

**GEOLOGICAL CONSULTANTS LTD
DIAMOND DRILL CORE LOG**

Sheet No. 1

UTM CO-ORDINATES 51188E, 5408677N

GRID CO-ORDINATES 9174E, 8470N

ELEVATION ~268 m

DIP AT COLLAR -90°

BEARING _____

TOTAL DEPTH 566.9 CORE SIZE NO

REMARKS The depth 558, drilled with metric rods but marked as if drilled with Imperial rods

Tests Depth	Dip	Magnetic Bearing	Corrected Bearing
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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_____	_____	_____	_____

Project No. B4775 Hole No. BR-2K-01-04

Property Buchans - Phelps Option

NTS 12A/15 Grid Name Mine grid

Date started 24/03/2000 Completed 24/03/2000

Contractor Lantech Drilling Services

Logged by J. Harris

Depth & Lithology	Description	Alteration	Mineralization
0 - 7.3	Overburden		
7.3-11.7	Rhyolite sill or dyke - pink fine grained - like Buchans River Fm Rhyolite from 7.3 - 7.4 and 10.3 - 11.3, no obvious contacts - pink felsite centrally		
11.7 - 20.2	Dacite tuff (3t) - grey green, crystal lithic tuff - abundant plag crystals and quartz crystals - a few lithic fragments, mostly tuff - fault breccia at 11.7m - grades down to a tuffaceous wacke	weak to moderate quartz sericite alteration	~ 1% disseminate pyrite
20.2 - 30.2	Tuffaceous wacke to conglomerate (debris flow) (3s) - light grey, locally pink - starts as fine to medium grained tuffaceous sand with a few lithic pebbles and grades down to a conglomerate at about 22.0m - assorted clast types, rhyolite, mafic volcanic, granitic and a few jasper chips - coarse arenaceous matrix - 26.5 - 30.2 pebble conglomerate with smaller lithic fragments		1 - 2% pyrite grains. 21.3 - 22.8 1 - 2 small sp-ga grains

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Sheet No. 2

Depth & Lithology	Description	Alteration	Mineralization
30.2 - 47.8	Dacitic crystal lithic tuff (3t) - light green to grey - local layering at about 65° - 70° to the core - plagioclase and quartz crystals, mainly rhyolitic lithics - small fault gouge at 32.1 m - 44.8 - 46.5 fault gouge and breccia	moderate sericite - quartz and local chlorite alteration	rare pyrite down to 46.5 ∠1% py 46.5 - 47.8
47.8 - 67.3	Rhyolite and rhyolite breccia (3r and 3rbx) - maroon to pinkish, locally grey green (altered) - small quartz and feldspar phenos - local hematite veining in matrix to fragments - mostly flow breccia - at 63.3 some rubble and cuttings - rods pulled - at 67.3 0.1m sand - cuttings - rods pulled	weak sericite - silica alteration, mainly between fragments locally moderate alteration (extending into fragments)	47.8 - 49.5 ∠1% py and minor sp, ga and cpy 49.5 - 51.0 1% py and ∠1% sp, ga and cpy between fragments 51.0 - 54.0 ∠1%py and ∠1% sp, ga and cpy 54.0 - 67.3 ∠1% pyrite and local base metal sulphides 58.3- 59.0 to 1% sp, ga and cpy
67.3 - 72.7	Rhyolite breccia (3rbx) - medium sized, angular rhyolite fragments floating in a fine grained siliceous matrix - plag and quartz phenos in fragments - steep contact at 72.7 (~ 10°)	silicification of matrix	∠1% very finely disseminated pyrite
72.7 - 83.1	Rhyolite dyke - fine grained, pink - flow banded along the contact at 72.7m - some darker chloritic inclusion, partially absorbed - a few flecks of chlorite disseminate throughout - resembles BR fm rhyolite, with a few plag phenos from 82.7 - 83.1	weak sericitic alteration	
83.1 - 87.6	Rhyolite and rhyolite breccia (3rbx) - mostly dark pink flow breccia - 0.1m green sericitic rhyolite at 83.1m - feldspar and a few quartz phenos - fractured and rubbly with calcite infill from 85.0 - 87.6 fractures along the core		minor pyrite rare disseminated sphalerite

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Sheet No. 3

Depth & Lithology	Description	Alteration	Mineralization
87.6 - 91.1	Rhyolite (altered version of above) - medium green, feldspar phenos - fractured, with calcite, as above - fault gouge and breccia at 91.1m	moderate sericitic and epidote alteration	≤ 1% fine pyrite
91.1 - 104.0	Rhyolite (3r and 3rbx) - pink to maroon to brick red - feldspar and quartz phenos, local flow breccia - commonly fractured at low angles to the core	sericite and epidote along fractures	
104.0 - 110.8	Mafic dyke - black, fine to medium grained, magnetic - a few chlorite blotches - chilled contacts at ~ 45° to the core		
110.8 - 119.8	Volcanoclastic breccia to conglomerate (3s - 2s) - pink to green - mostly angular fragments of rhyolite and mafic in a fine to medium grained silty to arenaceous matrix - mafic fragment percentage increasing downward - an occasional granitic fragment - well fractured mostly at low angles to the core with calcite infill - gradational contact		
119.8 - 134.9	Mafic fragmental, Ski Hill type - dark green, calcite and silica amygdules - local plag phenos - some purple felsic to intermediate clasts - well fractured with calcite and some epidote veining to 130m - fault gouge and breccia from 121.4 - 121.9 and from 124.2 - 124.3 - pink felsic dyke from 131.8 - 133.0		
134.9 - 142.0	Pink felsite to rhyolite dyke - fine grained, massive - sericitized feldspar and a few quartz phenos - mafic inclusion 140.3 - 141.2		

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Sheet No. 4

Depth & Lithology	Description	Alteration	Mineralization
142.0 - 147.9	Mafic fragmental, Ski Hill type - dark green and purple fragments - lighter green siliceous matrix, local pink calcite in the matrix - calcite and silica amygdulites in fragments - 144.1 - 144.2 fault breccia	locally epidotized	~ 1% pyrite mainly in altered fragments with 30 - 50% fine py locally along fragment boundaries
147.9 - 149.9	Rhyolite dyke or sill - pink fine grained, some epidote - calcite veining		
149.9 - 194.8	Mafic fragmental - Ski Hill type - similar to above the rhyolite - 149.9 - 154.5 fairly large blotches of epidote, chloritic and calcite amygdulites - below 154.5 typical Ski Hill lapilli tuff - purple intermediate fragments, silica and some calcite amygdulites - local matrix of smaller chips - intermediate to felsic fragments commonly have plag phenos - 152.0 - 156.5 common calcite veining, mainly along the core - 170.0 - 174.2 fractured with a thin fault gouge along the core some calcite infill - 185.5 - 186.7 pink rhyolite dyke, contacts at 25° and ~ 40° to the core		
194.8 - 207.6	Felsic dyke or sill (as for above dykes) - fine grained pink felsite to rhyolite - small sericitized feldspar and a few quartz phenos	locally epidotized weakly	minor disseminated magnetite and hematite
207.6 - 287.0	Typical Ski Hill mafic fragmental, as above - silica and a few calcite amygdulites - local pyroxene phenos - common hard purple to green andesite to dacite fragments - 235.0 - 235.2 rhyolite dyke along the core, thin chilled contact - 242.0 - 243.9 pink to pale green rhyolite dyke, upper contact at 90° to the core, lower irregular at 45° to the core, resembles Br fm rhyolite - 261.2 - 263.5 epidote veining along the core - commonly magnetic		disseminated magnetite, occasional pyrite, very rare fleck cpy 242.0 - 243.9 minor sp-ga along hairline fractures ~ 1% pyrite and minor cpy near dyke contacts

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**GEOLOGICAL CONSULTANTS LTD
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Sheet No. 5

Depth & Lithology	Description	Alteration	Mineralization
287.0 - 291.5	Rhyolite dyke (to rhyodacite) - dark brown - waxy altered feldspar and a few quartz phenos, also mafic mineral - irregular upper contact ant $\approx 45^\circ$ to the core - a few small calcite "amygdules"	at 291.4 rubble caved into the hole when the rods were pulled	$\angle$ 1% pyrite as thin stringers and amygdules
291.5 - 304.7	Mafic fragmental, similar to above rhyolite - lithic tuff, some chloritic pumice - mafic and intermediate fragments		$\angle$ 1% pyrite except 1-2% from 295.2 - 295.4
295.4 - 304.7	Felsic flow or sill - light brown to almost buff - a few waxy feldspar and quartz phenos - calcite blebs and veinlets - contact with about 0.1m of breccia at 298.5 - some "flow breccia" above 298.5 - below 298.5 more massive and harder, a few calcite amygdules	295.4 - 298.5 moderate sericitic alteration and some chloritic alteration 298.5 - 304.7 weak alteration	295.4 - 298.5 $\angle$ 1% pyrite locally 1-2%, occasional bleb ga and sp 298.5 - 307.7 $\angle$ 1% py
304.7 - 310.0	Mafic fragmental - dark green to purple, magnetic - fairly large intermediate fragments with silica and calcite amygdules and large green plag phenos - chloritic matrix	weak chloritic alteration	minor pyrite
310.0 - 323.7	Mafic fragmental - green to grey-green - calcite and a few chlorite amygdules - may be an altered equivalent to above units - sericitic matrix - at 322.2 fine silty matrix - mainly bleached basalt fragments - a few buff "felsic"? fragments over lower meter	moderate sericitic and chloritic alteration	$\approx$ 1% pyrite local sp and ga in amygdules and disseminated in sericitic fragments or matrix

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Sheet No. 6

323.7 - 338.7	Intermediate flows and fragmentals - buff to light green - fairly massive felsic to intermediate flo to 329.3 some breccia near 323.7 - below 329.3 - fragmental with mafic and "felsic" fragments, "felsic" fragments may be altered mafic - 330.7 - 331.1 minor shear at 5-10° to the core - some breccia zones with chloritic matrix - may be alteration breccia - gradational contact	moderate sericitic - chloritic alteration	1 -2% pyrite, minor sp, ga, and cpy disseminated and in amygdules, locally to 1%
338.7 - 424.8	Mafic lithic tuff - medium to dark green - some bleached and altered fragments and a few felsic chips down to about 345.0m - matrix of small mafic chips - 342.8 - 343.3 reddish rhyolite boulder or sill - grades down to a finer grained lithic tuff with only a few altered fragments below 345.0m - occasional larger basalt fragments with silica and calcite amygdules - coarser basaltic fragmental below ~365m - mostly tightly packed fragments - some fragments with sericitized felspar phenos - 398.3 - 398.7 chilled mafic dyke - 418.8 - 419.6 felsic flow or boulder	matrix weakly epidotized some sericitic fragments, occasional chloritized matrix minor green "mica" at 343.3 - 343.4 ~365 - ~ 400m weak sericitic and chloritic alteration, some possible silicification of the matrix 400 -424.8 moderate sericitic and chloritic alteration	1-2% pyrite, local sp, ga and cpy down to ~ 349.5m 342.8 - 343.3 base metal sulphides only near contacts 349.5 ~ 390.0 <1% pyrite and occasional sp, ga and cpy mostly in amygdules occasional thin sulphide stringers ie, 335.0 - 335.1 390.0 - 424.8 1% pyrite locally 2-3% minor sp, ga and cpy, disseminated, in amygdules and with thin pyrite stringers
424.8 - 429.5	Felsic flow - light grey brown, fairly massive - rhyodacite - sericitized feldspar phenos - some flow breccia 429.0 - 429.5	weak to moderate sericitic alteration black chloritic fractures and infill in breccia	~ 1% pyrite local sp, ga and cpy often with chlorite especially 428.5 - 429.5
429.5 - 458.8	Mafic lithic tuff to breccia - as for 338.7 - 424.8 - dark grey-green - some fairly large fragments (to 0.5m) - basalt with calcite and silica amygdules - matrix of smaller fragments, chlorite and sericite	moderate sericite-chlorite alteration some silica-calcite veining	1-2% pyrite, local sp, ga and cpy throughout in amygdules, with chlorite and with quartz-calcite stringers ≤1% py and minor sp, ga below 447m
458.8 - 461.4	Felsic to intermediate flow - grey, similar to 424.8 - 429.5 - some flow breccia near 458.8	weak sericitic alteration	~ 1% pyrite
461.4 - 472.4	Mafic lithic tuff to breccia - as for 429.5 - 458.8	weak sericite-chlorite alteration 472 - 472.2 pink felsic alteration?	~ 1% py, minor cpy and occasional sp and ga 472 - 472.2 to 1% sp and ga

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Sheet No. 7

Depth & Lithology	Description	Alteration	Mineralization
517.2 - 538.6	Felsic tuff to breccia - dark grey to black, pumiceous - strongly altered felsic to intermediate clasts and some mafic clasts - some sandy to silty matrix locally - some rounding of clasts - 517.2 - 519.0 moderate shearing at 75° to the core, fault breccia at 518.0 and at 519.0 - 525.6 - 525.7 fault gouge and breccia also at 532.3	strong sericite-chlorite-quartz alteration	5-10% pyrite mainly finely disseminated minor sp, ga and cpy disseminated and locally as matrix grains also local barite base metal sulphides locally up to 2%
538.6 - 549.2	Rhyolite sill or dyke - pink to light green - light green areas are chilled and sericitic, ie 538.6 to 540.2 and 541.8 - 542.5 - pink areas are porphyritic with pink felspar - 538.6 - 538.8 and 548.4 - 549.2 are fault gouge and breccia - 538.8 - 538.95 inclusion of above tuff - 548.9 - 549.0 inclusion of strongly sheared and pyritic felsic		
549.2 - 557.0	Sandstone and siltstone (Sandy Lake fm.) 4s - grey-green and pink, minor black siltstone - strongly sheared and brecciated - shearing at various angles but mainly 45-50° to the core		
557.0 - 566.9	Arkose, arkosic conglomerate and sandstone - pink to red arkose and conglomerate to 559.9 - grey-green sandstone 559.9 - 562.4 and 565.0 - 566.9 - fault breccia at 559.9 and 562.4 some shearing throughout 566.9 end of hole		

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GEOLOGICAL CONSULTANTS LTD.
DIAMOND DRILL CORE ASSAYS

SHEET NO. 1 of 2

PROJECT NO. _____

HOLE NO. BR-2K-01-04

PROPERTY Buchans Lic. 4775

Sample No.	From (metres)	To (metres)	Length (metres)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Ba (ppm)
36332	21.3	22.8	1.5	Cong. 1 to 2% py, sp & ga	145	2620	5320	1.2	19	2390
36333	49.5	51.0	1.5	Rhy., <1% sp, ga, cpy & py	90	533	2440	0.5	10	2030
36334	51.0	52.0	1	Rhy., 1% sp, ga, cpy & py	117	875	1880	0.4	7	622
36335	52.0	53.0	1.0	Rhy., <1% sp, ga, cpy & py	434	2690	988	0.9	13	569
36336	53.0	54.0	1.0	Rhy. Minor sp, ga & py	59	677	477	0.3	6	1570
36337	317.7	318.7	1.0	alt. Vm., 1% py, sp & ga.	48	1050	1160	0.4	-1	677
36338	331.7	333.0	1.3	Vm frag. 1% py, local sp, ga & cpy	98	1040	1660	2.7	15	1630
36339	333.0	335.3	2.3	Vm frag. 1% py, local sp, ga & cpy	63	422	689	1.3	9	2090
36340	335.3	336.3	1.0	Vm frag. 1% py, local sp, ga & cpy	44	636	1060	2.3	29	2410
36340-DUP					45	639	1070	2.2	26	2360
36341	336.3	337.9	1.6	Vm frag. 1% py, local sp, ga & cpy	175	2460	2960	1.4	9	1260
36342	421.0	422.3	1.3	Vm frag. 1% py, local sp, ga & cpy	580	331	2760	7.6	14	1890
36343	428.4	430.0	1.6	Vm frag. 1% py, local sp, ga & cpy	209	607	1740	3.2	15	3250
36344	494.7	495.9	1.2	dacite, 4 to 5% py, local sp, ga & cpy	50	216	354	0.8	10	4680
36345	495.9	496.9	1.0	dacite, 4 to 5% py, 1 to 2% sp, ga & cpy	1720	580	28990	2.2	51	3100
36346	496.9	498.4	1.5	dacite, 4 to 5% py, local sp, ga & cpy	134	257	289	0.9	99	3660
36347	498.4	499.9	1.5	dacite, 4 to 5% py, local sp, ga & cpy	264	193	2340	0.7	33	3460
36348	499.9	501.1	1.3	dacite, 4 to 5% py, local sp, ga & cpy	1430	304	1520	1.2	41	1420
36349	519.0	520.0	1.0	Vf tuff, 5 to 10% py local sp, ga, cpy & ba	156	1870	895	0.6	29	4550
36350	520.0	522.0	2.0	Vf tuff, 5 to 10% py local sp, ga, cpy & ba	24	212	173	-0.3	6	1030
36351	524.0	524.0	2.0	Vf tuff, 5 to 10% py local sp, ga, cpy & ba	37	371	262	-0.3	5	1220
36352	524.0	526.0	2.0		158	2310	374	0.5	11	3010
36352-DUP					163	2310	374	0.4	12	2960

DIAMOND DRILL CORE ASSAYS

SHEET NO. 2 of 2

PROJECT NO.

HOLE NO. BR-2K-01-04

PROPERTY ns Lic 4775

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