

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

Sheet No. 1

UTM CO-ORDINATES 512900 E 5407379 N
 MINE GRID 1128+18 E 74+25 N
 ELEVATION 221.24 m
 DIP AT COLLAR -90°
 BEARING _____
 TOTAL DEPTH 374.0 m CORE SIZE NQ
 REMARKS Powerhouse alteration zone

Tests Depth	Dip	Magnetic Bearing	Corrected Bearing
<u>351 m</u>	<u>-90°</u>	<u>(36.5°)</u>	<u>(13.5°)</u>
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Project No. B-4805 Hole No. BR-99-04-01
 Property Buchans - Powerhouse
 NTS 12A/15 Grid Name Buchans East
 Date started 07/06/99 Completed 11/06/99
 Contractor Petro Drilling
 Logged by Harris & Oxford - 1999

Depth & Lithology	Description	Alteration	Mineralization
0 - 10.45 m	Overburden		
10.45 - 49.9 m	Mafic volcanic, Jb? basaltic fragmentals and tuffs medium to ark green, white and pink calcite amygdules, matrix and veining small chlorite amygdules 21.6 - 21.8 m - weak shearing at 15-20° to the core local weak foliation to shearing to 30.0 m 32.0 - 39.8 m - fine grained, fairly large dark green fragments in a pink calcite matrix 2 cm fault gouge at 39.8 m 41.9 - 44.0 m - fault breccia, some shearing @ 50-60° to the core 45.0 - 45.3 m - some fault gouge and breccia 49.6 - 49.9 m - fault breccia and gouge, some foliation @ 45° to the core, sharp contact at 45° @ 49.6 m	local weak bleaching calcite introduction some weak chloritic alteration below 40.0 m	rare pyrite, local disseminated hematite
49.9 - 54.0 m	Altered mafic volcanic light green to buff, locally hard and felsic looking 49.9 - 51.0 m - light green bleached mafic, small stretched amygdules, some shearing and fault gouge, patchy silicification 51.0 - 53.1 m - gradational to buff silicified and felsic looking rock, some fault breccia 51.0 - 51.5 m, small sericite "amygdules"? 53.1 - 54.0 m - gradational to more chloritic thin fault gouge at 53.1 m	moderate to strong quartz-sericite± chlorite alteration, local quartz stockwork veining	≈ 5% pyrite, to 1% base metal sulphides locally, mainly with stockwork silicification

HOLE NO. BR-99-0401

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Sheet No. 2

Depth & Lithology	Description	Alteration	Mineralization
54.0 - 64.0 m	Mafic tuff light green, moderately sheared and foliated at 45-55° to the core 54.0 - 54.6 m - some fault gouge and breccia mainly small mafic chips in a fine grained matrix, local calcite rich matrix some amygdaloidal lithic fragments with calcite and chlorite amygdules fairly strong shearing 61.8 - 63.0 m coarser fragmental 63.0 - 64.0 m gradational contact	bleaching and some weak chloritic alteration local, minor silicification	55.7 - 55.8 m - 1-2% pyrite with silicification elsewhere rare pyrite 62.0 - 64.0 m - ≈ 1% pyrite
64.0 - 68.4 m	Altered mafic or felsic volcanic light grey to greenish, moderately foliated foliation is commonly folded or contorted fairly hard and siliceous, locally fragmental small sericite specks, after feldspar?	moderate to strong quartz-sericite alteration	≈ 1% disseminated pyrite
68.4 - 237.6 m	Altered felsic volcanic, rhyolite and rhyolite breccia? may be in part altered mafic near 68.4 m light grey to brownish, locally fragmental local small plagioclase phenocrysts, mostly altered to sericite small broken quartz phenocrysts throughout commonly looks like altered Buchans River Fm. rhyolite 68.4 - 78.0 m - fragmental, some darker pyritic fragments 87.0 - 88.9 m - 2 small fault gouge and breccia zones below 78.0 m massive flow, some local fragmental zones appear to be due to alteration zones with heavily disseminated pyrite often have large waxy sericite "phenos" 102.9 - 103.8 m - minor fault gouge 117.4 - 117.6 m - fault breccia, also 124.9 - 125.1 m below 205.0 m zones of white rhyolite breccia often appears brecciated by alteration 194.2 - 194.4 m, 195.1 - 195.2 m and 195.7 - 195.9 m - lithic tuff to breccia, wispy pumice-like fragments with >50% pyrite 219.4 - 220.9 m - pale pink autobreccia 221.4 - 222.5 m - some possible altered mafic weak shearing below 222.0 m at high angles to the core 237.2 - 237.6 m - fault breccia, altered felsic fragments in a grey sandy matrix	strong quartz-sericite-pyrite alteration 154.4 - 158.5 m - chlorite-pyrite stockwork veining, also 171.4 - 173.0 m and 183.0 - 196.0 m, especially 190.6 - 191.7 m semi-massive pyrite "veins" are moderately conductive	68.4 - 75.0 m - 1-2% pyrite minor sp, ga and cpy disseminated and along fractures 75.0 - 86.0 m - ≈ 3% pyrite, minor sp, ga and cpy disseminated and with calcite veining 86.0 - 237.6 m - 5-10% pyrite with local zones of 30-40% commonly finely disseminated local base metal sulphides, commonly with calcite veining, i.e. @ 98.1 m, but also disseminated 105.1 - 106.8 m - ≈ 40% fine pyrite, minor cpy (like hole BE-11) 118.8 - 122.5 m - ≈ 50% pyrite 16.2 - 117.0 m - ≈ 1% base metal sulphides 148.5 - 158.5 m - 30-40% pyrite, some as coarser stockwork veining 158.5 - 158.8 m - <1% cpy other zones of 20-40% pyrite throughout 194.2 - 194.4 m - to 1% sphalerite disseminated 220.7 - 221.6 m - 2-3% base metal sulphides with small quartz stockwork veining 224.0 - 224.4 m - ≈ 50% pyrite minor sp

HOLE NO. BR-99-0401

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Sheet No. 3

Depth & Lithology	Description	Alteration	Mineralization
237.6 - 290.1 m	Arkose and arkosic conglomerate pink and light green fractured with local discrete shears and fault breccias mainly rhyolitic fragments, commonly with prominent quartz 249.7 - 250.1 m - fault breccia 254.0 - 255.1 m - some fault breccia and gouge 255.0 - 271.0 m - fairly massive pink arkose small fault breccia @ 266.5 m 273.8 - 290.1 m - arkosic pebble conglomerate	green sericitic alteration due to shearing	
290.1 - 305.1 m	Siltstone and sandstone 290.1 - 295.8 m - mainly green siltstone, some bedding at 70-80° to the core 295.8 - 305.1 m - pink sandstone 293.5 - 293.6 m - fault breccia 297.1 - 297.5 m and 30.7 - 301.8 m - fault breccia		
305.1 - 307.3 m	Interlayered hematitized basalt and arkosic sediments red and green, sheared at 80-90° to the core calcite stringers and amygdulites small fault breccia @ 307.3 m		
307.3 - 338.6 m	Arkosic sediments local siltstone interbeds sheared and locally brecciated 307.3 - 324.0 m 310.9 - 311.0 m - clayey fault gouge 317.3 - 318.1 m, 321.6 - 321.9 m and 323.4 - 324.1 m - light green fine grained fault zones, mostly competent, consolidated some narrow gouge zones, a few large quartz grains 324.1 - 338.6 m - pink arkose and arkosic conglomerate some shearing and quartz-carbonate veining 334.0 - 338.6 m - faulted common gouge and breccia zones		
338.6 - 374.0 m	Basalt mainly red, hematitized, locally light to medium green calcite veining and clots commonly sheared with local fault gouge and breccia shearing mostly at low angles to the core (20-30°) fault gouge and breccia 348.4 - 349.4 m, 350.2 - 350.3 m, 364.8 - 366.7 m 368.0 - 373.0 m - fractured along the core - 374.0 m E.O.H. -		

HOLE NO. BR-99-0401

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

SHEET NO. 1 of 3PROJECT NO. B-4805HOLE NO. BR-99-04-01PROPERTY Buchans Powerhouse

Sample No.	From (meters)	To (meters)	Length (meters)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Ba (ppm)
	49.9	51.5	1.6	Alt. mafic or felsic volcanic ~ 5% py to 1% sp, ga and cpy	202	20	1170	1.7	26	391
	51.5	54	2.5	Alt. mafic or felsic volcanic ~ 5% py to 1% sp, ga and cpy	129	393	917	3.6	71	154
	68.4	71.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	<10	20	78	0.3	6	138
DUP.	68.4	71.4	3.0		<10	20	87	0.3	5	141
	71.4	74.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	55	84	288	0.3	4	157
	74.4	77.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	40	20	149	0.3	5	178
	77.4	80.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	30	20	58	0.3	4	174
	80.4	83.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	<10	20	21	0.6	13	189
	83.4	86.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	26	20	82	1.4	7	177
	86.4	89.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	80	27	53	1.7	12	186
	89.4	92.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	116	20	308	0.3	4	195
	92.4	95.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	57	20	70	0.3	2	184
	95.4	98.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	65	202	398	0.3	3	253
	98.4	101.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	14	20	26	0.4	6	200
	101.4	104.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	35	24	124	0.7	11	230
	104.4	107.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	127	20	196	2	39	269
DUP.	104.4	107.4	3.0		118	37	205	2.1	39	265
	107.4	110.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	109	195	655	1.8	25	216
	110.4	113.4	3.0	Altered felsic volcanic, 1-30% py, local sp, ga and cpy	92	20	1140	0.3	6	284
	113.4	116.2	2.8	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	129	38	577	0.3	2	283
	116.2	117.0	0.8	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	90	752	1080	0.6	18	303
	117.0	120.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	63	20	1710	0.3	7	
	120.0	123.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	49	20	520	0.5	15	368
	123.0	126.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	16	20	23	0.3	12	345
	126.0	129.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	19	20	39	0.6	13	387
	129.0	132.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	<10	20	25	0.3	6	221
	132.0	135.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	10	20	23	0.4	10	246
DUP.	132.0	135.0	3.0		11	20	25	0.4	11	192
	135.0	138.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	16	20	320	0.5	6	250

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SHEET NO. 2 of 3PROJECT NO. B-4805HOLE NO. BR-99-04-01PROPERTY Buchans Powerhouse

Sample No.	From (meters)	To (meters)	Length (meters)	DESCRIPTION	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)	Ba (ppm)
	138.0	141.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	15	20	35	0.3	2	365
	141.0	144.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	14	20	33	0.5	8	358
	144.0	147.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	20	20	57	0.5	16	355
	147.0	150.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	17	20	32	0.7	5	364
	150.0	153.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	113	20	23	0.3	15	369
	153.0	156.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	1250	23	62	0.6	14	394
	156.0	159.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	1050	20	60	0.8	13	406
	159.0	162.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	598	20	34	1.4	19	454
	162.0	165.0	3.0	Altered felsic volcanic, 2-30% py, local sp, ga and cpy	26	20	36	0.5	29	425
DUP.	162.0	165.0	3.0		21	20	35	0.6	27	429
	165.0	168.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	13	22	30	0.3	13	412
19201	168.0	171.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	10	20	35	0.5	21	474
19202	171.0	174.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	10	20	84	1.4	17	383
19203	174.0	177.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	10	20	40	0.4	9	295
19204	177.0	180.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	10	20	34	0.4	7	242
19205	180.0	183.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	10	24	37	0.3	18	185
19206	183.0	186.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	227	61	334	0.8	12	410
19207	186.0	189.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	32	71	249	1.0	12	461
19208	189.0	192.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	30	33	181	2.0	39	404
19209	192.0	195.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	138	86	892	1.2	17	427
19210	195.0	198.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	73	80	458	1.2	22	328
19211	198.0	201.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	21	81	776	0.8	15	272
19212	201.0	204.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	20	20	56	0.6	11	253
19213	204.0	207.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	26	20	73	0.5	9	321
19214	207.0	210.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	174	242	1750	2.2	28	348
19215	210.0	213.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	37	43	430	0.3	11	257
19216	213.0	216.0	3.0	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	10	20	10	0.3	1	10
19217	216.0	218.5	2.5	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	10	139	189	0.7	11	144
19218	218.5	220.7	2.2	Altered felsic volcanic, 5-10% py, local sp, ga and cpy	10	20	92	0.7	8	144
	220.7	221.6	0.9	Altered felsic volcanic, ~ 25% py, < 1% sp, ga and cpy	314	258	1380	0.8	14	

