

A1 Well

2 Sources (p. 1-15; 135°)
Model Number (p. 1-8; 180°)

VSP Preliminary Data Sheet

Date: 9 MAY 2003 Type of Phones OYO

1. Well Name A1 URB

2. Location of Well

X= 10,000 Y= 9999.89 Z= 850.229 m

Casing Elevation: 850.229

3. Depth to top of water table (measured from CE) 8.76 ft decimal = 2.670048 m

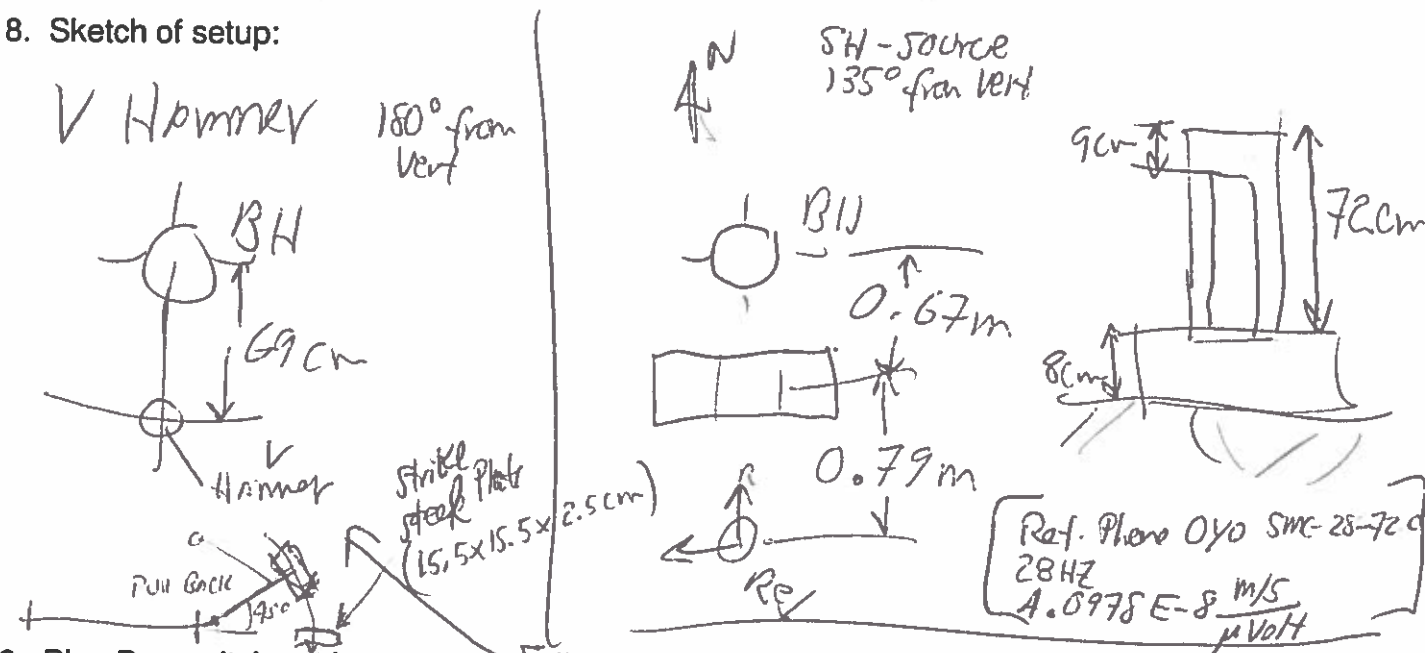
4. Casing Elevation, distance above ground level= 0.71 m

5. Reference phone offset from borehole= -1.46 (south)

6. Reference phone depth below ground level= 0

7. Source Offset from borehole= -0.67 m (south)

8. Sketch of setup:



9. Blue Box switch settings:

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

MODAL HAMMER
PCB Electronics Inc, Depew, NY
MODEL 086 D50
Red Tip Used

Load cell
[0.96 mV/lb
0.22 mV/N]

[Down Hole OYO Phone, 14 HZ
5.6497E-8 m/s
μVOLT
(3-Comp)]

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole 0.71 m
 Casing Elevation: 847.553952 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X = 10.000 Y = 9999.89 Z = 850.224

Channel Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone

V=Channel 21

R=Channel 20

T=Channel 19

Ref. Polarization: V 0 Az 0

R 0

T 270

Vert. 0

90

90

Date: 9 MAY 2003 Location: AI-URISD

High-Cut 1000 Low-Cut 0 Sample Int. .0025 Number Samples 4000

Ch. 18 (y lead cell)

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
1		18.75					0	-67	270	135
2		18.75					1		90	135
3		18.50							270	135
4		18.50							90	135
5		18.25								
6		18.25								
7		18.00								
8		18.00								
9		17.75								
10		17.75								

10:55

page 4 of 15

V = +847.553952 m

SH Source

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 90 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X = 10 000 Y = 9999.89 Z = 850.224

Channel Configuration: Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone:

Offset: 0 m

Azimuth

Elev. 0 m below G.L.

X = 0 m

Y = -1.46 m

Ref. Polarization:

Az

V

R

T

Vert.

0

90

90

ch. of loc. well

Date: 9 May 2003 Location: Al-Uris Number Samples 4000

High-Cut 1000 Low-Cut 0 Sample Int. .00025

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	11	17.50					0	-1.67	270	135°
	12	17.50							90	1
	13	17.25							270	1
	14	17.25							90	1
	15	17.00								1
	16	17.00								1
	17	16.75								1
	18	16.75								1
	19	16.50								1
	20	16.50								1

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 71 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X= 10 000 Y= 9999.89 Z= 850.224

Channel Configuration: Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone:

Azimuth

Elev. 0 m below G.L.

X= 0 m

Y= -1.46 m

Ref. Polarization: Az

V 0

R 0

T 270

Vert.

0

90

90

ch. of loc. well

Date: 9 MAY 2003 Location: AI-URISP

High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	21	16.25					0	-1.67	270	135
	22	16.25					1	1	90	11.13
	23	16.00					1	1		
	24	16.00					1	1		
	25	15.75					1	1		
	26	15.75					1	1		
	27	15.50					1	1		
	28	15.50					1	1		
	29	15.25					1	1		
	30	15.25					1	1		

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 71 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X= 10 00 0 Y= 9999.89 Z= 850.224
 Channel Configuration: Borehole Phone Reference Phone
 V=Channel 24 V=Channel 21
 R=Channel 23 R=Channel 20
 T=Channel 22 T=Channel 19
 Date: 9 MAY 2003 Location: Al-URUSP
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000
 Offset: _____ m
 Azimuth _____
 Elev. 0 m below G.L.
 X= 0 m
 Y= -1.96 m
 Ref. Polarization: Az V 0 R 0 T 270
 Vert. 0
90
90

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	31	15.00				55	0	-67	270	135
	32	15.00							90	1
	33	14.75							1	
	34	14.75							1	
	35	14.50							1	
	36	14.50							1	
	37	14.25							1	
	38	14.25							1	
	39	14.00							1	
	40	14.00							1	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.71 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 10.000 Y = 9999.89 Z = 850.224
 Channel Borehole Phone Reference Phone
 Configuration: V = Channel 24 V = Channel 21
 R = Channel 23 R = Channel 20
 T = Channel 22 T = Channel 19
 Date: 9 MAY 2003 Location: Al-URISP
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Ch. 18 of 100.1.211

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	41	13.75					0	-67	270	
	42	13.75							90	
	43	13.50								
	44	13.50								
	45	13.25								
	46	13.25								
	47	13.00								
	48	13.00								
	49	12.75								
	50	12.75								

11:37

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 4.7 / m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X = 10.000 Y = 9999.59 Z = 850.224

Channel Borehole Phone

Configuration: V = Channel 24

R = Channel 23

T = Channel 22

Date: 9 MAY 2003 Location: Al-URUSP

High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Reference Phone: Offset: m

Azimuth

Elev. 0 m below G.L.

X = 0 m

Y = -1.46 m

Ref. Polarization: Az

V

R

T

Vert. 0

90

90

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	51	12.50					0	-67	270	
	52	12.50							90	
	53	12.25								
	54	12.25								
	55	12.00								
	56	12.00								
	57	11.75								
	58	11.75								
	59	11.50								
	60	11.50								

11:45

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 77 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 10.000 Y = 9999.89 Z = 850.224
 Channel Borehole Phone Reference Phone
 Configuration: V = Channel 24 V = Channel 21
 R = Channel 23 R = Channel 20
 T = Channel 22 T = Channel 19
 Date: 9 MAY 2003 Location: Al-URISP
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Ch. 18 vj (see ch. 21)

Shot		Borehole Phone		Source		Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y
61		11.25					0	-67
62		11.25					270	90
63		11.00						
64		11.00						
65		10.75						
66		10.75						
67		10.50						
68		10.50						
69		10.25						
70		10.25						

11:53

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 27 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 10.000 Y = 9999.89 Z = 850.224
 Channel Configuration: Borehole Phone Reference Phone
 V = Channel 24 V = Channel 21
 R = Channel 23 R = Channel 20
 T = Channel 22 T = Channel 19
 Ref. Polarization: Az 0 Vert. 0
 V 0
 R 0
 T 270

Date: 9 May 2003 Location: Al-URISP
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	71	10.00					0	-0.67	270	135
	72	10.60							90	
	73	9.75								
	74	9.75								
	75	9.50								
	76	9.50								
	77	9.25								
	78	9.25								
	79	9.00								
	80	9.00								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 71 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 10 000 Y = 9999.89 Z = 850.224
 Channel Configuration: Borehole Phone
 V = Channel 24
 R = Channel 23
 T = Channel 22
 Reference Phone
 V = Channel 21
 R = Channel 20
 T = Channel 19
 Ref. Polarization: Az 0 V 0 R 0 T 270
 Offset: 0 m
 Azimuth 0 m below G.L.
 X = 0 m
 Y = -1.46 m
 Vert. 0
90
90

Date: 9 May 2003 Location: Al-URISP
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000
check of lat. & lon.

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	81	8.75					0	-0.67	270	135
	82	8.75							90	
	83	8.50								
	84	8.50								
	85	8.25								
	86	8.25								
	87	8.00								
	88	8.00								
	89	7.75								
	90	7.75							N	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 71 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 10 000 Y = 9999.89 Z = 850.224
 Channel Borehole Phone Reference Phone
 Configuration: V = Channel 24 V = Channel 21
 R = Channel 23 R = Channel 20
 T = Channel 22 T = Channel 19
 Date: 9 May 2003 Location: Al - URSR
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Ch. 18 of 100.1.211

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	91	7.50					0	-1.67	270	135
	92	7.50							90	1
	93	7.25							1	
	94	7.25							1	
	95	7.00							1	
	96	7.00							1	
	97	6.75							1	
	98	6.75							1	
	99	6.50							1	
	100	6.50							N	9

12:11

12:17

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 90 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0

Well Coord: X= 10.000 Y= 9999.89 Z= 850.224

Channel Configuration:
 Borehole Phone
 V=Channel 24
 R=Channel 23
 T=Channel 22

Reference Phone
 V=Channel 21
 R=Channel 20
 T=Channel 19

Reference Phone: Offset: _____ m
 Azimuth _____
 Elev. _____ m below G.L.
 X= 0 m
 Y= -1.46 m
 Ref. Polarization: Az 0 Vert. 0
 V 0
 R 0
 T 270

Date: 9 May 2003 Location: AI-URSP
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	101	6.25					0	-6.7	270	135°
	102	6.25							90	1
	103	6.00								1
	104	6.00								
	105	5.75								
	106	5.75								
	107	5.50								
	108	5.50								
	109	5.25								
	110	5.25							0	1

12:25

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 171 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X = 10 000 Y = 9999.89 Z = 850.224

Channel Configuration: Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone

V=Channel 21

R=Channel 20

T=Channel 19

Ref. Polarization:

V 0

R 0

T 270

Vert.

0

90

90

Reference Phone: Offset: m

Azimuth

Elev. 0 m below G.L.

X = 0 m

Y = -1.46 m

Date: 9 MAY 2003 Location: AI - URSIP Number Samples 4000

High-Cut 1000 Low-Cut 0 Sample Int. .00025

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	111	5.00					0	-67	270	1350
	112	5.00							90	
	113	4.75								
	114	4.75								
	115	4.50								
	116	4.50								
	117	4.25								
	118	4.25								
	119	4.00								
	120	4.00								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 21 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X= 10.000 Y= 9999.89 Z= 850.224

Reference Phone: _____
 Offset: _____ m
 Azimuth _____
 Elev. 0 m below G.L.
 X= 0 m
 Y= -1.46 m

Channel Configuration:
 Borehole Phone
 V=Channel 24
 R=Channel 23
 T=Channel 22

Ref. Polarization: Az
 V 0
 R 0
 T 270
 Vert. 0
90
90

Date: 9 May 2003 Location: AI - URS
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	121	3.75					0	-67	270	1350
	122	3.75							90	
	123	3.50								
	124	3.50								
	125	3.25								
	126	3.25								
	127	3.00								
	128	3.00								
	129	2.75								
	130	2.75								

12:34
 12:45
 12:45

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 71 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X = 10 00 0 Y = 9999.89 Z = 850.224

Channel Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone:

Offset: m

Azimuth

Elev. 0 m below G.L.

X = 0 m

Y = -1.96 m

Ref. Polarization: Az 0

V 0

R 0

T 270

check location

Date: 9 May 2003 Location: AI-URIS Number Samples 4000

High-Cut 1000 Low-Cut 0 Sample Int. .00025

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	131	2.50					0	-0.67	270	135
	132	2.50							90	1
	133	2.25							270	1
	134	2.25							90	1
	135	2.00							1	1
	136	2.00							1	1
	137	1.75							1	1
	138	1.75							1	1
	139	1.50							1	1
	140	1.50							1	1

12:52

12:45

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 171 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X = 10 000 Y = 9999.89 Z = 850.224

Channel Configuration: Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone

V=Channel 21

R=Channel 20

T=Channel 19

Ref. Polarization:

V 0

R 0

T 270

Vert.

0

90

90

Reference Phone: Offset: m

Azimuth

Elev. m below G.L.

X = 0 m

Y = -1.46 m

Date: 9 May 2003 Location: Al-Urslp Number Samples 4000
High-Cut 1000 Low-Cut 0 Sample Int. .00025

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	141	1.25					0	-67	270	135°
	142	1.25							90	
	143	1.00								
	144	1.00								
	145	.75								
	146	.75								
	147									
	148									
	149									
	150									

12:52

1700
Bow
Spring

D: 05/09/01 Directory

VSP Check List

Project: INRA

Date: May 2003

Odometer Start: 29087 Finish: 29108
Time Out: 9:04 Time In: 16:00

21 miles

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	✓	✓	
OYO 3-c Reference Phone (Blue)	✓	✓	
Dummy tool	✓	✓	
Snatch Block and Come-a-long	✓	✓	
Bison Seismograph E66 2	✓	✓	
90° Hammer Source + Sand Bags Vertical Hammer Source + Sand Bags 135° Hammer Source			
Tripod and Tripod Head	NO	✓	
WD-40 and Black Tape	✓	✓	
Observer's Sheets/Note Book	✓	✓	
Rope	✓	✓	
Claw Hammer and Large Nails	✓	✓	
Tape measure (50m)	✓	✓	
Gloves	✓	✓	
Compass and Maps	✓	✓	
24Volt Clamp Battery	✓	✓	
Gas Card & Keys	✓	✓	
Water Table Logging Probe	✓	✓	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 71 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X= 10 000 Y= 9999.89 Z= 850.224

Channel Configuration: Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone

V=Channel 21

R=Channel 20

T=Channel 19

Ref. Polarization: Az

V 0

R 0

T 270

Vert. 0

90

90

90

90

90

90

90

90

90

90

90

90

90

90

90

90

90

90

Date: 9 MAY 2003 Location: AI-URIS P LWD CEL 18 Number Samples 4000

High-Cut 1000 Low-Cut 0 Sample Int. 00025

Source

Offset

Elev.

Azimuth

Source Polarization

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Vertical

Well Hammer

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 27 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X= 10 000 Y= 9999.89 Z= 850.224

Channel Configuration: Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone:

Offset: 0 m

Azimuth 0 m below G.L.

X= 0 m

Y= -1.46 m

Ref. Polarization: Az 0 Vert. 0

V 0 R 0 T 90

Ch. 18 v (cont. 21)

Date: 9 MAY 2003 Location: AI-URSP Number Samples 4000

High-Cut 1000 Low-Cut 0 Sample Int. .00025

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	11	16.00					0	-1.69	0	180
	12	15.75							0	180
	13	15.50								
	14	15.25								
	15	15.00								
	16	14.75								
	17	14.50								
	18	14.25								
	19	14.00								
	20	13.75								

13:39

13:46

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 7 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X= 10 000 Y= 9999.89 Z= 850.224

Channel Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone

V=Channel 21

R=Channel 20

T=Channel 19

Reference Phone: Offset: m

Azimuth

Elev. 0 m below G.L.

X= 0 m

Y= -1.46 m

Ref. Polarization: Az 0 Vert. 0

V 0 R 0

T 270

Date: 9 MAY 2003 Location: AI-URISD Number Samples 4000

High-Cut 1000 Low-Cut 0 Sample Int. .00025

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	21	13.50					0	-0.69	0	180
	22	13.25								
	23	13.00								
	24	12.75								
	25	12.50								
	26	12.25								
	27	12.00								
	28	11.75								
	29	11.50								
	30	11.25							0	135

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 171 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X= 10 000 Y= 9999.89 Z= 850.224

Channel Configuration: Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone

V=Channel 21

R=Channel 20

T=Channel 19

Ref. Polarization: Az

V 0

R 0

T 270

Vert. 0

90

90

Reference Phone: Offset: 0 m

Azimuth 0 m below G.L.

Elev. 0 m

X= 0 m

Y= -1.46 m

Date: 9 MAY 2003 Location: AI-URISP

High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	31	11.00					0	-69	180	
	32	10.75								
	33	10.50								
	34	10.25								
	35	10.00								
	36	9.75								
	37	9.50								
	38	9.25								
	39	9.00								
	40	8.75								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 77 m above G.L.

Azimuth x-axis: 96

Azimuth y-axis: 0

Well Coord: X= 10 00 0 Y= 9999.89 Z= 850.224

Channel Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone

V=Channel 21

R=Channel 20

T=Channel 19

Ref. Polarization: Az

V 0

R 0

T 270

Vert. 0

90

90

Reference Phone: Offset: m

Azimuth

Elev. 0 m below G.L.

X= 0 m

Y= -1.46 m

Date: 9 May 2003 Location: Al-Ureid

High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	41	8.50					0	-69	0	180
	42	8.25								
	43	8.00								
	44	7.75								
	45	7.50								
	46	7.25								
	47	7.00								
	48	6.75								
	49	6.50								
	50	6.25								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 77 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X= 10.006 Y= 9999.59 Z= 850.224

Channel Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone

V=Channel 21

R=Channel 20

T=Channel 19

Reference Phone: Offset: m

Azimuth

Elev. m below G.L.

X= 0 m

Y= -1.96 m

Ref. Polarization: Az 0

V 0

R 0

T 270

Vert. 0

90

90

Date: 9 MAY 2003 Location: AL-VRISP CL (8.4) (lat. 42.1)

High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 4000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	51	6.00					0	-1.69	20	180
	52	5.75								
	53	5.50								
	54	5.25								
	55	5.00								
	56	4.75								
	57	4.50								
	58	4.25								
	59	4.00								
	60	3.75								

14:06
reset gain

14:14

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 71 m above G.L.

Azimuth x-axis: 90

Azimuth y-axis: 0

Well Coord: X= 10.000 Y= 9999.89 Z= 850.224

Channel Borehole Phone

V=Channel 24

R=Channel 23

T=Channel 22

Reference Phone

V=Channel 21

R=Channel 20

T=Channel 19

Ref. Polarization: V 0 Az 0 Vert. 0

R 0

T 270

Date: 9 MAY 2003 Location: Al-URISP Number Samples 4000

High-Cut 1000 Low-Cut 0 Sample Int. .00025

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	61	3.50					0	-65	0	180
	62	3.25								
	63	3.00								
	64	2.75								
	65	2.50								
	66	2.25								
	67	2.00								
	68	1.75								
	69	1.50								
	70	1.25								

