

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

LATITUDE <u>L 171 + 00 E</u>	Tests	Dip	Magnetic	Corrected	Project No. _____	Hole No. <u>BE-96-08</u>
DEPARTURE <u>94 + 25 N</u>	Depth		Bearing	Bearing	Property <u>Buchans East</u>	
ELEVATION _____	_____	_____	_____	_____	NTS <u>12A/15</u>	Grid Name _____
DIP AT COLLAR <u>- 60°</u>	_____	_____	_____	_____	Date started <u>Jan 8/96</u>	Completed <u>Jan 21/96</u>
BEARING <u>180°</u>	_____	_____	_____	_____	Contractor <u>IDEAL DRILLING (NFLD) LTD.</u>	
TOTAL DEPTH <u>372.1</u> CORE SIZE <u>BO</u>	_____	_____	_____	_____	Logged by <u>Phillip Saunders</u>	
REMARKS _____	_____	_____	_____	_____		

Depth & Lithology	Description	Alteration	Mineralization
0 - 4.3	OVERBURDEN		
4.3 - 243.0	FELSIC VOLCANICS 4.3-12.1 - dark green-grey, fine grained, fairly hard 5.6 - narrow bleached band 80° TCA - lower part of unit silicified & brecciated - lower contact obscured by alt'n but appears gradational 12.1-32.0 - light grey to creamy white - coarse, blocky appearance in upper section suggests coarse pyroclastic or flow breccia - below 16.0 becomes strongly altered & pyritic - faint to locally well developed banding may be relict bedding 70° TCA @18.0, 60° @21.5, 60° @25.65° @30.5 - a few small altered feldspar grains, otherwise textures masked by alt'n - weak foliation imparted by sericite, parallel to banding 21.7 - 10cm gouge 32.0-73.5 - darker, more chloritic, possibly intermediate volcanics - overall composition probably dacitic to andesitic	6.3 - moderate to strong alteration. Irregular cross-cutting siliceous zones, alt'n along hairline fractures - breccia zones with glassy fragments & siliceous matrix (eg. 8.3-8.6, 10.3-11.1) 10.6-11.4 - some pinkish altered fragments in siliceous breccia - occasional fractures lined with silica 16.0-32.0 - light grey to creamy white pervasive silica-sericite alt'n - qtz-pyrite stockwork, network of fractures lined with qtz & pyrite mainly sub-parallel to banding but some crosscutting - chlorite on some fractures 32.0-73.5 - color darkens to medium grey, less altered than above but locally strong silicification & pyrite continue - more chloritic - minor carbonate veining	4.3-8.5 - Trace-3% pyrite, disseminated & stringers or patches 10.6-11.4 1-3% pyrite stringers & fracture fillings. Trace cp? 16.0-32.0 - overall 3-5% disseminated patchy & banded pyrite, locally 10-20% over 1-2m, eg. 29.8-32.3 - pyrite in semi-massive bands & irregular patches to 2cm thick with fine silica, eg. 19.7, 32.0, 37.3 - minor cp on siliceous fracture @36.3 32.0-73.5 - 1-3% blebs, stringers >dissem py. Locally accompanied by chlorite rather than qtz - occasional stockwork-like stringers 2-5cm wide - trace chalcopyrite?

Depth & Lithology	Description	Alteration	Mineralization
	73.5-78.4 - zone of intermittent fracturing, brecciation, locally strong silicification & chlorite alt'n - breccia zones sub-parallel TCA 78.4 - 20cm interval of pale greenish-grey, fine grained rock with abundant, small, dark green needles (shards?) - tuffisite(?) or volcanic ash 82.3-83.8 - pale grey, fine grained rock w/ small glassy needles as for 78.4. Sharp contacts w/ host rock. Probably intrusive (tuffisite) 90-100 - fractures mainly 70-90° TCA, some at 45° 90.5-91.5 - coarse blocky appearance similar to "dacite breccia" outcrops. Flow breccia? - altered fragments, or fragments w/ altered rims 102.3-105.8 - porphyritic diabase sill or basalt - dark grey, fine grained, hard - small (1-2mm) rounded plag phenocrysts - abundant, dark green needles (hornblende?) in groundmass - chilled margins - upper 50° TCA, lower 10° 100- - below 100m, color becomes darker & rock is more chloritic. Gradual transition from felsic (dacitic) to intermediate (andesitic) composition - occasional small, black, chloritic fragments throughout - most fractures 70-90° TCA or 45° 156.6-158.0 - silicified, brecciated, some gouge, 2-5% pyrite. Breccia zones @ shallow angles TCA 162.9-165.4 - sheared fragmental rock. Angular to subrounded siliceous fragments in a granular, felsic matrix. Gouged	73.5-78.5 - locally strong silicification, chlorite in fracture/breccia zones 83.8-84.5 - zone of brecciation, silicification, qtz veining w/ pyrite similar to 73.5-78.5 - may be associated w/ tuffisite 97.9 - local strong silica-potassic alt'n w/ qtz-py stockwork 102.3-105.8 - minor alt'n along fractures 98.0- - moderate chlorite alt'n mainly along fractures w/ py stringers - small zones of silica, potassic alt'n in fractured rock - pyrite-chlorite spots 100- - moderate chlorite, silica alt'n - very uniform texture, color except for shades of green caused by variation in chlorite - occasional hairline fractures lined w/ silica - in some sections, texture is not apparent & rock may be pervasively altered 112.1 - local, strong, silica-potassic alt'n & qtz-pyrite stockwork 156.6-159.2 - silicified breccia zones & gouge. Local potassic alt'n	73.5-78.5 - 1-3% disseminated & stringer py, trace cp? 82.3-83.8 - no significant sulfides in tuffisite 83.8-84.5 - 1-2% stringer py w/ qtz veins 88.7 - 3-4cm thick lens of massive py - about 5% stringer & patchy py over about 1m at this interval - trace cp? 90-94.7 - local py stringers to 1cm thick 98.0- - about 2-3% pyrite in chlorite stringers & disseminated in chlorite patches 108.8-110.7 - ~5% py stringers & patches w/ chlorite 110-140 - 1-3% py as stringers, semi-massive layers to 2cm thick & disseminated in clots, commonly associated w/ chlorite - trace chalcopyrite locally esp. 118-121 128-132, 133-138 (<0.5%) - mainly in isolated grains or on fractures w/ black chlorite

Depth & Lithology	Description	Alteration	Mineralization
	165.4-167.3 - grey-green chloritic dacite as before 167.3-168.8, 172.8-173.4 - siliceous fragmental 192.8-194.7 - beige, brown & greenish, colorful rock, hard - massive porphyritic to well-layered - pinkish feldspar(?) crystals w/ concentric alt'n zones, chlorite surrounded by orange colored alt'n. - fine grained, pale green (sericitic?) groundmass - locally well layered on cm scale. Some crystals embedded in glassy "ceramic looking" pink & green groundmass - possibly ash flow tuff or ignimbrite - layering - 60° @ 167.8, 80° @ 194.2 & 70° @ 194.7. Contacts abrupt but not chilled. Upper - 50° TCA, lower 80° 194.7- - medium-dark, faintly bluish grey - small, flattened, lenticular, chlorite-rich fragments (~70-80° TCA) - very fine grained groundmass, hard, dominantly felsic mineralogy w/ some chlorite. Composition probably dacitic to andesitic 202.5 - 20cm diabase dike, chilled margins @50° TCA 208.5-209.0, 209.9-210.9 - mafic dike. Dark green, fine grained, equigranular to weakly plagioclase - porphyritic - sharp contacts, chilled margins 210.9-214.5 - pale to dark grey brecciated dacite - sub-angular to subrounded dacite fragments, rimmed by qtz, in siliceous groundmass - brecciation, silicification developed within 1m of basic dike contacts (prob. caused by dike intrusion), elsewhere, unit is veined, but not brecciated 215.5-220.1 - black, fine grained, uniform, plagiophytic diabase 220.1-243 - medium greenish-grey, fine grained, broken core, poor recovery 222.8-223 - rubbly core, gouge	172.0-172.9 - appears moderately silicified 179.9 - 10cm brecciated, siliceous zone w/ 5% py - does not appear pervasively altered - occasional hairline fractures w/ very fine grained silica, minor pyrite. Widely spaced calcite veins 210.5-215.9 - silicified, qtz veining 220.1 - not pervasively altered - locally chloritic, esp. on fractures - local patches of yellow-grey silicification (?) Up to 20cm long	140-170 - 1-2% py stringers, bands & disseminated, rare chalcopyrite 170 - occasional grain of chalcopyrite 1-3% py, mainly disseminated, some narrow veinlets, fracture coatings & occasional bands (eg. 191.2 - 5mm layer @90° TCA). Rare chalcopyrite 199-209 - trace chalcopyrite - disseminated grains 210.5-215.9 1-3% py, mainly disseminated in fragments 1-2% py, mainly disseminated & massive stringers to 5mm thick - apparent increase in py (2-5%) below 230m

Depth & Lithology	Description	Alteration	Mineralization
243.0 - 265.0	225.1-225.6 - fragmental zone. Subrounded siliceous fragments to 5cm across - below 240m, gradual increase in chloritic layers, calcite veining, lower contact gradational - tuffaceous intervals FELSIC FLOWS/SEDIMENTS/STOCKWORK - mainly medium greenish-grey, coarse, blocky, fragmental dacite - cut by bands of black chlorite (to 20cm wide) w/ massive pyrite blebs & stringers - possible stockwork alt'n - short intervals w/ rounded, qtz-filled amygdules, local disrupted pyritic jasper lenses, suggest mafic flows - underlain by cherty-looking, layered unit - possible chemical sediments - overall appearance of proximal, vent facies rocks w/ alt'n & pyrite mineralization 250.4-254.5 - pale green, fine grained dacite - chlorite blebs (fragments?) & chlorite stringer zones, but not pervasive 259.1-261.3 - dacite, as above - layering 65°/@264.9	243-265 - possible stockwork alt'n - black chlorite w/ 5-10% py in layers up to 20cm thick, mainly 5-10cm. Chlorite layers crosscut or enclose dacite bands (fragments?), and may be stockwork-style alt'n	5-10% coarse grained py occurs as disseminations, blebs, semi-massive bands & lenses up to 2cm thick, in both dacite & chlorite layers - one nearly massive (>70%) py layer 14cm thick at 261.7. coarse grained mixture of py & qtz w/ one 3cm jasper fragment - qtz intrudes py - semi-massive pyritic zones to 4cm thick @262.0, 263.4, 263.9 264.2 - Many smaller lenses - Mainly 60-70° TCA - 15cm .one of dacite w/ jasper & massive py lenses
265.0 - 358.7	FELSIC VOLCANICS - medium grey, fine grained, hard - equigranular felsic rock, few primary features - locally abundant, small, glassy shards - flattened fragments 65° TCA @273 273.8-358.7 (Qtz porphyry) - pale orange-grey, to mottled dark grey in upper (less altered?) section - characteristic milky white qtz phenocrysts in a glassy groundmass - rock is extensively fractured, locally brecciated & pervasively altered	265-267.9 - yellow-beige & pink, pervasive siliceous alt'n - qtz vein network w/ py - py-chlorite stringers 267.9-273.7 - appears less altered 273.7-277.4 - patches of mottled yellow-grey alt'n, or altered fragments in dacite 277.4 - local orange "silica-potassic" alt'n - qtz-pyrite +/-calcite veinlets - chlorite-pyrite-qtz patches & stringers - similar to holes 95-3 & BJ-46 - local, pale green, waxy sericite	265-267.9 Trace-1% py, mainly disseminated & w/ chlorite stringers 267.9- - ~5% pyrite as disseminations, coarse blebs, stringers & narrow lenses 268-270 - minor chalcopyrite (0.5%) mainly in qtz veinlets w/ pyrite, or as isolated splashes 277.4-290.8 - ~2-3% pyrite, mainly in qtz stringers & siliceous zones, or disseminated in chlorite patches - wider siliceous pyritic zones at 279.6 (10cm) & 281.9 (5cm)

Depth & Lithology	Description	Alteration	Mineralization
265.0-358.7 (Cont'd)	290.8-295.7 - mainly dark grey, qtz porphyritic rock. Appears less altered than mottled beige rock above & below. Still has silica on fractures & 1-2% py. - narrow zone of siliceous hydrothermal breccia @282.2 - @299m, 30cm rubbly core, gouge 309.5 - fracture zone w/ qtz veins, silica @30° TCA - pyrite chlorite stringers mainly 50-70° TCA 313.7-314.1 - siliceous breccia zone w/ black chlorite-pyrite stringers, 5% pyrite 328.4 - narrow breccia zone @20° TCA. Siliceous fragments surrounded by chlorite, coarse pyrite 332.9-335.6 - medium grey, glassy, non-porphyritic 335.6-343 - light grey, siliceous, glassy, very hard - pale green waxy sericite - after feldspar? 352.9 - somewhat darker grey, non porphyritic - local poorly developed layering defined by qtz-sericite (eg. 55° @354.1) 358.2 - abrupt lower contact against sheared, fine grained, intermediate rocks - shearing @35° TCA. Clay-rich gouge 358.4-358.7 - pale grey, fine grained, intermediate (?) rock - abundant fine needles & small vesicles (?) & cavities; pumice? - sharp, faulted lower contact @40° TCA. Gouge	290.8-295.7 - mainly dark grey, qtz porphyritic. Appears less altered 295.7-315.3 - mainly yellow-orange, mottled appears more strongly altered - occasional chlorite-pyrite stringers to 5cm wide 315.3-332.9 - more uniform medium grey, may be somewhat less altered; chlorite-pyrite stringers persist - occasional wispy sericitic zones 332.9-335.6 - fractured, glassy rock w/ chlorite, pyrite. Appears pervasively altered 335.6-343 - pervasively altered, siliceous - pyrite-chlorite stringers 352.9- - very siliceous, glassy rock. Probably altered but less so than above. - moderate qtz-sericite - lower part of porphyry appears less pervasively altered	290.8-295.7 2-3% pyrite, mainly disseminated & narrow veinlets 295.7-315.3 ~1% pyrite, mainly in black chlorite stringers & disseminated 315.3-332.9 1-2% pyrite, in black chlorite stringers & disseminated 332.9-335.6 2-5% pyrite, mainly disseminated & stringers 335.6-343 2-5% pyrite mainly w/ chlorite stringers 2-5% disseminated & stringer pyrite

Depth & Lithology	Description	Alteration	Mineralization
358.7-372.1	INTERMEDIATE VOLCANICS - mainly dark green to grey, fine grained - massive to weakly foliated, chloritic - mainly featureless, fine tuff or massive flow (?) - foliation (layering) 65° TCA @364m, 62° @366m 368.9-370.4 - zone of intermittent light grey, felsic rock w/ scattered, milky white qtz phenocrysts - possible siliceous alt'n? 370.4-372.1 - dark green, intermediate to felsic volcanic - 2-4mm qtz grains (phenocrysts?) in a chloritic groundmass	- occasional calcite & qtz veins 368.9-370.4 - siliceous alt'n? minor qtz-carbonate veining	358.7-1% stringer & disseminated pyrite 368.9-370.4 1-2% stringer & disseminated pyrite trace-1% pyrite
EOH - 372.1			

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

SHEET NO. 1

PROJECT NO. _____

HOLE NO. BE-96-08PROPERTY Buchans East

Sample No.	From (metres)	To (metres)	Length (metres)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)			
19.4	22.4	3.0	Silicified, sericitized felsic volc. 2-5% stringer dissemin py	18	22	19	0.3	27				
22.4	25.4	3.0	" " " "	8	13	11	0.2	5				
29.8	32.0	2.2	Silicified, sericitized felsic volc. 10% banded & dissemin py	745	24	323	0.5	5				
32.0	35.1	3.1	" " 2-5% " "	103	7	605	0.2	5				
35.1	38.2	3.1	" " 2-5% " "	200	5	108	0.2	5				
63.2	64.9	1.7	Moderately chloritic felsic volc. 2-5% stringer & dissemin py	2	4	55	0.5	5				
73.5	76.5	3.0	Brecciated, silicified felsic volc. 1-3% dissemin & stringer py	9	6	48	0.3	36				
76.5	78.5	2.0	" " " " "	2	18	64	0.3	5				
83.6	84.5	0.9	" " " " "	13	8	45	0.2	5				
88.2	89.2	1.0	Moderately chloritic felsic volc. ~5% patchy & banded py	449	12	176	1.0	5				
118.5	120.5	2.0	" " 5% " " tr cp	63	5	130	0.2	5				
120.5	124.0	3.5	Dacite, tr cp	139	3	329	0.4	5				
124.0	127.9	3.9	" " " " "	114	25	251	0.4	5				
129.9	131.6	1.7	" " " " "	151	2	100	0.2	5				
133.1	136.1	3.0	" " " " "	111	5	124	0.2	5				
136.1	139.1	3.0	" " " " "	171	7	123	0.2	5				
156.6	159.2	2.6	Silicified breccia zones in dacite, 1-2% py	2	6	97	0.4	5				
162.9	165.4	2.5	Sheared fragmental rock. Silicified, 1-3% dissemin py	3	10	63	0.2	5				
210.9	214.5	3.6	Brecciated, silicified dacite, 1-3% py	117	50	115	0.2	5				

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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)			
✓	242.9	245.9	3.0	Mafic volc. Chlorite-pyrite alt'n (jasper) 5% py	53	41	274	0.4	5			
✓	254.9	257.9	3.0	" " "	27	42	175	0.5	5			
✓	261.6	261.8	0.2	Massive py (75%) w/ qtz, jasper	104	640	905	8.6	168			
✓	261.8	264.8	3.0	Mafic volc. Chlorite-py alt'n. Py bands, 5% py	11	149	208	0.9	12			
✓	264.8	265.6	0.8	Siliceous zone, cherty sediments, semi massive py	775	196	0.27%	2.9	30			
✓	265.6	267.8	2.2	Qtz porphyry. Potassic & chl py alt'n	26	37	81	0.3	5			
✓	267.8	269.6	1.8	Dacite, weakly altered(?) ~5% py. To 1% cp	2514	47	206	2.3	15			
✓	269.6	271.7	2.1	Felsic volc. Silicified? 5% py, trace cp	127	13	171	0.2	5			
✓	271.7	273.8	2.1	" " " "	146	20	188	0.4	5			
✓	368.9	370.4	1.5	Felsic tuff. Siliceous alt'n? 1-2% py	24	2	37	0.2	15			

HOLE NO. BE-96-08