

TO: C. Scott, P. Eng

DATE: October 4, 2004

FROM: Thava Thavaraj

FILE NO: M09237A01

LOG NO:

SUBJECT: BPT Energy Ratios and BPT Hole Logs

Table 1 lists the estimated energy ratios used in the computation of equivalent SPT $(N_1)_{60}$ using the Sy (1993) method.

Table 1 **Energy Ratios Used in the Computation of Equivalent SPT $(N_1)_{60}$**
Using the Sy Method

BPT Hole	Dam	Estimated Energy Ratio (%)	Remarks
BPT04-01	Intermediate	-	Measured energy using PDA was used
BPT04-02	Secondary	-	Measured energy using PDA was used except in the tailings
BPT04-03	Secondary	20	-
BPT04-04	Secondary	20	-
BPT04-05	Intermediate	25	-
BPT04-08	Intermediate	25	-
BPT04-08b	Intermediate	25	-
BPT04-09	Intermediate	25	-
BPT04-09b	Intermediate	25	-
BPT04-10	Intermediate	30	-
BPT04-11	Secondary	30	-
BPT04-12	Secondary	25	-
BPT04-13	Secondary	25	-
BPT04-14	Cross-Valley	25	-

Preliminary BPT hole logs are attached for your information. They have not been checked or updated with the laboratory test data on samples collected during filed investigation.

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

BECKER TEST HOLE LOG							BECKER PENETRATION TEST				
DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Aug. 16, 2004 FINISHED: Aug. 17, 2004		INSTRUMENT DETAILS	Casing O.D.:		CLOSE ENDED (blows/0.3m)	
					DRILL RIG MODEL: Becker HAV-180			Hammer Energy: 11 kJ max. rated		OPEN ENDED (blows/0.3m)	
					GROUND ELEV. (m): 1031.1			● SPT N		BOUNCE PRESS (kPa)	
					COORDINATES (m): N 6913865 E 580451.4			W _p %		W _L %	
					DESCRIPTION OF MATERIALS			X		O	
1		Grab	1		SAND AND GRAVEL (SW-GW), fine to coarse, some cobbles, well graded, sub-rounded to sub-angular, brown, moist. [FILL]		12				
2											
3											
4		Grab	2		-water recovery at 2.74m.						
5											
6											
7					-trace silt at 6.10m.						
8		Grab	3		7.6	SAND, fine to coarse, silty, some gravel, very wet. [FILL]					
9					1023.4						
10					8.5						
11		Grab	4		1022.5	SAND AND GRAVEL, fine to coarse, some cobbles, trace silt, sub-rounded, brown, wet. [FILL]					
12					9.1						
13					1021.9						
14		Grab	5			SAND, fine to coarse, silty, some gravel, brown, very wet. [FILL]					
15											
16											
17		Grab	6		10.7	SAND AND GRAVEL, fine to coarse, some cobbles, trace silt, sub-rounded to sub-angular, brown, wet. [FILL]					
18					1020.4						
19											
20		Grab	7								
21											
22											
23					-very high water yield at 13.72m.						
24		Grab	8		13.7	SAND AND GRAVEL, medium to coarse, trace cobbles, brown, wet.					
25					1017.3						
26											
27		Grab	9								
28											
29											
30		Grab	10								
31											
32											
33		Grab	11								
34											
35											
36					-rust coloured water at 18.90m.						
37											
38											
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Continued Next Page



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

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SHEET 1 OF 3

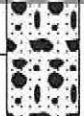
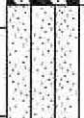
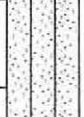
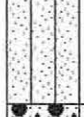
HOLE NO.: BK04-01

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)
 Hammer Energy: 11 kJ max, rated  OPEN ENDED (blows/0.3m)
 ● SPT N  BOUNCE PRESS (kPa)

W_p% W% W₁%
 X - - - - - O - - - - - X
 20 40 60 80

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Aug. 16, 2004 FINISHED: Aug. 17, 2004 DRILL RIG MODEL: Becker HAV-180 GROUND ELEV. (m): 1031.1 COORDINATES (m): N 6913865 E 580451.4 DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS	BECKER PENETRATION TEST
21		Grab	12		21.6 1009.4 SAND, fine to medium, silty, trace gravel, gap-graded, angular, brown, wet. With interbedded gravel layers.		
22		Grab	13				
23		Grab	14				
24							
25							
26					26.2 1004.9 SAND AND GRAVEL (SW-GW), fine to coarse, some cobbles, trace silt, well graded, sub-rounded, grey, wet.		
27		Grab	15				
28							
29		Grab	16				119
30							122
31							113
32							109
33							104
34							101
35							118
36							116
37							111
38							101
39							116
40							129
							117
		Grab	17				143
							125
							143
							126
		Grab	18				143
							153
							178
							191
							200
		Grab	19		36.3 994.8 TILL 36.9 994.2		114
							107
							127
							136
							124
							209
							279
							282
							324
					End of Becker Drill Hole at 39.0 m		

Continued Next Page



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

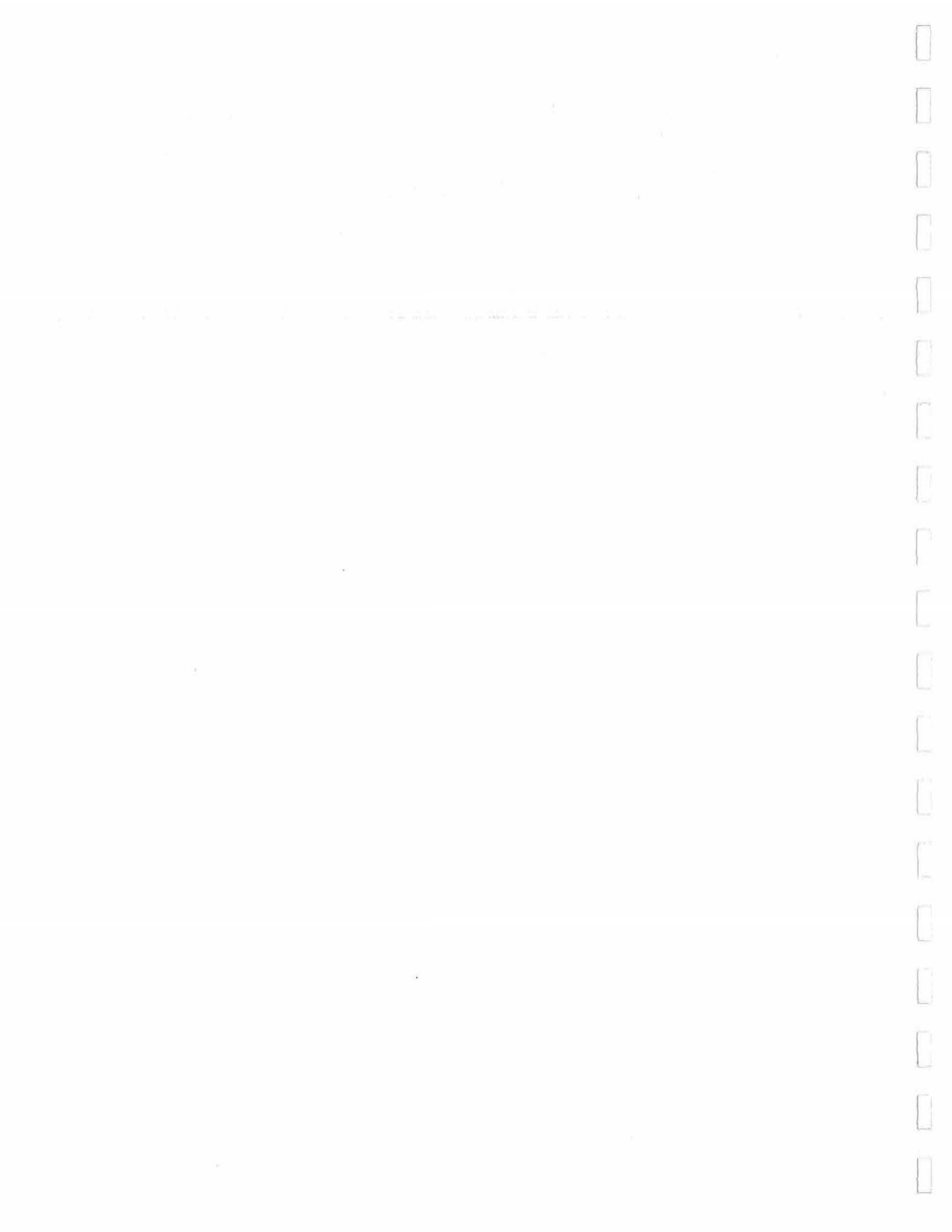
LOCATION: Faro, Yukon

LOGGED BY: RF

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SHEET 2 OF 3

HOLE NO.: BK04-01

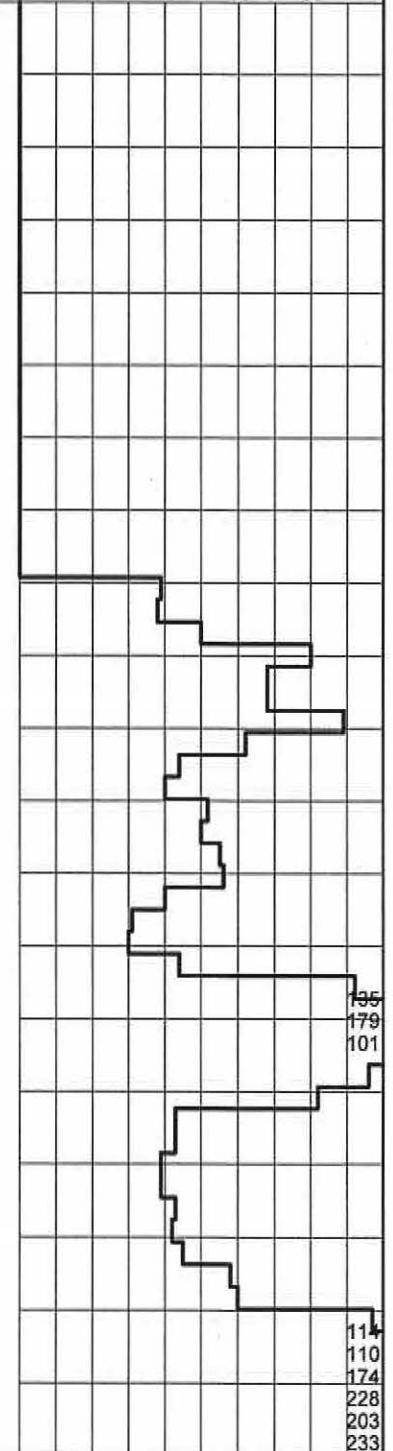


BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:		CLOSE ENDED (blows/0.3m)
Hammer Energy: 11 kJ max. rated		OPEN ENDED (blows/0.3m)
● SPT N		BOUNCE PRESS (kPa)
W _p %	W _p %	W _p %
20	40	60
80		

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Aug. 18, 2004 FINISHED: Aug. 19, 2004	INSTRUMENT DETAILS
					DRILL RIG MODEL: Becker HAV-180	
					GROUND ELEV. (m): 1051.5	
					COORDINATES (m): N 6913434 E 581979.4	
					DESCRIPTION OF MATERIALS	
1					TAILINGS.	
2						
3						
4						
5						
6						
7						
8						
9		Grab	1		8.2 1043.3 SAND AND GRAVEL (SW-GW), fine to coarse, cobbly, well graded, sub-angular to sub-rounded, grey, wet.	
10						
11		Grab	2		-rock in bit from 10.97 to 12.5m, very little recovery.	
12						
13					12.5 1039.0 SAND, fine to coarse, some silt, brown, wet.	
14		Grab	3		13.4 1038.1 -too wet to recover sample. -loose zone was encountered from 12.5 to 13.41m. SAND AND GRAVEL, fine to coarse, some cobbles.	
15		Grab	4		14.6 1036.9 -loose zone encountered at 14.63m.	
16		Grab	5		15.2 1036.3 SAND, fine to coarse, some silt, brown, wet. SAND AND GRAVEL (SW-GW), fine to coarse, some cobbles, well graded, sub-rounded to sub-angular, grey, wet.	
17						
18		Grab	6		18.3 1033.2 TILL, sandy matrix, very stiff.	
19					-no water return at 18.9m, material moist and brown.	
20						



Continued Next Page



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

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SHEET 1 OF 2

HOLE NO.: BK04-02

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:		CLOSE ENDED (blows/0.3m)
Hammer Energy: 11 kJ max. rated		OPEN ENDED (blows/0.3m)
• SPT N		BOUNCE PRESS (kPa)

W_p% W% W_L%
X O X
20 40 60 80

STARTED Aug. 18, 2004 FINISHED: Aug. 19, 2004

DRILL RIG MODEL: Becker HAV-180

GROUND ELEV. (m): 1051.5

COORDINATES (m): N 6913434 E 581979.4

DESCRIPTION OF MATERIALS

INSTRUMENT
DETAILS

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
21		Grab	7			
22		Grab	8		-high water yield, silty matrix at 21.3m	
23						
24		Grab	9		23.2 1028.4 SILT, banded grey and black layers, lacustrine deposit.	
25		Grab	10		-38 blows with Open Crowd-In Bit. -42 blows with Open Crowd-In Bit. -53 blows with Open Crowd-In Bit. -some gravel at 25.9m.	
26					26.2 1025.3 SAND AND GRAVEL, fine to coarse, some silt, sub-rounded, grey, wet.	
27		Grab	11		27.3 1024.2 -very hard at 26.8m. -from 27 to 27.3m there were 650 to 700 blows, refusal.	
28					End of Becker Drill Hole at 27.3 m	
29					NOTES:	
30					1. Hit original ground at 7.62 to 7.92m.	
31					2. No BPT data from 0 to 8.0m and 21.4 to 23.5m.	
32						
33						
34						
35						
36						
37						
38						
39						
40						

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

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SHEET 2 OF 2

HOLE NO.: BK04-02



KLOHN CRIPPEN

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)

Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)

● SPT N  BOUNCE PRESS (kPa)

W_p% W% W_L%
 X --- X --- X
 20 40 60 80

STARTED Aug. 22, 2004 FINISHED: Aug. 23, 2004

DRILL RIG MODEL: Becker HAV-180

GROUND ELEV. (m): 1049.9

COORDINATES (m): N 6913220 E 582003.2

DESCRIPTION OF MATERIALS

INSTRUMENT
DETAILS

TAILINGS.

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Grab

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12.8
1037.1 SAND AND GRAVEL, fine to coarse, some cobbles, trace silt, sub-angular to angular, grey, wet.

-Boulder (Gneiss) from 15.8 to 16.8m.

Grab

3

16.8
1033.1 SAND, fine to medium, silty, some cobbles, angular, brown, wet.

17.7
1032.2 SAND AND GRAVEL, fine to coarse, some cobbles, trace silt, sub-rounded, grey, wet.

-high water yield.
-silty from 18.9 to 19.8m.

Grab

4

Continued Next Page

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

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SHEET 1 OF 3

HOLE NO.: BK04-03(PZ)



KLOHN CRIPPEN

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:	 CLOSE ENDED (blows/0.3m)	
Hammer Energy: 11 kJ max. rated	 OPEN ENDED (blows/0.3m)	
● SPT N	 BOUNCE PRESS (kPa)	
$W_p\%$ 	$W_p\%$ 	$W_p\%$ 
20	40	60

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Aug. 22, 2004 FINISHED: Aug. 23, 2004 DRILL RIG MODEL: Becker HAV-180 GROUND ELEV. (m): 1049.9 COORDINATES (m): N 6913220 E 582003.2 DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
21					-grey, loose, high water yield.	
22					-silty from 21.9 to 22.6m.	
23					-silty from 23.5 to 23.8m.	
24						
25		Grab	5			
26						
27						
28						
29		Grab	6		-rust coloured water at 29m.	
30						
31						
32		Grab	7			
33					-compacted material, low water yield from 32.6 to 34.1m.	
34						
35					-loose, grey, high water yeild at 34.4m.	107
36						
37		Grab	8		-flat, elongated gravel from 36 to 37.8m.	
38						
39		Grab	9		-boulder from 39.3 to 39.6m. -some silt, broken rock fragments from 39.6 to 40.8m	112 117 117
40						

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

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SHEET 2 OF 3

HOLE NO.: BK04-03(PZ)



KLOHN CRIPPEN

BECKER PENETRATION TEST

CLOSE ENDED
(blows/0.3m)

OPEN ENDED
(blows/0.3m)

BOUNCE PRESS
(kPa)
$$\begin{array}{ccccccc} W_P\% & & & W\% & & & W_L\% \\ \times & \text{---} & & \circ & \text{---} & & \times \\ 20 & & 40 & & 60 & & 80 \end{array}$$

DESCRIPTION OF MATERIALS

INSTRUMENT	DETAILS
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100	...

SYMBOL

10

$$\begin{array}{r} 43.3 \\ 1006.6 \end{array}$$

End of Becker Drill Hole at 43.3 m

NOTES:

1. BPT04-03 conducted on August 23, 2004 with PDA energy analysis to 42.98m depth.
2. No BPT data from 0 to 13.1m.
3. Original ground at 12.8m.
4. BK04-03(PZ) open-ended Becker conducted on August 22, 2004 to 43.3m depth, piezometer installed.

Installation Details for BK04-03(PZ)

Cave In/Cuttings	0 - 38.7m
Bentonite	38.7 - 41.1m
Filter Sand	41.1 - 43m
Screen	43 - 43.3m

Piezometers -

Stick Up Above Ground Surface

BK04-03(PZ) ???m

Water Level Depth Below Ground Surface

BK04-03(PZ) ???m



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

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SHEET 3 OF 3

HOLE NO.: BK04-03(PZ)

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)

Hammer Energy: 11 kJ max, rated  OPEN ENDED (blows/0.3m)

● SPT N  BOUNCE PRESS (kPa)

W_p% X --- W% O --- W_L% X
20 40 60 80

STARTED Aug. 24, 2004 FINISHED: Aug. 25, 2004

DRILL RIG MODEL: Becker HAV-180

GROUND ELEV. (m): 1050.9

COORDINATES (m): N 6913324 E 581983.8

DESCRIPTION OF MATERIALS

INSTRUMENT
DETAILS

TAILINGS.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Grab

1

Grab

2

Grab

3

Grab

4

11.6
1039.3 SAND AND GRAVEL, sand (fine to coarse), gravel (fine to coarse, angular to sub-angular), some cobbles (sub-rounded to sub-angular), trace silt, brown, wet.

-high water yield.

-some silt at 13.7m.

-gravel, sub-rounded, trace silt.

-some silt from 18.3 to 18.9m.

Continued Next Page

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

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SHEET 1 OF 3

HOLE NO.: BK04-04



KLOHN CRIPPEN

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)

Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)

● SPT N  BOUNCE PRESS (kPa)

W₅% 20 40 60 80 W₁₀% W_L%

BECKER TEST HOLE LOG							BECKER PENETRATION TEST									
DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED	Aug. 24, 2004	FINISHED:	Aug. 25, 2004	INSTRUMENT	DETAILS	Casing O.D.:		CLOSE ENDED (blows/0.3m)			
					DRILL RIG MODEL: Becker HAV-180						Hammer Energy:	11 kJ max. rated		OPEN ENDED (blows/0.3m)		
					GROUND ELEV. (m): 1050.9										BOUNCE PRESS (kPa)	
					COORDINATES (m): N 6913324 E 581983.8											
					DESCRIPTION OF MATERIALS											
21		Grab	5		-some silt from 22.6 to 23.2m.						W _p %	W%	W _L %			
22																
23																
24		Grab	6		-some silt from 26.8 to 28m.											
25																
26																
27		Grab	7		-some silt from 30.2 to 31.1m.											
28																
29																
30		Grab	8		-bit pushing boulder at 31.5m. -dense at 31.7m -cobbly from 32 to 32.6m.											
31																
32																
33		Grab	9		-rock jammed in bit at 33.2m.											
34																
35																
36		Grab	12		35.7 1015.2 SAND, fine to medium, some silt, some gravel, gap-graded, brown, wet.											
37																
38																
39		Grab	13		36.6 1014.3 SAND AND GRAVEL, some cobbles, trace to some silt, sub-angular to angular, grey, wet. (TILL)											
40																
40		Grab	14		38.7 1012.2 SILT.											
40		Grab	15													

Continued Next Page



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 2 OF 3

HOLE NO.: BK04-04

BECKER PENETRATION TEST

KC_BECKER-SI 040910 - ROSE CREEK GINT LOGS.GPJ KC_DATA.GDT 10/4/04



BECKER PENETRATION TEST

Casing O.D.:

CLOSE ENDED
(blows/0.3m)

Hammer Energy:
11 kJ max. rated

OPEN ENDED
(blows/0.3m)

- SPT N

BOUNCE PRESS
(kPa)

 W_R^0

W, %

$$\begin{array}{ccccccc} W_P\% & & & W\% & & & W_L\% \\ \times & - & - & - & - & - & \times \\ 20 & & 40 & & 60 & & 80 \end{array}$$

-moist at 5.18m.

End of Becker Drill Hole at 13.1 m

1. BK04-06(PZ) open-ended Becker conducted on August 26, 2004 to 43.3m depth, piezometer installed.

Concrete	0 - 0.61m
Cuttings	0.61 - 0.91m
Bentonite Chips	0.91 - 2.4m
Cuttings	2.4 - 10.2m
Bentonite Chips	10.2 - 11.8m
Sand	11.8 - 13.1m
Screen	12.8 - 13.1m

Piezometers -

Continued Next Page

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 1 OF 2

HOLE NO.: BKS04-06(PZ)



KLOHN CRIPPEN

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:	 CLOSE ENDED (blows/0.3m)	
Hammer Energy: 11 kJ max. rated	 OPEN ENDED (blows/0.3m)	
• SPT N	 BOUNCE PRESS (kPa)	
W _p % X	W% O	W _L % X
20	40	60
80		

INSTRUMENT
DETAILS

STARTED Aug. 26, 2004 FINISHED: Aug. 26, 2004
 DRILL RIG MODEL: Becker HAV-180
 GROUND ELEV. (m): 1049.1
 COORDINATES (m): N 6913803 E 580454.9
 DESCRIPTION OF MATERIALS

DEPTH (m)
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40

Stick Up Above Ground Surface
 BK04-06(PZ) ???m
 Water Level Depth Below Ground Surface
 BK04-06(PZ) Dry



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 2 OF 2

HOLE NO.: BKS04-06(PZ)

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)

Hammer Energy: 11 kJ max, rated  OPEN ENDED (blows/0.3m)

● SPT N  BOUNCE PRESS (kPa)

W_p% W_o% W_L%
 X --- O --- X
 20 40 60 80

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Aug. 27, 2004 FINISHED: Aug. 27, 2004	INSTRUMENT DETAILS
					DRILL RIG MODEL: Becker HAV-180	
					GROUND ELEV. (m): 1049.2	
					COORDINATES (m): N 6913747 E 580407.6	
					DESCRIPTION OF MATERIALS	
1					SAND AND GRAVEL, sand (fine to coarse), gravel (fine to coarse, sub-angular to sub-rounded) some cobbles, trace silt, brown, dry. [FILL]	
2						
3						
4						
5					-moist at 4.57m.	
6						
7						
8						
9						
10						
11						
12					11.9 1037.3 End of Becker Drill Hole at 11.9 m	
13					NOTES:	
14					1. BK04-07(PZ) open-ended Becker conducted on August 27, 2004 to 11.88m depth, piezometer installed.	
15					Installation Details for BKS04-07(PZ)	
16					Concrete 0 - 0.61m	
17					Bentonite Chips 0.61 - 2.24m	
18					Cuttings 2.24 - 8.69m	
19					Bentonite Chips 8.69 - 10.11m	
20					Sand 10.11 - 11.81m	
					Screen 11.5 - 11.81m	
					- Cassagrande Tip Standpipe	
					Piezometers -	
					Stick Up Above Ground Surface	
					BK04-07(PZ) ???m	
					Water Level Depth Below Ground Surface	

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 1 OF 2

HOLE NO.: BKS04-07(PZ)



KLOHN CRIPPEN

Continued Next Page

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)

Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)

• SPT N  BOUNCE PRESS (kPa)

W_p% W% W_L%
X --- O --- X
20 40 60 80

STARTED Aug. 27, 2004 FINISHED: Aug. 27, 2004

DRILL RIG MODEL: Becker HAV-180

GROUND ELEV. (m): 1049.2

COORDINATES (m): N 6913747 E 580407.6

DESCRIPTION OF MATERIALS

INSTRUMENT
DETAILS

DEPTH (m)

SPT BLOWS
PER 0.15m

SAMPLE TYPE

SAMPLE No.

SYMBOL

BK04-07(PZ) Dry

21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 2 OF 2

HOLE NO.: BKS04-07(PZ)



KLOHN CRIPPEN

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)

Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)

● SPT N  BOUNCE PRESS (kPa)

W_p% W% W_L%
 X --- O --- X
 20 40 60 80

STARTED Aug. 28, 2004 FINISHED: Aug. 28, 2004

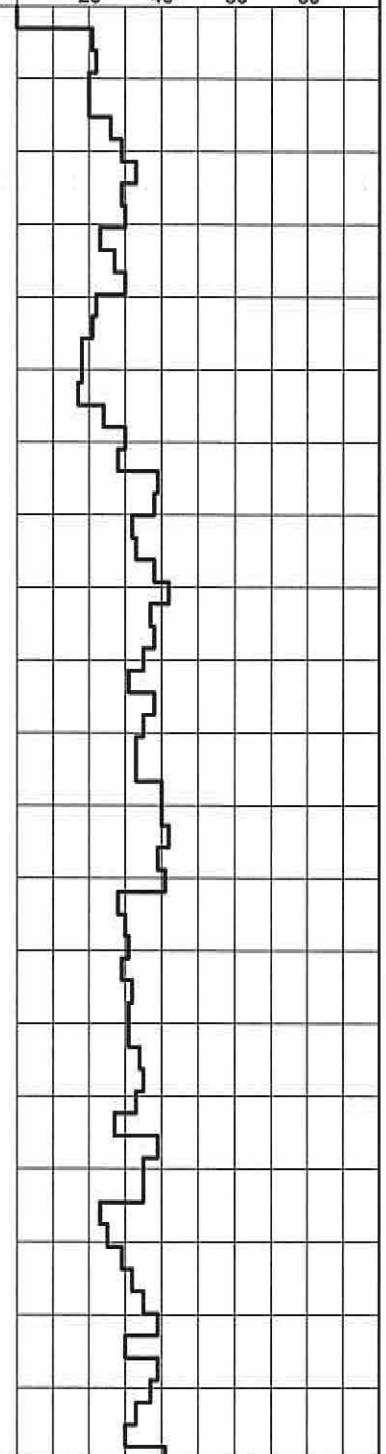
DRILL RIG MODEL: Becker HAV-180

GROUND ELEV. (m): 1031.0

COORDINATES (m): N 6913985 E 580547.5

DESCRIPTION OF MATERIALS

INSTRUMENT
DETAILS



Continued Next Page



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 1 OF 3

HOLE NO.: BPT04-08

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)

Hammer Energy: 11 kJ max, rated  OPEN ENDED (blows/0.3m)

● SPT N  BOUNCE PRESS (kPa)

W_p% W_s% W_L%
X --- O --- X
20 40 60 80

STARTED Aug. 28, 2004 FINISHED: Aug. 28, 2004

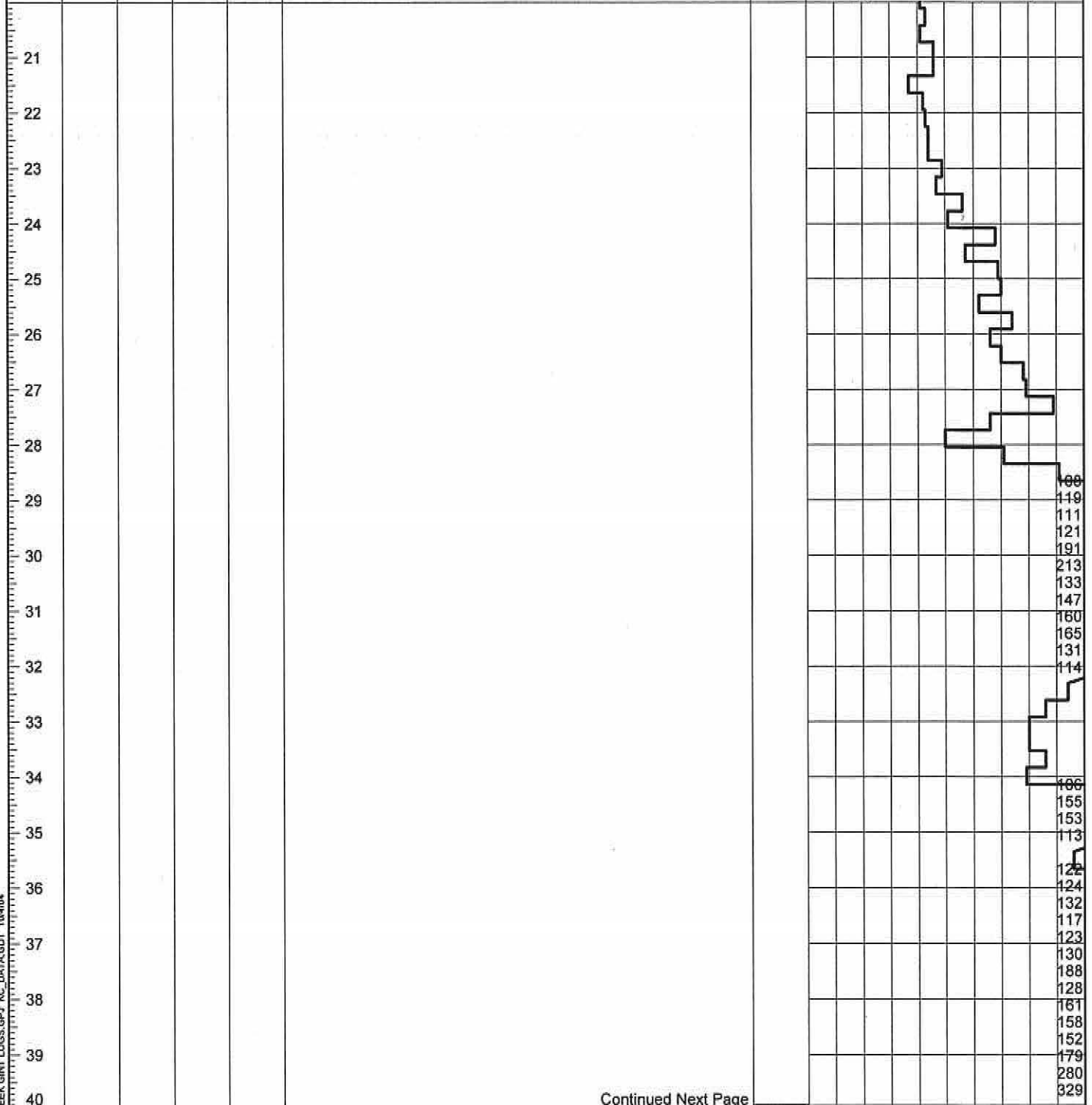
DRILL RIG MODEL: Becker HAV-180

GROUND ELEV. (m): 1031.0

COORDINATES (m): N 6913985 E 580547.5

DESCRIPTION OF MATERIALS

INSTRUMENT
DETAILS



Continued Next Page



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 2 OF 3

HOLE NO.: BPT04-08

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Aug. 28, 2004 FINISHED: Aug. 28, 2004		INSTRUMENT DETAILS	Casing O.D.:	
					DRILL RIG MODEL: Becker HAV-180			CLOSE ENDED (blows/0.3m)	
					GROUND ELEV. (m): 1031.0			OPEN ENDED (blows/0.3m)	
					COORDINATES (m): N 6913985 E 580547.5			BOUNCE PRESS (kPa)	
					DESCRIPTION OF MATERIALS			W _P % W% W _L %	
					End of Becker Drill Hole at 39.9 m				385
41					NOTES: 1. Pilot open hole drilled to 2.74m and backfilled with birds eye gravel. 2. No blow counts through gravel backfill are recorded on Plate 1. 3. At a depth of 2.74m the recorded BCP values are approximately 4psi lower tha gauge readings.				
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 3 OF 3

HOLE NO.: BPT04-08



BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)
 Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)
 • SPT N  BOUNCE PRESS (kPa)

W_p% X W% O W_L% X
 20 40 60 80

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Aug. 29, 2004 FINISHED: Aug. 31, 2004	INSTRUMENT DETAILS
					DRILL RIG MODEL: Becker HAV-180	
					GROUND ELEV. (m): 1031.7	
					COORDINATES (m): N 6914117 E 580643.3	
					DESCRIPTION OF MATERIALS	
1					SAND AND GRAVEL, some cobbles, trace silt, brown, damp.	
2						
3						
4		Grab	1		3.4 -moist at 3.05 1028.3 -water yield, with sand and gravel.	
5		Grab	2		SILT, trace to some sand (fine to medium, angular), brown, moist to wet.	
6					5.8	
7		Grab	3		1025.9 SAND AND GRAVEL, sand (fine to coarse, sub-angular), gravel (fine to coarse, sub-angular), some cobbles (fine, sub-angular to sub-rounded).	
8		Grab	4		7.3 1024.4 SAND, medium to coarse, sub-angular to rounded, gravelly (fine, sub-rounded), highly permeable.	
9					8.8 1022.8	
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Continued Next Page



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 1 OF 2

HOLE NO.: BK04-09

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)

Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)

● SPT N  BOUNCE PRESS (kPa)

W_p% W_s% W_t%
 X --- O --- X
 20 40 60 80

STARTED Aug. 29, 2004 FINISHED: Aug. 31, 2004

DRILL RIG MODEL: Becker HAV-180

GROUND ELEV. (m): 1031.7

COORDINATES (m): N 6914117 E 580643.3

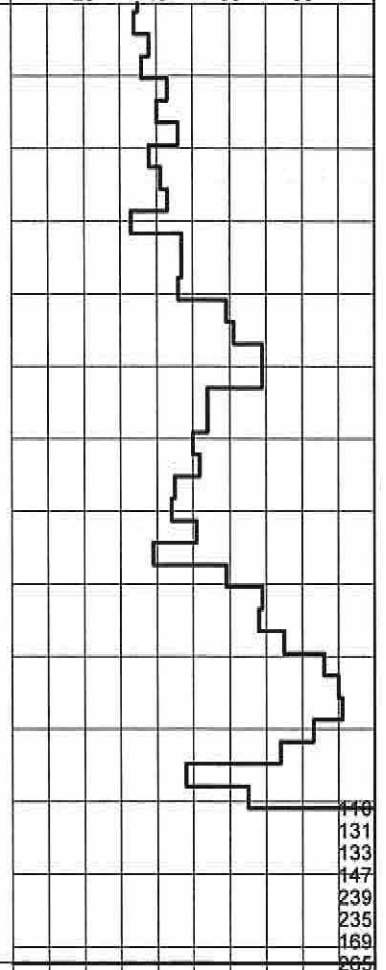
DESCRIPTION OF MATERIALS

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	INSTRUMENT DETAILS
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

End of Becker Drill Hole at 33.2 m

NOTES:

1. Pilot Open hole drilled to 5.79m depth and backfilled with birds eye gravel.
2. No blow counts are reported through gravel on Plate 1.
3. Soft Silty zone detected at 4.88m however rock could not be removed until 5.79m. Assume Fill depth of 4.57 to 4.88m at this location.
4. Hammer hitting with soft blows (BCP and by sound) from 10.06 to 13.71m.
5. BCP values recorded by data logger appear to be 4psi lower than gauge readings.



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: RF

CHECKED BY:

SHEET 2 OF 2

HOLE NO.: BK04-09

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)
 Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)
 ● SPT N  BOUNCE PRESS (kPa)

W_P% W% W_L%
 X --- O --- X
 20 40 60 80

BECKER TEST HOLE LOG						BECKER PENETRATION TEST		
DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED	FINISHED: Sep. 1, 2004	INSTRUMENT	DETAILS
					DRILL RIG MODEL: Becker HAV-180			
					GROUND ELEV. (m): 1050.2			
					COORDINATES (m): N 6912892 E 582293.6			
					DESCRIPTION OF MATERIALS			
1		Grab	1		SAND AND GRAVEL, sand (fine to coarse, angular), gravel (fine to coarse, sub-angular to sub-rounded), trace to some silt. [FILL]			
2					-soft zones appear to be mainly sand.			
3		Grab	2		-boulder at 1.83m.			
4					-water yield at 2.44m; silty, greyish brown water.			
5					SAND AND GRAVEL, sand (fine to coarse), gravel (fine to coarse, sub-rounded), cobbly (fine to coarse, sub-rounded), trace silt, brown.			
6		Grab	3		-soft zone encountered at 3.35m.			
7					-cobbles or boulder at 4.27m.			
8								
9								
10								
11		Grab	4		GRAVEL (fine to coarse, angular), sandy (angular), cobbly (sub-angular), some silt.			
12								
13		Grab	5		BEDROCK, flaky, smooth, grey, easy to break, no water yield.			
14					End-of-Becker-Drill-Hole-at-12.8 m			
15								
16								
17								
18								
19								
20								



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: FL

CHECKED BY:

SHEET 1 OF 1

HOLE NO.: BK04-11

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)
 Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)
 • SPT N  BOUNCE PRESS (kPa)

W_p% W% W_L%
 x --- x --- x
 20 40 60 80

STARTED Sep. 1, 2004 FINISHED: Sep. 2, 2004
 DRILL RIG MODEL: Becker HAV-180
 GROUND ELEV. (m): 1055.5
 COORDINATES (m): N 6912727 E 582691.7

INSTRUMENT
 DETAILS

DESCRIPTION OF MATERIALS

SAND AND GRAVEL, some silt, light brown, dry. [FILL]

-boulder at 1.37m.

-boulder and cobbles from 1.98 to 2.74m.

-boulder at 3.05m.

-water yield, brown at 3.35m.

SAND AND GRAVEL, sand (medium to coarse, angular to sub-angular), gravel (fine to coarse, angular to sub-rounded), trace silt, highly permeable, brown.

-boulder from 7.62 to 8.23m.

-very tight, dark brown water; high yield at 8.23m.
 -bit pushing big rock at 8.53m.

-brown water at 8.84m.

-pushing big rock again at 9.45m.

-silty water at 10.36m.

SAND, coarse, angular, gravelly, fine, highly permeable.

-trace silt at 12.2m.

ROCK, angular, hard pieces, some silt.

End of Becker Drill Hole at 14.6 m

157
 186
 142
 137
 151
 164
 140
 186
 109
 102
 114
 169



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: FL

CHECKED BY:

SHEET 1 OF 1

HOLE NO.: BK04-12

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)
 Hammer Energy: 11 kJ max, rated  OPEN ENDED (blows/0.3m)
 • SPT N  BOUNCE PRESS (kPa)

W_p% W% W_L%
 X --- O --- X
 20 40 60 80

BECKER TEST HOLE LOG							BECKER PENETRATION TEST			
DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Sep. 2, 2004 FINISHED: Sep. 2, 2004		INSTRUMENT DETAILS	Casing O.D.:		CLOSE ENDED (blows/0.3m)
					DRILL RIG MODEL: Becker HAV-180			Hammer Energy: 11 kJ max, rated		OPEN ENDED (blows/0.3m)
					GROUND ELEV. (m): 1057.5			● SPT N		BOUNCE PRESS (kPa)
					COORDINATES (m): N 6912379 E 583261.3					
					DESCRIPTION OF MATERIALS					
1		Grab	1		SAND AND GRAVEL, sand (fine to medium), gravel (fine to coarse, angular), some cobbles, trace to some silt, brown, dry. [FILL]					
2										
3		Grab	2		3.4 1054.1 SAND, medium to coarse, some gravel to gravelly (fine, sub-angular to sub-rounded), some cobbles. -water yield, brown at 3.96m.				100	
4										
5		Grab	3		-reddish brown water at 5.79m.					
6										
7		Grab	4		11.6 1045.9 ROCK, weathered, flaky pieces, some sand, some silt, brownish grey, no water yiled.				134	
8									134	
9		Grab	5		-dry at 15.1m.				229	
10										
11		Grab			-bedrock at 15.7m.					
12										
13		Grab								
14										
15		Grab								
16										
17		Grab								
18										
19		Grab								
20										

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)
 Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)
 • SPT N  BOUNCE PRESS (kPa)

W_p% X --- W% O --- W_L% X
 20 40 60 80

BECKER TEST HOLE LOG							BECKER PENETRATION TEST																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Sep. 3, 2004 FINISHED: Sep. 3, 2004		INSTRUMENT DETAILS	Casing O.D.:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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					GROUND ELEV. (m): 1016.0			 OPEN ENDED (blows/0.3m)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					COORDINATES (m): N 6914256.3 E 580146.7			● SPT N  BOUNCE PRESS (kPa)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					DESCRIPTION OF MATERIALS			W _p % W _o % W _L % X --- O --- X 20 40 60 80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
1					SAND AND GRAVELL. (FILL)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

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KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: FL

CHECKED BY:

SHEET 1 OF 2

HOLE NO.: BK04-14

BECKER TEST HOLE LOG

BECKER PENETRATION TEST

Casing O.D.:  CLOSE ENDED (blows/0.3m)

Hammer Energy: 11 kJ max. rated  OPEN ENDED (blows/0.3m)

• SPT N  BOUNCE PRESS (kPa)

W_p% X W% O W_L% X
20 40 60 80

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	STARTED Sep. 3, 2004 FINISHED: Sep. 3, 2004	INSTRUMENT DETAILS	DESCRIPTION OF MATERIALS	W _p % X	W% O	W _L % X
21										
22										
23										
24										
25										
26										
27										
28							End of Becker Drill Hole at 27.7 m			
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										

170
102



KLOHN CRIPPEN

PROJECT NO.: M09237 A01

PROJECT: Rose Creek Site Investigation

LOCATION: Faro, Yukon

LOGGED BY: FL

CHECKED BY:

SHEET 2 OF 2

HOLE NO.: BK04-14