

// ORIGINALS //

# VSP Preliminary Data Sheet

Date: 10 June 97

Type of Phones 0/0

1. Well Name RSMW11

24.7 m deep T/D

2. Location of Well

X= 9695.413 m Y= 10150.76 m Z= 819.3352 m a msl.

Casing Elevation: 819.3352

3. Depth to top of water table (measured from CE) ~~819.3352 m~~ 14.05 ft

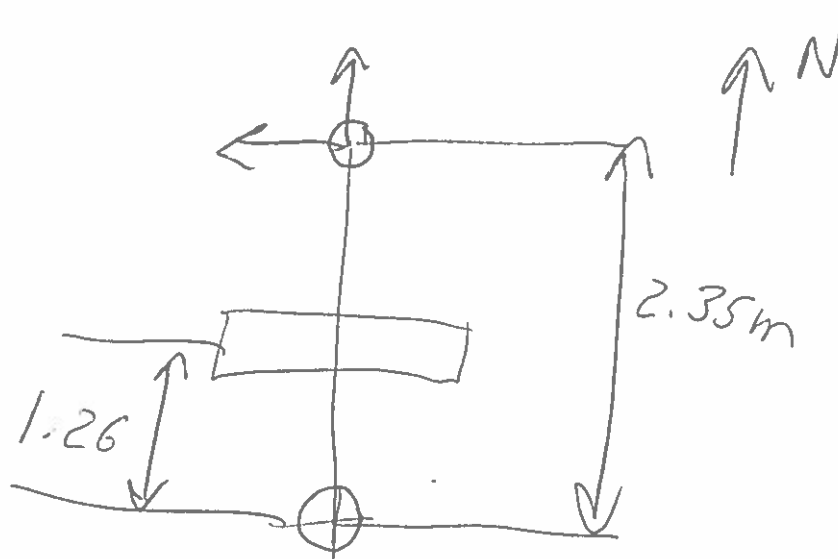
4. Casing Elevation, distance above ground level= 0.60 m

5. Reference phone offset from borehole= 2.35

6. Reference phone depth below ground level= 0.1

7. Source Offset from borehole= 1.26

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: 2.35 m

Azimuth x-axis: 90°  
 Azimuth y-axis: 0°

Azimuth 0°

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

Elev. -0.10 m below G.L.  
 X= 0 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:  
 Az 0  
 V 0  
 R 0  
 T 270

Date: 10 JUNE 97

Location: RSMW11

Low-Cut 7 Sample Int. .0002

Number Samples 2500

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
1	RSM0001	25.0		1.26	0°				90	135
2		25.0							270	135
3		24.5							90	135
4		24.5							270	135
5		24.0							90	135
6		24.0							270	135
7		23.5							90	135
8		23.5							270	135
9		23.0							90	135
10		23.0							270	135

# 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 Y = 10150.76 Z = 819.3352

Channel Borehole Phone

V=Channel 1

R=Channel 2

T=Channel 3

Date: 10 June 97 Location: RSMW 11

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

Number Samples 2500

Reference Phone: Offset: 2.35 m

Azimuth 0

Elev. -1.10 m below G.L.

X = 0 m

Y = 2.35 m

Ref. Polarization: V 0 Az 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
11	RSMW911	22.5		1.26 m	0°				90	135
12		22.5							270	135
13		22.0							90	135
14		22.0							270	135
15		21.5							90	135
16		21.5							270	135
17		21.0							90	135
18		21.0							270	135
19		20.5							90	135
20		20.5							270	135

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole

Reference Phone: Offset: 2.35 m

Casing Elevation: 0.6 m above G.L.

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

Azimuth y-axis: 0 Elev. 9.10 m

Well Coord: X= 9695.413 Y= 10150.76 Z= 819.332

Channel Configuration: Borehole Phone Reference Phone

V=Channel 1 V=Channel 4

R=Channel 2 R=Channel 5

T=Channel 3 T=Channel 6

Date: 10 June 97 Location: RSMW 11 Number Samples 2500

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

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
21	RSMW0021	20.0		1.26 m	0°				90	135
22		20.0							270	135
23		19.5							90	135
24		19.5							270	135
25		19.0							90	135
26		19.0							270	135
27		18.5							90	135
28		18.5							270	135
29		18.0							90	135
30		18.0							270	135

# 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 Y = 10150.76 Z = 819.3352  
 Channel Configuration: Borehole Phone  
 V=Channel 1 Reference Phone  
 R=Channel 2 V=Channel 4  
 T=Channel 3 R=Channel 5  
 T=Channel 6  
 Ref. Polarization: Az 0 Vert. 0  
 V 0 R 90 T 90

Date: 10 June 97 Location: RSMW 11 Number Samples 2500  
 High-Cut 1000 Hz Low-Cut 4 Hz Sample Int. .0002 (s)

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
31	RSMW031	17.5		1.26 m	0°				90	135
32		17.5							270	135
33		17.0							90	135
34		17.0							270	135
35		16.5							90	135
36		16.5							270	135
37		16.0							90	270
38		16.0							270	135
39		15.5							90	135
40		15.5							270	135

## BSU GEOPHYSICS VSP OBSERVER'S LOG

## Coordinate System Origin at Borehole

Reference Phone:

Offset: 2.35 m

Casing Elevation: 0.6 m above G.L.

Azimuth  $\frac{O^c}{15}$ Azimuth x-axis: 90

→

Elev. 2,100 m.Azimuth y-axis: 0

000000

$$\frac{E}{X^2} =$$
Well Coord:  $X = \frac{9695 \cdot 413}{m}$   $Y = \frac{10150}{m}$ 
$$Z = \frac{8.4 \times 10^3 \text{ m}}{1}$$
$$Y = 2.53 \frac{w}{b \cdot l \cdot \rho}$$

Channel Borehole Phone

Phone 4

Ref. Polarization: V

Configuration: V=Channel 1  
2 channels

$$\frac{1}{c}$$

> 0

H=Channel	$\frac{z}{2}$
T=Channel	$\frac{z}{2}$

channel 2

CH

Date:	19 July 97	Location:	RSMI
Channel:	3		

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Date: 10/01/12 High-Cut 1000 H2  
Location: Low-Cut 4 H2

Int. 0002 (S)

Number Sam

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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1000

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Shot		Borehole Phone			Source						Source Polarization	
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical		
41	RSMW0041	15.0		1.26m	0°				90	135		
42		15.0							270	135		
43		14.5							90	135		
44		14.5							270	135		
45		14.0							90	135		
46		14.0							270	135		
47		13.5							90	135		
48		13.5							270	135		
49		13.0							90	135		
50		13.0		↓	↓				270	135		

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole

Reference Phone: Offset: 2.35 m

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. -1.0 m below G.L.

Well Coord: X= 9695.413 m

X= 0 m

Y= 10150.76 m

Y= 2.35 m

Channel

Ref. Polarization: Az 0

Configuration: V=Channel 1

V 0

R=Channel 2

R 0

T=Channel 3

T 270

Date: 10 June 97

Location: RSMW 11

High-Cut 1000 #2

Sample Int. .0002 (5)

Low-Cut 4Hz

Number Samples 2500

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
51	RSMW005	12.5		1.26 m	0°				90	135
52		12.5							270	135
53		12.0							90	135
54		12.0							270	135
55		11.5							90	135
56		11.5							270	135
57		11.0							90	135
58		11.0							270	135
59		10.5							90	135
60		10.5							270	135

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole

Casing Elevation: 0.6 m above G.L.

Reference Phone: 0.6 m below 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: V=Channel 1 Reference Phone

R=Channel 2 V=Channel 4

T=Channel 3 R=Channel 5

Location: RSMW 11 T=Channel 6

Date: 10 June 97 Low-Cut 4Hz Sample Int. .0002 (5) Number Samples 2500

High-Cut 1000 Hz

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
41	RSMW0061	10		1.26 m	0°				90	135
62		10							270	135
63		9.5							90	135
64		9.5							270	135
65		9.0							90	135
66		9.0							270	135
67		8.5							90	270
68		8.5							270	135
69		8.0							90	135
70		8.0							270	135

reclamped because of



# 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: V=Channel 2 R=Channel 3 T=Channel 4

Reference Phone

V=Channel 4 R=Channel 5 T=Channel 6

Date: 10 June 97 Location: RSMW 11

High-Cut 1000 Hz Low-Cut 4 Hz Sample Int. .0002 (s)

Number Samples 3500

Reference Phone: Offset: 2.35 m

Azimuth 0

Elev. -10 m below G.L.

X= 0 m

Y= 2.35 m

Ref. Polarization: Az 0

V 0

R 90

T 90

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
71	125mw0071	7.5		1.26m	0°				90	135
72		7.5							270	135
73		7.0							90	135
74		7.0							270	135
75		6.5							90	135
76		6.5							270	135
77		6.0							90	135
78		6.0							270	135
79		5.5							90	135
80		5.5							270	135

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  
 Channel  
 Configuration: V = Channel 1  
 R = Channel 2  
 T = Channel 3

Reference Phone  
 V = Channel 4  
 R = Channel 5  
 T = Channel 6

Reference Phone: CC 7 Z = 819.3352 m

Offset: 2.35 m  
 Azimuth 0  
 Elev. -.10 m below G.L.  
 X = 0 m  
 Y = 2.35 m

Ref. Polarization: Az  
 V 0  
 R 0  
 T 270

Date: 10 June 97  
High-Cut 1000 Hz  
Low-Cut 4 Hz Location: RSMw 11 Sample Int. .0002 (5)  
Number Samples 2500

Shot		Borehole Phone			Source						Source Polarization	
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical		
81	Bmw0081	5.0		1.26m	0°				90	135		
82		5.0							270	135		
83		4.5							90	135		
84		4.5							270	135		
85		4.0							90	135		
86		4.0							270	135		
87		3.5							90	135		
88		3.5							270	135		
89		3.0							90	135		
90		3.0							270	135		

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# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole

Casing Elevation: 0.6 m above G.L.

Reference Phone: 0.35 m

Azimuth x-axis: 90

Azimuth y-axis: 0

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

Channel

Configuration: V=Channel 1 Reference Phone

R=Channel 2 V=Channel 4

T=Channel 3 R=Channel 5

Location: RSMW11 T=Channel 6

Date: 10 June 97 Low-Cut 4 Hz Sample Int. .0002(s)

High-Cut 1600 Hz Number Samples 2500

Offset: 2.35 m

Azimuth 0

Elev. -1.10 m below G.L.

X = 0 m

Y = 2.35 m

Ref. Polarization: Az 0

V 0

R 90

T 90

Vert. 0

Shot		Borehole Phone			Source				Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical	
91	RSMW0091	2.5		1.26m	0°				90	135	
92		2.5			1				270	135	
93		2.0							90	135	
94		2.0							270	135	
95		1.5							90	135	
96		1.5							270	135	
97		1.0							90	135	
98		1.0							270	135	
99		0.5							90	135	
100	RSMW0000	0.5							270	135	

RSMW0001 → Impact observation test  
Digitized trigger contact time - ch. 1

on exit  
orientation  
10 of 10 →



# VSP Check List

Project: CAPITAL STATION / URISP New Tool Checkout

Date: 10 June 97

Odometer Start: 11347.8 Finish: 11353.0  
Time Out: 9:18 Time In: 13:18

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	✓	✓	Added paper, (Roll)
<sup>450</sup> <del>Vertical</del> Hammer Source	✓	✓	
Black Tape	✓	✓	
WD-40	✓	✓	
Observer's Sheets/Note Book	✓	✓	
Rope	✓	✓	
<sup>1/2 in</sup> <del>Rock</del> Hammer	✓	✓	
Tape measure (50m)	✓	✓	
Gloves	✓	✓	
Compass and Maps	✓	✓	
Trigger Switch Toggle Box		✓	
Gas Card & Keys	✓	✓	
Water Table Logging Probe	✓	✓	

Trigger extension

✓ ✓