose sulfide Va 60° w/ sphal, gal, tet. 106.70: blebs of sphal, tet & cpy - Minor.		104.40	105.75	1.35	11036	.021	.24
		105.75	107.60	1.85	11037	.003	.09
108.27 - 112.00: pyrite diss, coarse veinlets, taccretionary blebs is carbonate 15 - 20%							
112.00 - 120.41: Over all 5 - 8% - more pyrite in sections which are							

N2/E2

PAGE 11 OF 14 | PROJECT: 2153 | HOLE NO. 99-

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ
			b/15°	short conglomeratic sections. Grain size is generally .5mm to 2mm - except for short sections which are argillaceous or silty. Qtz veining is weak. Bedding is generally quite good							
115				112.00 - 114.94 : Coarse sandstone unit with pieces of argillite partially rounded to 3cm long dimension conformable with bedding							
			b/30°	114.94 - 118.38 : Particles to 1cm - conglomeratic							
				118.38 - 120.00 : Particles to 1cm - conglomeratic							
120				120.00 - 120.41 : Qtz flooding.							
				120.41 - 129.91 : Sandy Conglomerate brecciated. Qtz-barite flooded brecciated conglomerate.							
				122.13 - 123.90 : Qtz-barite vein containing numerous specks of sulfide silvery mineral. This zone is 85% qtz-barite. Barite has a greenish color locally.							
				Conglomeratic fragments include quartzite pebbles sandstone pebbles and by far the greatest amount is Argillite fragments. Most pebbles + frags are in 1-2cm range							
125			b/30°	123.90 - 126.69 : Brecciated sandstone Most fragments are rotated. silica + minor barite occupies interstices							
				126.69 - 127.51 : Siltstone : Black, well bedded, crackled, qtz veined							
				127.51 - 130.60 : Brecciated sandstone flooded with qtz 50% qtz. Odd argillite fragment.							
130				130.60 - 134.77 : Sandy - silty brecciated conglomerate. Intensely brecciated zone fragments are rotated consist of mainly siltstone + sandstone. Fragments are no large than 4cm. Flooded by qtz-carbonate + minor barite.							
				134.77 - 136.35 : Sandstone							
135											

 PROJECT: 2153 HOLE NO. 99

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T			
fine grained and argillaceous.										
120.00-122.13: moderately pyritic		118.95	120.00	1.05	11038	.005	.35			
especially near fragments. 15% py.										
		120.00	122.13	2.13	11039	.003	.11			
* 122.13-123.90: Traces tetra through										
section and tiny specks of silvery										
material which may be electrum. Tetra										
is also sprinkled throughout <1%.		122.13	123.90	1.77	11040	.730	2.33			
123.90-124.91: qtz flood zone with										
traces of tet and sphalerite.		123.90	124.91	1.01	11041	.006	.09			
124.91-126.69: Diss py sprinkled										
throughout. 8%										
126.69-127.51: 10-12% py - diss		124.91	126.69	1.78	11042	.017	.11			
pyritic clusters										
127.51-130.61: ~7% pyrite diss										
and small clusters.		126.69	128.50	1.81	11043	.005	.16			
		128.50	130.60	2.10	11044	.001	.08			
130.61-134.77: locally intensely pyritic										
to 15%. No other sulfides.										
		130.60	132.50	1.90	11045	.008	.12			
		132.50	134.77	2.27	11046	.015	.34			
134.77-136.35: Weak pyrite ~ 5% diss										

N2/E2

PAGE 13 OF 14 | PROJECT: 2153 | HOLE NO. 99

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Reasonably good ab shale NAP mineralized							
				Bedding not clear							
			b/5°	136.35 - 137.31 : Argillaceous Sandstone,							
				good bedding, weakly veined							
				136.39 - 136.61 : qtz-carb to 30°, barren							
				137.31 - 138.71 : Sandy conglomerate							
				Many argillaceous fragments to 6cm,							
				most are from 2mm to 1cm. Angular							
			b/10°	gradational contact to S.S below							
140				138.71 - 142.75 : Sandstone Uniform							
				well bedded, gritty. Very weak veining							
				Several qtz. <1cm at 95° all							
			b/10°	barren							
				142.75 END OF HOLE							
145											
150											

PAGE 14 OF 14	PROJECT: 2153	HOLE NO. 99

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/t	ASSAYS Ag oz/t			
		134.77	136.60	1.83	110447	.015	.22			
136.35 - 137.31: Weakly py-cpy - 7-9%, no other sulfides										
137.31 - 138.71: 12% diss in matrix										
138.71 - 142.75: 5% diss py										

N2/E2

ESSO RESOURCES CANADA LIMITED

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DRILL LOG

PROJECT: 2153	GROUND ELEV.
HOLE NO.: DDH 100	BEARING: 040°
LOCATION: Electrum Zone	DIP: -45°
	TOTAL LENGTH: (103.9m) 341'
LOGGED BY: W. Melnyk	HORIZONTAL PROJECT
DATE: Aug. 19, 1982	VERTICAL PROJECT
CONTRACTOR: Ultra Mobile Diamond Drilling	
CORE SIZE: BDB	
DATE STARTED: Aug 18, 1983	
DATE COMPLETED: Aug 19, 1983	

DIP TESTS — Acid tests:

30.48m	read 51.5°	corrected 42.0°
60.96m	49.0°	39.5°
103.63m	49.5°	39.7°

ALTERATION SCALE

absent

slight

moderate

intense

TOTAL SULPHIDE SCALE

traces only

< 1%

1% – 3%

3% – 10%

> 10%

COMMENTS

Only one qtz vein with electrum at 30.00 - 30.18 . many grains.
qtz stwk. not developed.

LEGEND

PAGE 1 OF 10 | PROJECT: 2153 | HOLE NO. 100

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Stickup							
				0 - 0.84 : casing							
				0.84 - : STRONGLY SERICITE							
				Med. to pale grey gray, intensely altered intrusive. Texturally dominant feldspar							
				grains quite evident from 1mm to 1cm commonly 8mm subhedral outlines. lath shaped alt.d crystals after amphiboles. waxy green color to 3mm. Overall crystal content							
			q.v./85°	about 15-20% but locally as high as 50%							
5				Groundmass is fine grained sericitic pyritic							
				core surface is speckled with granular							
				py disc and thin veinlets occupying fractures.							
				5mm v.f grained py occurs along microfractures.							
			q.v./35°	4.66: qtz-py veinlet, 8mm, 65°							
				7.15: qtz vn, mineralized, grayish							
				bluish qtz grains with vague irregular							
10				contacts							
				14.09 - 17.73: Approx 15 thin qtz							
15				veinlets with minor pyrite. Most are 70-80°							
				w.c.a. < than 1cm and contain variable py							
			qv/parallel								
				18.17: 2mm qv // c.a. Minor bxf							
				18.33: 2mm qv // c.a. Minor bxf Arg(?)							
			qv/parallel	18.61 - 18.85: q.v. crudely banded							
			qv/parallel	minor chalcedonic material at 80° w.c.a. contacts							
				are not effected.							
				19.75: qtz-sulf vn w.c.a. 80°							
20											
			qv/80°	20.54 - 20.65: chalcedonic qtz vein							
				80° with dark fine grained sericitic halo 6cm							
			qv/qv/30/85°	either side							

PAGE 2 OF 10	PROJECT: 2153	HOLE NO. 100

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T
0.84 - Diss py with thin veinlets and fg. blebs py along mica fractures							
4.66 : q.v. 8mm, 65° py							
		5.50	7.50	2.00	11048	.004	.09
7.75 : qtz-calcF vn : 3cm, 35°, sphal gal tet ag(?).		7.50	8.00	0.50	11049	.012	.43
		8.00	9.00	1.00	11050	.013	.19
		12.50	15.00	2.50	11051	.008	.08
16.05 - 16.37 : Irreg qtz vns with traces of tet and sphal - minor		15.00	18.00	3.00	11052	.011	.24
16.70 : Trace sphal irreg qtz stringer // c.a.							
18.17 : 2mm q.v. // c.a. Minor tet							
18.33 : 2mm q.v. // c.a. Minor tet, Ag(?)		18.00	18.85	0.85	11053	.033	9.57
18.61 - 18.85 : q.v. 80°, sphal tet wisps							
19.75 : q-c Vn 80° 1.5cm - Tr. sphal		18.85	20.00	1.15	11054	.007	.16
20.54 - 20.65 : q.v. 80° Barren							
21.18 - 3mm q.v. 35° Tr. sph		20.00	21.50	1.50	11055	.015	.18
22.10 - 1 cm q-c Vn 85° sph tet							
		21.50	23.00	1.50	11056	.013	.61

N2/E2

PAGE 3 OF 10 | PROJECT: 2135 | HOLE NO. 100

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
				25.68 - 25.93: silicified zone, a 3cm q.v and many narrow veinlets all at 70°							
25				Qtz + pyrite veinlets at 27.00, 27.71 and 27.91 with traces of tetrahedrite and sphalerite.							
				28.14 - 28.65: qtz vn and sil zone contacts irregular weakly mineralized qtz is coarse crystalline. 1cm wide qv fracture at 28.20, at 10° to c.a.							
30				29.00 - 29.50: 8 q.v. 30 - 60° to c.a two contain py. q.v. ≤ 1cm.							
				30.00 - 30.18 q.v. coarse granular. Fe-oxide fracture at 45° - electrum many grains.							
				30.89 - 31.05: q.v. + sil at 35° Milky white							
				32.26: q.v. 2.5cm, 75° pyrite tet.							
				32.52: q.v. 1cm, 80° pyrite + tet							
35				34.30: q.v. 1cm, 80° Tr. Tetra							
				34.37: q.v.: 1cm, 80° Tr. Tetra							
				35.34: q.v.: 2cm, 85° Tr. Tetra							
				35.95 - q.v. 1cm, 80° Tetra							
				36.48 - q.v 1cm, 80° Tetra							
				Weakly mineralized veins at 37.60 38.00, 38.11 and 38.46							
				39.14 - 39.34 - well mineralized q.v with brown sphal, gal, tet, + Arg							
40				39.53 - 43.73: quartz veining dense & considerably rock maintains coarse granular character							
				43.73 - 47.00: Grey, contains about 15% qtz veining, mostly stygmatic and virtually all barren							
45											

 PROJECT: 2153 HOLE NO. 100

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T
23.72: q.v. 5mm, 40° Tr. sphal							
		23.00	26.00	3.00	11057	.024	.13
25.68-25.73: sil +q.v. 70° only pyrite							
27.00 . 3mm qtz-py veinlet 35°		26.00	27.50	1.50	11058	.013	.17
27.71 - 1.5cm qtz vn 80° Tr. Tetra							
27.76 - 4mm q.v. 45° Tr. Tetra		27.50	28.14	0.64	11059	.013	.09
27.91 - 1cm q.v. 75° Tr. tetra, sphal		28.14	28.65	0.51	11060	.025	.24
* 28.14-28.65: q.v. +sil irreg. Tr. Tet, sphal,							
possibly electrum at 28.52		28.65	29.80	1.15	11061	.033	.23
* 30.00-30.18: q.v. irreg ~80° Electrum							
many grains. Micro tetra.		29.80	30.30	0.50	11062	1.461	1.38
30.89-31.05: Sphal gal tetra, Tr. cpy.		30.30	31.30	1.00	11063	0.018	.28
Arg (?).							
32.26: q.v. 2.5cm, 75°, pyrite, tet							
32.52: q.v. 1cm, 80° pyrite, tet		31.30	33.00	1.70	11064	0.021	.15
34.30: 1cm, 80, Tr. tetra		33.00	35.00	2.00	11065	0.010	.10
34.37: 1cm, 80, Tr. tetra							
35.34: 2cm, 85°, Tr. Tetra.							
35.95: q.v. 1cm, 80, Tetra							
		35.00	36.50	1.50	11066	0.004	.09
36.48: q.v. 1cm, 80° Tetra							
37.60: q.v. 4cm 70° Tr. Tetra, Ag							
38.00: q.v. 2cm 75° barren		36.50	38.00	1.50	11067	0.008	.16
38.11: q.v. .5cm 75° Tr. Tet. sphal							
38.44: q.v. .4cm 60° Tr. tet sphal		38.00	38.80	0.80	11068	0.017	.56
38.50: q.v. .4cm 70° Tr. Tet.							
38.84: q.v. 2.5cm 70° Tet, sphal 10%		38.80	39.53	0.73	11069	0.025	3.78
39.14-39.34: q.v. 70° sphal Tet gal Ag(?)							
15% sulfides							
39.42-39.53: q.v. irreg. sphal tetra.		39.53	42.00	2.47	11070	0.015	.14
39.53-43.73: 7-9% granular diss py							
odd pyrite veinlet.							
43.73-47.00: Pyrite 7-9% diss		42.00	43.73	1.73	11071	0.017	.13
		43.73	45.50	1.77	11072	0.008	.15

N2/E2

PAGE 5 OF 10 | PROJECT: 2135 | HOLE NO. 100

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
				47.00 - 47.7: Intrusive strongly foliated zone near bottom at 30° to c.a							
				47.7 - 59.10: Rock is intensely broken Recovery is poor. Great deal of slickensiding present. No clay. qtz-carbonate veining present, most is barren and irregular veining. Several specks of tetra.							
50				51.2 - 52.27: Foliation partings very common in this interval at ≈70° to c.a.							
				54.10 - 76.67 Uniform coarse grained, altd intrusive. Core surface is characterized by altd green feldspar crystals and elongate altd amphibole grains both variable 1 - 4 mm with occasional crystal to 1cm. Unit is weakly fractured with them being healed by carbonate. Groundmass is fine grained feldspathic now altd to sericite carbonate. Section is also speckled with coarse crumbly pyrite grains, often small ellipsoidal blebs to .7cm. Pyrite also occurs along carbonate veinlets in stringy veinlets. qtz veining is very weak in this section.							
60											
				64.32 - 65.34 : Veined altd fract zone. Irregular qtz. blebs - containing traces of tetra							
65											

 PROJECT: 2153 HOLE NO. 100

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/T	ASSAYS Ag g/T			
		45.50	47.70	2.20	11073	0.015	.12			
47.00-47.71 Py diss 8%										
47.70-49.68: Traces of Tetra contained in tension gashes infilled with qtz-carbonate. Remainder of crushed interval is barren of sulfides except py										
54.10-76.67: 10-15% py by volume as diss, coarse broken veinlets and elliptical aggregates of veinlets										
		63.00	64.32	1.32	11074	0.007	.13			
64.32-65.34 : q.v.-sil, irreg. Tr Tetra and Trace MoS_2 at 64.35		64.32	65.34	1.02	11075	0.006	.26			
		65.34	67.00	1.66	11076	0.004	.15			

N2/E2

PAGE 7 OF 10 | PROJECT: 2153 | HOLE NO. 100

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
70				72.84 - 76.67 : Grey section v.f.g pyrite in matrix - and along basilin fractures. Fabric of rock is destroyed or nearly obliterated. Rock appears to be silicified. Several qtz veins at 25° w.c.a. barren							
			qv 25°								
75				73.66 - 73.88 : qv mining at 25° barren							
				76.67 - 80.14 : Four separate qv							
			qv 45°	76.67 - 77.73 : Grey coarse qtz vn at 45° mottled, only traces of sulfide							
			qv 45°	78.11 - 78.29 : qtz vn at 45° minor py							
			qv 80°	78.97 - 79.25 : qv milky white, irreg contact mineralized throughout							
80				79.88 - 80.14 : qv dull coarse milky white, weakly mineralized							
				84.80 - 84.91 : qv 45°, weakly							
85			qtz 45°	mineralized, coarse granular							
				84.91 : Intrusive maintains coarse granular porphyritic nature to bottom of hole							
				84.91 - 98.75 : Only 5 qtz vns about 1 - 1.5 cm all barren. Rock is solid, not broken. Several hairline fractures healed with carbonate							
90											

PAGE 8 OF 10	PROJECT: 2153	HOLE NO. 108

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T		
73.66 - 73.88 : q.v. veining, 45° Barren.									
		75.00	76.67	1.67	11077	.010	.14		
76.67 - 77.73 : q.v. 45°, Trace Tetra and fg Diffuse py.									
		76.67	77.73	1.06	11078	.020	.19		
78.11 - 78.24 : q.v. 45° only pyrite									
78.97 - 79.25 : q.v. 80° - irregular, Tetra and trace sphal to 2%		77.73	78.60	0.87	11079	.017	.39		
		78.60	79.25	0.65	11080	.193	.71		
79.88 - 80.14 : q.v. irreg, Tr. Tetra		79.25	80.14	0.89	11081	.038	.23		
		80.14	82.00	1.86	11082	.012	.23		
84.80 - 84.91 : q.v. 45°, Trace tetra.									

N2/E2

PROJECT: 2153

HOLE NO. 100

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				93.68, q.v. at 30°, barren							
95											
			//	97.29-97.78: Three q.v. at 20°, 1-1.5cm all barren							
				98.75-100.13: Moderately silicified zone, vague qtz veining, two regular veins. Traces of tetra.							
			//	Vague foliation at 45°.							
100				100.13-102.73: 18 qtz-carb veinlets 3mm to 8mm. all barren 30-45°							
			/	102.73-103.15: Veined section 30-45° other quite irregular. 30% qtz-carb.							
				103.89: END OF HOLE.							
105											

PAGE 10 OF 10	PROJECT: 2153	HOLE NO. 100

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T
93.68 : q.v. 30° , 1.5cm barren							
97.29-97.78 : 3 q.v. 1- 1.5cm 20° barren							
98.75- 100.13 : Silicified zone. Minor traces of tetra. two q.v's near 100.00 at 25° 1.5cm and .8cm - barren		97.29	98.75	0.96	11083	.017	.26
		98.75	100.13	1.38	11084	.017	.38
100.13- 102.73 : 18 q/h- carb veinlets 1-8mm 30°-45° , barren							
102.73- 103.15 : Veined section 30% q/h - carb. 30-45°		100.13	102.73	2.60	11085	.011	.14
		~~102.73~~	~~103.15~~	~~0.42~~	11086	.022	.09
		103.15	103.89	0.74	11087	.019	.16

N2/E2

E1

ESSO RESOURCES CANADA LIMITED

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DRILL LOG

PROJECT 2153	**GROUND ELEV.** 1378.3 m
HOLE NO. DDH 101	**BEARING** 230°
LOCATION West Beuce Jack Zone Section 0+38.75S	**DIP** -40
	TOTAL LENGTH 124.21 m (407.5')
LOGGED BY W. Melnyk	**HORIZONTAL PROJECT**
DATE Aug. 22, 1983	**VERTICAL PROJECT**
CONTRACTOR Ultra Mobile Diamond Drilling	**ALTERATION SCALE** 0 1 2 3 absent, slight, moderate, intense
CORE SIZE BDB	
DATE STARTED Aug 21, 1983	**TOTAL SULPHIDE SCALE** 0 1 2 3 4 traces only, < 1%, 1% – 3%, 3% – 10%, > 10%
DATE COMPLETED Aug. 22, 1983	
DIP TESTS Drill hole making much water, one test - 121.00 m, dip -34°, azimuth 237° (cor.)	
COMMENTS Extensive qtz stwk zone 40.07 - 73.02 Electrum section: 47.02 - 69.75, many occurrences.	**LEGEND**

PAGE 1 OF 10 | PROJECT: 2153 | HOLE NO. 101

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ
				Stickup 0.56 m.							
				0 - 2.59 : casing							
				2.59 - 19.82 : MAFIC FLOW							
				Dark-grey to black unit with a distinct white sparkling of feldspar constituting 30% of the rock. Feldspars are for the most part resorbed, rounded, although euhedral grains are present (1-2mm)							
5				Unit is ab-poor. Matrix is dark - chloritic with fg. pyrite and sparse feldspathic				1			
				Section is homogeneous throughout vague banding or bedding is present, though not distinct							
				small carbonate patches are present, but infrequent							
10				veining is minimal - odd fracture healed with ab-carbonate							
15											
				19.82 - 21.94 : MAFIC FLOW (?)							
20				similar to previous section, feldspars are increasingly more vague. Unit has tiny fractures, healed with carbonate							
			b/ab	21.94 - 25.73 : TUFF - crystal							
				Distinct unit light creamy-tan colored well-irregularly banded, contains multi conformably banded pyrite							

PAGE 2 OF 10	PROJECT: 2153	HOLE NO. 101

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
2.59 - 19.82 : v. f.g. pyrite 10 - 15 %										
19.82 - 21.74 : v. f.g. py 10 - 15 %										
19.94 - 25.73 : 15 - 20 % f.g. pyrite locally intensely pyritic										

N2/E2

PAGE 3 OF 10 | PROJECT: 2153 | HOLE NO. 101

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
			b/60°	Central portion contains distinct <1 - 3mm 'eyes' of very fine grained sericitic material plus qtz grains. These are embedded in v.f.g. sericitic (?) groundmass.							
25				25.73 - 27.71 : FELDSPATHIC SED. Dark grey-green vaguely banded unit. Contains randomly oriented feldspar grains 1.5m white. Also contains randomly scattered round chert pebbles to .5cm. Intensely pyritic. 27.04 - 27.43 : light, coarse feldspathic - purple							
			b/60°	27.71 - 29.84 : TUFF (?) Distinctly v. finely laminated, purple contains abundant pyrite, contains <1 - 4mm particles of light green. No qtz. v. soft							
30			b/90°	29.84 - 32.53 : Arkosic SANDSTONE Sandy, gritty unit containing abundant feldspar light & white color, crackle, pitted surface.							
				32.53 - 41.85 : Arenite - gritty Grey uniform sequence of coarse sandstone. Bedding is vague. Coarser sections contain qtz pebbles to 2cm. Section is weakly to moderately veined generally regular qtz veins at 95° ± 10°.							
35				Section carries weak spotty mineralization mainly gal + sphal - weak tetra.							
				40.07 - 41.85 : qtz veining increases to regular veining and localized silicification. 25% qtz.							
40				41.85 - 51.00 : ARENITE (?) lithology uncertain. Section is intensely veined and pervasively silicified. Rock has been ① silicified ② qtz veined + pyritized, ③ brecciated ④ qtz veined ⑤ flooded with pyrite ⑥ possibly veined again.							
				41.85 - 47.85 : Intensely silicified and v. strongly pyritic. 20-30% by volume.							
45											

PAGE 4 OF 10	PROJECT: 2153	HOLE NO. 101

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/t	ASSAYS Ag oz/t
25.73 - 27.71 : pyrite diss and minlets 15% py.							
27.71 - 29.84 : 15 - 20% f.g. pyrite, laminated							
29.84 - 32.53 : Pyrite diss + inreg veinlets 15%.							
32.53 : s:l, 40°, 3cm sphal, lt pyrox, Tr							
32.53 - 41.85 : 10% diss py							
33.80 : 3mm qv irreg - 55° bluish gal		33.00	34.50	1.50	110 88	.009	.68
34.52 : 1cm q.v. 45° Tetra							
34.75 - 35.15 : Irreg qv 30° good sph, lt and gal Ag at 34.75		34.50	35.70	1.20	110 89	.012	2.37
35.58 : q.v. 1cm, 60°, Pyrox Ag							
36.33 - 36.42 : Screen Subparallel qtz vns 20° weak gal, Tr sph							
37.29 - q.v. 6mm, 45°, coarse gal		35.70	37.50	1.80	110 90	.007	.51
38.15 : irreg qtz veinlets, tr sphal							
38.67 - 38.82 : Trace tetra sphal in fg qv.		37.50	39.00	1.50	11091	.007	.51
39.56 - 39.78 : V. weak sphal, irreg q. veinlets.							
40.07 - 41.01 : Int silicified, w. sphal, fg py + Tr gyrox		39.00	40.07	1.07	11092	.004	.38
41.85 - 49.05 : Extremely pyritic 20-30% by volume. Scattered weak sphal and tetra.		40.07	41.85	1.78	110 93	.003	.57
42.72 : 2 qv. 1.5cm 50° and 30° gmd pyrox. Sphal and Argentite.		41.85	43.00	1.15	110 94	.015	7.10
		43.00	44.00	1.00	110 95	.009	2.43
		44.00	45.00	1.00	110 96	.025	3.30

N2/E2

PAGE 5 OF 10 | PROJECT: 2153 | HOLE NO. (01

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				47.02 - 47.30: Mineralized qtz vn with many grains of electrum							
				49.05 - 51.00: Less intensely veined section recognized as arcosite.							
50				51.00 - 54.19: Argillite (?) Black, unit is pervasively silicified, brecciated, veined and pyritized V. fine grained boundaries are vague. Section carries good mineralization * Good electrum zone from 52.68 to 54.68							
				54.19 - 55.76: Arcosite Pale green, silicified, qtz veined brecciated well mineralized							
55				55.76 - 57.88: Argillite Fine grained black material, has been extensively brecciated, pyritic, scattered grains of tetra and sphal							
			b/ 55°	57.88 - 63.07: Conglomerate 57.88 - 58.07: Compacted gouge clay 57.88 - 60.05: bedded section, pebbles to 2cm, chloritic, pyritic							
60				60.05 - 63.07: Intensely silicified brecciated, cemented by qtz. Breccia fragments appear to vary: chloritic, waxy sericitic, and silicic.							
				63.07 - 73.02: Arcosite (?) with Unknown This section is by far the most intensely alt'd and pervasively silicified unit with has been brecciated, shattered extensively, silicified and subsequently flooded with qtz. Fragments are V. fine grained with margins resorbed. Electrum section: 65.75 - 69.75							
65											

PAGE 6 OF 10	PROJECT: 2153	HOLE NO. 101

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	WIDTH	SAMPLE NUMBER	ASSAYS Au oz/t	ASSAYS Ag oz/t			
		45.00	46.75	1.75	11097	.005	1.68			
* 47.02-47.30 : q.v. 35° Very well mineralized		46.75	47.30	0.55	11098	1.053	62.75			46.75-54.58
with pyrar, tet, Arg, gal, sphal + Electrum										7.83m
		47.30	49.05	1.75	11099	.038	3.33			0.167 Au
										13.52 Ag
49.05-51.00 :										
50.18 : Tr. sphal in 20cm silicified patch		49.05	51.72	2.67	11100	.071	5.27			
51.86-52.05 : 2 q.v. 40°, 5 & 3cm Tetra, sphal										
52.45 : q.v. 6cm 30°, Tetra + pyrar.		51.72	52.25	0.53	11101	.014	1.62			
* 52.68 : q.v. 4mm 20° truncated, electrum										
53.12-53.50 : q.v. 65° v. good tet, Arg, sph, pyrar.		52.25	53.07	0.82	11102	.033	3.72			
53.87-54.58 : q. veined, pyrar, Tet, sphal, pyrar,		53.07	53.50	0.43	11103	.037	23.75			
* electrum at 54.08, 54.36 several grains		53.50	53.87	0.37	11104	.044	9.30			
54.58-55.76 : Tet, sphal through section mainly		53.87	54.58	0.71	11105	.568	47.75			
in qtz veins										
55.76-57.88 : scattered grains of sphal +		54.58	55.76	1.18	11106	.042	2.32			
tetra.										
		55.76	57.88	2.12	11107	.019	1.50			
57.88-60.05 : 10% py diss. silicified										
section with sphal, tet, pyrar										
		57.88	59.13	1.25	11108	.008	.89			
60.05-63.07 : Diss py, tet, sphal, some										
pyrar		59.13	61.00	1.87	11109	.069	9.65			
		61.00	63.07	2.07	11110	.015	1.50			
63.07-73.02 : 10-12% py through										
section. Scattered sph, tet, gal										
throughout.		63.07	64.35	1.28	11111	.034	8.45			
63.07-64.35 : Scattered grains of tetra,										
sphal. Initial 35cm well mineralized.										
64.35-65.75 : Black, sooty fine grained		64.35	65.75	1.40	11112	.037	1.64			
mineral through section. V.f.g. py (?)		65.75	66.25	0.50	11113	.210	1.79			
* 65.75-66.25 : Electrum 2 patches 65.98										65.75-69.75
associated with 3-4mm py veinlet 80°.										0.351 Au
		66.25	68.20	1.95	11114	.093	1.48			1.89 Ag

N2/E2

PAGE 7 OF 10	PROJECT: 2153	HOLE NO. 101

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				68.31: good electrum ∠30°, 5cm							
				68.491 Excellent mass electrum, 180°, 1.5cm							
				69.42: good electrum 75°, 1.5cm Truncated							
70				Veins are coarse granular void of other							
				sulfides.							
				73.02 - 80.83: Conglomerate							
				Coarse clastic sediment pebbles to 3cm							
			S/56°	scattered randomly. Intensely pyritic							
				73.02 - 76.24: Distinctly foliated							
75				with waxy apple green color - sericitic.							
				v. soft.							
				76.24 - 80.83: Distinct pebbly							
				appearance contains many siliceous pebbles							
				from <1mm to 7mm commonly, also							
				sericitized fragments of same size. Many							
				rock fragments as well, feldspathic.							
				pyrite is pervasive.							
				qtz veining drops off to 5%							
				and then are barren.							
80				80.83 - 84.20: Arenite							
				Dark grey - green color containing							
				coarse particles throughout. <1 to 2mm							
				Section is intensely silicified veining							
				is weak. Start to pick up carbonate							
				veins.							
			c/30°	84.20 - 85.99: SYENITE DIKE							
85				Alt'd medium to light green color constituents							
				undistinguishable except for vague relicts							
			c/30°	of amphibole - faint lath shaped 1-2mm							
				grains light, white. Surface speckled with pyrite							
				85.99 - 104.66: Arenite (?)							
				Grey coarse granular - intensely silicified							
				May be an arenite - too extensively							
				alt'd and veined to identify.							
90											

PAGE 8 OF 10	PROJECT: 2153	HOLE NO. 101

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T
66.25 - 68.20 : Weakly mineralized. Trace gal. sphal. tet.							
* 68.20 - 69.75: V. good electrum in three separate veins. No other sulfides with electrum		68.20	69.75	1.55	11115	.721	2.44
69.75 - 71.50 : Traces of sphal. tet.							
		69.75	71.50	1.75	11116	.071	1.19
71.50 - 73.02 : Better scattered sulfides, sphal, gal, weak argentite.							
		71.50	73.02	1.53	11117	.023	1.10
73.02 - 80.83 : 30% by volume py, pyritic bands, coarse, blebs, + disseminated.							
		73.02	75.00	1.98	11118	.002	.56
80.83 - 84.20 : 20% py by volume, coarse blebs + diss							
84.20 - 85.99 : 9% py diss. odd vein							
85.99 - 104.66 : 10-12% py. diss and odd veinlet.							

N2/E2

PAGE 9 OF 10 | PROJECT: 2153 | HOLE NO. 101

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				90.00 - 102.82 : Extremely qtz veined and silicified. All qtz veins are irregular, ptygmatic and most are barren. Qtz flooding							
				99.33 - 99.44 : brecciated section some clay alt'n							
100				100 ± distinct orange granular carbonate associated with qtz veining							
				102.82 - 104.66 : less veined section still silicified - lith. questionable							
105				104.66 - 111.53 Syenite : light grey/pink green color speckled with pyrite, brecciated and veined. Again lithology is doubtful. Carbonate veining is common and abundant.							
110				109.00 - 111.53 : May be a chill phase of syenite. Fine grained, light brown-grey. <1mm subedral feldspar grains light brown scattered throughout interval							
115				111.53 - 124.21 : SYENITE FELDSPAR PORPHYRY : Very coarse grained porphyritic intrusive. Light grey-green with scattered feldspar crystals throughout - most have rounded outlines remaining. Several good euhedral, grain crystals are very evident. Pink qtz-carbonate veining is present about 10% of interval							
				124.21 END OF HOLE							

 PROJECT: 2153 HOLE NO. 101

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS				
		FROM	TO	WIDTH		Au oz/T	Ag oz/T			
104.66 - 111.53 : diss py. to 8%										
112.88 - 114.22 : qtz-carb veining at 30° containing sph, tet Bveins, longest at top of section 38cm		112.88	114.22	1.34	11119	.005	.78			

N2/E2

ET

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DRILL LOG

PROJECT 2153	**GROUND ELEV.** 1378.3 m
HOLE NO. DDH 102	**BEARING** 230°
LOCATION West Bruce Jack Zone Section 01+38.76S	**DIP** -56°
	TOTAL LENGTH 113.20m (372')
LOGGED BY W. Melnyk	**HORIZONTAL PROJECT**
DATE Aug 24, 1983	**VERTICAL PROJECT**
CONTRACTOR Ultra Mobile Diamond Drilling	**ALTERATION SCALE**
CORE SIZE BD3	
DATE STARTED Aug 23, 1983	
DATE COMPLETED Aug 24, 1983	**TOTAL SULPHIDE SCALE**

DIP TESTS

Depth	Dip	Azimuth (obs)	Corrected
41.15	59°	210°	237°
77.72	53.5°	211°	238°
108.20	52.0°	211°	238°

COMMENTS

Extensive shale zone

61.34 - 78.80

& 83.22 - 89.90

Electrum section:

82.38 - 84.95

LEGEND

PAGE 1	OF 10	PROJECT: 2153	HOLE NO. 102

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.	
				Stickup :								
				0 – 2.10 : Casing								
				2.10 – 25.30 : MAFIC FLOWS								
				Dark green – to med. green								
				Feldspathic to 40% of core								
				surface – white corroded feldspar								
				grains.								
				Section is uniform in texture								
5				and grain size with local variations.								
				Feldspars <1 – 3 mm.								
				Rock is weakly foliated								
				not measurable								
				qtz veining is v. weak. Some								
				orange carbonate present in odd								
				vein.								
10												
				15.00 – 25.30 : occasional								
15				chloritic rock fragment to 5 cm ellipsoidal								
20												
				21.00 – 21.50 : short bx zone,								
				flooded with qtz-orange carb.								

PAGE 2 OF 10	PROJECT: 2153	HOLE NO. 102

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
210 - 253.0 : 8% diss py.										

 PROJECT: 2153 HOLE NO. 102

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
25				25.30 - 27.31 MAFIC FLOW(?) TUFF							
			F/50°	Similar to previous section. Feldspar grains less obvious. Section is more intensely foliated - has 'tumbled' appearance - more fragments							
				26.88 - 27.31 : fg, black, hard, pyritic							
				27.31 - 38.09 : TUFF Crystal (?)							
				Very distinct Purple tinge to rock. finely laminated for most section. contains feldspar grains - white ~1mm, with abundant <1 - 2mm waxy green sericitic rounded grains, unit is v. soft.							
30			S/50°	27.31 - 28.10 : waxy green bands with pyrite bands.							
				30.56 : 4cm clay gouge							
				30.56 - 38.09 : Irregularly banded with pyrite patches 1-2cm. blocky appearance although no foreign particles or blocks							
				No qtz veining.							
35											
				38.09 - 39.29 : Arenite							
			b/40°	whitish, gritty unit, weakly foliated containing some waxy green particles. Hard							
				39.29 - 44.87 : TUFF / ARENITE							
40				A mixed section of above maroon tuffs with grit. Has a tumbled appearance with several irregular pyritic veins near interface between two units.							
			F/30°	qtz veining is very weak, only several irregular qtzitic blotchs							
45				44.87 - 48.33 ARENITE							

PAGE 4 OF 10	PROJECT: 2153	HOLE NO. 102

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
25.30 - 27.31 : Diss and whispy py to 10-12%										
27.31 - 38.09 : 15% py diss + patchy or meshed blebs										
38.09 - 39.29 : diss py. odd veinlet 8%										
39.29 - 44.87 : Py diss and veins/walls irregular sharpy ~ 12-15% py										
350 : Trace Sph in qtzite mass.										

N2/E2

 PROJECT: 2153 HOLE NO. 102

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ
				Coarse gritty, whitish-grey, irregularly bedded, tiny veinlets of qtz cris-cross rock.							
				44.87-45.25: Sil patch, good mineralization section broken - parallel shears top + bottom.							
				48.33 - 51.15: Argillaceous Sandstone Dark grey to black, fine - v.f. grained bedding destroyed through qtz veining. Some sandy material							
50											
	Pervasive sil.			51.15 - 57.78: ARGNITE (?) ARKOSIC Unit is extensively silicified contains only vague, cloudy, irregular qtz 'veins'. Section is dull grey has been shattered, crackled and flooded with qtz, pervasively. Sulfide mineralization picks up considerably.							
55											
	Sil. Quartz veined			57.78 - 58.68: Argillaceous Sandstone Black, fine - v. fine grained, contains scattered tiny qtz veinlets							
				58.68 - 60.37: ARKOSE light grey, tan color intensely shattered cemented by silica							
60				60.37 - 61.34: Sandy Argillite Black, v-f-grained, silicified, shattered + veined by tiny <1 - 2mm qtz veinlets.							
	Mod. qtz veining			61.34 - 71.67: Argillaceous Sandstone Very similar to previous sections. Med- to v.f. grained, generally quite dark - to black. The top ½ is shattered, brecciated and cemented mainly by tiny qtz veinlets. The bottom portion has been extensively qtz veined and contains some very good p.m. mineralization.							
65											

PAGE 6 OF 10	PROJECT: 2153	HOLE NO. 102

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T
44.87-45.25: s.l patch 2% tetra + sph. as diss grains		44.87	45.25	0.38	11120	.068	0.96
		45.25	48.33	3.08	11121	.010	0.38
48.33-51.15: Py diss 7% 48.53 - q/z patch ~ 30° containing pyrar, sphal, tet + electrum. *		48.33	48.77	0.44	11122	.146	37.00
		48.77	51.15	2.38	11123	.014	0.83
51.15-52.13: Incl. s.l good sphal, Tet, pyrar, Arg Py 15%.		51.15	52.13	0.98	11124	.082	7.10
52.13-53.50: Trace tetra py 15%		52.13	53.50	1.37	11125	.014	1.31
53.50-55.00: Pyritic to 15% - only traces of tetra.		53.50	55.00	1.50	11126	.014	1.68
55.00-57.78: Scattered grains sph pyritic to 12% fine diss.		55.00	57.78	2.78	11127	.014	1.11
57.78-58.68: Diss py Tr. sph 58.68-60.37: Diss py 10%, Tr diss sph, tet.		57.78	60.37	2.59	11128	.009	0.98
60.37-61.34: Diss py 10-12%		60.37	61.34	0.97	11129	.032	3.90
61.34-62.35: 2ph veins, 2cm 30° barren 9cm 30°, Tet sphal Arg		61.34	62.35	1.01	11130	.012	0.55
62.35-63.45: 3 q.v each ~10cm 30° good tetra, Arg sph, many grains electrum at 62.37. *		62.35	63.45	1.10	11131	.032	7.20
63.45-65.00: Diss grains sph, tet. Py 12% v. weak		63.45	65.00	1.55	11132	.002	1.26
65.00-67.19: Only diss py 15%		65.00	67.19	2.19	11133	.007	0.79

N2/E2

PAGE 7 OF 10 | PROJECT: 2153 | HOLE NO. 102

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
70	V. good qtz veining			67.19 - 71.67 : Exc. qtz veining carrying abundant sulfides + pmts. Especially qtz Vn from 67.19 to 68.45.							
75				71.67 - 75.82 : Conglomerate (?) Grey, pyritic section, containing qtz pebbles, pieces of blocky argillite. In part section has been brecciated, and silicified. outline of constituents is vague. two major qtz veins ~30 cm in section carrying chalcopyrite. qtz vein boundaries are irregular.							
80	Mod qtz veining			75.82 - 87.96 : ARENITE (?) Dark grey gritty unit has been silicified, qtz veined, pyritized, and locally brecciated. 75.82 - 83.22 : Weak to moderate qtz veining. Pyrite veining picks up considerably although sulfides are negligible.							
85	V. good qtz veining			83.22 - 86.26 : Excellent qtz veining well mineralized in sulfides and pmts							
90				86.26 - 87.20 : Intensely foliated, contorted, broken, in part pyritic. Contact between sedx and intrusive. 87.46 - 113.20 : SYENITE Fine grained shades of green, and more distinctly orange-pink. Constituents are altered although feldspar crystals to 1.5mm are quite evident through section.							

 PROJECT: 2153 HOLE NO. 102

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T		
67.19 - 68.45 : qtz Vn : Ex. sphal Tet pyar, Arg		67.19	68.45	1.26	11134	.408	75.25		
* Electrum at 67.26, 67.74, 68.00 - 68.19 Many grains									
68.45 - 69.70 : Weak tet gal sph		68.45	69.70	1.25	11135	.046	2.30		
* Electrum(?) at 69.42.									
69.70 - 70.48 : V. weak tetra									
		69.70	70.48	0.78	11136	.021	2.29		
70.48 - 71.67 : Tr. sphal , 10% diss py									
		70.48	71.67	1.19	11137	.013	1.90		
71.67 - 72.58 : good pyrar Tet sph		71.67	72.58	0.91	11138	.100	10.55		
* Electrum at 71.92 , 72.46									
72.58 - 73.75 : Weak Veining , Tr Tet, py 12%		72.58	73.75	1.17	11139	.012	1.45		
73.75 - 74.67 : qtz Vn 50°, good Arg, tet									
* electrum at 73.89 , 74.23		73.75	74.67	0.92	11140	.103	20.10		
74.67 - 75.82 : Only tr Tet W. Veining . Py 15%									
75.82 - 87.46 : Abundant pyrite to 20% as		74.67	75.82	1.15	11141	.011	0.77		
veins and diss.									
75.82 - 77.25 : Good qtz veining 76.58 - 77.25 : good									
Arg, sphal gal tet		75.82	77.25	1.43	11142	.018	4.20		
77.25 - 78.13 : Pyritic 25%. Arg Tet locally									
qtz blotches		77.25	78.13	0.88	11143	.046	2.35		
78.13 - 80.50 : Tr. sphal pyritic to 20%									
Mod. qtz veining		78.13	80.50	2.37	11144	.002	1.40		
80.50 - 83.22 : Mod qtz veining pyritic to									
?20%.		80.50	83.22	2.72	11145	.017	0.85		
83.22 - 84.17 : q.v. good Arg. Tet. sphal		83.22	84.17	0.95	11146	.186	92.00		
* 84.17 - 84.95 : q.v. Ex. Arg. tet. Electrum many		84.17	84.95	0.78	11147	1.230	91.05		
specks 84.37 - 84.70									
84.95 - 86.26 : q.v. Diss tet , sph. 3%.		84.95	86.26	1.31	11148	.215	8.70		
86.26 - 87.46 : Py. 20% 30cm q.v. barren		86.26	87.46	1.20	11149	.008	0.95		
87.46 - 90.00 : Irreg qtz veining 30%		87.46	90.00	2.54	11150	.018	1.35		
10% py									

N2/E2

PAGE 9 OF 10 | PROJECT: 2153 | HOLE NO. 102

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Unit is quite consistent in texture non porphyritic. Core surface is sprinkled with grains of pyrite. Rock has a porcelainous nature, glassy subconchoidal. Unit is not sheared or broken							
100											
				102.00 - 104.75: Rock fractured, healed by qtz-carb veinlets							
				104.74 : change from BOB to BQ.							
105				104.75 : Intrusive is greenish-orange, very hard, pyritic, fine grained							
110											
				113.20 END OF HOLE							
115											

PAGE 10 OF 10	PROJECT: 2153	HOLE NO. 102

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
87.4b - 113.2a: Diss py to 10-15% by volume. V. minor Traces of Tetra + sphal.										

N2/E2

E1

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DRILL LOG

PROJECT 2153	**GROUND ELEV.** 1378.3 m
HOLE NO. DDH 103	**BEARING** 230°
LOCATION West Bracejack Zone Section 0+38.75 S	**DIP** -67°
	TOTAL LENGTH 176.78 m (580')
LOGGED BY W. Melnyk	**HORIZONTAL PROJECT**
DATE Aug. 26, 1983	**VERTICAL PROJECT**
CONTRACTOR Ultra Mobile Diamond Drilling	**ALTERATION SCALE**
CORE SIZE BQ	
DATE STARTED Aug. 24 1983	
DATE COMPLETED Aug 26, 1983	**TOTAL SULPHIDE SCALE**
DIP TESTS	

absent

slight

moderate

intense

traces only

< 1%

1% – 3%

3% – 10%

> 10%

Depth	Dip	Azimuth	
77.7 m	66°	* N/A	* core tube in core-barrel, instr. in hole.
123.4 m	66°	* N/A	
169.2 m	67°	* N/A	

COMMENTS

LEGEND

PAGE 1	OF 15	PROJECT: 2153	HOLE NO. 103

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Stickup:							
				0-1.76: casing							
				1.76-28.26: MAFIC FLOWS							
				Dark-gray to green variable porphyritic mafic flows unit is characterised by a speckled white surface ~40% subhedral feldspar grains. Rock is chloritic to weakly sericitic, waxy green localized patches.							
5				Rock is sprinkled with fine grained pyrite. Minor pink, orange carbonate associated with qtz veins.							
				Non foliated, v. weak qtz veining							
				7.24-7.54: sheared zone qtz-carb clay material							
10											
				11.00-28.26: Distinct flow bx texture, coarse chloritic fragments in fine matrix.							
15			fb / 25	15.00: flow banding is quite apparent this section generally at 25° w.c.a. to 45°. Usually quite shallow angle							
20											

PAGE 2 OF 15	PROJECT: 2153	HOLE NO. 103

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
1.76 - 28.26 : 0.35 py to 12%										

N2/E2

PAGE 3 OF 15 | PROJECT: 2153 | HOLE NO. 103

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
25				26.39 - 27.21 : Qtz - carbonate banding in speckle 3mm - nor mineralized 27.13 - 28.26 : Strongly pyritic irregular masses							
				28.26 - 57.24 TUFF light colored, maroon - purple finely laminated tuff 5-ft, contains very green particles through section 1-3mm 29.96 - 32.83 : Feldspathic section May be a flow. core surface is speckled with small 5mm white eroded feldspar grains. Qtz veining is poor - just several veins <1cm over entire section.							
30			C/30°								
				34.08 - 34.37 : Grained core, 3mm clay material may have been a shear							
35				37.00 - 38.25 : Distinct maroon finely laminated, laminations parallel with core axis. Impact a tumbled section - slump features							
			Contact	37.00 - 57.24 : Extensively autobrecciated - slumped. Darker ghosts of same material scattered through section, to 10cm, angular							
40			C/30°								
45											

PAGE 4 OF 15	PROJECT: 2153	HOLE NO. 103

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
27.13 - 28.26 : 30% py by volume.										
27.21 - 27.24 : Dis py 10% by volume vein distribution.										

N2/E2

PAGE 5 OF 15 | PROJECT: 2153 | HOLE NO. 103

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
50			C/45°	51.82 : regularly foliated - 45°. occasional fracture is healed by quartz							
55				57.24 - 82.38 : ARKOSE Med grained, granular, pale whitish-green to dark green, pyritic. light colored sections are abitic containing still a substantial amount of feldspar which has been altered to a waxy green. Dark green sections are sericitic w. 50% evenly foliated and pyritic. Bedding is not evident, but a foliation is occasionally evident. qtz veining increases moderately thin section and sulfides increase with depth. 63.50 : Sil patch 30 cm. borders on edge contain trace sph.							
65			F/35°	65.24 - 69.60 : Dark, sericitic pyritic section foliated 35°							

PAGE 6 OF 15	PROJECT: 2153	HOLE NO. 103

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
57.29 - 82.38 : ~15% py d.s. and quartz aggregates.										
63.65 : s.l patch, 3cm contains Tr. sph.										
66.30 : s.l patch, 1cm, 35° Tr. sph										
66.70 - 67.80 : s.l patch, irreg. barren.										
67.45 : q.v. 1cm parallel, Tr. sphal										

PROJECT: 2153

HOLE NO. 103

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
70			S/30°	69.71 - 70.43 : sqt dark green sericite section pyritic well foliated at 30° w.c.a.							
				72.50 - 73.74 : 2 shallow qtz veins 4cm each (15°) plus intense pyritization and sericitization							
75			35-45°/S	74.72 - 77.98 : Uniform pale gray green banded - v.f.g. black pyrite 35-45°.							
				77.98 - 79.04 : silicified section containing good sulfide mineralization.							
80			bedding/45°	79.04 - 82.38 : Uniform pale gray-green banded - py. 45°.							
			bedding/50°	82.38 - 83.14 : Argillite (?) F.grained black thinly laminated, interbedded with coarser material.							
85		{ { { { { { {		83.14 - 93.70 : CONGLOMERATE (?) Appears to be a gravelly - pebble sediment, intensely silicified. Core surface is gray-green mottled white, thoroughly shot by silica. lithology is vague. Section is reasonably well mineralized start of sil - stwk zone, qtz stwk is poorly developed.							
90		{ { { {									

PAGE 8 OF 15	PROJECT: 2153	HOLE NO. 103

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T
70.55 - 71.17 : grains of sphal. scattered through s.i patch							
71.39 - 71.75 : qtz vein, 1cm, 5° Barren							
72.50 - 73.74 : 2 qtz Vns 4cm 15° one may have Tetra.		72.50	73.74	1.24	11152	.002	0.20
77.98 - 79.04 : well mineralized s.i. section sph gal. pyrr.		77.98	79.04	1.06	11151	.018	0.70
79.04 - 82.38 : barren actinc		79.04	82.38	3.34	11162	.004	0.05
82.38 - 83.14 : 2 qtz. 24cm 5cm both carry sph both 45° 12 % py		82.38	83.14	.76	11153	.006	0.20
83.14 - 84.10 : Well s.i Tet gal Arg. pyrr. sph. 12% py		83.14	84.10	0.96	11154	.024	4.10
84.10 - 85.85 : Well s.i patchy gal. tet. pyrr. sph. 12% py		84.10	85.85	1.75	11155	.008	2.95
85.85 - 88.00 : only scattered gal, tet, sphal, Py 15-18%		85.85	88.00	2.15	11156	.002	1.85
88.00 - 90.15 : Only traces of sphal + Tetra		88.00	90.15	2.15	11157	.006	2.45

N2/E2

PROJECT: 2153

HOLE NO. 103

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
				93.70 - 111.42 : Conglomerate. Contains cobble sized pieces 10cm+, 5mm cobbles appear to resemble FELSIC - bleached. Other cobbles are orange, well rounded, others are green, grey + hydrothermal. Some arkosic sediments may be present.							
95				Getting more discreet qtz veins now.							
100				100.90 - 102.05 : qv. coarse grained. contains tiny 1-2mm galena contains good argentite.							
				102.05 - 105.13 : coarse but various sediment particles to 1cm. wavy - chloritic.							
105				105.13 - 111.42 : Rock is sil. shattered and permeated with qtz. No major qtz veins - many wispy qtz veinlets.							
110				111.03 - 111.42 : qtz - carb vein 70° brown.							
				111.42 - 149.96 SYENITE (?) Lithology doubtful. light grey color to a slight tinge of orange. In orange sections can detect shattered feldspar grains ~ 1mm, alt'd.							

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T
90.15 - 91.50 : V. well silicified and strongly pyritic. Sph gal, tet. py ~ 30%		90.15	91.50	1.35	11158	.032	3.95
91.50 - 93.38 : 75cm sil zone and 32cm q.v. at 85°. good tet, sph gal, py 8%		91.50	93.38	1.88	11159	.092	3.35
93.38 - 94.00 : 1 q.v. 10cm 20° tet * electrum at 93.56		93.38	94.00	0.62	11160	.048	5.45
94.00 - 96.00 : Weakly sil. No sulfides		94.00	96.00	2.00	11161	.008	0.90
96.00 - 97.54 : Several q.v. only traces of tetra		96.00	97.54	1.54	11163	.021	0.20
97.54 - 98.14 : 4 q.v. irreg ~ 90° >2cm<5cm		97.54	98.14	0.60	11164	.039	5.25
98.14 - 99.57 : Many q.v. pyritic 15%		98.14	99.57	1.43	11165	.006	1.00
99.57 - 102.05 : Massive qtz vein Ex Ag. many grains stringy, * electrum at 101.36; 101.57		99.57	102.05	2.48	11166	.074	14.20
102.05 - 103.05 : Weak qtz-sil. Trace gal, sphal		102.05	103.05	1.00	11167	.012	2.55
103.05 - 105.13 : 1 shallow qtz vein 15° 1.5cm, sphal tet.		103.05	105.13	2.08	11168	.006	0.98
105.13 - 106.68 : Many irregular qtz veins Minor sphal, tet, pyrr		105.13	106.68	1.55	11169	.012	1.20
106.68 - 108.00 : Sil. irreg qtz blebs, Tr. Tet. Acp, gal, sph		106.68	108.00	1.32	11170	.010	1.35
108.00 - 110.00 : Only traces of tetra, sphal		108.00	110.00	2.00	11171	.010	1.15
110.00 - 111.42 : Good sil. Disc sphal, tet, Minor Ag		110.00	111.42	1.42	11172	.008	1.05
111.42 - 113.90 : Moderate irregular qtz blebs, Minor tetra + sphal		111.42	113.90	2.48	11173	.015	1.01

N2/E2

PROJECT: 2153

HOLE NO. 103

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				unit has been extensively brecciated and flooded by qtz. The qtz is diffuse character there that are regular are commonly < 2cm, and barren.							
115				115.57 - 120.00 Qtz flooding is not extensive. Mineralization drops off as well. pyrite however remains high to 15% diss and bands.							
		weak s/t + qtz vn									
120				120.00 - 149.96 qtz flooding + pervasive sil intensifies, rock is a light grey white qtz comprises 40% of rock, remainder being silicified. pyrite appears to increase as well as fractures or void fillings.							
125				127.00 - 150.45 Section contains good qtz flooding - but also contains vuggy qtz veins and small cavities often times lined with qtz. Rock is much more crumbly as a beyond 127.00.							
130											
135											

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T
113.90 - 115.57 : flooded with qtz weak diss tetra sphal		113.90	115.57	1.67	11174	.010	0.70
115.57 - 118.00 : poorly veined, minor tet, sphal		115.57	118.00	2.43	11175	.011	0.51
118.00 - 120.00 : poorly veined, only traces of tet. 15% py		118.00	120.00	2.00	11176	.014	0.50
120.00 - 122.00 : good sil + qtz flood, weak sph + tet. py 8%		120.00	122.00	2.00	11177	.010	0.54
122.00 - 124.00 : good sil qtz flood, weak tet, 15% py		122.00	124.00	2.00	11178	.020	0.30
124.00 - 126.00 : good sil qtz flood : diss tetra		124.00	126.00	2.00	11179	.020	0.65
126.00 - 128.00 : Trace tetra diss grains		126.00	128.00	2.00	11180	.024	0.44
128.00 - 130.00 : good qtz flooding, Trace tetra		128.00	130.00	2.00	11181	.018	1.15
130.00 - 132.00 : Ex qtz flooding, grey blebby qtz, only trace tetra, sph, gal		130.00	132.00	2.00	11182	.015	0.34
132.00 - 134.00 : V. good qtz flooding, only fg py and few grains tet		132.00	134.00	2.00	11183	.012	0.15

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				135.00 - 138.50: Excellent qtz flooding, many small vugs with qtz crystals lining them. Sulfides are v. poor only traces of gal. sph. stbt.							
				138.50 - 140.90: weakly veined section, but intensely silicified.							
140				140.90 - 150.95: Vuggy section, some fractures infilled with coarse pyrite, recovery good but most core pieces <10cm. 140.90 - 145.00: Ex qtz flooding and silicification, poor mineralization.							
145				147.54 - 150.95: V. badly broken ground, No clay gouge - several stray fractures parallel with core axis. section is not mineralized.							
150				149.96 - 152.94: Quartz vein, solid, competent, coarse granular, v.f.g. pyrite only. Has many tiny qtz veinlets 2mm cutting at 75°.							
			C/85	152.94 - 167.87: Conglomerate. Dark grey-green unit quite variable, pebbles & fragments clearly visible. To 4cm. unit has been badly sheared, foliated in part parallel with core axis. two major qtz veins:							
155			S/S 10°	153.97 - 154.00: Carries odd specks of Arg. & 1 speck of Elect. gold but 154.90 - 157.35: Extremely foliated at almost parallel with core axis. several patches of waxy-green material							

PAGE 14 OF 15	PROJECT: 2153	HOLE NO. 103

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/T	ASSAYS Ag oz/T
134.00 - 136.00 : well sil + gyritized Tr sphal @ 1%		134.00	136.00	2.00	11184	.029	0.43
136.00 - 137.50: V. good sil, qtz flooding, v weak tetra. 1% py		136.00	137.50	1.50	11185	.015	0.54
137.50 - 138.50 : Vuggy qtz vns. weak gal sph 12% py		137.50	138.50	1.00	11186	.017	0.34
138.50 - 140.90 : weaker qtz flooding - No sulfides except 10% py		138.50	140.90	2.40	11187	.052	0.26
140.90 - 143.00 Ex qtz flooding - Scattered grains of sph tet gal		140.90	143.00	2.10	11188	.016	2.55
143.00 - 145.00: Ex qtz flooding, grains of sph gal tet - minim.		143.00	145.00	2.00	11189	.014	0.30
145.00 - 147.00: qtz flooding is moderate one q.v. at 146.20 with sph, gal tet. 80°, ~ 3cm.		145.00	147.00	2.00	11190	.015	2.95
147.00 - 149.96 : badly broken core		No	Sample				
149.96 - 152.94 : Qtz vein - V.f.g. py 2%		149.96	152.94	2.98	11191	.063	1.55
152.94 - 153.42 : Int fol very green sericitic only py - 3%		152.94	153.42	0.48	11192	.009	0.24
153.42 - 154.00 : q.v. 40° sph tet Ag Electrum at 153.85		153.42	154.00	0.58	11193	.085	5.05
		154.00	154.80	0.80	11194	.010	0.28
154.00 - 154.80 : Int Sil section - grey qtz not mineralized.							
154.80 - 157.35 : Int fol conglo. only py.		154.80	157.35	2.55	11195	.015	1.15

N2/E2

PAGE 14 OF 15 | PROJECT: 2153 | HOLE NO. 103

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
				157.35 - 158.50: qtz vein with irreg contact ~ 30° contains good tet. 2%, 5mm sph + Arg. possibly elect							
160				158.50 - 158.98: badly broken ground possibly // shear or fracture							
				162.10 - 163.50: only .3 m core recovered - burned bit							
				163.50 - 167.87: qtz veining, sil drops off, foliation v. erratic, may be mix zone - conglomerate texture vague							
165			Q/30°								
				167.87 - 176.78: SYENITE PORPHYRY Coarse grained, grey - pale green color feld spar crystals v. abound to 1cm most are white rounded - sweat are subhedral							
170				qtz - carb veining is good to 20% Orange carbonate - all veins are barren most are irregular qtz carb fluid type.							
	20%			qtz - carb							
175				176.78: END OF HOLE							
180											

PAGE 15 OF 15	PROJECT: 2153	HOLE NO. 103

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/t	ASSAYS Ag oz/t			
157.35 - 158.50 : qfp va 30°, Tet 2%, sph. Arg. Elec (?)		157.35	158.50	1.15	11196	.342	12.05			
158.50 - 161.40 : good silt - scattered grains of Tet. sph. some Arg.		158.50	161.40	2.90	11197	.012	0.61			
161.40 - 162.05 : q.v. 40°, scattered grains of tet. sph. Arg. gal.		161.40	162.05	0.65	11198	.017	6.70			
167.87 - 169.87 : good q.v. Two thin veins 4cm, 3cm 70° contain traces of pyrite tet.		167.87	169.87	2.00	11199	.019	1.60			

N2/E2

E1

ESSO RESOURCES CANADA LIMITED

ESSO MINERALS CANADA

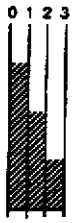
DRILL LOG

PROJECT: 2153	GROUND ELEV.: 1378.6 m
HOLE NO.: DDH 104	BEARING: 230°
LOCATION: West Bracejack Zone Section 0+68.75S	DIP: -40°
	TOTAL LENGTH: 127.41 m
LOGGED BY: W. Melnyk	HORIZONTAL PROJECT
DATE: Aug. 29. 1983	VERTICAL PROJECT
CONTRACTOR: Ultra Mobile Diamond Drilling	
CORE SIZE: BDB	
DATE STARTED: Aug. 28, 1983	
DATE COMPLETED: Aug 29. 1983	

DIP TESTS — Acid tests

Depth	observ.	correct.
46. m	46½°	37½°
76 m	42°	34½°
122 m	40°	32½°

ALTERATION SCALE



absent

slight

moderate

intense

TOTAL SULPHIDE SCALE

traces only

< 1%

1% – 3%

3% – 10%

> 10%

COMMENTS

LEGEND

PAGE 1 OF 12	PROJECT: 2153	HOLE NO. 104

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Stickup 0.46m							
				0-2.26: Casing							
				2.26-18.37: Mafic Flows (Andesite)							
				'Greenstone'. Rich green color, typical andesitic rock. Rock has been moderately sericitized - is v. soft. Shadows of feldspar crystals < 1mm, pale color still visible							
5				No obvious foliation. Only several 1-3mm qtz-carb veinlets. Pyrite is diss weakly with odd tiny veinlets.							
				Entire section is very competent							
10											
15											
				16.19-18.37: Agglomeratic section, light pale green color with dark green pyritic inclusions. Also several ellipsoid cherty pebbles							
			∠/45°	18.37-18.66: TUFF / SED. pyritic int. fol.							
			c/45°	18.66-19.01: Dike - Ex well banded v.f.g.							
			c/45°	pale green, orange. Contacts x-cutting v. sharp.							
			⊥	19.01-19.29: TUFF / SED, pyritic, mass. foliated. Micro shears							
20				19.29-21.78: Argillaceous Sediment							
				V.f.g. black - no obvious bedding. Uniform							
			≈	21.18-21.70: Int. broken core, clay.							
				21.78-25.05: CONGLOMERATE							
				Dark shaly component, pebbles and fragments scattered throughout.							

PAGE 2 OF 12	PROJECT: 2153	HOLE NO. 104

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
2.26 - 18.37 : 7 - 9% disp py										
only few scattered veinlets.										
18.37 - 18.66 : Coarse py 15%										
18.66 - 19.01 : 10% Coarse py bands/vnlt										
19.01 - 19.29 : Coarse py 15%										
19.29 - 21.78 finely dis py 8%										

N2/E2

PAGE 3 OF 12 | PROJECT: 2153 | HOLE NO. 104

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
				Pebbles are rounded + include: 3mm qtz, <1-3mm wispy grey pebbles, 2-10mm white pebbles with coarse pyrite aims. also black shale rip-up clasts 3mm to 2/cm.							
25				25.05-56.82: MAFIC FLOWS							
			f/40°	Predominantly v. dark grey to black, felsenthic white feldspars <1-3mm variable amounts. unit overall is quite soft - moderately serpentinized.							
				25.05-26.92: banded pale green section. Dark bands are v.f.g. py.							
				No qtz veining. Rock is competent, 100% recovery.							
30				locally some autobrecciation but v. minor							
35											
40											
			f/45								
45											

PAGE 4 OF 12	PROJECT: 2153	HOLE NO. 104

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
25.05 - 54.82: 5% py diss										

N2/E2

PROJECT: 2153

HOLE NO. 104

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ
				Mafic flows continued thoroughly uniform							
50											
55											
			C/90°	56.82 - 57.82: ARKOSE: light pale green, v. feldspathic - no mafics, hard no bedding. Constituents vague. Upper contact v. irreg. 1mm qtz veinlet.							
			C/45° (?)	57.82 - 59.07: MAFIC FLOW (?) Similar to above M.F., hard, fine grained difficult to identify constituents.							
60				59.07 - 61.60: ARENITE light colored, greyish-white small black shadows pg. contains much granular qtz. not bedded or foliated. No veining.							
			0/55°	61.60 - 64.42: TUFFACEOUS SEDIMENT Well bedded unit but highly variable, shades of grays + green, quite siliceous & soft waxy green. Unit has several thin clay partings.							
			0/75° C/60° contact & bedding	61.60 - 63.35: Some broken ground, clay slips							
65				64.42 - 66.03: TUFF (MAROON) V. distinct Maroon, purple unit. V. irreg bedded several irreg. qtz sweats.							
				66.03 - 73.00 ARKOSE Granular grey & dark grey, white is more recessive contains silicification increases considerably.							

PAGE 6 OF 12	PROJECT: 2153	HOLE NO. 104

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/t	ASSAYS Ag oz/t			
56.82-57.82: diss py 7%										
57.82-59.07: diss py 5-7%										
59.07-61.60: diss py										
61.60-64.42: 15% py - several .7-3cm coarse pyritic bands										
64.42-66.03: 10% diss py										
		64.42	66.03	1.61	11200	.006	0.18			
66.03-										
64.42-66.03: three 3cm qtz sweats - not mineralized		66.03	67.60	1.57	11201	.008	0.66			
66.03-67.60: 3 irreg qtz sweats trace sphal + tet.										

N2/E2

PAGE 7 OF 12 | PROJECT: 2153 | HOLE NO. 104

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Arkose continued							
70	Weak to moderate qtz stwk										
				73.00 - 81.75: ARENITE							
				Distinctly banded, light gray to white sections with a similar granular texture qtzite. Locally silicified where near larger qtz veins. Contact is vague, based on color.							
75				qtz veining increases significantly to 20% with several good mineralized sections.							
			b/50°	Massive pyr. + speckled sl? at 79.31 - 79.41							
				Sulfide mineralization increases but is still spotty. Stwk is still at least moderate - widely scattered veins							
80			b/45°	Black v.f.g. py halos adjacent fractures							
				81.75 - 83.21 : CONGLOMERATE							
				Gray to dark gray, brecciated, pebbly tumbled section. Vaguely banded, v. irreg. qtz veinlets							
				83.21 - 86.35 SYENITE (?)							
				Fine-med grained, glassy, porcelaneous rock with slight maroon tinge with tiny white alt'd feldspar crystals ~1mm. Rock is brittle, hard but is veined by q.v. at ~ 60-65°							
85	60% q.v.			84.92: qtz stwk increases drastically							
				86.35 - 97.75 : ARKOSE (?)							
	Good stwk			Intensely sil + q.v'd section about 60% qtz with remainder sericitized + silicified host gray granular. Pyritic constituents not identified.							
				Section is well mineralized							
90				88.16 - 89.38: Very well mineralized gal, sphal, tet, py + many grains electrum							

 PROJECT: 2153 HOLE NO. 104

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Ag g/t		
67.70-68.10: 1 qtz vn 2cm, 25° Tet, Electrum * at 67.83		67.80	68.10	0.40	11202	.017	1.62		
68.10-70.30: V. weakly mineralized only scattered grains sph.		68.10	70.30	2.20	11203	.009	0.60		
* 70.30-70.80: 1 q.v. 30°, 15cm silvery electrum good tet.		70.30	70.80	0.50	11204	.067	4.07		
70.80-73.00: Weakly veined only trace diss Tet		70.80	73.00	2.20	11205	.009	0.51		
73.00-74.31: 1 qtz vn, 73.7, 3cm 80° weak pyarg		73.00	74.31	1.31	11206	.009	1.08		
74.31-75.31: 2 q. veins 74.31-74.61: massive * vein pyarg py sphal tet Arg many grains also 45°; 2 vns 15° carry pyar, Tet sphal		74.31	75.31	1.00	11207	.518	127.95		
75.31-76.75: q.v., 15°, 1.5cm pyrar, tet, sphal		75.31	76.75	1.44	11208	.012	3.72		
76.75-78.75: 6 widely scattered q.v. >2cm <4cm all 60°, barren Tr sph		76.75	78.75	2.00	11209	.011	1.29		
78.75-81.00: Only 1 v thin q.v. 3mm with trace pyrar, sphal gal		78.75	81.00	2.25	11210	.006	1.11		
81.00-83.21: Several qtz sweats, only trace gal in 6cm irreg qtz vein		81.00	83.21	2.21	11211	.003	0.57		
83.21-84.92: several qtz veins ~50° barren		83.21	84.92	1.71	11212	.026	1.23		
84.92-86.35: q.v. increase substancially but only trace tet.		84.92	86.35	1.43	11213	.029	1.98		
86.35-88.16: good qtz vn. + sil. diss sphal tet gal ~ 1%		86.35	88.16	1.81	11214	.072	6.75		
88.16-89.38: V. well mineralized qtz flooding * Tet sphal Arg, gal Many grains electrum from 88.24-88.67 + 89.21		88.16	89.38	1.22	11215	1.576	134.25		
88.38-90.35: good q.v. only trace Tet.		89.38	90.35	0.97	11216	.024	2.25		

N2/E2

 PROJECT: 2153 HOLE NO. 104

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
	Good stab 60% qtz			ARKOSE continued							
				Very well qtz veined + reasonably well mineralized							
				93.53-94.43: q.v. diss coarse py and but sile contact sharp 90°							
95				95.75+: carbonate increases noticeably. coarse granular							
				97.75-106.66: SYENITE							
				Similar to previous syn. section. Rock has brittle appearance, is v.f.g. alt'd do observe relict feldspar grains good stab to 99.50 but beyond q.v. drops off drastically							
100				Rock is somewhat fractured then are healed by cpite. Section is not otherwise mineralized							
105				sharp bottom contact (?) at 25°							
			b/30°	106.66-109.95: Conglomerate. Very well banded unit light gry-green color get gritty coarse with depth.							
				pebbles include milky white sil to 1cm, gry siliceous 1m - 7mm., bluish white sil to 5mm.							
110			b/45°	109.95-112.62: Tuffaceous Sediment.							
				light green color - characterized by tiny white specks .5-1mm on core surface. Rock would appear to contain a sandy component. Uniform - no bedding or foliation. May be arkosic							
				112.62-118.09: ARKOSE							

PAGE 10 OF 12	PROJECT: 2153	HOLE NO. 104

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Ag g/t		
* 90.35 - 90.88 : well sil Tet. 1 speck elec 35.6?		90.35	90.88	0.53	11217	.215	18.06		
90.88 - 92.00 : Ex sil qtz flood Tr. gal sphal		90.88	92.00	1.12	11218	.043	1.59		
92.00 - 93.53 : good sil several veins only spotty sph + gal		92.00	93.53	1.53	11219	.069	15.30		
93.53 - 94.43 : q.v. diss py + [illegible] 5%		93.53	94.43	0.90	11220	.035	2.31		
94.43 - 96.00 : Ex qtz flooding - Poor sulfides, Tr. gal, Tet		94.43	96.00	1.57	11221	.043	0.93		
96.00 - 97.75 : Ex qtz flooding poor sulfides - Tr. Tet, sphal		96.00	97.75	1.75	11222	.040	1.26		
97.75 - 99.50 : qtz flooded bx - v. poor mineralization		97.75	99.50	1.75	11223	.075	1.05		
99.50 - 101.25 : Veining drops off - several specks gal		99.50	101.25	1.75	11224	.070	1.23		
97.75 - 106.66 : Diss + fracture healed py to 15%									
106.66 - 109.95 : Py diss, old veinlet 10%									
109.95 - 112.62 Py diss 10%									

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
	50% qtz			lithology doubtful - very well qtz veined, qtz flooded 50% qtz. Host is pale grey-green. sil. alt.*. lithology vague							
				112.22 - 112.83: badly broken ground							
115	qtz shld and qtz flds			115.25 - 118.20: qtz 75% flooding vs veining. only v.f.g. py							
				118.09 - 120.29: SYENITE. Similar to previous sections, brittle, f.grained a [illegible] feldspars in 'glassy' matrix.							
120				120.29 - 127.41: ARKOSE							
				lithology unknown. Pale green to grey-green. pale diffuse white blotchs to 5mm on core surface silicious. Rock in general is v. hard.							
				upper contact is sharp with 40cm bleached zone.							
				Unit is weakly veined qtz-carb and scattered but rigid, not foliated or banded							
125											
				127.41 END OF HOLE							
130											

PAGE 12 OF 12	PROJECT: 2153	HOLE NO. 104

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/t	ASSAYS Ag oz/t			
112.62 - 118.03: Diss py Tet Sph Py - 15% veined py too.										
112.62 - 114.30: Ex gh floating. Trace tet.		112.62	114.30	1.68	11225	.165	1.83			
114.30 - 115.23: Less veined only py		114.30	115.23	0.93	11226	.017	0.93			
115.23 - 118.20: 75% gh Diss py Minor sphal		115.23	118.20	2.97	11227	.028	1.47			
118.29 - 120.29: Diss py. 10%										
120.29 - 127.41: Diss py 12%.										

N2/E2

E1

ESSO RESOURCES CANADA LIMITED

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DRILL LOG

PROJECT 2153	**GROUND ELEV.** 1378.6 m.
HOLE NO. DDH 105	**BEARING** 230°
LOCATION West Bruce Jack Section 0+68.75S	**DIP** -55
	TOTAL LENGTH 152.40 m (500')
LOGGED BY W. Melnyk	**HORIZONTAL PROJECT**
DATE Aug. 31, 1983	**VERTICAL PROJECT**
CONTRACTOR Ultra Mobile Diamond Drilling	**ALTERATION SCALE** 0 1 2 3 absent slight moderate intense
CORE SIZE BDB	
DATE STARTED Aug. 30. 1983	**TOTAL SULPHIDE SCALE** 0 1 2 3 4 traces only < 1% 1% – 3% 3% – 10% > 10%
DATE COMPLETED Aug 31 1983	
DIP TESTS Acid tests 55 m — tube angle 60° — true angle 52° 104 m — 58° — 51° 152 m — 56° — 50°	
COMMENTS	**LEGEND**

PAGE 1 OF 14 | PROJECT: 2153 | HOLE NO. 105

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				Stickup 0.46m							
				O- 2.50 Casing							
				2.50 - 23.13 Mafic Flows (Andesite)							
				Greenstone. Rich green color. Andesitic volcanics moderately sericitized - is v. soft. relict feldspar grains still visible.							
				Not foliated							
5				several qtz - carbonate veinlets							
				Pyrite is usually dissem							
				Good competent unit							
10											
15											
			F.b. 45°	Vague flow banding 45°.							
20											

PAGE 2 OF 14	PROJECT: 2153									HOLE NO. 105
MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS				
		FROM	TO	WIDTH						
- 23.13 : Diss. Py 8-10%										

H2/E2

PAGE 3 OF 14	PROJECT: 2153	HOLE NO. 105

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
			c/∠85	23.13 - 24.23 : Dike - (Banded Tuff)							
			c/∠40°	Same unit DDH 104. v.f.g. Well banded irregularly							
			b/∠30°	at 40°. Contacts v. sharp. May be tuff.							
25				24.23 - 24.38 : ARGILLITE /black sof banded							
				24.38 - 72.68 : MAFIC FLOWS							
				Same as 25.05 - 56.82 DDH 104.							
				Very dark gray to black, feldspathic							
				white feldspar <1 - 3mm variable							
				Rock is v. soft. - Mod. sericitic							
				locally weakly foliated							
				No qtz veining							
				24.38 - 36.00 : Auto brecciated							
30				lighter colored fragments in slightly							
				darker matrix - blotchy texture							
				Very uniform section.							
35											
40											
				42.95 - 47.40 . Flow breccia -							
				tumbled section. No foreign material							
45											

PAGE 4 OF 14	PROJECT: 2153	HOLE NO. 105

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
24.38 - 72.68 : Diss. grained py to 10%.										

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
				Mafic Flows continued grey - feldspathic, sft - uniform							
50			CA 30°	50.50: Slow banding 30° 51.00 - 72.00: Coarse grained porphyritic flows Relict feldspar grains to 4mm							
55											
60											
65											

PAGE 6 OF 14	PROJECT: 2135	HOLE NO. 105

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES			SAMPLE NUMBER	ASSAYS				
		FROM	TO	WIDTH						

N2/E2

PAGE 7 OF 14	PROJECT: 2135	HOLE NO. 105

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
70											
				72.24- 72.68: Much finer grained brecciated							
			0/45°	72.68- 75.90: TUFF. Irregularly banded fine-med grained tinge of maroon. No qtz veining.							
			45° clay gouge	75.60- 75.90: Two 10cm clay seams parallel with banding.							
75				75.90- 78.11: CONGLOMERATE. V. distinct - contains cobbles of pyrite to 7cm rounded. Contains chaotic jumble of tuffaceous bleached white fragments to 3cm. Banding-bedding at 30°							
			b/30°								
				78.11- 79.94: TUFF. gray - finely laminated feldspathic tuff. Uniform over entire section. Bedding 35-45°. No veining							
			b/40°								
80				79.94- 84.17: TUFF (Maroon). V. distinct Maroon tuff well bedded pyritic variably banded. Same unit as in DDH 101, 102, 103, 104.							
				82.80- 84.17: Well stratified. Many irregular ptygmatic qtz. veins or qtz sweats.							
	Weak - Moderate Shale	(		84.17- 93.73: Conglomerate. Irregularly banded, containing pebbles and erratic blocks, shades of green, gray with agming texture. Rock has a very disturbed appearance, tumbled.							
85		(									
		(									
		(									
		(	b/30°	88.00- 91.00: Section is well banded (bedded) and clearly contains subangular to rounded foreign matter. Most pieces angular - green matrix, pyritic (Tuff bx?) Unit gets siliceous near bottom							
90		(									

PAGE 8 OF 14	PROJECT: 2153	HOLE NO. 105

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS				
72.68 - 75.90 : 10 - 12% diss py										
75.90 - 78.11 : 30% py - cubbles + irregular veins										
78.11 - 79.94 : Diss py thin wisps 12%										
79.94 - 84.17 : Diss py 12%.										
84.17 - 93.73 : 15% diss py + variable irregular blebbs.										
85.34 : Trace of gal odd speck of tet.										

N2/E2

PAGE 9 OF 14	PROJECT: 2153	HOLE NO. 105

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
			60/45	Conglomerate continued							
				93.73 - 95.12 : ARENITE							
				light grey granular, uniform - no visible bedding. locally tiny pebbles (foreign) are evident < 2mm waxy green. No qtz veining.							
95			94.84	95.12 - 100.14 : Conglomerate (?) bx (?)							
				Section is shot with qtz both regular veining and irregular blotches. This section is relatively least mineralized							
				95.12 - 95.30 : silicified + grained Aq.							
				95.30 - 97.14 : blocky granite							
				97.14 - 99.16 : f.g. syenite - could be a block, doubtful it's dike. v.f.g. slight orange tinge, f feldspar noticeable							
100				100.14 - 101.16 : Argillite.							
				Black, silicified crackled + shot with qtz veinlets.							
	Good shot 40% qtz			101.16 - 109.30 : CONGLOMERATE / bx.							
				Chaotic jumble of polylithic units. Each cobble + fragment are separated by pyritic matrices. the whole unit has been silicified. lithic fragments include pieces referred to in the past as arkose, arenite and syenite (f.g.). Also several siliceous pebbles. The conglomerate may have been brecciated.							
105				Moderate to good shot extends to 107.38.							
			107.38	107.38 - 109.30 : shot drops off considerably.							
				109.30 - 129.68 : ARKOSE							
110				Grey medium grained clastic. No evidence of bedding section locally is broken and may be brecciated in short sections.							
				111.00 - 111.60 : qtz vnd sect broken							
				weak qtz veining through section.							

 PROJECT: 2153 HOLE NO. 105

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/t	ASSAYS Ag oz/t			
90.30 - 91.50: q.v. at 91.00, 45°, 15cm diss [illegible]		90.30	91.50	1.20	11228	.143	6.30			
91.50 - 93.73: q.v. at 92.10		91.50	93.73	2.23	11229	.014	1.32			
93.73 - 95.12: No q.v. py 10% diss.		93.73	95.12	1.39	11230	.011	0.57			
95.12 - 96.65: [illegible] q.v. [illegible] Tet, gal, sphal [illegible] at 95.86		95.12	96.65	1.53	11231	.299	16.98			
96.56 - 97.50: Minor qtz veining Tr gal		96.56	97.50	0.94	11232	.013	1.50			
97.50 - 98.30: 1 q.v. 37cm plus qtz sweat. Tet, sph, gal, 5%, at ~ 50°.		97.50	98.30	0.80	11233	.043	11.67			
98.30 - 100.14 good qtz veining only trace sph + f.g. py		98.30	100.14	1.84	11234	.010	1.17			
100.14 - 101.16: good qtz stock - all barren Py 12%		100.14	101.16	1.02	11235	.012	1.98			
101.16 - 103.85: good qtz flooding - barren. Py diss + clots - 15-20%		101.16	103.85	2.69	11236	.008	0.93			
103.85 - 105.50: good qtz flooding - barren Much pyrite - large clots in matrix >20%		103.85	105.50	1.65	11237	.008	1.68			
105.50 - 107.38: good qtz flooding - only v.f.g. py in qtz. Py ~ 20%		105.50	107.38	1.88	11238	.005	0.33			
109.30 - 129.68: Diss + clusters py 15%										

N2/E2

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DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				114.04 - 115.88: possibly brecciated section. Erratic qtz-carb veining weakly mineralized.							
115				114.92 - 115.89: qtz-carb weak sulfides.							
				Core surface has a light grey color with a speckled dark texture due to small 2mm clusters of pyrite							
120				121.99 - 122.24: Three short sections 11, 5.0, 2.8 cm of orange-brown lg syenite probably blocks							
125				125.80 - 129.68: Moderate qtz shots. Very weakly mineralized. Rock has a blotchy surface - qtz-carb matrix. Carbonate has orange color.							
				125.80							
				Mod qtz shots							
130				129.68 - 140.73: Breccia chaotic broken, brecciated unit. Many pieces of syenite interspersed with Arkosic - Arenite material. Unit has some silt + intensely pyritized. Several thin .8cm qtz veins parallel w. c.a.							
				130.62							
135											

PAGE 12 OF 14	PROJECT: 2153	HOLE NO. 105

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au oz/t	ASSAYS Ag oz/t			
114.80 - 115.75 : qtz. carb veining with scattered grains of py, cpy, tet, sphal.		114.80	115.75	0.95	11239	.486	14.34			
125.80 - 128.00 : Weak - Mod. qtz - carb veining Tr. Tet.		125.80	128.00	2.20	11240	.037	1.14			
128.00 - 130.62 : Mod qtz - carb stwk boxwk		128.00	130.62	2.62	11241	.005	0.54			

N2/E2

PROJECT: 2153

HOLE NO. 105

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				SYENITE - Arkosic Breccia continued.							
				Blocks of syenite may be to 30 cm.							
140											
				140.73 - 144.76 : Quartz vein. Milky white qtz, slight pinkish orange tinge with vague diffuse syenite fragments. 80% qtz contact irregular. V. weakly mineralized							
	qtz vn.			144.76 - 151.02 : CONGLOMERATE. 144.76 : 1cm clay seam 45°. Typical conglomerate (gravel) larger pebbles intercalated with finer clastic debris							
145			30° 60°								
				constituents: tan pebbles v. ellipsoid .5-3cm cherty beige pebbles to 1cm. Dark green ellipsoid .2 - 1cm. qtz pebbles + fragment to 2cm. Top & bottom meter are considerably more pebbly.							
150											
				contact broken but sharp.							
				151.02 - 152.40 : SYENITE. V. coarse grained euhedral to subhedral feldspar crystals to 1cm. 40% white feldspar in black matrix.							
				152.40 END OF HOLE							
155											

PAGE 14 OF 14	PROJECT: 2153	HOLE NO. 105

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS Au g/t	ASSAYS Ag g/t			
140.73 - 143.26 : qtz - Trace Sulf <1%		140.73	143.26	2.53	112.42	.093	0.63			
143.26 - 144.76 : qtz - Tr. Sulf, sphal 1%.		143.26	144.76	1.50	11243	.039	6.35			
144.76 - 151.02 : Diss py 7%.										
151.02 - 152.40 : Diss py 7%.										

N2/E2