

## VSP Preliminary Data Sheet

Date: 30 Oct 2000 Type of Phones 070

1. Well Name X-5 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) 8.31 ft = 2.5329 m

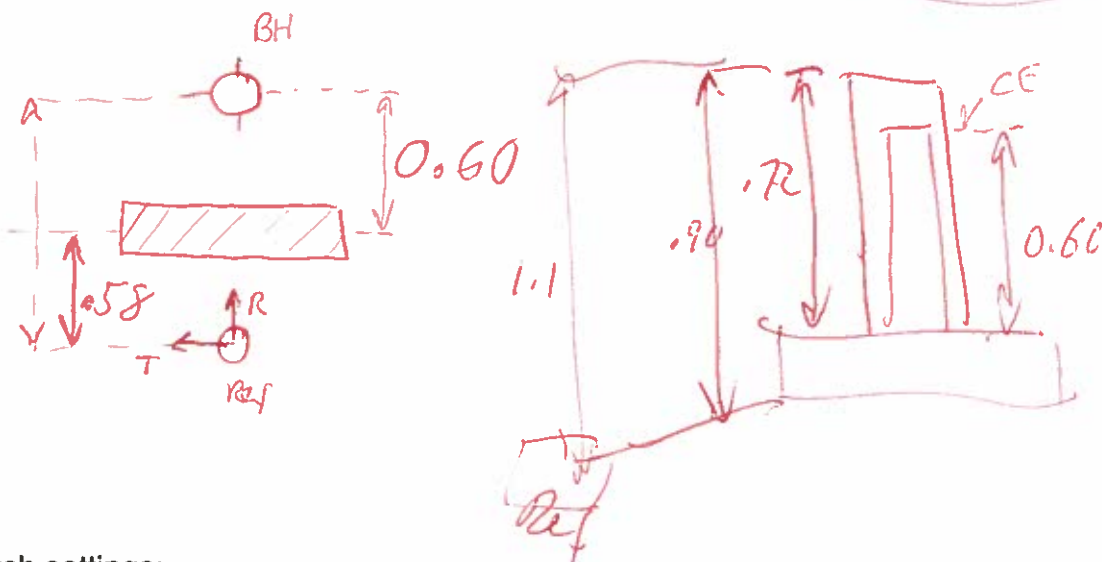
4. Casing Elevation, distance above ground level= \_\_\_\_\_

5. Reference phone offset from borehole= 1.18

6. Reference phone depth below ground level= 0.20

7. Source Offset from borehole= 0.60

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: 849.93 m above G.L.  
 Azimuth x-axis: E057  
 Azimuth y-axis: N0214  
 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  
 Date: 3 Oct 2000 Location: X5 - ORNSP  
 High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2500  
 Reference Phone: Offset: \_\_\_\_\_ m  
 Azimuth \_\_\_\_\_  
 Elev. .20 m below G.L.  
 X = 0 m  
 Y = -1.18 m  
 Ref. Polarization: Az Vert.  
 V 0  
 R 90  
 T 90

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
<u>0001</u>		<u>21.25</u>					<u>0</u>	<u>-0.60</u>	<u>270</u>	<u>135</u>
<u>2</u>		<u>21.25</u>							<u>90</u>	<u>135</u>
<u>3</u>		<u>21.00</u>								
<u>4</u>		<u>21.00</u>								
<u>5</u>		<u>20.75</u>								
<u>6</u>		<u>20.75</u>								
<u>7</u>		<u>20.50</u>								
<u>8</u>		<u>20.50</u>								
<u>9</u>		<u>20.25</u>								
<u>10</u>		<u>20.25</u>								

$$\frac{V}{=} + 849.397$$

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
 Casing Elevation: 844.78 m above G.L.  
 Azimuth x-axis: 1.78  
 Azimuth y-axis: 1.78  
 Well Coord: X= 0 Y= 0 Z= 1849.93 m  
 Channel Configuration: 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 m below G.L.  
 Elev. 0.2 m below G.L.  
 X= 0 m  
 Y= -1.18 m  
 Vert. 0  
90  
90

Date: 30 Oct 2000 Location: URISP X5

High-Cut            Low-Cut            Sample Int.            Number Samples           

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
<u>11</u>		<u>20.00</u>					<u>0</u>	<u>-60</u>	<u>270</u>	<u>135</u>
<u>12</u>		<u>20.00</u>							<u>90</u>	<u>135</u>
<u>13</u>		<u>19.75</u>								
<u>14</u>		<u>19.75</u>								
<u>15</u>		<u>19.50</u>								
<u>16</u>		<u>19.50</u>								
<u>17</u>		<u>19.25</u>								
<u>18</u>		<u>19.25</u>								
<u>19</u>		<u>19.00</u>								
<u>20</u>		<u>19.00</u>								

12.21

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
 Casing Elevation: 899.93 m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_  
 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: 30 Oct 2000 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>18.75</u>					<u>0</u>	<u>-60</u>	<u>270</u>	<u>135</u>
<u>22</u>		<u>18.75</u>							<u>90</u>	<u>135</u>
<u>23</u>		<u>18.50</u>								
<u>24</u>		<u>18.50</u>								
<u>25</u>		<u>18.25</u>								
<u>26</u>		<u>18.25</u>								
<u>27</u>		<u>18.00</u>								
<u>28</u>		<u>18.00</u>								
<u>29</u>		<u>17.75</u>								
<u>30</u>		<u>17.75</u>								

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
Casing Elevation: 846.3 m above G.L.

Azimuth x-axis: 0.78

Azimuth y-axis: 0

Well Coord: X= 0 Y= -1.18 Z= 1849.93

Channel Configuration: 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 90 T 90

Vert. 0

Date: 3 Oct 2000

Location: X5-U258

High-Cut 100 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		17.50					0	-0.60	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

0.78

Coordinate System Origin at Borehole  
 Casing Elevation: ~~18.4~~ m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_ Z= 899.93 m  
 Channel Configuration: Borehole Phone Reference Phone  
 V=Channel 4 V=Channel 4  
 R=Channel 5 R=Channel 5  
 T=Channel 6 T=Channel 6  
 Ref. Polarization: V 0 R 90 T 90  
 Azimuth 0 Elev. 0.20 m below G.L.  
 X= 0 m Y= -1.18 m

Date: 3 Oct 2000 Location: X5-UR1SP Number Samples 2500  
 High-Cut 1000 Low-Cut 4 Sample Int. 0.002

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
41		16.25					0	-0.6	270	135
42		16.25							90	130
43		16.00								
44		16.00								
45		15.75								
46		15.75								
47		15.50								
48		15.50								
49		15.25								
50		15.25								

12:40

# BSU GEOPHYSICS VSP OBSERVER'S LOG

78

Coordinate System Origin at Borehole  
Casing Elevation: ~~849.93~~ m above G.L.

Azimuth x-axis: \_\_\_\_\_

Azimuth y-axis: \_\_\_\_\_

Well Coord: X= \_\_\_\_\_

Y= \_\_\_\_\_

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

Vert. 0  
90  
270

Date: 30 Oct 2000

Location: XS-UR15F

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		15.00					0	-60	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: 189.78 m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_ Z= 849.93 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 Vert.  
 V 0 0  
 R 0 90  
 T 270 90

Date: 30 Oct 2000 Location: X5-U2158  
 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>13.75</u>					<u>0</u>	<u>-60</u>	<u>270</u>	<u>135</u>
<u>62</u>		<u>13.75</u>							<u>90</u>	<u>135</u>
<u>63</u>		<u>13.50</u>								
<u>64</u>		<u>13.50</u>								
<u>65</u>		<u>13.25</u>								
<u>66</u>		<u>13.25</u>								
<u>67</u>		<u>13.00</u>								
<u>68</u>		<u>13.00</u>								
<u>69</u>		<u>12.75</u>								
<u>70</u>		<u>12.75</u>								

13.00



# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
 Casing Elevation: 1.78 m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_  
 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: 2007 2000 Location: X5-LR15P  
 High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2500

Offset: \_\_\_\_\_ m  
 Azimuth \_\_\_\_\_  
 Elev. 1.2 m below G.L.  
 X= 0 m  
 Y= -1.18 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
<u>71</u>		<u>12.50</u>					<u>0</u>	<u>-1.60</u>	<u>270</u>	<u>135</u>
<u>72</u>		<u>12.50</u>							<u>90</u>	<u>135</u>
<u>73</u>		<u>12.25</u>								
<u>74</u>		<u>12.25</u>								
<u>75</u>		<u>12.00</u>								
<u>76</u>		<u>12.00</u>								
<u>77</u>		<u>11.75</u>								
<u>78</u>		<u>11.75</u>								
<u>79</u>		<u>11.50</u>								
<u>80</u>		<u>11.50</u>								

13:03

13:10

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
 Casing Elevation: 178 m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_ Z= 849.43 m  
 Channel Configuration: Borehole Phone Reference Phone  
 V=Channel 1 V=Channel 4  
 R=Channel 2 R=Channel 5  
 T=Channel 7 T=Channel 6  
 Ref. Polarization: Az V R T  
 0 0 0 0  
 90 90 90 90  
 270 270 270 270

Date: 30 Oct 2000 Location: XS-42157  
 High-Cut 100 Low-Cut 4 Sample Int. .0002 Number Samples 2500

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Offset	Azimuth	Elev.	X	Y	Vertical
81		11.25						0	-0.60	135
82		11.25								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								

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole Reference Phone: Offset: \_\_\_\_\_ m  
 Casing Elevation: 78 m above G.L. Azimuth \_\_\_\_\_  
 Azimuth x-axis: \_\_\_\_\_ Elev. 2 m below G.L.  
 Azimuth y-axis: \_\_\_\_\_ X= 0 m  
 Well Coord: X= \_\_\_\_\_ Y= -1.18 m  
 Channel Borehole Phone Reference Phone V= 0 Vert. 0  
 Configuration: V=Channel 1 R=Channel 5 R= 0  
 T=Channel 3 T=Channel 6 T= 280

Date: 30 Oct 2000 Location: X5-V21SP  
 High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2506

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
<u>91</u>		<u>10.00</u>					<u>0</u>	<u>-1.60</u>	<u>270</u>	<u>135</u>
<u>92</u>		<u>10.00</u>							<u>90</u>	<u>135</u>
<u>93</u>		<u>9.75</u>								
<u>94</u>		<u>9.75</u>								
<u>95</u>		<u>9.50</u>								
<u>96</u>		<u>9.50</u>								
<u>97</u>		<u>9.25</u>								
<u>98</u>		<u>9.25</u>								
<u>99</u>		<u>9.00</u>								
<u>100</u>		<u>9.00</u>								

13:18

13:26

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
 Casing Elevation: 78 m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_ Z= 4899.93 m  
 Channel Configuration: Borehole Phone Reference Phone  
 V=Channel 1 V=Channel 5  
 R=Channel 2 R=Channel 5  
 T=Channel 3 T=Channel 6  
 Date: 30 Oct 2000 Location: X5-012158  
 High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2500

Ref. Polarization: V 0  
 R 0  
 T 270  
 Vert. 0  
70  
90

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Offset	Azimuth	Elev.	X	Y	Vertical
101		8.75						0	-160	135
102		8.75							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								

13:26

13:33

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
 Casing Elevation: 78 m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_ Z= 1899.93 m  
 Channel Configuration: Borehole Phone Reference Phone  
 V=Channel 4 V=Channel 0  
 R=Channel 5 R=Channel 0  
 T=Channel 1 T=Channel 22  
 Ref. Polarization: Az Vert.  
 V 0 6  
 R 0 90  
 T 22 90

Date: 30 Oct 2000 Location: X5-UR15P 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
<u>111</u>		<u>7.50</u>					<u>0</u>	<u>-1.80</u>	<u>270</u>	<u>135</u>
<u>112</u>		<u>7.50</u>							<u>90</u>	<u>135</u>
<u>113</u>		<u>7.25</u>								
<u>114</u>		<u>7.25</u>								
<u>115</u>		<u>7.00</u>								
<u>116</u>		<u>7.00</u>								
<u>117</u>		<u>6.75</u>								
<u>118</u>		<u>6.75</u>								
<u>119</u>		<u>6.50</u>								
<u>120</u>		<u>6.50</u>								

13:38

13:47

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
Casing Elevation: .78 m above G.L.

Azimuth x-axis: \_\_\_\_\_

Azimuth y-axis: \_\_\_\_\_

Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_

Channel Borehole Phone \_\_\_\_\_

Configuration: V=Channel 1

R=Channel 2

T=Channel 3

Reference Phone: \_\_\_\_\_

Offset: \_\_\_\_\_

Reference Phone: \_\_\_\_\_

V=Channel 4

R=Channel 5

T=Channel 6

Offset: \_\_\_\_\_

Reference Phone: \_\_\_\_\_

Elev. .12 m below G.L.

X= 0 m

Y= -1.18 m

Ref. Polarization: \_\_\_\_\_

V 0

R 0

T 270

Vert. 0

Date: 3 Oct 2000 Location: X5-0215P Number Samples 2500

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

Shot		Borehole Phone			Source			Ref. Polarization			Source Polarization	
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical	Azimuth	Vertical
121		6.25					0	-1.60	270	135		
122		6.25							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										

13:42

13:48

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
 Casing Elevation: +78 m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_ Z= +899.93 m  
 Channel Configuration: Borehole Phone Reference Phone  
 V=Channel 1 V=Channel 4  
 R=Channel 5 R=Channel 5  
 T=Channel 7 T=Channel 6  
 Date: 30 Oct 2000 Location: XS-UR15P  
 High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2500

Offset: \_\_\_\_\_ m  
 Azimuth \_\_\_\_\_  
 Elev. 0.2 m below G.L.  
 X= 0 m  
 Y= -1.18 m  
 Ref. Polarization: Az  
 V 0  
 R 0  
 T 270  
 Vert. 0  
20  
90

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
<u>131</u>		<u>5.00</u>					<u>0</u>	<u>-60</u>	<u>270</u>	<u>135</u>
<u>132</u>		<u>5.00</u>							<u>90</u>	<u>135</u>
<u>133</u>		<u>4.75</u>								
<u>134</u>		<u>4.75</u>								
<u>135</u>		<u>4.50</u>								
<u>136</u>		<u>4.50</u>								
<u>137</u>		<u>4.25</u>								
<u>138</u>		<u>4.25</u>								
<u>139</u>		<u>4.00</u>								
<u>140</u>		<u>4.00</u>								

15:47

15:57



# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
 Casing Elevation: 78 m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_ Z= \_\_\_\_\_  
 Channel Configuration: Borehole Phone Reference Phone  
 V=Channel 1 V=Channel A  
 R=Channel 2 R=Channel S  
 T=Channel 7 T=Channel C  
 Ref. Polarization: Az Vert.  
 V 0  
 R 90  
 T 90

Date: 30 Oct 2000 Location: X5-V2158 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
141		3.75					0	-1.00	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								

13:58

14:09

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole Reference Phone: Offset: \_\_\_\_\_ m  
 Casing Elevation: 78 m above G.L. Azimuth \_\_\_\_\_  
 Azimuth x-axis: \_\_\_\_\_ Elev. 12 m below G.L.  
 Azimuth y-axis: \_\_\_\_\_ X = 0 m  
 Well Coord: X = \_\_\_\_\_ Y = -1.18 m  
 Channel Borehole Phone Reference Phone V = 0 Vert. 0  
 Configuration: V=Channel 4 R = 0 90  
 R=Channel 5 T = 270 90  
 T=Channel 6

Date: 3 Oct 2010 Location: XS-URISP 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
<u>151</u>		<u>2.50</u>					<u>0</u>	<u>-60</u>	<u>270</u>	<u>135</u>
<u>152</u>		<u>2.50</u>							<u>90</u>	<u>135</u>
<u>153</u>		<u>2.25</u>								
<u>154</u>		<u>2.25</u>								
<u>155</u>		<u>2.00</u>								
<u>156</u>		<u>2.00</u>								
<u>157</u>		<u>1.75</u>								
<u>158</u>		<u>1.75</u>								
<u>159</u>		<u>1.50</u>								
<u>160</u>		<u>1.50</u>								

# BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole  
 Casing Elevation: 1.78 m above G.L.  
 Azimuth x-axis: \_\_\_\_\_  
 Azimuth y-axis: \_\_\_\_\_  
 Well Coord: X= \_\_\_\_\_ Y= \_\_\_\_\_ Z= +899.93  
 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 V 0 R 90 T 90  
 X= 0 m below G.L.  
 Y= -1.18 m  
 Z= \_\_\_\_\_ m

Date: 30 Oct 2006 Location: X5-UR158 Number Samples 2500  
 High-Cut 1000 Low-Cut 4 Sample Int. 10002

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
<u>161</u>		<u>1.25</u>					<u>0</u>	<u>-0.60</u>	<u>270</u>	<u>135</u>
<u>162</u>		<u>1.25</u>							<u>90</u>	<u>135</u>
<u>163</u>		<u>1.00</u>								
<u>164</u>		<u>1.00</u>								
<u>165</u>	<u>/</u>	<u>0.75</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
<u>166</u>	<u>/</u>	<u>0.75</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
<u>167</u>										
<u>168</u>										
<u>169</u>										
<u>170</u>										



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