

VSP Preliminary Data Sheet

Date: 13 AUG 98

Type of Phones 040 14W7

1. Well Name X5

2. Location of Well

x= 9963.10 y= 10023.25 z= 849.93

Casing Elevation: +849.93 ~~849.93~~

elev
 $\nabla = +847.6714$

3. Depth to top of water table (measured from CE) (7.41 ft) = 2.25856 m

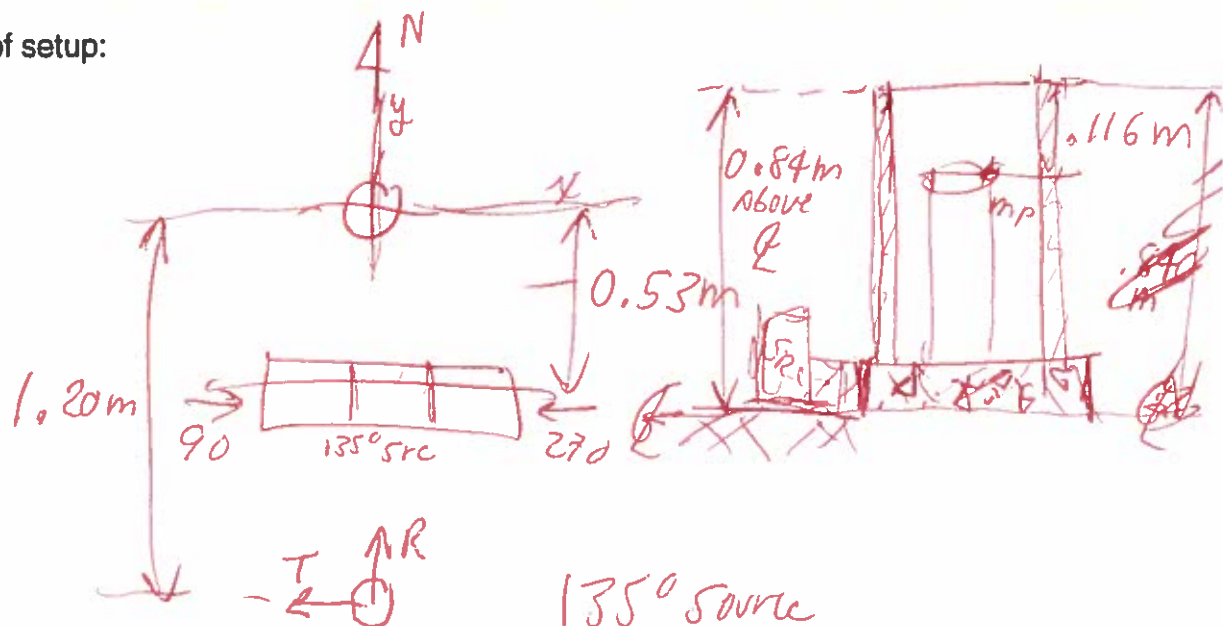
4. Casing Elevation, distance above ground level= (0.84m - 0.116m) = 0.724m

5. Reference phone offset from borehole= 1.20m south

6. Reference phone depth below ground level= 16cm

7. Source Offset from borehole= 0.53m 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

135° source

45lb natural weight + marker

$(22.58 + 1.02) \text{ m} = T/D$

23.6 m = T/D

Hand-drawn free-body diagram of a beam. The beam is represented by a horizontal line with a vertical section cut in the middle. To the left of the cut, there is a reaction force A_y pointing upwards and a distributed load of 4 kN acting downwards. To the right of the cut, there is a reaction force R_y pointing upwards and a distributed load of 270 kN acting downwards. The beam is divided into two segments: a left segment of 1.20 m and a right segment of 0.50 m . Below the beam, there is a table with the following content:

Vert.
0
90
90

Reference Phone: Offset: _____ m
Azimuth _____

Offset: _____m
Azimuth _____Elev. 0.16 m below G.L.

三

$$Y = 10023.25 \quad Z = 849.93$$

Reference Phone

V=Channel 4

R=Channel S

T=Channel 3 ✓ T=Ch

Number Samples 2500

Shot		Borehole Phone			Source				Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical	
WLX50001	1	23.0					0	-0.53m	270	135	
	2	23.0							90	135	
	3	22.75							270		
	4	22.75							90		
	5	22.50							270		
	6	22.50							90		
	7	22.25							270		
	8	22.25							90		
	9	22.0							270		
	10	22.0							90		

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$$\underline{\underline{\Delta = +847.6714 \text{ m elev}}}$$

10.93

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
Casing Elevation: 1724 m above G.L.

Azimuth x-axis: East

Azimuth y-axis: North

Well Coord: X= 9963.10 Y= 10023.25 Z= 849.93

Channel Configuration: Borehole Phone

V=Channel 1

R=Channel 2

T=Channel 3

Reference Phone

V=Channel 4

R=Channel 5

T=Channel 6

Reference Phone: Offset: _____ m

Azimuth _____

Elev. 0.16 m below G.L.

X= 0 m

Y= -1.20 m

Ref. Polarization: Az _____

V _____

R _____

T _____

Vert. _____

0 _____

90 _____

270 _____

Date: 13 AUG 98

Location: (X5) URISP

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
	<u>11</u>	<u>21.75</u>					<u>0</u>	<u>-0.53</u>	<u>270</u>	<u>135</u>
	<u>12</u>	<u>21.75</u>							<u>90</u>	
	<u>13</u>	<u>21.50</u>							<u>270</u>	
	<u>14</u>	<u>21.50</u>							<u>90</u>	
	<u>15</u>	<u>21.25</u>							<u>270</u>	
	<u>16</u>	<u>21.25</u>							<u>90</u>	
	<u>17</u>	<u>21.0</u>							<u>270</u>	
	<u>18</u>	<u>21.0</u>							<u>90</u>	
	<u>19</u>	<u>20.75</u>							<u>270</u>	
	<u>20</u>	<u>20.75</u>							<u>90</u>	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 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 0 R 0 T 270
 Offset: 0 m
 Azimuth 0.16 m below G.L.
 X = 0 m
 Y = -1.20 m
 Vert. 0
90
90

Date: 13 AUG 98 Location: (XS) URISP
 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
	<u>21</u>	<u>20.50</u>					<u>0</u>	<u>-53</u>	<u>270</u>	<u>135</u>
	<u>22</u>	<u>20.50</u>							<u>90</u>	
	<u>23</u>	<u>20.25</u>							<u>270</u>	
	<u>24</u>	<u>20.25</u>							<u>90</u>	
	<u>25</u>	<u>20.0</u>							<u>270</u>	
	<u>26</u>	<u>20.0</u>							<u>90</u>	
	<u>27</u>	<u>19.75</u>							<u>270</u>	
	<u>28</u>	<u>19.75</u>							<u>90</u>	
	<u>29</u>	<u>19.50</u>							<u>270</u>	
	<u>30</u>	<u>19.50</u>							<u>90</u>	<u>✓</u>

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 Channel Configuration: Borehole Phone
 V=Channel 1
 R=Channel 2
 T=Channel 3
 Reference Phone
 V=Channel 4
 R=Channel 5
 T=Channel 6
 Reference Polarization: Az 0
 V 0
 R 90
 T 90
 Offset: 0 m
 Azimuth 0.16 m below G.L.
 Elev. 0 m
 X = 0 m
 Y = -1.20 m

Date: 13 AUG 98 Location: (XS) URSR
 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	19.25					0	-53	270	135
	32	19.25							90	
	33	19.0							270	
	34	19.0							90	
	35	18.75							270	
	36	18.75							90	
	37	18.50							270	
	38	18.50							90	
	39	18.25							270	
	40	18.25							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 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
 V 0
 R 90
 T 90

Date: 13 AUG 98 Location: (X5) URISP
 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
	41	18.0					0	-53	270	135
	42	18.0							90	
	43	17.75							270	
	44	17.75							90	
	45	17.50							270	
	46	17.50							90	
	47	17.25							270	
	48	17.25							90	
	49	17.0							270	
	50	17.0							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.124 m above G.L.
 Azimuth x-axis: E237
 Azimuth y-axis: N0734
 Well Coord: X= 9963.10 Y= 10023.25 Z= 849.93
 Channel Borehole Phone Reference Phone
 Configuration: V=Channel 1 V=Channel 4 Az 0
 R=Channel 2 R=Channel 5 R 0
 T=Channel 3 T=Channel 6 T 270
 Date: 13 AUG 98 Location: (X5) URISP
 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	16.75					0	-53	270	135
	52	16.75							90	
	53	16.50							270	
	54	16.50							90	
	55	16.25							270	
	56	16.25							90	
	57	16.0							270	
	58	16.0							90	
	59	15.75							270	
	60	15.75							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 22.4 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 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
 Offset: 0 m
 Azimuth Elev. 0.16 m below G.L.
 X = 0.20 m
 Y = -1.20 m
 Vert. 0
90
90

Date: 13 AUG 98 Location: (XS) URISP
 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
	<u>61</u>	<u>15.50</u>					<u>0</u>	<u>-0.53</u>	<u>270</u>	<u>135</u>
	<u>62</u>	<u>15.50</u>							<u>90</u>	
	<u>63</u>	<u>15.25</u>							<u>270</u>	
	<u>64</u>	<u>15.25</u>							<u>90</u>	
	<u>65</u>	<u>15.0</u>							<u>270</u>	
	<u>66</u>	<u>15.0</u>							<u>90</u>	
	<u>67</u>	<u>14.75</u>							<u>270</u>	
	<u>68</u>	<u>14.75</u>							<u>90</u>	
	<u>69</u>	<u>14.50</u>							<u>270</u>	
	<u>70</u>	<u>14.50</u>							<u>90</u>	

11:05

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 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
 V 0
 R 0
 T 270
 Vert. 0
90
90

Date: 13 AUG 98 Location: (X5) URISP
 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
	71	14.25					0	-53	270	135
	72	14.25							90	
	73	14.0							270	
	74	14.0							90	
	75	13.75							270	
	76	13.75							90	
	77	13.50							270	
	78	13.50							90	
	79	13.25							270	
	80	13.25							90	

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BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 72.4 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 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 90
 T 90
 Offset: m
 Azimuth m below G.L.
 Elev. 0.16
 X = 0
 Y = -1.20

Date: 13 AUG 98 Location: (XS) URISP
 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	13.0					0	-53	270	135
	82	13.0							90	
	83	12.75							270	
	84	12.75							90	
	85	12.50							270	
	86	12.50							90	
	87	12.25							270	
	88	12.25							90	
	89	12.0							270	
	90	12.0							90	X

11:15

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 Channel Configuration: Borehole Phone Reference Phone
 V=Channel 1 V=Channel 4 Az 0
 R=Channel 2 R=Channel 5 R 0
 T=Channel 3 T=Channel 6 T 270
 Date: 13 AUG 98 Location: (X5) URS
 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
	91	11.75					0	-0.53	270	135
	92	11.75							90	
	93	11.50							270	
	94	11.50							90	
	95	11.25							270	
	96	11.25							90	
	97	11.0							270	
	98	11.0							90	
	99	10.75							270	
	100	10.75							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 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 90 T 90
 X = 0 m
 Y = -1.20 m
 Offset: 0 m
 Azimuth 0.16 m below G.L.

Date: 13 AUG 98 Location: (X5) URSP
 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	
	101	10.50					0	-1.53	270	135	
	102	10.50							90		
	103	10.25							270		
	104	10.25							90		
	105	10.0							270		
	106	10.0							90		
	107	9.75							270		
	108	9.75							90		
	109	9.50							270		
	110	9.50							90		

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BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.729 m above G.L.
 Azimuth x-axis: E257
 Azimuth y-axis: N407H
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 Channel Configuration: Borehole Phone V=Channel 1 Reference Phone V=Channel 4 Az 0
 R=Channel 2 R=Channel 5 R 0
 T=Channel 3 T=Channel 6 T 270
 Date: 13 AUG 98 Location: (X5) URS
 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
	<u>111</u>	<u>9.25</u>					<u>0</u>	<u>-53</u>	<u>270</u>	<u>135</u>
	<u>112</u>	<u>9.25</u>						<u>1</u>	<u>90</u>	<u>1</u>
	<u>113</u>	<u>9.0</u>						<u>1</u>	<u>270</u>	<u>1</u>
	<u>114</u>	<u>9.0</u>						<u>1</u>	<u>90</u>	<u>1</u>
	<u>115</u>	<u>8.75</u>						<u>1</u>	<u>270</u>	<u>1</u>
	<u>116</u>	<u>8.75</u>						<u>1</u>	<u>90</u>	<u>1</u>
	<u>117</u>	<u>8.50</u>						<u>1</u>	<u>270</u>	<u>1</u>
	<u>118</u>	<u>8.50</u>						<u>1</u>	<u>90</u>	<u>1</u>
	<u>119</u>	<u>8.25</u>						<u>1</u>	<u>270</u>	<u>1</u>
	<u>120</u>	<u>8.25</u>						<u>1</u>	<u>90</u>	<u>1</u>

3 stacks →
 not 4!
 11:30

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 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 90 T 90
 X = 0 m
 Y = -1.20 m
 Elev. 0.16 m below G.L.
 Azimuth 0
 Offset: 0 m

Date: 13 AUG 98 Location: (X5) URSF
 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
	121	8.0					0	-53	270	135
	122	8.0							90	
	123	7.75							270	
	124	7.75							90	
	125	7.50							270	
	126	7.50							90	
	127	7.25							220	
	128	7.25							90	
	129	7.0					N	N	270	
	130	7.0							90	

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BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 Channel Configuration: Borehole Phone Reference Phone
 V=Channel 1 V=Channel 4 Az 0
 R=Channel 2 R=Channel 5 R 0
 T=Channel 3 T=Channel 6 T 270
 Date: 13 AUG 98 Location: (XS) URISP
 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
	131	6.75					0	-53	270	135
	132	6.75							90	
	133	6.50							270	
	134	6.50							90	
	135	6.25							270	
	136	6.25							90	
	137	6.0							270	
	138	6.0							90	
	139	5.75							270	
	140	5.75							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 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 0 R 0 T 270
 Offset: 0 m
 Azimuth Elev. 0.16 m below G.L.
 X = 0 m
 Y = -1.20 m
 Vert. 0
90
90

Date: 13 AUG 98 Location: (X5) URISP
 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
	<u>141</u>	<u>5.50</u>					<u>0</u>	<u>-53</u>	<u>270</u>	<u>135</u>
	<u>142</u>	<u>5.50</u>					<u>1</u>	<u>1</u>	<u>90</u>	<u>1</u>
	<u>143</u>	<u>5.25</u>					<u>1</u>	<u>1</u>	<u>270</u>	<u>1</u>
	<u>144</u>	<u>5.25</u>					<u>1</u>	<u>1</u>	<u>90</u>	<u>1</u>
	<u>145</u>	<u>5.0</u>					<u>1</u>	<u>1</u>	<u>270</u>	<u>1</u>
	<u>146</u>	<u>5.0</u>					<u>1</u>	<u>1</u>	<u>90</u>	<u>1</u>
	<u>147</u>	<u>4.75</u>					<u>1</u>	<u>1</u>	<u>270</u>	<u>1</u>
	<u>148</u>	<u>4.75</u>					<u>1</u>	<u>1</u>	<u>90</u>	<u>1</u>
	<u>149</u>	<u>4.50</u>					<u>0</u>	<u>1</u>	<u>270</u>	<u>1</u>
	<u>150</u>	<u>4.50</u>					<u>0</u>	<u>1</u>	<u>90</u>	<u>1</u>

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BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: E257
 Azimuth y-axis: N0274
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 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 90
 T 90

Date: 13 AUG 98 Location: (X5) URSF
 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
	151	4.25					0	-53	270	135
	152	4.25							90	
	153	4.0							270	
	154	4.0							90	
	155	3.75							270	
	156	3.75							90	
	157	3.50							270	
	158	3.50							90	
	159	3.25							270	
	160	3.25					✓	✓	90	✓

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93

Reference Phone: Offset: _____ m
 Azimuth _____
 Elev. 0.16 m below G.L.
 X = 0 m
 Y = -1.20 m
 Ref. Polarization: Az 0
 V 0
 R 0
 T 270
 Vert. 0
90
90

Channel Configuration:
 Borehole Phone
 V=Channel 1
 R=Channel 2
 T=Channel 3
 Reference Phone
 V=Channel 4
 R=Channel 5
 T=Channel 6

Date: 13 AUG 98 Location: (XS) URISP
 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
	<u>161</u>	<u>3.0</u>					<u>0</u>	<u>-53</u>	<u>270</u>	<u>135</u>
	<u>162</u>	<u>3.0</u>					<u>1</u>	<u>1</u>	<u>90</u>	<u>1</u>
	<u>163</u>	<u>2.75</u>					<u>1</u>	<u>1</u>	<u>270</u>	<u>1</u>
	<u>164</u>	<u>2.75</u>					<u>1</u>	<u>1</u>	<u>90</u>	<u>1</u>
	<u>165</u>	<u>2.50</u>					<u>1</u>	<u>1</u>	<u>270</u>	<u>1</u>
	<u>166</u>	<u>2.50</u>					<u>1</u>	<u>1</u>	<u>90</u>	<u>1</u>
	<u>167</u>	<u>2.25</u>					<u>1</u>	<u>1</u>	<u>270</u>	<u>1</u>
	<u>168</u>	<u>2.25</u>					<u>1</u>	<u>1</u>	<u>90</u>	<u>1</u>
	<u>169</u>	<u>2.0</u>					<u>0</u>	<u>1</u>	<u>270</u>	<u>1</u>
	<u>170</u>	<u>2.0</u>					<u>0</u>	<u>1</u>	<u>90</u>	<u>1</u>

12.03

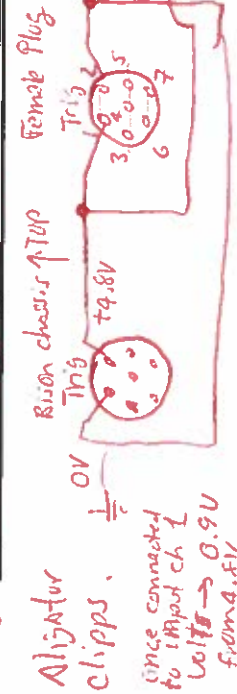
BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.724 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORT
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 Channel Configuration: V=Channel 1 V=Channel 4 Az 0
 R=Channel 2 R=Channel 5 R 0
 T=Channel 3 T=Channel 6 T 270
 Ref. Polarization: V 0 Az 0
 X = 0 m Y = -1.20 m Vert. 0

Date: 13 AUG 98 Location: (XS) URS
 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	
	171	1.75					0	-53	270	135	
	172	1.75							90		
	173	1.50							270		
	174	1.50							90		
	175	1.25							270		
	176	1.25							90		
	177	1.0							270		
	178	1.0							90		
Test	180	NA	Ch I	trigger	Recorded	→ Collision time; Nanometer			Base		

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MOLE PINS {pin 1 = (+) }
 {pin 2 = (-) }

Aligner clips. 1/2
 4.8V → 0.9V from 4.8V

4 HZ. 1000HZ FILTERS
 Contact closure trigger



Ch 1-24 BSSON Channel

Ch 1-24 BSSON Channel

Ch 1-24 BSSON Channel

Ch 1-24 BSSON Channel

Ch 1-24 BSSON Channel

VSP Check List

Project: URISP X5 well

Date: 13 Oct 98

Odometer Start: 15491.2 Finish: 15510.2
Time Out: 9:00 Time In: 13:30

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		✓	
90° Hammer Source + Sand Bags		✓	
Vertical Hammer Source + Sand Bags			
135° Hammer Source		✓	
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		✓	