SCANNED IMAGE

J. TUACH GEOLOGICAL CONSULTANTS, INC.
DIAMOND DRILL CORE LOG

LATITUDE L131E
DEPARTURE 69+75N
ELEVATION
DIP AT COLLAR -90°
BEARING
TOTAL DEPTH 177.4 CORE SIZE BQ
REMARKS Stopped hole early; rods jammed

Tests Depth	Dip	Magnetic Bearing	Corrected Bearing

Project No. _____ Hole No. BE-96-11
Property Buchans East
NTS 12A/15 Grid Name _____
Date started Feb 6/96 Completed Feb 9/96
Contractor IDEAL DRILLING (NFLD.) LTD
Logged by Phillip Saunders

Depth & Lithology	Description	Alteration	Mineralization
0 - 22.9	OVERBURDEN		
22.9 - 29.6	FELSIC VOLCANICS - light to medium grey 22.9-29.6 mainly semi-consolidated gouge & rubble, little solid core - gouge is clay-rich, small siliceous fragments, some visible pyrite - from 22.9, several small pieces of solid core consist of fragmental rock w/ 2-5mm angular, embayed fragments of soft, bluish-white (clay-rich?) mineral enclosed in grey, soft, pyritic matrix. Pyrite mainly very fine grained, locally up to 20% of rock. Possible hydrothermal breccia - 26m siliceous fragmental rock. Fragmental character more pronounced but fine grained pyritic alt'n persists ~26m weak foliation ~30° TCA - below 29m, granular siliceous rock, some possible fragments but mainly obscured by alt'n - local soft, bluish-grey mineral	22.9-29.6 - clay-rich altered fragments in breccia - sericitic, probably silicified - greyish, soft, pyrite-rich matrix in felsic fragmental rock - generally clay-rich, locally sericitic - below 29m, some carbonate veining	- overall ~5% finely disseminated pyrite, locally to 20% mainly in breccia matrix - trace chalcopyrite? - at top of hole, one 2cm of ground core w/ 25% coarse, nodular pyrite & minor sphalerite in calcite matrix. Uncharacteristic
29.6 - 45.5	INTERMEDIATE TO MAFIC VOLCANICS - medium greenish-grey to dark grey, soft 29.6-35.7 rubbly core & gouge. Little solid core 35.7-41.8 - fairly solid core but mainly healed gouge - mixture of fine grained sericite & chlorite - looks intermediate, some ovoid, calcite-filled amygdules? - sections of semi-consolidated gouge, esp. 38.0-38.7, 41.5-41.8	- strongly sericitic and/or chloritic - carbonate streaks & veinlets	~1-2% pyrite overall, mainly finely disseminated or in small patches

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29.6 - 45.5 (Cont'd)	41.8-45.5 - medium-dark greenish-grey - solid core, narrow gouge seams @42.7, 43.4 - below 42, becomes moderately to strongly foliated, variable core angle, 80° @42.0, 60° @43.7, 30° @45.0; locally kinked - lenses, streaks & veinlets of calcite, mainly flattened amygdules? - below 43m, generally darker, more mafic, intermittent chlorite-rich intervals - lower contact faulted		
45.5 - 105.8	<u>CRYSTAL TUFF(?) SULFIDE HORIZON</u> - dark brownish-grey, colour imparted by groundmass pyrite - coarse porphyritic texture - feldspar +/- qtz grains (fragments) in a strongly pyritic groundmass - abrupt upper contact, some gouge - probable fault - very soft rock; concentration of soft, blue-white, translucent mineral		
	45.5-49.3 gouge & gouged core, porphyritic texture locally visible - heavily gouged sections at 45.5-45.8, 46.1-46.6, 47.8-48.6, 49.2-49.3 - very soft rock; concentration of a soft, bluish-white translucent mineral		45.3-49.3 1-3% fine disseminated pyrite
	49.4-50.2 - dark grey, strongly pyritized siliceous rock - appears to be an original felsic rock, now heavily altered & pyritized - weakly foliated at 50-60° TCA	49.4-51.5 - silicified, pyritized	49.5-50.2 5-10% pyrite, mainly very finely disseminated
	50.2- 51.5 - siliceous zone. Pale grey, fine grained, hard, siliceous rock - cut by narrow zones of pyritic fragmental rock - may be hydrothermal breccia - fragments have small, glassy qtz grains - shards(?)	51 - local pink, altered volcanic(?) fragments - rare bright green fuchsite groundmass heavily pyritized, silicified(?)	50.2-51.5 1-2% pyrite in fragments & matrix
	51.5-105.8 - qtz-feldspar-crystal tuff(?) - mainly white feldspar +/- qtz phenocrysts(?) hydrothermal(?) In a strongly pyritic groundmass (possibly bedded?) - feldspars pink or white, 2-6mm commonly altered, locally twinned, subhedral - smaller, rounded qtz grains - groundmass consists mainly of very fine grained pyrite & sericite/silica - replacement of tuffaceous matrix? - matrix pyrite content is somewhat variable but generally diminishes w/ depth; starting at about 75m - local massive pyrite stringers - locally abundant blebs, grains (fragments?) of soft, blue-grey, translucent mineral (clay alt'n? chlorite?) 54.5 - 1cm pyrite band, irregular - could be disrupted layer - generally good core recovery, widely spaced fractures @60-80° TCA	60 - feldspar grains locally greenish, altered (sericite or pyrophyllite?) - minor calcite veins & pods, locally w/ minor Zn-Cu - occasional qtz-chlorite veinlets	51.5 - mainly >10% py, locally >50% - 2 generations of py - mainly very fine grained, heavily disseminated to semi-massive, matrix to qtz-feldspar grains - less abundant med-coarse grained, patchy, often euhedral, some stringers - trace disseminated & veinlet chalcopyrite (eg. 51.6m) - local patchy white calcite +/-qtz w/ sphalerite, chalcopyrite (eg. 52.5, 98.0m) - local stringer & disseminated chalcopyrite

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45.5 - 105.8 (Cont'd)	80-105.8 - sections w/ less "matrix pyrite" have gritty, tuffaceous appearance 86.4-87.7 narrow gouge seams @70°, 45° TCA 103.5-105.8 - intermittent narrow gouge seams	80-105.8 - occasional bright apple green altered, zoned feldspars (eg. 81m) - poorly defined zones of silicification - matrix obscured, grain boundaries blurred & embayed (eg. 97-101m)	87.0-87.7 irregular zones of coarse grained, semi massive py w/ milky qtz layers? **NOTE:** base metal sulfides (stringers, disseminated & calcite-hosted) all are later than fine grained pyrite - calcite-filled vugs lined w/ coarse grained "late" pyrite +/- trace cp
105.8 - 177.4	FELSIC FLOWS AND TUFFS 105.8-114 - mainly light grey, siliceous, fairly hard - small, soft, translucent shards in glassy, hard, rhyolitic groundmass, possible ash flow. Possible flow-breccia texture - occasional tiny, pink, altered feldspar phenocrysts - occasional suggestion of pyroclastic texture - larger fragments in tuffaceous groundmass 105.8-116.5 - intermittent gouge, rubble in zones from 1-50cm wide. Breccia fragments & fault-rounded pebbles in clay-rich, semi-consolidated matrix. Larger zones - 106.9-107.6, 109.6-110.2, 112-113, & 116.2-116.7, 124.1-125.4. Many smaller zones 2-10cm - below 116.5, occasional gouge & fault breccia zones 114.2-115.8 - generally darker colour. Medium-dark grey - pyroclastic textures. Locally crowded w/ small, flattened shards - looks pumiceous. Occasional rhyolitic fragments in tuffaceous groundmass - shard 70° TCA @114.3 115.8-117.5 - light grey, more homogenous, rhyolitic rock - small glassy shards - small qtz eyes 117.5-120 - coarse fragmental appearance - agglomerate or flow breccia 121-124 - medium-dark grey, uniform rhyolite - ash flow? - small qtz eyes, angular, glassy shards - soft (sericite?) 123.1 - 2 cm wide hydrothermal breccia zone. Angular fragments of altered, pyritic rhyolite in glassy groundmass. Sharp boundaries	105.8-129.0 - probably strongly altered - alt'n 'fronts' w/ irregular, embayed boundary, faint buff to pink colour - occasional fractures lined w/ very fine silica - pockets of brownish-grey, soft, sericite? material - buff-coloured alt'n, silicified - locall zones of light orange potassic alt'n, possible association w/ fine disseminated sphalerite (eg. 121.8-122.4) - local wispy sericite layers	65-100 trace to 1% Cu-Zn, mainly in qtz or calcite veins & pods. Definitely later than fine grained "matrix pyrite" 85.9-86.4 heavy qtz-carbonate veining, breccia w/ lithic fragments & sulfides. >5% chalcopyrite & sphalerite from 86.1-86.3 105.8-114.2 ~5% disseminated & stringer py. Trace cp on fractures & disseminated, esp. near gouge zones? 106.1- 10cm zone of patchy & stringer cp, 2-3% overall. Near gouge zone - traces of sphalerite (+/-galena?), mainly isolated patches, very finely disseminated on fractures or in qtz stringers (eg. 115.5-116.8) - minor orange-red sphalerite - pyrite locally recrystallized to coarse nodular masses 114.2-125 - 2-5% disseminated & stringer py - trace-1%, mainly finely disseminated sp, cp +/-gn

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Depth & Lithology	Description	Alteration	Mineralization
105.8 - 177.4 (Cont'd)	124.1-125.4 - intermittent zones of gouge, healed breccia		124.1-125 traces sphalerite in fault zone. Minor orange sp(?) on fractures
	125.4-129.0 - porphyritic rhyolite - 2-4mm pink feldspar & qtz phenocrysts - 1-2% disseminated py - 15cm gouge, breccia @129m	- weak potassic alt'n - texture locally masked in zones of moderate silicification	
	129 -136.5 - rhyolite ash flow? - medium grey, fine grained to glassy - small rounded qtz grains & small angular shards - flattened shards 50° TCA @132m - uniform, glassy, siliceous groundmass	129 -136.5 - qtz grains, shards visible. Massive py stringers (eg. 130.8) cut by silica veinlets - may be late, pervasive silicification - local shadowy or mottled appearance suggests alt'n fronts	129 -130.8 - 5% disseminated py - trace sphalerite 130.8 -136.5 - occasional, irregular stringers of medium-coarse pyrite to 1cm thick. Overall, about 5% py - trace cp in fault breccia @133.7
	130.1-130.4 coarse, gritty, tuffaceous(?) horizon. Contacts ~70° TCA - local fragmental textures appear to be flow-related rather than pyroclastic		
	133.2 - 5cm clast(?) of massive, fine grained pyrite - sharp, angular boundaries	- shadowy colour variations suggest alteration - fractures lined w/ very fine silica	
	133.3-133.7 - fault gouge, breccia. Coarse pyrite stringers, trace cp, sp	- locally sericitic - pyrite stringers	134.0-134.3 massive pyrite stringers to 5cm thick. Coarse, recrystallized, fractured. Near fault
	134.3 - 10cm fault gouge, breccia	- local clay (kaolinite) alt'n	
	136.5-145.1 - becomes pale grey to buff, probably more altered - qtz grains & shards less distinct, obscured by alt'n - abundant pyrite stringers w/ trace sp. Stockwork	136.5 - - pale green to buff coloured. Appears strongly altered. Pyrite stringer (stockwork) zone	136.5 - - trace sphalerite in massive pyrite stringers & rare specks (eg. 145m) & on fractures
	142.4 - narrow zone of dark grey, fine grained, soft (chloritic?) alt'n. 10° TCA		
	145-157 - colour change to medium grey from buff colour - massive, siliceous, felsic tuff or flow - qtz phenocrysts persist but shards are absent	144-145 - moderate to strong potassic alt'n associated w/ pyritic stringers. Minor sphalerite - local pockets or bands of greenish-grey, soft, pyritic material - sericitic	145 - - pyrite stringers persist, 5% stringer & disseminated py
	148.9 - crystals of an orange, vitreous, soft mineral on fracture & in cavities (sphalerite?) - some sections have tuffaceous appearance		152.8-157 - trace to locally 1% sphalerite mainly finely disseminated, in pyrite stringers, in narrow qtz veins & on fractures - occasional zones w/ very fine disseminated pyrite in groundmass
	- @152m, a 3cm layer(?) zone(?) of fine grained pyrite, sericite & silica(?) @50° TCA. Sharp boundaries. Possible sulfide mud or ash layer		

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105.8 - 177.4 (Cont'd)	154.7 - narrow zone of coarse hydrothermal(?) breccia		
	157.5 - 2cm layer (?) of fine grained massive pyrite 70° TCA	157.5 - - local development of small chlorite specks - variable, moderate to strong silicification, sericitization, mainly along fractures - local chlorite and/or clay alt'n on fractures	
	157 - - pale green to buff, variable colours, mottled - probably strongly altered throughout		157 - ~5% stringer & disseminated pyrite
	164.5-167.3 - light grey to white, very siliceous, bleached, probably strongly altered - possible hydrothermal breccia - relatively little pyrite		167 - ~5% pyrite, mainly as stockwork-style stringers & disseminated. Trace chalcopyrite & sphalerite in some stringers (eg. 168.3) or on fractures (eg. 170.5). Local honey-orange sp(?) on fractures
	167.3 - - colour change to medium grey - sharp (contact?) @50° TCA. Pyrite stringers in lower unit are truncated - coarse fragmental aspect. Pyrite stringers in matrix surrounding fragments	170 - - minor chlorite either as small specks or in pyrite stringers	- minor cp, sp in fault gouge @173.8
		171.1 - - 5cm chlorite-rich zone w/ 20% disseminated pyrite, trace cp	
	173.5 - 174.3 - fault gouge		
	177.4 - hole stopped due to caving, rods jammed. Eight rods left in hole		
177.4 E.O.H.			

HOLE NO. BE-96-11

SCANNED IMAGE

J. TUACH GEOLOGICAL CONSULTANTS, INC.
DIAMOND DRILL CORE ASSAYS

SHEET NO. _____ PROJECT NO. _____

HOLE NO. BE-96-11 PROPERTY Buchans East

Sample No.	From (metres)	To (metres)	Length (metres)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)			
	22.9	29.6	6.7 *	Alt'd felsic volc. Breccia. ~5% py, trace cp * (Mainly gouge, sampled solid core only)	90	50	1037	3.8	101			
	49.6	51.5	2.1	Silicified pyritic zone. ~5% banded & dissem py	297	56	104	0.9	14			
	51.5	54.5	3.0	Pyritic tuff(?) >10% fine py. Traces Cu, Zn, Pb	612	130	181	2.0	51			
	54.5	57.5	3.0	" " " "	181	118	68	1.7	47			
	57.5	60.5	3.0	" " " "	340	182	231	1.4	27			
	60.5	63.5	3.0	" " " "	52	55	110	0.8	21			
	63.5	66.5	3.0	" " " "	68	78	143	0.4	5			
	66.5	69.5	3.0	" " " "	485	105	367	0.6	5			
	69.5	72.5	3.0	" " " "	121	161	387	0.5	5			
	72.5	75.5	3.0	" " " "	163	66	115	0.4	5			
	75.5	78.5	3.0	" " " "	515	77	397	0.4	5			
	78.5	81.5	3.0	" " " "	661	86	379	0.5	5			
	81.5	84.7	3.2	" " " "	114	17	127	1.4	35			
	84.7	87.9	3.2	" " " "	1655	118	0.53%	3.9	82			
11A	84.7	85.9	1.2	Pyritic tuff. >10% fine py. Trace Cu-Zn	231	17	58	0.9	32			
11A	85.9	86.4	0.5	Qtz-carbonate veins, breccia >5% sp, cp	5541	235	3.90%	6.9	106			
11A	86.4	87.9	1.5	Pyritic tuff. >10% py. Trace Cu, Zn	80	162	921	3.6	56			

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DIAMOND DRILL CORE ASSAYS

Sample No.	From (metres)	To (metres)	Length (metres)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)			
	87.9	91.1	3.2	Pyritic tuff(?) >10% fine py. Traces Cu, Zn	18	42	146	1.6	37			
	91.1	94.3	3.2	" " " "	124	34	207	2.4	60			
	94.3	97.4	3.1	Pyritic tuff(?) >10% fine py, tr Cu-Zn	196	101	379	1.2	5			
	97.4	98.4	1.0	" " trace-1% cp, sp	3107	70	0.27%	4.4	56			
	98.4	102.2	3.8	Pyritic tuff (?) >10% fine py, trace Cu-Zn	409	32	816	9.6	182			
	105.9	108.1	2.2	Rhyolite w/breccia, gouge. 5% py. Trace cp (2% over 10cm)	1832	66	37	4.1	117			
	108.1	110.4	2.3	" " 2% py	463	32	14	0.9	19			
	110.4	113.9	3.5	" " " Trace cp, sp	777	116	726	1.8	33			
	113.9	115.8	1.9	" " " Trace cp, sp	4040	48	879	0.8	31			
	115.8	117.6	1.8	" " 5% py Trace-1% sp, cp	436	41	0.79%	1.3	44			
	137.7	140.7	3.0	Altered rhyolite. Pyrite stringers. Trace sp	5	60	73	1.0	5			
	143.1	145.1	2.0	" " Pyrite stockwork. Trace sp	9	88	161	0.4	5			
	152.7	153.7	1.0	" " " "	36	147	587	0.2	5			
	153.7	156.1	2.4	" " " Minor sp, cp	193	28	0.40%	0.2	5			
	156.1	157.1	1.0	" " " Trace sp	56	53	1146	0.2	5			
	172.4	175.4	3.0		257	73	119	0.2	5			

HOLE NO. BE-96-11