

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

Sheet No. 1

UTM CO-ORDINATES _____
MINE GRID L192 E 6275 N
ELEVATION _____
DIP AT COLLAR -55°
BEARING 180°
TOTAL DEPTH 297.0 m CORE SIZE NQ
REMARKS Hole deviated in overburden

Tests Depth	Dip	Magnetic Bearing	Corrected Bearing
<u>245 m</u>	<u>-53°</u>	<u>289°</u>	<u>266</u>

Project No. _____ Hole No. BR-99-08-01
Property Little Sandy?
NTS 12A/15 Grid Name Buchans East
Date started 23/06/99 Completed 27/06/99
Contractor Petro Drilling
Logged by Harris & Oxford - 1999

Depth & Lithology	Description	Alteration	Mineralization
0 – 7.85 m	Overburden		
7.85 – 14.2 m	Rhyolite and rhyolite flow breccia (3r?) Pink to brown, brown appears to be alteration, giving a brecciated appearance Similar to Buchans River Fm. rhyolite Waxy sericite laths after feldspar 11.5 – 11.7 m - calcite vein breccia	weak quartz-sericite alteration	2 – 6% pyrite as thin stringers and disseminated finely disseminated in brown areas occasional sphalerite and galena with calcite stringers, i.e. 11.5 – 11.7 m
14.2 – 16.6 m	Mafic dyke Dark green, chilled contacts at 80-90° to the core		
16.6 – 42.9 m	Rhyolite, as above (3r?) 25.5 – 25.7 m - 2 small gouge coated fractures. A few small quartz phenos and some unaltered plagioclase in pinker sections 28.0 – 35.0 m - common calcite void fill to vein breccia 37.2 – 37.8 m - lithic tuff to breccia, some mafic fragments also 38.5 – 38.9 m - some light green felsic pumice thin gouge zone @ 36.3 m 40.8 – 42.9 m - fractured and bleached, local small fault breccia and gouge zones, especially 42.0 – 42.9 m	weak alteration as above, increasing strength down hole 37.2 – 37.8 m - silicified matrix	variable pyrite content from 2 - >10% as very finely disseminated pyrite in brown zones and coarser disseminations and stringers throughout minor sphalerite and galena locally, i.e. 24.4 – 24.9 m and 38.4 – 40.6 m

HOLE NO. BR-99-08-01

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

Sheet No. 2

Depth & Lithology	Description	Alteration	Mineralization
42.9 - 122.9 m	Dacite and rhyolite interlayered rhyolite as above and light green dacitic rock "dacite" is flecked with chlorite - could be altered rhyolite 42.9 - 56.4 m - mainly dacite, "contact" at 56.4 m @ 40° to the core 46.0 - 46.5 m - fractured with minor fault gouge 56.4 - 59.0 m - rhyolite, gradational "contact" at ≈ 59.0 m 59.0 - 122.9 m - mainly dacite with short more rhyolitic zones - may be alteration small plagioclase phenos often altered to sericite 75.2 - 75.5 m - weak shear @ 40° to the core 110.5 - 110.6 m - fault gouge and breccia	moderate quartz-sericite-chlorite-pyrite alteration local black chlorite flecks and stringers	42.9 - 56.4 m - ≈ 2-3% pyrite, local sp and ga with thin calcite veins 56.4 - 59.0 m - ≈ 3% py, minor sp 59.0 - 122.9 m - mostly 1-3% pyrite, local zones of 5-10% - minor sphalerite and galena disseminated and with calcite stringers, local zones with to 1% base metal sulphides, especially below 92.0 m
122.9 - 154.0 m	Rhyolite light grey, brown and pink weakly foliated or banded at 80-85° to the core, looks like flow banding locally small plag and some quartz phenos, plag often altered 133.1 - 134.1 m - fractured, with minor fault gouge 148.7 - 148.9 m - thin gouge at 10-15° to the core	moderate to strong quartz sericite alteration	1-5% pyrite, minor disseminated and stringer sp-ga, to 1% locally
154.0 - 155.4 m	Mafic sill or dyke dark green with a pinkish cast fine to medium grained, a few white and pink feldspar "phenos" contacts not well chilled		
155.4 - 158.8 m	Altered felsic - rhyolite grey to brown, strongly altered gradational contact	strong quartz-pyrite + sericite alteration local wormy silicification	≈ 25% pyrite locally 50% as fine disseminations, disseminated somewhat coarser cubes and as stringers local sphalerite and galena associated with quartz stringers and disseminated
158.8 - 181.75 m	Felsic lithic tuff to pyroclastic breccia light grey and buff locally light green white and grey rhyolite fragments, some with plag phenos felsic and some chloritic pumice some zones with possible bleached and altered mafic clasts plagioclase crystals in the matrix locally 158.8 - 161.2 m - intermediate, some resemblance to Ski Hill type fragmentals 162.2 m - thin fault gouge 163.4 - 163.8 m - fractured with some fault breccia and gouge 176.0 - 177.7 m - coarse felsic fragments, chloritic matrix 177.7 - 180.7 m - medium grained, light green intermediate tuff, small fragments aligned at about 70° to the core 179.6 - 180.0 m - fault gouge and breccia	moderate quartz-sericite + chlorite alteration some stockwork silicification 158.8 - 161.2 m	5-6% pyrite and minor sp and ga to about 175.0 m ≈ 1% pyrite 175.0 - 181.75 m

HOLE NO. BR-99-08-01

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

Sheet No. 3

Depth & Lithology	Description	Alteration	Mineralization
181.75 - 182.9 m	Mafic dyke, as for 154.0 - 155.4 m weak shear @ 182.9 m		
182.9 - 184.7 m	Felsic to intermediate tuff, as for above the dyke		
184.7 - 189.4 m	Felsic tuff and rhyolite buff felsic tuff, somewhat gradational from above grades into rhyolite at about 186.9 m 184.7 - 186.9 m - fairly large sericitic pumice weak shear at 189.4 m at 70-80° to the core	moderate to strong quartz-sericite alteration some thin quartz-calcite veins	3-5% pyrite as disseminated blebs sphalerite, galena and chalcopyrite to 1% locally, mainly associated with quartz stockwork veining
189.4 - 192.5 m	Felsic to intermediate tuff mottled grey-green and white wispy chloritic and sericitic pumice fine grained siliceous groundmass, some possible large quartz grains faulted and sheared contact	moderate quartz-chlorite-sericite alteration	1-2% pyrite
192.5 - 215.6 m	Altered rhyolite? light brown, fine grained, massive & silicic small sericite flecks, after feldspar?, a few small quartz phenos calcite void fill - resembles amygdulites locally 192.5 - 215.6 m - fault gouge and breccia, some ductile shearing at 80-90° to the core 195.0 - 196.4 m - fractured and with three small fault gouges 212.5 - 215.6 m - "contact zone"? with underlying felsic intrusive zones of relatively unaltered pink rhyolite, likely pieces of pyritic alteration caught up in the underlying unit, but could be a less altered equivalent	strong quartz-pyrite-sericite alteration rare chloritic alteration, i.e. 200.5 - 200.6 m and 204.6 - 204.9 m (as breccia infill)	- pyrite varies from about 10 - >50%, - mainly very finely disseminated, (resembles pyritic mud locally) about 1-3% coarser "recrystallized"? pyrite minor sphalerite and galena associated with thin quartz and quartz-calcite stringers - chalcopyrite locally with chlorite alteration 212.5 - 215.6 m - base metal sulphides more common <1%
215.6 - 229.7 m	Rhyolite sill or dyke pink, fine grained, hard and massive below about 213.5 m becomes gradationally sheared and sericitic, also cut by a network of black chloritic fractures and quartz-calcite veins lower contact moderately sheared @ ~ 50° to the core	Sericitic alteration related to shearing below 213.5 m	215.6 - 229.1 m - <1% pyrite, disseminated and as rare veinlets @ 214.1 m minor cpy with calcite- quartz-chlorite veining
229.7 - 241.0 m	Rhyolite, altered, similar to above dyke light brown and buff, 70-75% brown and pyritic buff zones to "fragments" appear to be less altered version of the pyritic rhyolite - contact are often gradational moderately sheared lower contact		229.3 - 229.7 m - sp, ga and cpy with calcite-quartz veining

HOLE NO. BR-99-08-01

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

Sheet No. 4

Depth & Lithology	Description	Alteration	Mineralization
241.0 - 246.1 m	Felsic sill or dyke pink - rhyolitic, slightly coarser grained centrally and close to granodiorite 241.0 - 241.3 m - chloritic and sericitic shearing at 75-80° to the core 245.5 - 246.1 m - sericitic shearing @ 50° to the core		
246.1 - 255.0 m	Altered felsic volcanic as above grey brown with buff, less altered fragments 253.05 - 253.65 m - almost massive pyrite 253.65 - 255.0 m - fragmental - wispy grey felsic fragments in a slightly darker, similar matrix	strong quartz-sericite pyrite alteration 251.0 - 251.2 m - chloritic alteration	2246.1 - 253.05 m - 10-30% pyrite 253.05 - 253.65 m - >70% pyrite, minor base metal sulphides 253.65 - 255.0 m - 20-30% pyrite
255.0 - 258.3 m	Felsic dyke pink, fine grained rhyolite dyke upper contact at 45-50° to the core, lower contact along the core and veins to 259.7 m		
258.3 - 269.2 m	Altered felsic, as above light brown and grey, local short fragmental zones mainly rhyolitic 268.6 - 269.2 m - fault breccia, similar to H.A.G. type breccias, rounded and angular quartz and lithic chips in a fine silty matrix, matrix is pyritic competent breccia contains a few "prominent" quartz grains below 268.8 m sharp contact @ 85° to the core at 269.2 m		
269.2 - 278.18 m	Prominent quartz rhyolite pink to brownish quartz feldspar porphyry unaltered - likely intrusive		minor pyrite
278.18 - 297.0 m	Light grey-green fragmental - altered sheared and locally brecciated to 281.2 m, shearing dies out slowly below 281.2 m appears to be altered felsic and "mafic"? fragments local white sericitized feldspars, also waxy green irregular calcite clots and stringers throughout 296.0 - 297.0 m - altered felsic	moderate to strong sericite-quartz alteration	generally 1-2% pyrite but local zones with to 5% 296.0 - 297.0 m - 5% pyrite, minor sp, ga
	- 297.0 m E.O.H. -		

HOLE NO. BR-99-08-01

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

SHEET NO. 1 of 5

PROJECT NO. _____

HOLE NO. BR-99-08-01

PROPERTY Little Sandy?

Sample No.	From (meters)	To (meters)	Length (meters)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Ba (ppm)
21527	7.85	10.0	2.15	Altered felsic volcanic	10	20	30	0.3	14	680
21528	10.0	12.5	2.5	Altered felsic volcanic	17	153	369	0.3	16	1450
21529	12.5	15.0	2.5	Altered felsic volcanic	10	65	219	0.3	12	419
21530	15.0	17.5	2.5	Altered felsic volcanic	22	20	170	0.3	14	1050
21531	17.5	20.0	2.5	Altered felsic volcanic	12	20	101	0.3	18	947
21532	20.0	22.5	2.5	Altered felsic volcanic	10	20	61	0.4	23	937
21533	22.5	24.4	1.9	Altered felsic volcanic	14	22	98	0.4	23	662
	24.4	25.4	1.0	Altered rhyolite, 3-5% py, minor sp, ga	10	564	218	0.6	12	600
21534	25.4	27.4	2.0	Altered felsic volcanic	14	45	52	0.5	22	730
21535	27.4	29.4	2.0	Altered felsic volcanic	13	20	86	0.7	32	536
21536	29.4	31.7	2.3	Altered felsic volcanic	12	20	55	0.6	24	470
	31.7	34.7	3.0	Weakly altered rhyolite, 3-8% pyrite	<10	20	43	0.6	9	1010
21537	34.7	38	3.3	Altered felsic volcanic	17	20	78	0.3	10	400
	38.0	40.5	2.5	Weakly altered rhyolite, 3-8% pyrite	24	53	132	0.4	6	262
21538	40.5	43.0	2.5	Altered felsic volcanic	33	20	111	0.3	13	638
21539	43.0	45.5	2.5	Altered felsic volcanic	26	20	92	0.3	16	545
21540	45.5	47.5	2.0	Altered felsic volcanic	26	20	169	0.3	20	1050
21541	47.5	49.0	1.5	Altered felsic volcanic	26	20	114	0.3	25	386
	49.0	50.0	1.0	Altered rhyolite, 2-8% py, minor sp	11	166	229	0.3	3	741
21542	50.0	52.5	2.5	Altered felsic volcanic	22	20	102	0.3	18	2300
21543	52.5	55.0	2.5	Altered felsic volcanic	44	21	91	0.3	28	525
21544	55.0	57.5	2.5	Altered felsic volcanic	19	20	67	0.4	31	532
21545	57.5	60.0	2.5	Altered felsic volcanic	20	20	181	0.3	16	689
21546	60.0	62.5	2.5	Altered felsic volcanic	23	20	80	0.3	27	510
21547	62.5	65.0	2.5	Altered felsic volcanic	25	20	70	0.3	16	818
21548	65.0	67.5	2.5	Altered felsic volcanic	24	20	88	0.3	8	498
21549	67.5	70.0	2.5	Altered felsic volcanic	12	20	189	0.3	7	594
21550	70.0	72.5	2.5	Altered felsic volcanic	24	20	102	0.3	4	620
21551	72.5	75.0	2.5	Altered felsic volcanic	26	27	135	0.3	8	479

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

SHEET NO. 2 of 5

PROJECT NO. _____

HOLE NO. BR-99-08-01

PROPERTY Little Sandy?

Sample No.	From (meters)	To (meters)	Length (meters)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Ba (ppm)
21552	75.0	77.5	2.5	Altered felsic volcanic	22	70	203	0.3	9	617
21553	77.5	80.0	2.5	Altered felsic volcanic	29	169	264	0.3	9	781
21554	80.0	82.5	2.6	Altered felsic volcanic	27	140	265	0.3	8	357
21555	82.6	85.3	2.7	Altered felsic volcanic	23	20	103	0.3	8	370
21556	85.3	88.0	2.7	Altered felsic volcanic	23	55	346	0.3	9	259
	88.0	89.0	1.0	Altered felsic volcanic, 2-8% py, minor sp, ga	21	36	810	0.3	5	190
	89.0	92.0	3.0	Altered felsic volcanic, 2-8% py, minor sp, ga	18	364	746	1.5	23	435
	92.0	93.0	1.0	Altered felsic volcanic, 2-8% py, minor sp, ga	29	1320	1320	2.8	18	564
	93.0	96.0	3.0	Altered felsic volcanic, 2-8% py, minor sp, ga	14	199	841	0.8	7	361
	96.0	98.8	2.8	Altered felsic volcanic, 2-8% py, minor sp, ga	31	424	1780	0.4	9	302
	98.8	100.0	1.2	Altered felsic volcanic, 2-8% py, minor sp, ga	27	498	1830	0.5	12	298
DUP.	98.8	100.0	1.2		28	380	1910	0.6	11	301
21557	100.0	102.5	2.5	Altered felsic volcanic	25	184	327	0.3	7	277
21558	102.5	105.0	2.5	Altered felsic volcanic	25	161	278	0.3	7	332
21559	105.0	107.5	2.5	Altered felsic volcanic	23	248	320	0.3	8	399
21560	107.5	110.0	2.5	Altered felsic volcanic	25	778	1160	0.3	10	613
21561	110.0	112.5	2.5	Altered felsic volcanic	10	20	197	0.3	7	712
21562	112.5	114.0	1.5	Altered felsic volcanic	30	96	179	0.3	8	707
21563	114.0	116.0	2.0	Altered felsic volcanic	27	20	271	0.3	10	533
	116.0	119.0	3.0	Altered felsic volcanic, 2-5% py, minor sp, ga	10	111	696	0.3	5	666
21564	119.0	121.5	2.5	Altered felsic volcanic	31	21	1130	0.3	15	627
21565	121.5	123.7	2.2	Altered felsic volcanic	30	20	712	0.3	14	323
21566	123.7	125.5	1.8	Altered felsic volcanic	13	30	433	0.3	12	364
	125.5	126.5	1.0	Altered felsic volcanic, 2-5% py, minor sp, ga	28	236	2670	0.6	16	1190
21567	126.5	129.5	3		32	34	747	0.3	15	694
	129.5	131.5	2	Altered felsic volcanic, 5-10% py, minor sp, ga	13	20	742	0.5	13	1200
21568	131.5	134.0	2.5	Altered felsic volcanic	35	135	811	0.6	28	1120
21569	134.0	136.5	2.5	Altered felsic volcanic	31	52	732	0.8	19	680

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

SHEET NO. 3 of 5

PROJECT NO. _____

HOLE NO. BR-99-08-01

PROPERTY Little Sandy?

Sample No.	From (meters)	To (meters)	Length (meters)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Ba (ppm)
21570	136.5	139.0	2.5	Altered felsic volcanic	49	40	1730	0.6	21	1080
21571	139.0	141.5	2.5	Altered felsic volcanic	57	55	1900	0.5	17	895
21572	141.5	144.0	2.5	Altered felsic volcanic	70	91	861	0.3	19	1080
21573	144.0	146.5	2.5	Altered felsic volcanic	18	32	887	0.6	21	506
21574	146.5	149.0	2.5	Altered felsic volcanic	56	202	1370	1.5	27	413
21575	149.0	151.5	2.5	Altered felsic volcanic	43	20	1000	0.6	21	627
	151.5	154.0	2.5	Altered felsic volcanic, 8-10% py, minor sp, ga	38	20	3690	1	20	547
21576	154.0	155.4	1.4	Mafic dyke	97	20	163	0.3	15	680
	155.4	156.4	1.0	Altered felsic volcanic, 8-10% py, minor sp, ga	47	372	3580	1.7	28	326
	156.4	158.5	2.1	Altered felsic volcanic, 8-10% py, minor sp, ga	47	970	2170	5.1	53	440
21577	158.5	161.0	2.5		45	170	420	2.5	31	523
21578	161.0	163.5	2.5		46	240	809	0.9	24	732
21579	163.5	165.5	2.0		29	20	78	1.6	32	583
21580	165.5	167.0	1.5		26	20	92	0.7	38	1300
	167.0	168.2	1.2	Pyro bx, 5-8% py, minor sp and ga	22	1510	1840	1.4	38	849
	168.2	170.0	1.8	Pyro bx, 5-8% py, minor sp and ga	42	878	1150	1.7	51	1110
21581	170.0	172.5	2.5	Altered felsic volcanic	35	70	129	0.7	29	849
21582	172.5	175.0	2.5	Altered felsic volcanic	21	20	99	0.4	21	676
21583	175.0	179.5	2.5	Altered felsic volcanic	10	20	86	0.3	28	329
21584	177.5	180.0	2.5	Altered felsic volcanic	10	20	98	0.3	12	221
21585	180	181.8	1.8	Altered felsic volcanic	15	66	200	0.3	8	380
21586	181.8	182.9	1.1	Mafic dyke	102	20	77	0.3	9	2350
21587	182.9	184.7	1.8	Altered felsic volcanic	19	20	158	0.3	23	642
	184.7	186.9	2.2	Altered felsic volcanic, 3-5% py	173	22	133	0.6	21	484
DUP.	184.7	186.9	2.2		165	20	138	0.6	20	493
	186.9	189.4	2.5	Altered felsic volcanic, 3-5% py, minor sp, ga and cpy	246	23	676	0.5	20	221
	189.4	192.5	3.1	Altered felsic volcanic to intermediate, 1-2% py	146	44	238	0.4	4	184
	192.5	195.5	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	32	32	381	5.5	108	369
	195.5	198.5	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	13	52	104	0.4	5	239

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

SHEET NO. 4 of 5

PROJECT NO. _____

HOLE NO. BR-99-08-01

PROPERTY Little Sandy?

Sample No.	From (meters)	To (meters)	Length (meters)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Ba (ppm)
	198.5	201.5	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	24	20	133	0.3	11	1340
	201.5	204.5	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	14	20	111	0.4	13	214
	204.5	207.5	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	153	20	64	0.3	8	169
	207.5	210.5	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	39	20	68	0.3	4	153
	210.5	213.5	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	11	20	164	0.3	4	379
	213.5	215.6	2.1	Altered felsic volcanic, >10% py, minor sp, ga and cpy	27	186	749	0.3	1	137
	229.20	232.00	2.8	Altered felsic volcanic, >10% py, minor sp, ga and cpy	32	28	961	0.3	<1	285
	232.00	235.00	3.0		<10	24	93	0.3	<1	121
DUP.	232.00	235.00	3.0		10	23	91	0.3	<1	123
	235.00	238.00	3.0		10	37	201	0.3	1	121
	238.00	241.00	3.0		115	22	278	0.6	3	134
	246.10	249.00	2.9		<10	35	154	0.3	11	144
	249.00	251.00	2.0		131	20	225	0.3	10	163
	251.00	253.00	2.0		34	20	190	0.3	6	227
	253.00	254.00	1.0	Alt. felsic volcanic & massive py, minor sp, ga & cpy	23	328	922	0.8	44	383
	254.00	255.00	1.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	26	25	291	0.5	11	324
	258.3	261.3	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	26	33	88	0.5	13	1080
DUP.	258.3	261.3	3.0		27	35	87	0.5	11	1120
	261.3	264.3	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	27	55	53	1.4	30	2850
	264.3	267.3	3.0	Altered felsic volcanic, >10% py, minor sp, ga and cpy	14	154	62	0.3	7	2480
	267.3	269.2	2.9	Altered felsic volcanic, >10% py, minor sp, ga and cpy	14	314	304	0.3	3	2210
21588	269.2	271.7	2.5	PQ Rhyolite	26	20	55	0.3	6	523
21589	271.7	274.2	2.5	PQ Rhyolite	31	20	38	0.3	6	594
21590	274.2	276.2	2.0	PQ Rhyolite	11	20	36	0.3	8	560
1591	276.2	278.2	2.0	PQ Rhyolite	12	20	38	0.3	9	348
21592	278.2	280.7	2.5	Altered fragmental	10	20	41	0.3	9	1250

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

SHEET NO. 5 of 5

PROJECT NO. _____

HOLE NO. BR-99-08-01

PROPERTY Little Sandy?

[illegible]

NOTE: Pb - 20 = <20; Ag - 0.3 = <0.3