PROJECT

PROPERTY: HARTLESS JOE

HOLE: HJ08-03

Easting	Northing	Elev.	Depth (m)
515127	6852234		

Contractor: BEUDOIN DIAMOND DRILLING INC.
Drill: JKS SUPER-300

Core size: BTW
Casing depth: (m) out

Drilling dates:

Logged by: Doug Eaton

Target: Gold and silver rich talus and strong topographic linears suspected of being vein faults.

SURVEY

Depth (m)	Azimuth	Dip	Method	Depth (m)	Azimuth	Dip	Method
collar	110	45	Brunton				

SUMMARY

From (m)	To (m)	Interval	Unit	Comments

SAMPLES

Numbers:

Total:
Date sent:

COMMENTS

The hole crossed major faults and was stopped because of danger of loosing rods.

DRILL HOLE LOG

PROPERTY-HARTLESS JOE

Hole: HJ-08-03 Zone: Page: 1/11

Northing: 6752154 Easting: 515206 Elevation:

Drilling Dates: JULY 5-9/08 Logged by: M P PHILLIPS

Length: 167.34 m Core Size: BTW Casing: 3.05 (m) in/out

Depth:	0.00
Dip:	-45°
Azim:	200°

From (m)	To (m)	Interval (m)	Unit		QZ	CA	CB			SX	PY	MN	LI	BD	FR	ZN
0.00	3.05	3.05	CASN													
no recovery																
3.05	4.88	1.83	LIMS	X	o	o	o			o	o	o	o	-	-	S
~40cm recovery & core highly broken; blk carb Ls; probable part of Cong unit																
4.88	7.93	3.05	CONG	X	o	< W	o			o	Q L	< T	< T	-	S	T
			SAND	70												
CONG - blk, carb Ls > md & weak pale green volc - v small to med pebble size SAND - md, Ls & volc - fine-coarse sand & occ grit size matrix																
7.93	9.76	1.83	CONG	X	o	< W	o			o	o	< T	< T	-	M	T
			SAND	30												
CONG - blk carb Ls > md & pale green volc - granule to large cobble size SAND - sand to grit size; Ca vt to 7mm av 1-2mm white - occ orange rim - oxd ca or oxd cb?																
9.76	11.59	1.83	CONG	X	o	< 1	o			o	o	o	< T		W	T
			SAND	05												
CONG - mostly pale green volc - cobble - boulder size; SAND - silt-sand size. Ca vt < 2mm often pale yellow weathered; CONG - < 3 cm PPQF pebble;																
11.59	13.41	1.82	CONG	X	o	< W	o			o	o	o	< T	-	S	T
			SAND	10												
CONG - mostly large boulder blk carb Md - minor parting Ls & wk porphyritic volc; SAND - sand to grit size matrix																
13.41	16.77	3.36	MUDS	X	o	< W	< W			o	Q L	o	< T	35	W	
						# W										
MUDS - interbedded v thin, blk to dk gy & lt gy, mostly pale orange, not typical; Cb vt - pale orange, nil-wk fizz HCl, occ vt Ca core;																

From (m)	To (m)	Interval (m)	Sample Number

DRILL HOLE LOG Hole: HJ-08-03 Zone: Page: 2/11

PROPERTY-HARTLESS JOE Northing: Easting: Elevation:

Drilling Dates: Logged by:

Length: Core Size: Casing: (m) in/out

Depth:			
Dip:			
Azim:			

Visual Log V	S	(m)	From (m)	To (m)	Interval (m)	Unit		Alteration and Mineralization: QZ	CA	CB			SX	PY	MN	LI	BD	FR	ZN
			16.77	18.90	2.13	MUDS	X	0	< 1	< ?			0	0	0	< T	35	M	L
			18.00	18.90	0.90	SILT	X												
			to 18.00m - as previous; below dcr blk md thin beds & icr pale orange brn. med thin md gradually becomes coarser - silt size; SILT - < 10% blk md														
			18.90	19.90	1.00	SILT	X	0	< 1	< ?			0	0	0	< T	-	M	L
			19.38	19.90	0.52													S	
			Silt - pale-med orange, minor partings gray md; below 19.38 to Lct strong fr; cavt - <0.5mm; color silt due to intrusive; Lct 70°?)														
			19.90	21.04	1.14	PPQZ	X	< 1	< W	< T			0	< L	0	< T		S	T
								B											
			PPQZ - pale orange, 5% to 2mm qz phn, intense micro fr - minor. br, near bottom; weak fx phn; wk cy + ca on weathered fr; Qzvt < 3mm assoc rim py - lt wk, vts displaced by fr; Py - fr, cracks & rim qzvt; Cbvt? - pale orange 0.5mm														
			21.04	23.77	2.73	PPFQ	X	< 2	< T	< L			?	< L	< T	< L		A	O
			PPFQ - pale orange to pale gray orange, fx ~ 15% fine gned alt to cy - MS? Qzvt - 0.5mm - 10mm most < 1, dcr to Lct, rdic lt; Py - most to lc, v wk fr-cracks Cbvt - bncvt definite, white assoc qzvt														
			23.77	26.22	2.45	PPFQ	X	< L	< L	< L			D T	D L	< L	< L		A	O
			25.45	26.22	0.77													W	
			PPFQ - as above, to Lct fx phn. finer; 24.90 - 5cm bc - br, 55°; 25.45 - btm fr - A Qzvt dcr - most < 1mm. rare py(w) lin; Py - assoc qzvt, most dry fr - cracks; cb - weath fr & rare with qzvt; lc - most looks ex very fine py.														
			26.22	27.52	1.30	PPFQ	X	< L	< W	< ?			D T	D L	< L	< L		W	O
			PPFQ - as above, hyp rock, pelagy; Qzvt - v wk < 0.5mm; Py - crack & dis - very fine btm cnt 15°; PPFQ - may include hb? - but altered now altered to sericite														
			27.52	29.88	2.36	CONG	30	0	< W	?			0	D L	0	0		S	S
						SAND	70												
			Cong - granule to medium pebble, av small pebble size, blk carb ls, md & volc SAND - fine-coarse sand & grit size matrix														

From (m)	To (m)	Interval (m)	Sample Number
18.90	19.90	1.00	6087311
19.90	21.04	1.14	312
21.04	23.77	2.73	313
23.77	26.22	2.45	314
26.22	27.52	1.30	315
27.52	28.20	0.68	316
at	28.20	Blank Sample	317

DRILL HOLE LOG

PROPERTY-HARTLESS JOE

Hole: HJ-08-03 Zone: Page: 3/11

Northing: Easting: Elevation:

Drilling Dates: Logged by:

Length: Core Size: Casing: (m) in/out

	Depth:		
	Dip:		
	Azim:		

Visual Log			From	To	Interval	Unit		Alteration and Mineralization																				From	To	Interval	Sample
V	S	(m)	(m)	(m)	(m)			QZ		CA		CB					SX		PY		MN		WI		BD		FR		ZN		(m)	(m)	(m)	Number
			29.88	31.10	1.22	CONG	X		0	<	1		0					0	D	L	<	T	<	T		-		S		S				
						SAND	30																											
			as previous																															
			31.10	32.00	1.22	CONG	X																											
			32.00	32.32	0.32	MUDS	X		0	<	L		0					0		0		0	<	T		45°		M		S				
			Cong & SAND - as previous; MUDS - thin interbedded black carb md & orange colored md - as seen at 13.41m; 45°																															
			32.32	33.17	0.85	MUDS	X		0	<	L		0					0		0		0		0		40°		M		S				
			33.17	35.06	1.89	CONG	X																											
			MUDS - as above, becomes silty btm half; Cong - blk carb & blk chert md, volc. & minor dk to lt gy ch; SAND in parts strong volc.																															
			35.06	38.11	3.05	CONG	X		0	<	W		0					0	D	T		0		0		0		W		S				
						SAND	10																											
			Cong - lt green volc, gray & blk ls, md - blk & gray - blk chert max 7cm. SAND - mainly pale green volc.																															
			38.11	39.25	1.14	CONG	X		0	<	L		0					0	D	T		0		0		0		W		S				
						SAND	10																											
			Cong - as above & SNMb as above, ICR blk silty calc md																															
			39.25	39.63	0.38	CONG	X		0	<	2		0					0		0		0	<	T				M		T				
						SAND	10																											
			- rock lt bwn - blc - sup?, ICFR & CA VT																															
			39.63	42.68	3.05	CONG	X	<	L	#	2	<	L					0	F	L		0	<	T		-		A		T				
						SAND	10			<	2																							
			Cong - greenish gy, & light bwn sup on fc - w · ca - matrix - br - narrow irreg VVT; Qz - VT & CB; below 42.20 - blc lt bwn, vl. clasts to 1m.																															

DRILL HOLE LOG

PROPERTY-HARTLESS JOE

Hole: HJ-08-03 Zone: Page: 4/11

Northing: Easting: Elevation:

Drilling Dates: Logged by:

Length: Core Size: Casing: (m) in/out

Depth:			
Dip:			
Azim:			

From (m)	To (m)	Interval (m)	Unit		QZ	CA	CB			SX	PY	MN	LI	BD	FR	ZN
42.68	43.46	0.78	FAUL	X	0	0	# 40			0	0	0	0	–	X	S
			VL02													
VL – pale orange, bwn; Cb-matrix filling – white to v. pale orange ~40° VL – insitu below 40.58 (?); br – cb flooding matrix cong?																
43.46	45.73	2.27	VL02	X	0	0	< 3			•	D T	0	0	–	S	S
VL – ble, pale orange; fr(s) cbvt to 2mm; VL? – possible clast in cong. VL02?																
45.73	48.78	3.05	CONG	X	< W	< L	≶ 5			0	0	0	0	–	S	S
			SAND	05											W	
Cong – blc pale orange to 46.30, below gray green; fr der below 46.30 Cb – up to 25mm at top der below, to < 2mm, rare ± qz & ± ca; CONG looks like boulder size clasts v/ –; Cb-occ fr pale orange; Qzvm – 25mm																
48.78	51.83	3.05	VL02	X	0	# 1	> L			0	< L	0	< L	–	W	S
			VL02			< 1										
VL – VL02? – v fine gned, 15cm band amygd: ca filled < 2mm; near 6tm 30cm ble on around up to 10mm CbVM; blk shr (cl?) often ca; Cong?																
51.83	54.88	3.05	VL02	X	< L	K 2	< L			0	0	0	< T	–	W	S
VL med green, 'shr' bands < 2mm – 25mm – dk color often ca – fair Ca stk – icr to lct; Cbvt + qz in wk blc vl;																
54.88	57.93	3.05	VL02	X	> L	# 7	< W			0	0	0	< L	–	S	T
							>									
VL med green, below 56.40 patches fair bles below 57.25 blc orange bwn. lc/br to 6tm – on congl matrix?; 40° shr – up to 25 common; strong hc ca matrix Qzvm – 10mm; Cb VM to 10mm.																
57.93	58.50	0.57	VL02	X	< L	< W	< W			0	0	< L	< W	–	S	T
VL – pale green – wk ble & pale orange near btm cnt; Cbvt – white < 3mm ± qz.																

From (m)	To (m)	Interval (m)	Sample Number	
54.88	56.40	1.52	G 087318	
56.40	57.93	1.53	319	
57.93	58.50	0.57	320	0.43m

DRILL HOLE LOG Hole: HJ-08-03 Zone: Page: 5/11

PROPERTY-HARTLESS JOE Northing: Easting: Elevation:

Drilling Dates: Logged by:

Length: Core Size: Casing: (m) in/out

Depth:			
Dip:			
Azim:			

Visual Log V	Visual Log S	Visual Log (m)	From (m)	To (m)	Interval (m)	Unit		Alteration and Mineralization: QZ	CA	CB			SX	PY	MN	LI	BD	FR	ZN	From (m)	To (m)	Interval (m)	Sample Number	Rec
			58.50	60.63	2.13	FAUL	X	0	0	0			0	0	0	< L	-	X	0	58.50	60.63	2.13	G087321	0.35m.
						VLO2	X																	
						FAUL - v/l at 6tm. md; shrs strong br.																				
			60.63	60.78	0.15	VEIN	X	V 50	< L	V 20			0	0	0	0	-	X	S	60.63	60.98	0.35	322	100%
						MUDS	30																	
						btm cnt approx; VEIN-QZ-CB (70%) in blk carb md; core highly broken;																				
			60.78	60.98	0.20	CHER	X	> 5	0	> 2			0	0	0	0	-	X	S						
						highly broken; CHERT minor VL & blk carb md; rock br. wk qz+cb MV.																				
			60.98	61.59	0.61	CHER	X	> 5	0	< 2			0	0	0	0		X	S	60.98	61.59	0.61	323	0.27m
						MUDS	5																	
						Recovery - 0.27m; ~0.15m dk gy chert up to 7cm, remainder core intense broken - br, minor. md - blk carb; QZ+cb (w) MV;																
			61.59	62.20	0.61	FAUL	X	0	0	0			0	0	0	0		X	S	61.59	62.20	0.61	324	0.25
																br f/g								
						Recovery 0.25m; looks like flt zone - most v fine frg (clasts) in clay-silt matrix; Ls - blk - redrill pieces, few fragments of ppQz; cnt ppqz																
			62.20	62.80	0.60	PPQZ	X	0	0	< 3			0	< L	0	0		M	S	62.20	63.11	0.91	325	0.45m.
						Recovery 0.30m; PPQZ - not typical wk (< 1%) qzpho (< 1mm) in av. fine grained matrix, wk pinhed & rare < 1cm inclusions - chert & mudstone cbrt < 1mm; blk vt - very fine py - wavy crack filling																
			62.80	63.11	0.31	PPQZ	X	0	0	0			0	< L	0	0		A	S						
						Rec 0.15m; much rock looks like cave - blk Ls & md sch; qzpho not common, matrix fine grained.																

DRILL HOLE LOG

PROPERTY-HARTLESS JOE

Hole: HJ-08-03 Zone: Page: 6/11

Northing: Easting: Elevation:

Drilling Dates: Logged by:

Length: Core Size: Casing: (m) in/out

Depth:		
Dip:		
Azim:		

Visual Log V	S	(m)	From (m)	To (m)	Interval (m)	Unit		Alteration and Mineralization: QZ	CA	CB			SX	PY	MN	LI	BD	FR	ZN
			63.11	63.72	0.61	PPQZ	X	<L	0	<1				<L		<L	-	A	T
								PPQZ - as prev; cbvt <2mm ± qz; qzvt <0.1mm; fr-blk vfine py											
			63.72	64.70	0.98	PPQZ	X	<L	0	<2				<L	0	<L	-	A	T
						MDLS	30												
						PP- qz phn rare, matrix vf grained, clasts 1cm-25cm blk md s ls; Cbvt 0.5-4mm av 1mm ± qz; blk fr vf py; btm cnt 70°;										
			64.70	65.24	0.54	MUDS	X	0	<L	<0.5				0	0	0	0	-	A	S
			65.24	66.77	1.53	MUDS	X	0	<L	<L				0	DW	0	0	25°	M	S
						MD - blk carb, occ dk gy v thin bds; Py - diss in MD;														
			66.77	67.97	1.20	CONG	X	0	<L	<L				0	DL	0	0	0	A	S
						SAND	10													
						CONG - mostly blk carb md s wk alt-blc vl; SN - dk fine sand size														
			67.97	68.58	0.61	CONG	X	0	<L	<L				0	DL	0	0	-	A	S
						SAND	10													
						CONG - blk carb md s ls mainly, weak banded ch; SAND - pale orange vole sand size matrix														
			68.58	69.79	0.79	CONG	X	0	<L	<L				0	DL	0	0	-	A	S
			69.55	69.79	0.24	FAUL	X												X	
						Cong! - blk carb ls s vole; SAND - vole s md sand size matrix FAUL - mod, highly fr-br.														

From (m)	To (m)	Interval (m)	Sample Number	Rec.
63.11	63.72	0.61	G087326	0.41m
63.72	64.70	0.98	327	0.63m
64.70	65.24	0.54	328	0.50m
65.24	66.77	1.53	329	
66.77	67.97	1.20	330	
67.97	68.58	0.61	331	
68.58	69.79	1.21	332	

DRILL HOLE LOG

PROPERTY-HARTLESS JOE

Hole: HJ 08-03 Zone:

Page: 7/11

Northing: Easting: Elevation:

Drilling Dates: Logged by:

Length: Core Size: Casing: (m) in/out

Depth:			
Dip:			
Azim:			

From (m)	To (m)	Interval (m)	Unit		QZ	CA	CB			SX	PY	MN	LI	BD	FR	ZN	From (m)	To (m)	Interval (m)	Sample Number
69.79	71.32	1,53	CONG	X	0	< W	< W			0	D L	0	0	-	A	S	69.79	71.32	1.53	G087333
			SAND	40																
71.32	73.46	2.14	CONG	X	< T	< 3.	0			0	D T	0	0	0	M	S				
			SAND	20																
73.46	75.29	1 83	CONG	X	0	< 2	0			0	D T	0	0	0	M	S				
			SAND	10																
75.29	77.75	2.46	CONG	X	0	< W	< L			0	D T	0	0	0	M	S	75.29	77.75	2.46	334
			SAND	40																
77.75	78.33	0.88	PPFQ		0	< 2	0			0	D/< L	0	0	0	M	S	77.75	78.33	0.58	335
78.33	80.47	2.14	PPFQ		0	< W	< L				</D W	0	< T	-	M	S	78.33	80.47	2.14	336
80.47	82.30	1.83	PPQZ		0	< W	< T				</D L	0	< T	-	A	S	80.47	82.30	1.83	337

69.79–71.32: Cong – Ls-md & pale orange volc (alt) & med green volc – up to 30 cm diameter

71.32–73.46: Cong – pale green volc – up to 1.5 m, blk carb md & ls;

73.46–75.29: Cong – volc – mostly, pale green to 1 m, minor md, SAND – mainly clay – silt size matrix;

75.29–77.75: Cong – md – blk & ltgy v thin bd, up to 75 cm, blk ls & volc; SAND looks in part clay-silt size md & ls; cbvt on shr – 7 mm;

77.75–78.33: PPFQ – light gy to v pale orange (fr.); wk anhedral fine occ 2 mm fx phn; minor qz phn – fine; Vct 25°; matrix phn – very fine grained; py – xl, fine grained

78.33–80.47: PPFQ – dcr v wk. fx phn, v wk. to 3 mm qz phn; Py – lcr in blk v fine py on irreg fr

80.47–82.30: PPQZ – dcr faint phn fx to lcrc, lcr qz phn to 5 mm av 1 mm; fr lcr often slk; dcr. blk fr v fine py.; since 77.75 – fine xl diss & fr py and 2nd type fr only. blk very fine py – in part sx?

DRILL HOLE LOG

PROPERTY-HARTLESS JOE

Hole: HJ-08-03 Zone:

Northing: Easting: Elevation:

Drilling Dates: Logged by:

Length: Core Size: Casing: (m) in/out

Depth:			
Dip:			
Azim:			

From (m)	To (m)	Interval (m)	Unit		QZ	CA	CB			SX	PY	MN	LI	BD	FR	ZN
82.30	84.60	2.30	PPQZ	X	o	< L	< T			o	< W / D	o	o	-	A	S
PPQZ - minor narrow bands v fine anhedral fx to btm, qz phn - to 10mm av <4mm. Py - diss > fr. fine xl & (2) blk v fine fr coating, near btm 20cm band - mod near lct. Ca - fr - orange to white; cb - icr. vt near lct; fr often slk.																
84.60	85.34	0.74	PPQZ	X	o	< T	< 3			o	< L / D	o	o	-	S	S
PPQZ - matrix becomes fine grained; fr icr to S & narrow band (<5cm) bc. Cb vt - up to 3mm & blebs (vt xc by fr); fr - S to 15cm bc; Py - blk v wk - generally on shr fr.																
85.34	87.17	1.83	PPQZ	X	> 2	< T	o			o	< L	o	o		S	S
			PPFX	45											bc	
PPFX - bands fine crowded fx phn, 30 & 50cm bands; Qz vt 1-2mm & MV to 16mm. Py - mostly blk on shr fr, occ with fine gned py																
87.17	88.05	0.88	VL01	X	< W	o	o			o	< L	o	o		S	S
87.70	87.83	0.13	FAUL	X												
fr - icr to btm; FAUL - strong shr - gray black - v fine py, ± 25°. 87.83 - 88.05 - 30% to 3cm clasts of blc volc.																
88.05	90.22	2.17	VL01	X	< L	o	< 1				S L	o	o		S	S
89.10	89.20	0.10	FAUL	X												
VOLC - pale bwn - blc; Cb vt - up to 2mm, locally up to 5%; Py - blk v fine - low. FAUL - bc - br - fair intensity																
90.22	91.44	1.22	VL01	X	< L	< 1	< L			o	< L	o	o	-	S	
90.31	90.39	0.08	VEIN	X	P 5		P 5			o	D T	o	o	o	50	S
VEIN - blc vl - silicified & carbonate alt; VL - lt bwn grading to normal med green color; dcr cb vt to btm & icr ca vt; Py - no blk type, fine xl present																
91.44	92.66	1.22	VL01		o	< 3	o			o	o	o	o	-	S	
91.73	92.66	0.93	FAUL		> W	< L	o								55 X	
VL - to 91.73 - med. green; FAUL - 55° bc - br, volc - blc. light bwn, qz - vt & mv to 13mm;																

From (m)	To (m)	Interval (m)	Sample Number
82.30	85.34	3.04	G087338
85.34	87.17	1.83	339
at	87.17	Blank Sample	340
87.17	88.05	0.88	341
88.05	90.22	2.17	342
90.22	91.44	1.22	343
91.44	92.66	1.22	344

DRILL HOLE LOG
PROPERTY-HARTLESS JOE

Hole: HJ-08-03 Zone: Page: 9/11
Northing: Easting: Elevation:
Drilling Dates: Logged by:
Length: Core Size: Casing: (m) in/out

Depth:			
Dip:			
Azim:			

Visual Log			From	To	Interval	Unit		Alteration and Mineralization																	From	To	Interval	Sample
V	S	(m)	(m)	(m)	(m)			QZ		CA		CB				SX		PY		MN		LI		BD		FR		ZN	(m)	(m)	(m)	Number
			92.66	93.90	1.24	VLO1	X		O	<	L	>	L				O		O		O		O		–		X			92.66	93.90	1.24	G087345
			93.00	93.10	0.10	FAUL	X																									
			VOLC – med-pale green lcr blc to btm – light brwn.																													
			FAUL ±10cm br-bc.																													
			93.90	94.49	0.59	VLO1	X		O		O	<	L				O	<	?		O		O		O		X		O	93.90	94.49	0.59	346
			93.90	94.49	0.59	FAUL	X																									
			VOLC – pale-med orange; FAUL – looks mainly like ac bc-as veinlets																													
			– veins show little displacement;																													
			94.49	97.54	3.05	FAUL	X	/		/		/						?		O		O		O		X		O	94.49	97.54	3.05	347
			94.49	97.54	3.05	VLO1	X																									
			FAUL below 9510 from bc to br – < 3mm av. clasts in a crushed rock																													
			matrix, 40-50° shr; 10cm band blc undistubed volc – misplaced core?																													
			97.54	98.70	1.16	VLO1	X	<	W	<	T	<	1				O		O		O	D	T		O		A		T	97.54	100.58	3.04	348
			98.40	98.70	0.30	FAUL	X																				X					
			97.75 – FAUL – 10cm. br.; FAUL – br, pale orange;																													
			98.70	100.58	1.88	VLO2		<	W	<	2	<	3				O	D	T				O		O		M		S				
			Vlc – med green, often oolitic, 2cm pillows – amygdaloidal; cbvt dcr to lct																													
			covt – to 5mm.																													
			100.58	103.63	3.05	VLO2	X	<	W	<	2	>	W				O	D	T				O		–		W		S	100.58	103.63		349
			Vlc – med-dk green, amygdales 2 pillows 1cm – 8cm diameter in dk green																													
			matrix – cl?; cbmv – up to 15mm + qz – in shr volc.																													
			103.63	106.68	3.05	VLO2	X		O	<	1		O					D	T						–		W						
						CHER	/			P	L																						
			VOLC – dk green gray; amygdales – cal-cl filled, spots to 8cm pillows; chert in																													
			pillow matrix – weak in 5 to 25 cm bands;																													

DRILL HOLE LOG

PROPERTY-HARTLESS JOE

Hole: HJ-08-03 Zone:

Page: 10/11

Northing: Easting: Elevation:

Drilling Dates: Logged by:

Length: Core Size: Casing: (m) in/out

Depth:		
Dip:		
Azim:		

Visual Log V	S	(m)	From (m)	To (m)	Interval (m)	Unit		QZ	CA	Cb			SX	PY	MN	LI	BD	FR	ZN
			106.68	109.73	3.05	VL02	X	o	< 1	o				D T	o	o	-	W	S
						CHER	50												
						VL - pale green & dk green gy; fair band 35 cm to 50% irreg thin bds of chert													
			109.73	112.78	3.05	VL02	X	o	< 1	o				D T	o	o	–	W	S
			111.29	111.41	0.12	VEIN	X	P 90	P 5	o				< L				70	
						VEIN - volc. inclusions, lct 70° & uct irregular; 110.33-110.82 - band ~7% sht 40-50° up to 1cm qz ± ca vt, wk shr around qz vt - start of qz vn; VL - interbanded dk gy green & pillows (to 10 cm) often amygdaloidal													
			112.78	115.82	3.04	VL02		> W	K 2	> W				D T	o	o	-	W	S
						VL - pale green pillows in blk green matrix - phn; amyg & oolites to 5mm; Qz mv < 10mm, ± ca ± cb(?); Cb mv - 1cm; 50° pale orange; ca vt - stk (wk)													
			115.82	118.87	3.05	VL02		o	K 2	o				D T	o	o	-	W	S
									P L										
						VL - med green & dk green gy - amyg & oolitic to 3mm - pale green & wk ca - stk (w) to 10mm av 1-2mm; pervasive band vl.													
			118.87	121.92	3.05	VL02	X	< T	# 2.	o				D T	o	o	-	W	S
			119.50	120.49	0.99	CHER	X												
						VOLC - wk < 5cm pillows, lt-med green; 121.0 shr - 10° 0-2mm ca + qz; CH - lt gy to blk, in part replacing vl, fr with ca filling; ca - sht to stk to bc filling													
			121.92	124.97	3.05	VL02	X	o	K 4	o				D T	o	o	-	W	S
						VL - med green, pillows to 1.5m; ca - stk (w) to bc matrix filling; v wk fine amyg. in vl;													
			124.97	128.02	3.05	VL02	X	o	K 3	o				D T	o	o	-	W	S
						VL - med green, v fine grained, pillows to ± 2m. ca - gy (incl. volc) stk (w) ca vt & later white sht ca vt to 3mm;													

From (m)	To (m)	Interval (m)	Sample Number
110.25	111.50	1.25	G087350

DRILL HOLE LOG

PROPERTY- HARTLESS JOE

Hole: HJ-08-03 Zone: ______ Page: 11 | 11

Northing: ______ Easting: ______ Elevation: ______

Drilling Dates: ______ Logged by: ______

Length: ______ Core Size: ______ Casing: ______ (m) in/out

Depth:			
Dip:			
Azim:			

Visual Log V	S	(m)	From (m)	To (m)	Interval (m)	Unit		QZ	CA	CB			SX	PY	MN	LI	BQ	FR	ZN.	From (m)	To (m)	Interval (m)	Sample Number
			128.02	131.06	3.04	VL02	X	0	K 5	0			0	D T	0	0	0	W	S.				
			VL, med-dk green, flows; ~5% to 12 cm patches lt gy fine gned strong perv ca-devitrified-in pillow matrix; occ blcb-fr cl(shr) & of kn strong ca. ca-gray. wk stk up to 5mm vt; VL-v fine gned, fxphn, rare amyg;																				
			131.06	134.11	3.05	VL 02	X	0	K 5	0			0	D T	0	0	0	W	S				
			VL - med green flow, wk v fine fx phn to crowded fine fx phn, possible alt px (cl) ca - gy, wk stk mostly vt < 10mm, av 2-3mm, rare white ca vt (xc qy vts)																				
			134.11	137.16	3.05	VL02	X	0	K 4	0			0	D T	0	0	0	W	S	136.10	137.00	0.90	C107910
			136.44	136.66	0.22	VEIN	X	V 50	V 5	0								65°					
			VEIN - sheared vl; 65°, blc, vn up to 4cm (silicified vol) + wk ca, py=0; rr ca vt & ca-qz vt < 6 mm. 30 to 50 cm in h/w & f/w of vein; VL - pale-med green v fine grained, ± 2m(?) pillows, cnt - 10cm band oolitic to 3mm																				
			137.16	140.21	3.05	VL02	X	< L	K 3	0			0	D T	0	0	0	W	S	138.65	139.00	0.35	C107911
			138.76	138.96	0.20	VEIN	X	> 8	> 8				0	0				45					
			VEIN - upper 10 cm crude stk to 3mm vt qz+ca; on btm cnt 45° 1.5cm MV VOLC - pale green (aphanitic) to med green v f grained pillows to 10cm(?) oolites - pale green, zoned common;																				
			140.21	143.26	3.05	VL 02	X	< L	K 2	0			0	D T	0	0	0	W	S				
			VL - lt - med green, pillows 2.-20cm av 3-4cm in blk devitrified volc matrix pillow-concentric lines common; oolites - pale green common, to 4mm																				
			143.26	146.30	3.04	VL02	X	0	K 3.	0			0	D T	0	0	0	W	S.				
			VL - as above; med green v f gned volc grades into pale green aphanitic & at top med-strong oolites																				
			146.30	149.35	3.05	VL02	X	< 0.3	K 3	0				< L	0	0	0	W	S				
			VL - as above, pillows - 1cm - btm half 1.2m, blc rims, matrix often ca(s) Py-occ T-W in ca vt;																				

DRILL HOLE LOG

PROPERTY - HARTLESS JOE

Hole: HJ-08-03 Zone: Page: 11/11

Northing: Easting: Elevation:

Drilling Dates: Logged by:

Length: 167.34 m Core Size: Casing: (m) in/out

Depth:			
Dip:			
Azim:			

From (m)	To (m)	Interval (m)	Unit		QZ		CA		CB						SX		PY		MN		LI		BD		FR		ZN	
149.35	151.49	2.14	VL02	X		0	K	3		0						0	D	T		0		0		–		W		S
150.53	150.59	0.06	VEIN	X	γ	50	P	10		0						0										80		

VEIN: silicified shr vl's up to 10mm mv + ca; VL – pale green pillows 2 – 50cm av 5cm; fair oolites

From (m)	To (m)	Interval (m)	Unit		QZ		CA		CB						SX		PY		MN		LI		BD		FR		ZN	
150.59	154.53	3.94	VL02	X		0	K	2		0						0	D	T		0		0		–		W		S

VL – med green, aphanitic – hb? phn or alt fx, pillows – 2cm to 75cm av. 5-10cm; ca – up to 1cm mv most <1mm irreg stk; VL – note no oolites.

From (m)	To (m)	Interval (m)	Unit		QZ		CA		CB						SX		PY		MN		LI		BD		FR		ZN	
154.53	157.58	3.05	VL02	X		0	K	2		0						0	<	L		0		0		–		W		S
			CHER	05																								

VL med green, porphyritic, v fine - fine fx & px(?) 50cm band pillows – 2-10 cm; no oolites; 15cm blk to gy chert band; shr – 40° cl(?) 5mm; wk xl py

From (m)	To (m)	Interval (m)	Unit		QZ		CA		CB						SX		PY		MN		LI		BD		FR		ZN	
157.58	160.63	3.05	VL02	X	<	L	K	1		0						0	D	T		0		0		–		W		S
			CHER	03																								

VL – lt – med green, wk matrix – looks fine – coarse blocky vl; no oolites, vl – fx & px(?) phn fine gned; 2x narrow irreg <5cm bands of chert;

From (m)	To (m)	Interval (m)	Unit		QZ		CA		CB						SX		PY		MN		LI		BD		FR		ZN	
160.63	163.68	3.05	VL02	X		0	K	1		0						0	<D	L		0		0		–		W		S
			CHERT	07																								

VL – med green wk fine fx & px(?) phn in micro xl matrix; 50cm band – pillows to 3cm, often look like frg rocks in a block matrix; CH – gy frgs & patches to 8cm; py – chert, most on fr ± ca

From (m)	To (m)	Interval (m)	Unit		QZ		CA		CB						SX		PY		MN		LI		BD		FR		ZN	
163.68	166.72	3.04	VL02	X	<	L	K	1	<	L							<	L		0		0		–		W		S
			CHER	01																								

VOLC – med green v fine grained, occ patch clouded fine fx phn; vt – <3mm cb + qz + ca; Py – fr + ca vt

From (m)	To (m)	Interval (m)	Unit		QZ		CA		CB						SX		PY		MN		LI		BD		FR		ZN	
166.72	167.34	0.62	VL02																									

as above

167.34 E.O.H

From (m)	To (m)	Interval (m)	Sample Number
150.40	150.70	0.30	C107912

PROPERTY: **HOLE:** HJ08-03

Struct.		LITHOLOGY								ALT.			MINERALS				SAMPLES							Blocks			GEOTECHNICAL						JOINTS					
																											REC		RQD									
Type	Attitude	From (m)	To (m)	Interval (m)	Type	Unit	Texture	Modifier	Notes:								From (m)	To (m)	Interval (m)	Sample				From (m)	To (m)	Intvl. (m)	(m)	Percent	(m)	Percent	Weathering	Hardness	Frequency	Attitude	Shape	Roughness	Infilling	
																								0.00	3.05	3.05	0.02	1%	0.3	11%							
																								3.05	4.88	1.83	0.27	15%	0	0%							
																								4.88	5.49	0.61	0.39	64%	0.2	25%							
																								5.49	6.40	0.91	0.37	41%	0	0%							
																								6.40	7.32	0.92	0.70	76%	0.2	23%							
																								7.32	7.93	0.61	0.27	44%	0	0%							
																								7.93	9.76	1.83	2.63	144%	0.3	16%							
																								9.76	11.59	1.83	1.09	60%	0.1	5%							
																								11.59	13.40	1.81	1.36	75%	0	0%							
																								13.40	14.02	0.62	0.39	63%	0	0%							
																								14.02	15.15	1.13	0.86	76%	0	0%							
																								15.15	16.77	1.62	0.44	27%	0.4	22%							
																								16.77	17.68	0.91	0.65	71%	0.1	11%							
																								17.68	17.99	0.31	0.29	94%	0	0%							
																								17.99	18.90	0.91	0.94	103%	0	0%							
																								18.90	21.04	2.14	0.65	30%	0.5	23%							
																								21.04	22.87	1.83	0.48	26%	0.5	25%							
																								22.87	23.80	0.93	0.67	72%	0	0%							
																								23.80	26.22	2.42	2.57	106%	0.4	18%							
																								26.22	27.13	0.91	1.02	112%	0.4	43%							
																								27.13	28.96	1.83	1.52	83%	0.7	40%							
																								28.96	29.88	0.92	0.52	57%	0	0%							
																								29.88	31.10	1.22	0.97	80%	0	0%							
																								31.10	32.32	1.22	0.62	51%	0	0%							
																								32.32	35.06	2.74	2.03	74%	0.5	18%							
																								35.06	36.59	1.53	0.52	34%	0.1	8%							
																								36.59	38.11	1.52	1.48	97%	0.6	38%							
																								38.11	39.63	1.52	10.80	711%	0.3	18%							
																								39.63	42.68	3.05	2.12	70%	1.5	49%							
																								42.68	45.73	3.05	1.08	35%	1.2	38%							
																								45.73	48.78	3.05	2.47	81%	0.1	2%							
																								48.78	51.83	3.05	0.52	17%	1.8	60%							
																								51.83	54.88	3.05	0.59	19%	1.7	56%							
																								54.88	57.93	3.05	2.85	93%	1.6	53%							
																								57.93	60.98	3.05	0.96	31%	0	0%							
																								60.98	61.59	0.61	0.16	26%	0	0%							
																								61.59	62.20	0.61	0.17	28%	0	0%							
																								62.20	62.80	0.60	0.16	27%	0	0%							
																								62.80	63.11	0.31	0.05	16%	0	0%							
																								63.11	63.72	0.61	0.36	59%	0	0%							
																								63.72	65.24	1.52	0.79	52%	0	0%							
																								65.24	66.77	1.53	1.04	68%	0	0%							
																								66.77	67.97	1.20	0.57	47%	0	0%							
																								67.97	68.58	0.61	0.43	70%	0	0%							
																								68.58	69.79	1.21	0.68	56%	0	0%							
																								69.79	71.32	1.53	1.25	82%	0.1	9%							
																								71.32	73.46	2.14	1.56	73%	0.1	6%							
																								73.46	75.29	1.83	1.39	76%	0.2	12%							
																								75.29	78.33	3.04	2.21	73%	0.5	15%							
																								78.33	80.47	2.14	1.77	83%	0.2	7%							
																								80.47	82.30	1.83	1.45	79%	0.1	7%							
																								82.30	85.34	3.04	1.68	55%	0.9	30%							
																								85.34	87.17	1.83	1.48	81%	0	0%							
																								87.17	90.22	3.05	1.93	63%	0	0%							
																								90.22	91.44	1.22	0.79	65%	0	0%							
																								91.44	92.66	1.22	0.65	53%	0	0%							

PROPERTY: **HOLE:** HJ08-03

Struct.		LITHOLOGY								ALT.			MINERALS				SAMPLES							Blocks			GEOTECHNICAL						JOINTS					
																											REC		RQD									
Type	Attitude	From (m)	To (m)	Interval (m)	Type	Unit	Texture	Modifier	Notes:								From (m)	To (m)	Interval (m)	Sample				From (m)	To (m)	Intvl. (m)	(m)	Percent	(m)	Percent	Weathering	Hardness	Frequency	Attitude	Shape	Roughness	Infilling	
																								92.66	94.49	1.83	1.10	60%	0	0%							
																								94.49	97.54	3.05	1.64	54%	0	0%							
																								97.54	100.58	3.04	0.47	15%	0.7	23%							
																								100.58	103.63	3.05	2.91	95%	1.8	60%							
																								103.63	106.68	3.05	1.05	34%	2.5	83%							
																								106.68	109.73	3.05	2.93	96%	2.7	89%							
																								109.73	112.78	3.05	2.90	95%	2.4	79%							
																								112.78	115.82	3.04	2.93	96%	2	64%							
																								115.82	118.87	3.05	2.98	98%	2.7	88%							
																								118.87	121.92	3.05	3.05	100%	2.7	90%							
																								121.92	124.97	3.05	2.89	95%	2.2	73%							
																								124.97	128.02	3.05	2.93	96%	2.8	92%							
																								128.02	131.06	3.04	2.97	98%	2.8	90%							
																								131.06	134.11	3.05	3.04	100%	2.4	78%							
																								134.11	137.16	3.05	3.05	100%	2.5	81%							
																								137.16	140.21	3.05	3.05	100%	2.4	77%							
																								140.21	143.26	3.05	3.05	100%	2.4	79%							
																								143.26	146.30	3.04	2.88	95%	2.6	86%							
																								146.30	149.35	3.05	2.99	98%	2.6	86%							
																								149.35	151.49	2.14	2.10	98%	1.5	68%							
																								151.49	154.53	3.04	3.05	100%	2.5	83%							
																								154.53	157.58	3.05	2.95	97%	2.1	68%							
																								157.58	160.63	3.05	2.80	92%	2.2	70%							
																								160.63	163.68	3.05	3.04	100%	2.9	96%							
																								163.68	166.72	3.04	3.05	100%	2.5	83%							
																								166.72	167.34	0.62	0.53	85%	0.3	45%							
																								167.34	EOH												