

ORIGINALS

VSP Preliminary Data Sheet

Date: 18 JUNE 97

Type of Phones 040

1. Well Name RSMW11

2. Location of Well

X= 9695.413m Y= 10150.76 Z= +819.3352m

Casing Elevation: ~~819.3352m~~ +819.3352m

3. Depth to top of water table (measured from CE) (14.05 ^{ft} measured 10 June 97)

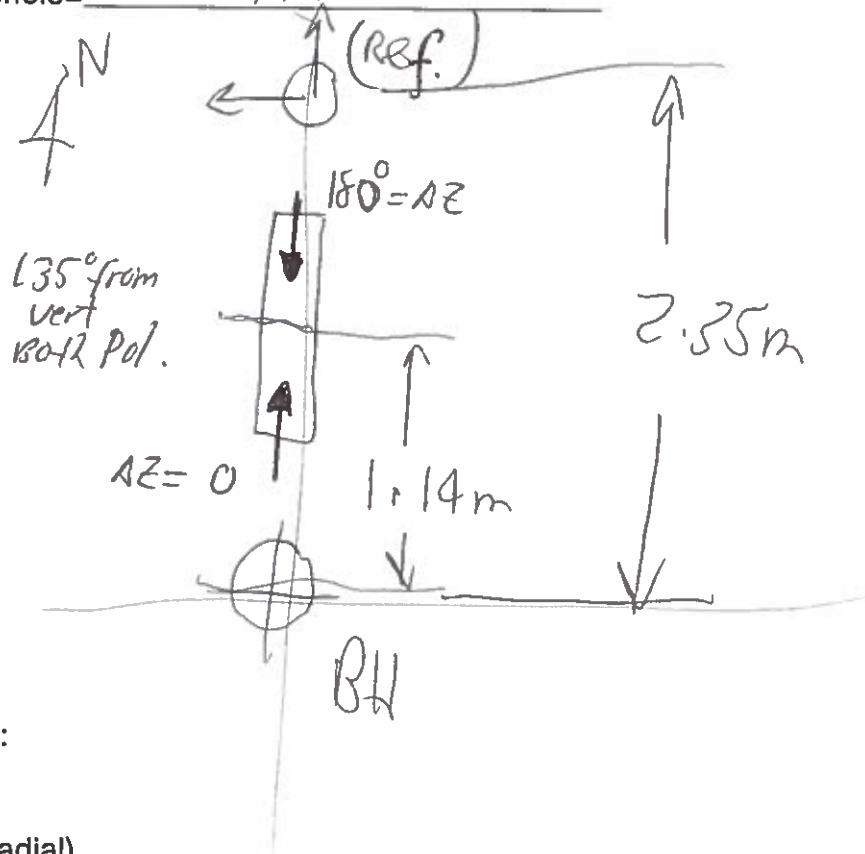
4. Casing Elevation, distance above ground level= 60m

5. Reference phone offset from borehole= 2.35

6. Reference phone depth below ground level= 0.13

7. Source Offset from borehole= 1.14m

8. Sketch of setup:



9. Blue Box switch settings:

Channel	Component
<u>1</u>	Vertical
<u>2</u>	Longitudinal (radial)
<u>3</u>	Transverse

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 0.6 m above G.L.

Reference Phone: Offset: 2.35 m

Azimuth x-axis: 90°

Azimuth 0° m below G.L.

Azimuth y-axis: 0°

Elev. 13 m

Well Coord: X = 9695.413 m Y = 10150.76 m Z = 819.3352 m

Channel Configuration:

Borehole Phone Reference Phone

V=Channel 1

V=Channel 4

R=Channel 2

R=Channel 5

T=Channel 3

T=Channel 6

Ref. Polarization: Az 0

V 0

R 0

T 270

Vert. 0

20

90

Date: 18 June 97 Location: 25mW11

High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2520

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
11		22.5		10/4	0°		0	1.14	180	1350
12		22.5							0	
13		22.0							180	
14		22.0							0	
15		21.5							180	
16		21.5							0	
17		21.0							180	
18		21.0							0	
19		20.5							180	
20		20.5							0	1350

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 0.6 m above G.L.

Reference Phone: Offset: 2.35 m

Azimuth x-axis: 90°

Azimuth 0°

Azimuth y-axis: 0°

Elev. .13 m below G.L.

Well Coord: X = 2675.413 m

Y = 10150.76 m

Z = 814.3352 m

Channel Configuration:

Borehole Phone

V=Channel 1

R=Channel 2

T=Channel 3

Reference Phone

V=Channel 4

R=Channel 5

T=Channel 6

Ref. Polarization:

V

R

T

Vert.

0

20

90

Date: 18 JUNE 97

Location: RS MW 11

High-Cut 1000 Low-Cut 4 Sample Int. .0002

Number Samples 2520

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
21		20.0		1.14	00		0	1.14m	180	1350
22		20.0							0	
23		19.5							180	
24		19.5							0	
25		19.0							180	
26		19.0							0	
27		18.5							180	
28		18.5							0	
29		18.0							180	
30		18.0							0	

5 Stokes

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 0.6 m above G.L.

Reference Phone: Offset: 235 m

Azimuth x-axis: 90°

Azimuth 0°

Elev. .13 m below G.L.

Well Coord: X= 9695.413 m

X= 0 m

Y= 10150.76 m

Y= 2.35 m

Channel Configuration:

Borehole Phone

V=Channel 1

R=Channel 2

T=Channel 3

Reference Phone

V=Channel 4

R=Channel 5

T=Channel 6

Ref. Polarization:

V

R

T

Az

0

20

90

Date: 18 June 97

Location: RSmw11

High-Cut 1000 Low-Cut 4 Sample Int. .0002

Number Samples 2500

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
31		17.5		10/4m	0°		0 m	1.14m	180	135°
32		17.5							0	
33		17.0							180	
34		17.0							0	
35		16.5							180	
36		16.5							0	
37		16.0							180	
38		16.0							0	
39		15.5							180	
40		15.5							0	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 0.6 m above G.L.

Reference Phone: Offset: 2.35 m

Azimuth x-axis: 90° Azimuth 0° m below G.L.
Azimuth y-axis: 0° Elev. 13 m

Well Coord: X = 9695.413 m Y = 10150.76 m Z = 819.3352 m

Channel Configuration: Borehole Phone Reference Phone
V=Channel 1 V=Channel 4
R=Channel 2 R=Channel 5
T=Channel 3 T=Channel 6
Ref. Polarization: Az 0 Vert. 0
V 0 R 0
T 270

Date: 18 JUNE 97 Location: RSmw11 Number Samples 2500
High-Cut 1000 Low-Cut 4 Sample Int. .0002

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
41		15-Ø		1.14m	0°		0 m	1.14m	180	1350
42		15-Ø							Ø	
43		14.5							180	
44		14.5							Ø	
45		14.Ø							180	
46		14.Ø							Ø	
47		13.5							180	
48		13.5							Ø	
49		13.Ø							180	
50		13.Ø		✓					Ø	✓

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 0.6 m above G.L.

Reference Phone: Offset: 2.35 m

Azimuth x-axis: 90°

Reference Phone: Offset: 2.35 m
Azimuth 0°
Elev. .13 m below G.L.

Azimuth y-axis: 0°

X = 0 m
Y = 2.35 m

Well Coord: X = 9625.413 m Y = 10150.76 m Z = 819.3352 m

Channel Configuration:

Reference Phone

V=Channel 1

V=Channel 4

R=Channel 2

R=Channel 5

T=Channel 3

T=Channel 6

Ref. Polarization: Az 0

Vert. 0

20

90

Date: 18 June 97 Location: RSmw11

High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2500

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
51		12.5		10.14m	0°		0	1.14m	180	135°
52		12.5							0	
53		12.0							180	
54		12.0							0	
55		11.5							180	
56		11.5							0	
57		11.0							180	
58		11.0							0	
59		10.5							180	
60		10.5							0	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 0.6 m above G.L.

Reference Phone: Offset: 2.35 m

Azimuth x-axis: 90°

Azimuth 0 m below G.L.

Azimuth y-axis: 0°

Elev. .13 m

Well Coord: X = 9695.413 m Y = 10150.76 m Z = 819.3352 m

Channel Borehole Phone

Ref. Polarization: Az

Configuration: V=Channel 1

V

R=Channel 2

R

T=Channel 3

T

Date: 18 June 97 Location: RSmw11

High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2500

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
61		10.0		1.14 m	0°		0	1.14 m	180°	135°
62		10.0							0	
63		9.5							180°	
64		9.5							0	
65		9.0							180°	
66		9.0							0	
67		8.5							180°	
68		8.5							0	
69		8.0							180°	
70		8.0							0	

AGS
to 47

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.6 m above G.L.
 Azimuth x-axis: 90°
 Azimuth y-axis: 0°
 Well Coord: X = 9695.413 m Y = 10150.76 m Z = 819.3352 m
 Channel
 Configuration: Borehole Phone
 V=Channel 1
 R=Channel 2
 T=Channel 3
 Reference Phone
 V=Channel 4
 R=Channel 5
 T=Channel 6
 Ref. Polarization: Az 0
 V 0
 R 0
 T 270
 Vert. 0
 Offset: 2.35 m
 Azimuth 0°
 Elev. 13 m below G.L.
 X = 0 m
 Y = 2.35 m

Date: 18 June 97 Location: RSmw11
 High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2520

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
71		7.5		1014m	0°		0m	1.14m	180	1350
72		7.5							0	
73		7.0							180	
74		7.0							0	
75		6.5							180	
76		6.5							0	
77		6.0							180	
78		6.0							0	
79		5.5							180	
80		5.5							0	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 0.6 m above G.L.

Reference Phone: Offset: 2.35 m

Azimuth x-axis: 90° Azimuth 0 Elev. .13 m below G.L.

Azimuth y-axis: 0° X = 0 m Y = 2.35 m

Well Coord: X = 9695.413 m Y = 10150.76 m Z = 819.3352 m

Channel Borehole Phone Reference Phone Az Vert. 0

Configuration: V=Channel 1 V=Channel 4

R=Channel 2 R=Channel 5

T=Channel 3 T=Channel 6

Date: 18 June 97 Location: RSmw11

High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2500

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
81		5.0		1.14m	0°		0 m	1.14m	180	135°
82		5.0							0	
83		4.5							180	
84		4.5							0	
85		4.0							180	
86		4.0							0	
87		3.5							180	
88		3.5							0	
89		3.0							180	
90		3.0							0	

Change
32+3 to M
Gain

Pumping
started
at regular
well

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 0.6 m above G.L.

Reference Phone: Offset: 2.35 m

Azimuth x-axis: 90°

Azimuth 0° m below G.L.

Azimuth y-axis: 0°

Elev. .13 m

Well Coord: X = 9695.413 m

Y = 10150.76 m

Z = 819.3352 m

Channel Configuration:

Reference Phone

V=Channel 1

V=Channel 4

R=Channel 2

R=Channel 5

T=Channel 3

T=Channel 6

Vert. 0

Ref. Polarization: V 0

R 0

T 270

Date: 18 JUNE 97 Location: 25mW11

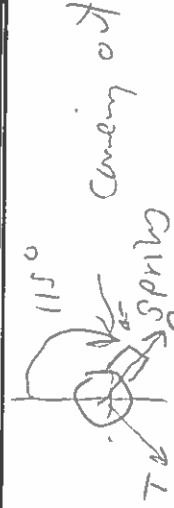
High-Cut 1000 Low-Cut 4 Sample Int. .0002

Number Samples 2520

Shot		Borehole Phone			Source			Source Polarization			
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical	
91		2.5		1.14m	0°		0m	1.14m	180	1350	
92		2.5							0		
93		2.0							180		
94		2.0							0		
95		1.5							180		
96		1.5							0		
97		1.0							180		
98		1.0							0		
99		0.5							180		
100		0.5							0		

Pumping
Stops

tool bearing out of hole 115°



10 of 10

VSP Check List

Project: COPSTN/ URISP

Date: 18 JUNE 97

Odometer Start: 11353.0

Time Out: 9:30

Finish: 11357.9

Time In: 13:00

Item	Out	In	Comment
BHG-2 Borehole Geophone	✓	✓	
BHGC-1 Control Box (Blue)	✓	✓	
Cable: Spool to BHGC-1	✓	✓	
Cable: BHGC-1 to Bison	✓	✓	
Ban/Alligator Power Cables BHGC-1	✓	✓	
Break out box	✓	✓	
OYO 3-c Reference Phone (Blue)	✓	✓	
Dummy tool	✓	✓	
Snatch Block and Come-a-long	✓	✓	
Bison Seismograph	✓	✓	
Vertical Hammer Source <i>Leave Behind</i>	✓	✓	
Black Tape	✓	✓	
WD-40	✓	✓	
Observer's Sheets/Note Book	✓	✓	
Rope	✓	✓	
Rock Hammer	✓	✓	
Tape measure (50m)	✓	✓	
Gloves	✓	✓	
Compass and Maps	✓	✓	
Trigger Switch Toggle Box	✓	✓	
Gas Card & Keys	✓	✓	
Water Table Logging Probe <i>Forgot</i>	✓	✓	