

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

Sheet No. 1

GPS CO-ORDINATES <u>16988.17</u> <u>8443.76N</u>	Tests	Dip	Magnetic	Corrected	Project No. _____ Hole No. <u>BE-97-16</u>
GRID CO-ORDINATES <u>L170E</u> <u>8400N</u>	Depth		Bearing	Bearing	Property <u>Buchans River Ltd.</u>
ELEVATION <u>294.36 m</u>	_____	_____	_____	_____	NTS <u>12A/15</u> Grid Name <u>Buchans East</u>
DIP AT COLLAR <u>-90°</u>	_____	_____	_____	_____	Date started <u>21/09/97</u> Completed <u>24/09/97</u>
BEARING _____	_____	_____	_____	_____	Contractor <u>Logan Drilling</u>
TOTAL DEPTH <u>242.0</u> CORE SIZE <u>NQ</u>	_____	_____	_____	_____	
REMARKS _____	_____	_____	_____	_____	Logged by <u>J. Harris</u>

Depth & Lithology	Description	Alteration	Mineralization
0 - 3.0	Overburden		
3.0 - 19.7	Light grey dacite hard massive rock, lightly flecked with chlorite and faint feldspar and tiny quartz phenos hint of layering, locally at 60 - 70° to the core, may be tuff locally	strong quartz - sericite - pyrite alteration, black chlorite on fractures and with pyrite below ≈ 9 m	pyrite 4 - 5% disseminated throughout locally to 20% over short black chloritic zones 11.6 - 11.7 ≈ 4 cm chlorite pyrite "vein"@ ≈ 20° to the core
19.7 - 27.4	Dacitic tuff, grey to grey-green - locally black a variety of sizes of lithic clasts of above dacite in a chloritic and sericitic matrix - some black chloritic and sericitic pumice fragments maybe some cherty sediment clasts - some areas with large clasts and very little matrix massive zones up to a meter, may be large clasts or flows 25.0 - 27.0 - broken rubbly core - fault zone with some calcite cement @ 25.8 - 25.9	strong quartz - sericite - chlorite - pyrite alteration more black chloritic zones than above	8 - 10% pyrite disseminated and as semi-massive zones with black chlorite 23.2 - 23.35 - pyrite, chlorite and barite (or calcite) vein to breccia at ≈ 15° to the core ≈ 3 - 4 cm thick
27.4 - 61.0	Dacite grey to grey-green as for 3.0 - 19.7 flecked with dark green to black chlorite and waxy sericite, locally look like altered shards - appears to be tuffaceous locally, alignment of "shards" at 45 - 50° to the core locally some minor quartz-carbonate veinlets 44.2 - 44.3 - lithic tuff as for 19.7 - 27.4 @ 47.7 - fault gouge 51.2 - 51.3 - fault gouge and breccia 53.2 - 53.9 - lithic tuff as above	strong - quartz - sericite - chloritic - pyrite alteration black chlorite on fractures and locally surrounding pyrite blebs local buff to pinkish bleaching	pyrite 5 - 6% disseminated and associated with black chlorite 29.1 - 30.0 pyrite - chlorite - quartz and barite and/or calcite "vein" sub- parallel to core, at least 5 cm thick locally minor cpy at 29.9 m 56.9 - 59.4 15- 20% very fine disseminated py 59.7 - 60.1 1 cm py, chl "vein" sub- parallel to core

HOLE NO. BE-97-16

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

Sheet No. 2

Depth & Lithology	Description	Alteration	Mineralization
61.0 - 70.3	Dacite tuff? (welded) mottled buff and grey similar to above dacite but larger quartz and feldspar (plag) phenos., quartz phenos often broken, (not prominent) blotchy grey alteration or fragments flattening of shards and fragments at 45 - 50° to the core contact somewhat gradational	moderate to strong quartz - sericite - chlorite alteration maybe less altered than above as plag. crystals are more apparent	3 - 5% pyrite as disseminated blebs often with chlorite and along fractures with chlorite sphalerite with py and chlorite stringers 63.1 - 63.8, also 59.2 - 59.8 with minor cpy
70.3 - 107.0	Dacite mainly grey-green again, local buff to pinkish zones similar to top of hole flecked with chlorite and waxy sericite still appears tuffaceous locally 79.9 - 80.0 - more obviously fragmental local areas with quartz phenos 85 - 85.2 "ductile" shear at 30° to the core 85.6 - 86.3 coarse lithic tuff - some different felsic fragment types, may be different degrees of alteration 95.1 - 95.8 shear zone, sericitic shears and 2 small gouge zones at 70 - 80° to the core 99.8 - 100.3 brown intermediate "dyke" as for dyke in hole 97-15 98.5 - 98.6 small fault breccia @ 101.7 gouge coated fracture 106.4 - 107.0 fairly coarse fragmental gradational contact between alteration types arbitrarily chosen at 107.0	strong quartz - sericite - chlorite pyrite alteration local pink "felsic" alteration, especially 76.0 - 77.0 associated with quartz and quartz-carbonate stockwork veining below 87.0 increase in amount and size of pyrite blebs enclosed in black chlorite still some black chloritic fracture coatings to bands up to .05 m with 20 - 40% pyrite	@71.8 light blue mineral on a fracture azurite? pyrite 5 - 8% finely dissem. as dissem. blebs and with black chlorite as stringers and fracture fill 72.9 - 73.2 sphalerite with black chlorite and pyrite
107.0 - 134.4	Dacite to rhyolite? (white rhyolite) grey to white altered felsic volcanic more silicified version of above 109.5 - 109.6 small fault breccia local fragmental looking zones - most look to be due to alteration 115.5 - 115.6 fault breccia 121.9 - 122.0 and 122.1 - 122.2 pyroclastic breccia/lithic tuff "beds" at ≈ 50 - 55° to the core ≈ 125.0 - elongate blebs - lenses of sericite pyrite @ ≈ 60° to the core	very strong quartz sericite alteration still some chlorite - pyrite blebs, but much less than above becomes more silicified and massive down hole	5 - 8% pyrite as disseminations and small stringers
134.4 - 138.8	Altered felsic volcanic gradational from above - alteration contact light grey to buff likely sheared and faulted equivalent to above occasional preserved quartz phenos fault gouge and breccia @ 135.5 and 137.8 - 138.7 some gouge coated fractures in between	strong pervasive sericite - quartz alteration more sericite and less silica than above occasional short (0.10 m) silicified zones	2 - 3% disseminated py

HOLE NO. BE-97-16

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

Sheet No. 3

Depth & Lithology	Description	Alteration	Mineralization
138.8 - 162.4	Altered felsic volcanic (white rhyolite?) as for 107.0 - 134.4 light to medium grey - fairly massive elongate blebs of sericite "shards?" define a layering at $\approx 60^\circ$ to the core cut by thin carbonate stringers - fracture fill 139.5 - 139.7 - sheared and brecciated 150.3 - 150.4 and 150.7 - 150.9 - breccia - fault 150.4 - 150.7 - mafic dyke 155.4 - 155.5 - fault breccia 156.5 - 157.5 - commonly brecciated and with gouge zones fault zone 158.95 - 159.0 - small fragmental band (bed) @ $\approx 75^\circ$ to the core fairly sharp lower contact at $\approx 45^\circ$ to the core @ 162.4	strong pervasive quartz - sericite alteration 152.7 - 154.4 more sericitic zone as above 155.4 - 157.5 more sericitic	pyrite 5 - 10% disseminated - mainly fine disseminations 158.9 - 158.95 $\approx$ 20% finely disseminated py 158.95 - 159.0 minor cpy
162.4 - 175.2	Altered felsic porphyry light grey to white colour - similar to above units but contains about 15% quartz phenos weak foliation or layering at $45 - 50^\circ$ to the core may be tuffaceous - hint of fragmental texture locally foliation/shearing stronger at 167 m 170.9 - 170.95 - fault gouge and breccia 171.1 - 171.8 - fragmental unit - lithic tuff? some quartz grains and clasts of above unit. All clasts altered felsic vol. Contacts fairly sharp at $\approx 45^\circ$ to the core 171.8 - 173.0 - strongly sericitic appears tuffaceous but still has fairly large quartz crystals	strong sericite - quartz alteration 162.4 - 167.5 - stronger sericitic alteration below 167.5 silicification is stronger and quartz phenos are fewer local pale pinkish "felsic"? alteration	5 - 7% disseminated pyrite 169.15 - 169.2 band with 40% pyrite 171.1 - 171.8 - 20% disseminated pyrite minor sphalerite also minor sphalerite down to 175.2
175.2 - 176.3	Fault zone gouge and breccia of altered felsic volcanic		
176.3 - 183.5	Altered felsic volcanic light grey, a few tiny waxy sericite disseminations commonly sheared - faulted gouge and breccia zones 177.3 - 177.4, 179.3 - 179.4 180.0 - 181.2 (common thin gouge zones) and 183.2 - 183.3 179.4 - 180.2 - semi-prominent quartz phenos	strong quartz - sericite alteration	pyrite 5 - 10% 179.4 - 180.5 minor sphalerite - disseminated
183.5 - 188.6	Altered felsic volcanic medium grey green with prominent quartz phenos. - quartz phenos have a shattered look also flecked with dark chlorite?	strong quartz - sericite $\pm$ chlorite alteration	5 - 8% disseminated py minor sphalerite locally i.e. 185.5, 188.5, 187.7

HOLE NO. BE-97-16

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

Sheet No. 4

Depth & Lithology	Description	Alteration	Mineralization
188.6 - 204.0	Altered felsic volcanic light grey to grey green, often mottled appears to be altered dacitic tuff at least in part - obviously fragmental locally local zones with semi-prominent quartz crystals more fragmental zones are more chloritic fault zones 188.9 - 190.2, 194.5 - 195.8, 196.4 - 197 198.4 - 198.7 and 199.0 - 199.9 - large gouge and breccia zones zones of fairly massive grey quartz - sericite alteration (may be flows?) 193.0 - 194.4, 197.4 - 198.1	strong quartz - sericite ± chlorite alteration 193 - 194.4 quartz sericite alteration	silicified zones have 5 - 6% pyrite tuffaceous zones 2 - 3% pyrite
204.0 - 206.5	Silicified felsic volcanic grey and grey-green, fairly massive cut by hairline fractures giving shattered brecciated appearance gouge zones @ 205.4 and 206.5	strongly silicified	pyrite 3 - 5%
206.5 - 208.7	Altered dacitic tuff as for 188.6 - 204.0 sheared and foliated throughout with some thin gouge zones strong shear at base @ 50° to the core	strong quartz - sericite ± chlorite alteration	1 - 2% pyrite 207.0 - 208.0 minor sphalerite
208.7 - 215.4	Altered felsic volcanic light grey, fairly massive silicified 211.5 - 213.0 - prominent quartz porphyry 212.2 - 212.3 - fault breccia lower contact gradational	strong quartz - sericite alteration mainly silicification	5 - 8% pyrite minor sphalerite, especially 209.8 - 210.8
215.4 - 227.0	Dacite and dacitic tuff grey-green colour - somewhat weaker alteration than above? fragmental texture, fairly common, mostly with darker colour fragments in a lighter silicic matrix locally looks like autobreccia some flow banding and flow banded fragments locally banding locally looks like ductile shearing, especially @ 220.3 - 220.4, 221.0, 223.9 - 224.0 and 226.9 - 227.0	moderate to strong quartz - sericite and local chlorite alteration	pyrite 5 - 8% as disseminated blebs and locally as fragments or blebs of very fine massive pyrite up to 3 - 4 cm by 1 cm
227.0 - 229.5	Altered felsic volcanic light grey to white a few tiny quartz phenos often brecciated by alteration fairly sharp lower contact at 45 - 50° to the core	strong quartz - sericite alteration mainly silicification	5 - 10% pyrite as disseminations and stringers

HOLE NO. BE-97-16

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

Sheet No. 5

Depth & Lithology	Description	Alteration	Mineralization
229.5 - 242.0	Altered felsic volcanic grey brown, massive locally "brecciated" with white quartz carbonate infill late brittle fracture? 238.7 - 238.9 - fault gouge and breccia below 238.9 - light grey green again - 242.0 E.O.H. -	strong silicification pervasive 238.9 - 242.0 - still strong silicification, but locally sericitic also some chlorite blebs	10 - 20% pyrite very finely disseminated and as stringers and disseminated blebs 233.8 - 235 minor galena and sphalerite on fractures @ 240.2 - 240.8 < 1% sphalerite with pyrite stringers

HOLE NO. BE-97-16

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

SHEET NO. _____

PROJECT NO. _____

HOLE NO. BE-97-16

PROPERTY Buchans East

Sample No.	From (metres)	To (metres)	Length (metres)	DESCRIPTION	Cu* ppm(%)	Pb* ppm(%)	Zn* ppm(%)	Ag* (ppm)	Au* ppb(g/t)	Ba** ppm	
BE-97-16	22.0	23.0	1.0	altered dacite 8 - 10% pyrite	81	37	107	0.5	5		
	29.0	30.0	1.0	altered dacite 10 - 15% vein along core	326	172	1289	0.5	5		
	58.8	59.8	1.0	altered dacite, possible sp, 15% fine py	47	12	1104	0.5	5		
	63.0	64.0	1.0	altered dacite, possible sp	49	9	766	0.5	5		
	72.7	73.3	0.6	altered dacite, possible sp	193 (0.02)	310 (0.03)	0.60% (0.59)	0.5 (<0.7)	11 (0.02)	724	
	94.0	95.0	1.0	altered dacite, 5 - 8% py - chl blebs	78	59	68	0.5	16		
	128.2	129.2	1.0	altered dacite, 5 - 8% py - chl blebs	16 (<0.01)	11 (<0.01)	0.35% (0.29)	0.5 (<0.7)	5 (<0.01)	505	
	158.9	159.9	1.0	altered felsic vol. - minor cpy and sp	13	5	64	0.5	5		
	171.1	171.8	0.7	felsic fragmental to 20% py, minor sp	79	78	1711	0.5	5		
	174.2	175.2	1.0	altered felsic vol to 10% py, minor sp	13	7	11	0.5	5		
	179.4	180.5	1.1	altered felsic vol to 10% py, minor sp	11	13	11	0.5	5		
	185.0	186.0	1.0	altered felsic vol to 10% py, minor sp	44	98	37	0.5	5		
	191.0	192.0	1.0	altered felsic vol.	11	5	29	0.5	5		
	207.0	208.0	1.0	altered felsic vol., 1 - 3% py, minor sp	11	5	35	0.5	5		
	209.8	210.8	1.0	altered felsic vol., to 10% py, minor sp	21	318	613	0.5	20		
	217.5	218.5	1.0	altered dacite to 10% pyrite	42	11	73	0.5	10		
	229.5	230.5	1.0	altered felsic vol. to 20% pyrite	34	7	70	2.1	69		
	233.8	234.8	1.0	altered felsic vol. to 20% pyrite, minor sp and ga	20	68	138	0.5	12		
	240.2	240.8	0.6	altered felsic vol. to 20% pyrite, minor sp and ga	39	8	47	1.3	41		

* (-) Duplicate assays performed by Bondar-Clegg; Val d'Or, PQ

** Assays performed by Bondar-Clegg; Val d'Or, PQ