

DRILL HOLE REPORT

Hole Number **H-18-3525**

Project: **BUCHANS 2018**

Project Number:

<u>Drilling</u>	<u>Casing</u>	<u>Core</u>	<u>Location</u>	<u>Other</u>
Azimuth: 0	Length: 0	Dimension: NQ	Township:	Logged by: Jim Harris
Dip: -90	Pulled:	Storage: RRO Buchan	Claim No.:	Relog by:
Length: 471	Capped:	Section:	NTS: 12A/15	Contractor: Cabo Drilling
Started: 03-Oct-18	Cemented:	Hole Type DD	Hole: SURFACE	Spotted by:
Completed:				Surveyed:
Logged:	Relogged:			Surveyed by: John Horwood
Comment: Rename H-18-3525 Logged by Jim Harris/Dave Butler below 200m				Geophysics:
		Local Grid Coordinate	UTM Coordinate	Geophysical Contractor:
		East: 0	East: 512363.15927	Left in hole: Casing
		North: 0	North: 5409174.95808	Making water:
		Elev.: 242.2276	Elev.: 242.2276	Multi shot survey:
			Zone: 21 NAD: 1983	

Deviation

<i>Distance</i>	<i>Azimuth</i>	<i>Dip</i>	<i>Type</i>	<i>Good</i>	<i>Comn</i>
0.00	0.00	-90.00	C	☒	
39.00	52.70	-88.60	F	☒	Mag: 5
141.00	125.60	-89.00	F	☒	Mag: 5
192.00	122.50	-89.50	F	☒	Mag: 5

LITHOLOGY REPORT

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<i>From</i> (m)	<i>To</i> (m)	<i>Lithology</i>	<i>Sample #</i>	<i>From</i>	<i>To</i>	<i>Length</i>	<i>Cu</i> (%)	<i>Pb</i> (%)	<i>Zn</i> (%)	<i>Ag</i> (ppm)	<i>Au</i> (ppb)
0.00	30.50	OB Overburden									
		Upper Contact:									
		Colour:									
		Broke the casing in overburden on the firts attempt and had to restart. 10 ft of casing and bit lost.									

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From (m)	To (m)	Lithology	Sample #	From	To	Length	Cu (%)	Pb (%)	Zn (%)	Ag (ppm)	Au (ppb)
30.50	47.50	BSLT Basalt Upper Contact: Colour: Dark green basalt flow and tuff, moderately foliated at 45 to 55 deg tca. Local small qtz amygdules. Mostly massive but some lithic tuff zones of generally <1 m. Small fault gouge at 47.5m.									
47.50	156.70	T Tuff Upper Contact: Tectonic Colour: Dark green intermediate xtal and lithic tuff. Quartz and feldspar, (locally pink), xtals are common and may be in part chloritized felsic. Well foliated at 40 to 60 deg tca but locally folded. From 47.5 to 72 m is mostly felsic to intermediate. Below 72 m there are local fine grained mafic zones, generally of a meter or less. Below 87 m bedding at approx 60 deg tca is evident locally in interlayered felsic and mafic tuffs. The unit has occasional disseminated py. Some of the fine grained mafic zones may be dykes and they are occasionally magnetic. Below about 105 m layering/foliation is at 70 to 80 deg tca. From 112.5 to 141 m is mostly mafic tuff but still with occasional 2 to 5 mm qtz xtals, (may have been amygdules). Layering and foliation is at 70 to 85 deg tca. The unit has moderate chlorite +/- sericite alteration and about 1% disseminated pyrite. From 119.0 to 119.15 m is a qtz vein with sericitic contacts, 2 to 3% py and approx 1% BM sulphides. From 126.0 to 127.5 is brecciated and re-cemented, unusual. From 127.5 to 135 m there is some folding of foliation. Conformable lower contact.									

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From (m)	To (m)	Lithology	Sample #	From	To	Length	Cu (%)	Pb (%)	Zn (%)	Ag (ppm)	Au (ppb)
156.70	163.50	Fel-Int <i>Felsic to intermediate</i> fel-int tuff/dbx <i>Upper Contact:</i> Conformable <i>Colour:</i> Dark green and grey felsic to intermediate tuff, may be in part sediment. 5% + Prominent quartz xtals over the first meter and occasional below. Moderate sericite-silica and epidote alteration. Mostly fragmental, dbx to conglomerate but some finer grained sandy and silty beds. Locally brecciated by stringers and blobs of epidote. Pink rhyolite clasts locally, some PQ. The unit becomes more mafic below 162 m and has a few jasper fragments.									
163.50	177.60	Maf/Int Tuff <i>Mafic/Int tuff</i> Mafic/Inter Tuff <i>Upper Contact:</i> Conformable <i>Colour:</i> Dark green, mafic to intermediate tuffs and possible flows, barren. From 163.5 to 171 m is mostly fine grained and massive mafic but there are faint fragmental textures. The unit is moderately magnetic and locally plag phyrlic. There are a few small quartz xtals, amygdules?. From 171 to 177.6 m is mafic to intermediate tuff, layered and foliated at around 70 deg tca. The unit is locally magnetic and has a few, <1%), small round qtz grains. From 175.1 to 177.6 m is hematitized and epidotized with local shearing and some calcite amygdular basalt. From 177.2 to 177.6 m is a hematitized shear at 70 to 80 deg tca and with a 1 cm gouge. Airport Thrust.									

16-Jan-19 3:24:26 PM

Page 3 of 14

LITHOLOGY REPORT

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From (m)	To (m)	Lithology	Sample #	From	To	Length	Cu (%)	Pb (%)	Zn (%)	Ag (ppm)	Au (ppb)
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177.60179.30

FLT

Fault

Shear Zone

Upper Contact: Tectonic

Colour:

Airport Fault Zone. Sheared felsic and mafic rock, at 75 to 85 deg tca. From 177.6 to 178.6 m is sheared to brecciated felsic, rhyolite?, with numerous hematitized fractures. From 178.6 to 179.3 m strongly sheared mafic rock.

179.30208.10

CGL

Conglomerate

Conglomerate

Upper Contact: Tectonic

Colour:

Conglomerate, (Sandy Lake Fm), Mostly pink, large and small, rounded to subrounded clasts, mostly of rhyolite but some basalt and sediment. Prominent Quartz rhyolite clasts are common. The conglomerate is clast supported at the start but a sandy, arkosic matrix increases down hole. Below 201 m pebble conglomerate and arkose is more common. The unit appears to fine down hole but there are some larger cobbles over the last 2 m. There is 5 cm of baked sediment or chilled mafic at the contact, some sed could be inclusions. The contact is sharp and conformable at 70 to 80 deg tca but slightly irregular.

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208.10225.40BSLT_fBasalt Flow, loc bx, cal amygs, loc heBASALT_FLOW

Upper Contact:ConformableSharp

Colour:

Basalt flow is locally breccia, but generally massive to weakly foliated, and is dark grey-green with local moderate hematization along fractures and as hematized calcite fractures/veins in lower portion of the unit. Basalt is calcite amygdaloidal with 2-4% amugdules generally <3mm but up to 7mm locally. Unit is moderately to strongly magnetic, and unmineralized. Unit has chaotic calcite veins and fractures in lower portion; 214.7-215m, 218.5-219m and in lower 5m of unit. Upper contact is sharp at 70° to CA.

225.40246.10CGLConglomerateConglomerate

Upper Contact:ConformableSharp

Colour:

Conglomerate, (Sandy Lake Fm), comprised mostly of pink/purple, rounded to subrounded clasts, mostly of rhyolite but some basalt and sediment. Prominent Quartz rhyolite and aphyric clasts are common. The conglomerate is comprised of cobble size to pebble size material, with sandy material in matrix (10-20%). Bottom 70cm of unit is comprised of black argillite and cherty bands at 65-70° to CA. The contact is sharp and conformable at 65-70° to CA.

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246.10308.90

Qrhy

Feld-quartz-phyric rhyolite flow

F-Q-RHY_FLOW

Upper Contact:

Conformable

Sharp

Colour:

Rhyolite flow is massive and light to medium green, with <20% feldspar and <6% quartz phenocrysts generally <3mm. Unit is locally pinkish where weakly hematized, and becomes maroon to pink below 278m, and is weakly to generally moderately magnetic throughout.. Unit is locally broken and blocky, and epidote-silica stringers are seen locally; unit is less broken and blocky below 298.5m. Unit is barren. Lower 10-20cm is strained and foliated/sheared at 30° to CA. Upper contact is conformable and sharp.

308.90321.40

RHY_SILL_DY KE

Rhyolite sill or dyke; f-phy to aphyric

RHY_SILL

Upper Contact:

Tectonic

Fault

Colour:

Rhyolite sill or dyke is light pinkish-grey, fine-grained and feldspar-phyric to aphyric. Unit is weakly to generally non-magnetic. Upper contact is strained and broken with 2-4cm og gouge against foliated/sheared calcite-quartz veined contact. Lower contact is flow banded at 30 deg tca. (May be a flow).

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From (m)	To (m)	Lithology	Sample #	From	To	Length	Cu (%)	Pb (%)	Zn (%)	Ag (ppm)	Au (ppb)
321.40	349.20	FEL_DBX_RH Y Fel dbx, basalt, sed, jas, py, BM-clast FEL_DBX_BAS_PY Upper Contact: Intrusive Shear Colour: Felsic debris is dominated by rhyolite fragments but basalt and sediment fragments are common and there are occasional granitic clasts. Felsic fragment are for the most part aphyric, however there does appear to be some minor quartz phenos in the matrix locally, and possibly one or two clasts. Basalt clasts are common, and rare jasper and one Pb-Zn clast (1cm) was seen at 344.3m. Pyrite is 1-2% throughout, but more common in lower half of unit; locally 20% over 10cm (345.2-345.3m). Unit is weakly bedded at 70-80° to CA, but only seen locally. Upper contact is possible structure with shearing or flow banding at 30° to CA.	18-344365	343.00	344.00	1.00	0.01	0.03	0.07	1	8
			18-344366	344.00	344.50	0.50	0.01	0.05	0.12	2	23
			18-344367	344.50	345.50	1.00	0.02	0.10	0.33	5	52
			18-344368	345.50	346.50	1.00	0.09	0.07	0.72	3	37
			18-344369	346.50	347.50	1.00	0.08	0.05	0.80	2	25
			18-344371	347.50	348.50	1.00	0.01	0.04	0.33	4	17
			18-344372	348.50	349.50	1.00	0.03	0.14	0.47	14	182
349.20	352.30	FEL_slst Felsic Siltstone/ash tuff FEL_ASH_T Upper Contact: Conformable Sharp Colour: Felsic ash tuff or fine monolithic sediment that could be part of overlying debris. Unit is light grey and locally bedded at 15-20° to CA. Unit has some local clastic zones with fragments up to 2 cm but generally <1 cm in size. Upper contact is conformable at 45° to CA.	18-344373	349.50	350.50	1.00	0.02	0.09	0.10	11	47
			18-344374	350.50	351.50	1.00	0.00	0.02	0.02	4	51
			18-344375	351.50	352.30	0.80	0.01	0.02	0.06	3	35

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From (m)	To (m)	Lithology		Sample #	From	To	Length	Cu (%)	Pb (%)	Zn (%)	Ag (ppm)	Au (ppb)		
352.30	352.95	FEL_DBX_RH	Fel dbx, basalt, sed, py Y	FEL_DBX_BAS_PY	18-344377	352.30	353.00	0.70	0.02	0.05	0.11	3	27	
		Upper Contact:		Conformable	Sharp									
		Colour:		Felsic debris with rhyolite and basalt with sediment fragments in a more granular/sediment matrix, but same as 321.4-349.2m. Some rhyolite fragments are feldspar-phyric and minor frain quartz eyes seen locally (<<1%). Unit has some chalcopyrite stringers but <<1%. Upper contact is conformable at 30° to CA.										
352.95	407.00	RHY_f	Rhyolite Flow, breccia, massive	RHY_FLOW_BX										
		Upper Contact:		Conformable	Sharp									
		Colour:		Rhyolite flow breccia is light grey-green to pinkish where weakly hematized (60% of unit). Unit is massive and often brecciated, and is siliceous (Hard) and weakly magnetic. Unit has some feldspar-phyric zones but generally aphyric. Upper 50cm is epidotized, but contact appears conformable at 35° to CA. Mostly pink rhyolite below 360 m. Minor pyrite in breccia zones. From 378.2 to 378.4 m is rhyolite breccia. The unit is commonly feldspar phyric below 380m. From 396 to 407m there is common crackle breccia and hairline fractures.										

16-Jan-19 3:24:26 PM

Page 8 of 14

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From (m)	To (m)	Lithology	Sample #	From	To	Length	Cu (%)	Pb (%)	Zn (%)	Ag (ppm)	Au (ppb)
407.00	413.20	RHY_f Rhyolite Flow Rhy Flow Bx Upper Contact:Conformable Colour: Light grey, altered rhyolite and rhyolite breccia, altered version of overlying unit. There is minor fault gouge at 407m but the contact appears gradational. There are some waxy sericite flecks after feldspar but no apparent quartz phenos. There are a few thin stockwork sphalerite veinlets and disseminations, up to about 1% Sp.	18-344378	407.00	408.00	1.00	0.00	0.12	0.15	4	35
			18-344379	408.00	409.00	1.00	0.00	0.09	0.12	3	24
			18-344381	409.00	410.00	1.00	0.00	0.10	0.16	3	19
			18-344382	410.00	411.00	1.00	0.00	0.05	0.10	2	13
			18-344383	411.00	412.00	1.00	0.00	0.02	0.06	1	3
			18-344384	412.00	413.00	1.00	0.00	0.09	0.13	6	5
413.20	417.60	RHY Rhyolite sheared rhyolite Upper Contact:Tectonic Colour: Grey-green, sericitic and sheared felsic rock, likely rhyolite. Strong shearing at 50 to 60 deg tca over first 5cm then sericitic shearing at 30 to 60 deg tca throughout. A few phenos or silicified fragments of qtz evident locally. The unit has up to 1% disseminated pyrite and a rare fleck of sphalerite.									

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From (m)	To (m)	Lithology		Sample #	From	To	Length	Cu (%)	Pb (%)	Zn (%)	Ag (ppm)	Au (ppb)		
417.60	421.10	DBX	Debris Flow	Debris flow bx	18-344385	418.00	419.60	1.60	0.00	0.00	0.01	0	3	
		Upper Contact:	Conformable		18-344386	419.60	420.30	0.70	0.01	0.07	0.12	8	12	
		Colour:			18-344387	420.30	420.60	0.30	0.05	0.34	1.93	76	242	
		Grey and dark grey, fragmental rock, somewhat sheared. Fragments appear to be mainly rhyolitic but a few are sedimentary. The unit has minor pyrite and sphalerite except for for from 420.3 to 420.6 where there is about 10% sphalerite and galena as matrix to fragments.			18-344388	420.60	421.10	0.50	0.01	0.09	0.32	11	13	
421.10	437.30	BSLT_bx	Basalt Flow Breccia	Basaltic frag.	18-344389	421.10	422.10	1.00	0.01	0.00	0.02	0	3	
		Upper Contact:	Tectonic											
		Colour:												
		Dark green, basaltic fragmental, silica and calcite amygdoidal fragments in a chloritic matrix, looks like Ski Hill Fm basalt. There is a thin gouge at the upper contact but it could be conformable. There is up to 1% finely disseminated pyrite, mainly in occasional altered fragments. Moderately sheared at 75 to 85 deg tca over the last 0.5m and a 10cm gouge at the contact.												

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437.30437.80

CGLConglomerate

sheared congl

Upper Contact: Tectonic

Colour: strongly sheared arkosic conglomerate, shearing at 75 to 85 deg tca

437.80441.70

RHY_SILL_DY Rhyolite sill or dyke

Rhyolite Dyke

Upper Contact: Intrusive

Colour: Pink, massive rhyolite dyke or sill, feldspar phyric. Weakly sheared at the base.

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From (m)	To (m)	Lithology		Sample #	From	To	Length	Cu (%)	Pb (%)	Zn (%)	Ag (ppm)	Au (ppb)
441.70	453.60	ARK	Arkose									
		sandstone										
		Upper Contact: Intrusive										
		Colour:										
		Grey and pink arkosic sandstone, massive. There is a 5cm fault gouge at the upper contact and at 450.7m. From 452.4 to 452.6 is green siltstone to mudstone. From 452.6 to 453.6 is silica flooded. The lower contact is somewhat irregular and conformable.										
453.60	458.20	BSLT_bx	Basalt Flow Breccia									
		Basalt flow										
		Upper Contact: Conformable										
		Colour:										
		Dark green basalt with common calcite amygdules and veining and an occasional qtz amygdule. The lower contact is conformable										

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From (m)	To (m)	Lithology	Sample #	From	To	Length	Cu (%)	Pb (%)	Zn (%)	Ag (ppm)	Au (ppb)
458.20	460.90	SLSTSiltstone siltstone/argill Upper Contact:Conformable Colour: Green and black siltstone and argillite, some basalt over the top 0.5m. Green siltstone to mudstone with irregular, black chloritic veining down to 460.25m. From 460.25 to 460.9m is black and dark grey argillite with contorted bedding.									
460.90	471.00	SSSandstone sandstone Upper Contact:Conformable Colour: Pink sandstone and local pebble conglomerate, mostly massive but occasional bedding at 40 to 45 deg tca.									

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471.00	0.00	EOH	End of Hole									
		Upper Contact:										
		Colour:										

EOH