

VSP Preliminary Data Sheet

Date: 7 AUG 02 Type of Phones 070

1. Well Name X5 URISP

2. Location of Well

X= 9963.10 Y= 10023.25 Z= 849.93

Casing Elevation: 849.93

3. Depth to top of water table (measured from CE) 7.84 ft = 2.38963 m

4. Casing Elevation, distance above ground level= .74

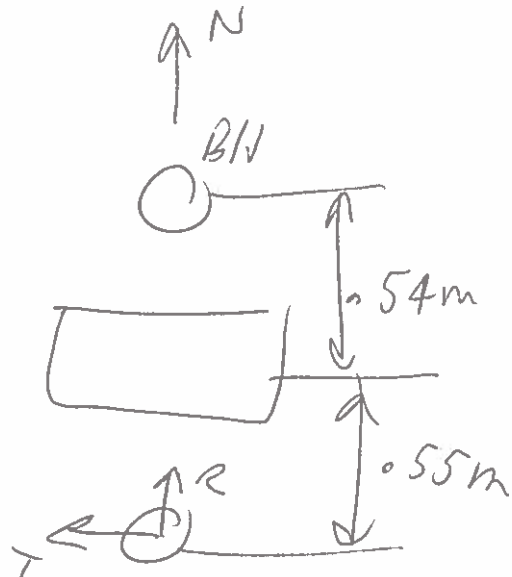
$\nabla = 847.54037$
meters

5. Reference phone offset from borehole= 1.09

6. Reference phone depth below ground level= .05 m

7. Source Offset from borehole= 0.54 m

8. Sketch of setup:



9. Blue Box switch settings:

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

Helper, Rick Friese
841-6697

VSP Check List

Project: URISP

Date: 07 AUG 2002

Odometer Start: 27541 Finish: 27561 20 miles
Time Out: 8:00 Time In: 12:00

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	✓	✓	
OYO 3-c Reference Phone (Blue)	✓	✓	
Dummy tool	✓	✓	
Snatch Block and Come-a-long	✓	✓	
Bison Seismograph <i>NO</i>			
90° Hammer Source + Sand Bags			
Vertical Hammer Source + Sand Bags <i>NO</i>			
135° Hammer Source	✓	✓	
Tripod and Tripod Head <i>NO</i>			
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	✓	✓	

+ 2 Deep cycle Batteries

✓ ✓

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 274 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Borehole Phone Reference Phone
 Configuration: V=Channel 24 V=Channel 21 Az 0
 R=Channel 23 R=Channel 20 R 0
 T=Channel 22 T=Channel 19 T 270
 Ref. Polarization: V 0 R 0 T 270

Date: 7 AUG 2002 Location: X5-UR15P
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
1001.dat	1	21.25					0	-54	270	135
	2	21.25							90	135
	3	21.00								
	4	21.00								
	5	20.75								
	6	20.75								
	7	20.50								
	8	20.50								
	9	20.25								
1010.dat	10	20.25								

V = +847.54037 m

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 74 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 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
 Offset: 1.09 m
 Azimuth 180
 Elev. .05 m below G.L.
 X = 0 m
 Y = -1.09 m
 Vert. 0

Date: 7 AUG 2002 Location: X5-UR15P
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	11	20.00					0	-1.54	270	135
	12	20.00							90	135
	13	19.75								
	14	19.75								
	15	19.50								
	16	19.50								
	17	19.25								
	18	19.25								
	19	19.00								
	20	19.00								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 74 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Borehole Phone
 Configuration: V=Channel 24 Reference Phone V=Channel 21 Az 0 Vert. 0
 R=Channel 23 R=Channel 20 R 0 90
 T=Channel 22 T=Channel 19 T 270 90

Date: 7 AUG 2002 Location: X5-URVSP
 High-Cut 1000 Low-Cut 0 Sample Int. 100025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	21	18.75					0	-0.54	270	135
	22	18.15							90	135
	23	18.50								
	24	18.50								
	25	18.25								
	26	18.25								
	27	18.00								
	28	18.00								
	29	17.75								
	30	17.75								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 174 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Configuration: Borehole Phone
 V=Channel 24 V=Channel 21
 R=Channel 23 R=Channel 20
 T=Channel 22 T=Channel 19
 Date: 7/16/2002 Location: X5-U25P
 High-Cut 1000 Low-Cut 0 Sample Int. 100025 Number Samples 2000
 Reference Phone: Offset: 1.09 m
 Azimuth 180
 Elev. -05 m below G.L.
 X = 0 m
 Y = -1.09 m
 Ref. Polarization: Az
 V 0
 R 0
 T 270
 Vert. 0

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	31	17.50					0	-1.54	270	135
	32	17.50							90	135
	33	17.25								
	34	17.25								
	35	17.00								
	36	17.00								
	37	16.75								
	38	16.75								
	39	16.50								
	40	16.50								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 74 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 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 90
 T 90
 Offset: 1.09 m
 Azimuth 180
 Elev. 0.5 m below G.L.
 X = 0 m
 Y = -1.09 m

Date: 7/16/2002 Location: X5-U25P
 High-Cut 1000 Low-Cut 0 Sample Int. 0.0025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	41	16.25					0	-54	270	135
	42	16.25							90	135
	43	16.00								
	44	16.00								
	45	15.75								
	46	15.75								
	47	15.50								
	48	15.50								
	49	15.25								
	50	15.25								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 174 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Borehole Phone Reference Phone
 Configuration: V=Channel 24 V=Channel 21 Az 0
 R=Channel 23 R=Channel 20 R 0
 T=Channel 22 T=Channel 19 T 270
 Vert. 0

Date: 7/10/2002 Location: X5-UR15P
 High-Cut 1000 Low-Cut 0 Sample Int. 100025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	51	15.00					0	-1.54	270	135
	52	15.00							90	135
	53	14.75								
	54	14.75								
	55	14.50								
	56	14.50								
	57	14.25								
	58	14.25								
	59	14.00								
	60	14.00								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 17 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Borehole Phone Reference Phone
 Configuration: V=Channel 24 V=Channel 21 Az 0
 R=Channel 23 R=Channel 20 R 0
 T=Channel 22 T=Channel 19 T 270
 Vert. 0

Date: 7 AUG 2002 Location: X5-URSP
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	61	13.75					0	-54	270	135
	62	13.75							90	135
	63	13.50								
	64	13.50								
	65	13.25								
	66	13.25								
	67	13.00								
	68	13.00								
	69	12.75								
	70	12.75								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 74 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Borehole Phone Reference Phone
 Configuration: V=Channel 24 V=Channel 21 Az 0
 R=Channel 23 R=Channel 20 R 0
 T=Channel 22 T=Channel 19 T 270
 Vert. 0

Date: 7/16/2002 Location: X5-U25P
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	71	12.50					0	-54	270	135
	72	12.50							90	135
	73	12.25								
	74	12.25								
	75	12.00								
	76	12.00								
	77	11.75								
	78	11.75								
	78	11.50								
	80	11.50								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 74 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Configuration: Borehole Phone
 V=Channel 24 Reference Phone
 R=Channel 23 V=Channel 21
 T=Channel 22 R=Channel 20
 T=Channel 19
 Ref. Polarization: Az 0 Vert. 0
 V 0
 R 0
 T 270

Date: 7 AUG 2002 Location: X5-UR5P
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	81	11.25					0	-0.54	270	135
	82	11.25					1	1	90	135
	83	11.00								
	84	11.00								
	85	10.75								
	86	10.75								
	87	10.50								
	88	10.50								
	89	10.25								
	90	10.25					1	1		

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 74 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 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
 Vert. 0
 Offset: 1.09 m
 Azimuth 180
 Elev. 0.05 m below G.L.
 X = 0 m
 Y = -1.09 m
 Date: 7 AUG 2002 Location: X5-URSP
 High-Cut 1000 Low-Cut 0 Sample Int. 0.0025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	91	10.00					0	-54	270	135
	92	10.00							90	135
	93	9.75								
	94	9.75								
	95	9.50								
	96	9.50								
	97	9.25								
	98	9.25								
	99	9.00								
	100	9.00								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 174 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 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
 Offset: 1.09 m
 Azimuth 180
 Elev. .05 m below G.L.
 X = 0 m
 Y = -1.09 m
 Vert. 0

Date: 7 AUG 2002 Location: X5-U25P
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	101	8.75					0	-54	270	135
	102	8.75					1		90	135
	103	8.50								
	104	8.50								
	105	8.25								
	106	8.25								
	107	8.00								
	108	8.00								
	109	7.75								
	110	7.75								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 174 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Configuration: Borehole Phone
 V=Channel 24
 R=Channel 23
 T=Channel 22
 Reference Phone
 V=Channel 24
 R=Channel 20
 T=Channel 19
 Ref. Polarization: V 0 Az 0
 R 0
 T 270
 Offset: 1.09 m
 Azimuth 180
 Elev. 1.05 m below G.L.
 X = 0 m
 Y = -1.09 m
 Vert. 0
20
90

Date: 7 AUG 2002 Location: X5-VIRSP
 High-Cut 1000 Low-Cut 0 Sample Int. 100025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	111	7.50					0	-54	270	135
	112	7.50					1	1	90	135
	113	7.25					1	1		
	114	7.25					1	1		
	115	7.00					1	1		
	116	7.00					1	1		
	117	6.75					1	1		
	118	6.75					1	1		
	119	6.50					1	1		
	120	6.50					1	1		

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 74 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Configuration: Borehole Phone
 V=Channel 24
 R=Channel 23
 T=Channel 22
 Reference Phone
 V=Channel 24
 R=Channel 20
 T=Channel 19
 Ref. Polarization: Az
 V 0
 R 0
 T 270
 Offset: 1.09 m
 Azimuth 180
 Elev. 05 m below G.L.
 X = 0 m
 Y = -1.09 m
 Vert. 0

Date: 7 AUG 2002 Location: X5-URSP
 High-Cut 1000 Low-Cut 0 Sample Int. 100025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	121	6.25					0	-1.54	270	135
	122	6.25					1		90	135
	123	6.00								
	124	6.00								
	125	5.75								
	126	5.75								
	127	5.50								
	128	5.50								
	129	5.25								
	130	5.25								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 79 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Borehole Phone Reference Phone
 Configuration: V=Channel 24 V=Channel 21 Az 0
 R=Channel 23 R=Channel 20 R 0
 T=Channel 22 T=Channel 19 T 270
 Date: 7 AUG 2002 Location: X5-URSP
 High-Cut 1000 Low-Cut 0 Sample Int. 100025 Number Samples 2000

Vert.
0

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	131	5.00					0	-54	270	135
	132	5.00							90	135
	133	4.75								
	134	4.75								
	135	4.50								
	136	4.50								
	137	4.25								
	138	4.25								
	139	4.00								
	140	4.00								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: .74 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel Borehole Phone Reference Phone
 Configuration: V=Channel 24 V=Channel 21 Az
 R=Channel 23 R=Channel 20 R
 T=Channel 22 T=Channel 19 T
 Ref. Polarization: V 0 Az 0
 X = 0 m
 Y = 1.09 m
 Offset: 1.09 m
 Azimuth 180
 Elev. .05 m below G.L.
 Vert. 0
90
90

Date: 7 AUG 2002 Location: X5-URSP
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	141	3.75					0	-54	270	135
	142	3.75							90	135
	143	3.50								
	144	3.50								
	145	3.25								
	146	3.25								
	147	3.00								
	148	3.00								
	149	2.75								
	150	2.75								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 74 m above G.L.
 Azimuth x-axis: 90
 Azimuth y-axis: 0
 Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
 Channel
 Configuration: Borehole Phone
 V=Channel 24 Reference Phone
 R=Channel 23 V=Channel 21
 T=Channel 22 R=Channel 20
 T=Channel 19
 Ref. Polarization: Az
 V 0
 R 90
 T 90
 Offset: 1.09 m
 Azimuth 180
 Elev. -05 m below G.L.
 X = 0 m
 Y = -1.09 m

Date: 7 AUG 2002 Location: X5-VR5P
 High-Cut 1000 Low-Cut 0 Sample Int. .00025 Number Samples 2000

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
	151	2.50					0	-54	270	135
	152	2.50							90	135
	153	2.25								
	154	2.25								
	155	2.00								
	156	2.00								
	157	1.75								
	158	1.75								
	159	1.50								
	160	1.50								

Coordinate System Origin at Borehole
Casing Elevation: 474 m above G.L.
Azimuth x-axis: 90
Azimuth y-axis: 0
Well Coord: X = 9963.16 Y = 10023.25 Z = 849.93
Channel Borehole Phone
Configuration: V = Channel 24
R = Channel 23
T = Channel 22
Reference Phone
V = Channel 21
R = Channel 20
T = Channel 19
Offset: 1.09 m
Azimuth 180
Elev. .05 m below G.L.
X = 0 m
Y = -1.09 m
Ref. Polarization: V 0
R 0
T 270

Date: 7 AUG 2002 Location: X5-VRSP Sample Int. 00025 Number Samples 2000
 High-Cut 1000 Low-Cut 0

[illegible]

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$N \uparrow$

 600
 560 W
 Bow Spring