

ORIGINAL

VSP Preliminary Data Sheet

E66 Instrument

Date: 2 Nov 99 Type of Phones 040

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) 9.49 ft sub MP = 2.8925m

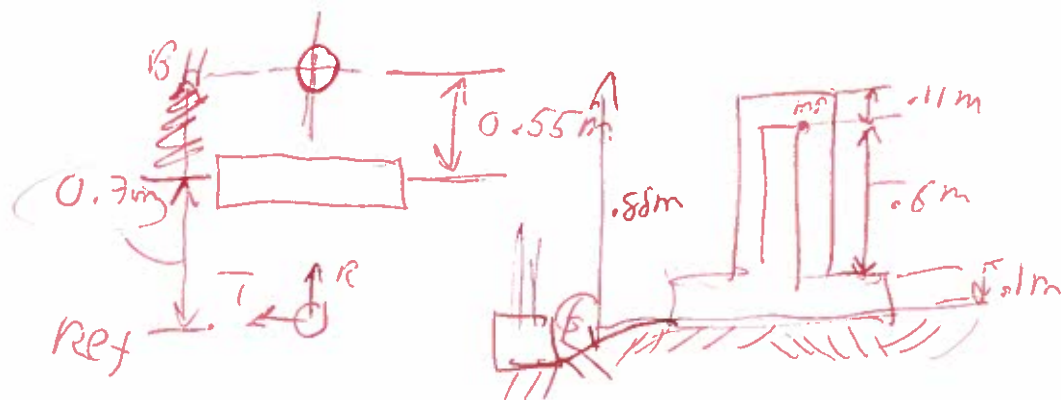
4. Casing Elevation, distance above ground level= .766

5. Reference phone offset from borehole= 1.25

6. Reference phone depth below ground level= .20m

7. Source Offset from borehole= .55

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: 0.766 m above G.L.

Azimuth x-axis: EAST

Azimuth y-axis: NORTH

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

Channel Borehole Phone Reference Phone

Configuration: V=Channel 1 V=Channel 4

R=Channel 2 R=Channel 5

T=Channel 3 T=Channel 6

Date: 2 Nov 99 Location: X5 URISP (Low Water)

High-Cut 1000 Low-Cut 4 Sample Int. 0.002 Number Samples 2500

Reference Phone: Offset: _____ m
Azimuth _____ m below G.L.
Elev. 0.20
X = 0 Y = -1.20

Ref. Polarization: Az

V 0

R 0

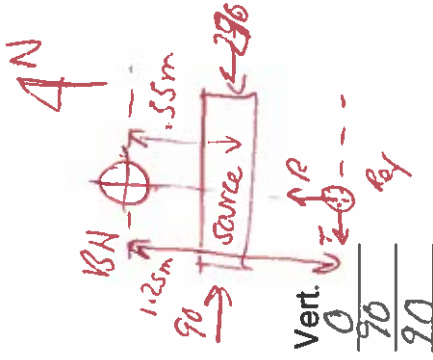
T 270

Vert.

0

90

90



Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
<u>1001.dpt</u>		<u>21.50</u>							<u>270</u>	<u>135</u>
<u>1002.dpt</u>		<u>21.5</u>							<u>90</u>	
<u>3</u>		<u>21.25</u>							<u>270</u>	
<u>4</u>		<u>21.25</u>							<u>90</u>	
<u>5</u>		<u>21.0</u>							<u>270</u>	
<u>6</u>		<u>21.0</u>							<u>90</u>	
<u>7</u>		<u>20.75</u>							<u>270</u>	
<u>8</u>		<u>20.75</u>							<u>90</u>	
<u>9</u>		<u>20.50</u>							<u>270</u>	
<u>10</u>		<u>20.50</u>							<u>90</u>	

H₂O Table

+ 847.037 m

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 634 m above G.L.
 Azimuth x-axis: North
 Azimuth y-axis: 9963.10 Y= 10023.25 Z= 849.93
 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
 Date: 2 Nov 99 Location: X5 URISP (Low Water)
 High-Cut 1000 Low-Cut 4 Sample Int. 000 2 Number Samples 2500

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
<u>11</u>		<u>20.25</u>							<u>270</u>	
<u>12</u>		<u>20.25</u>							<u>90</u>	
<u>13</u>		<u>20.0</u>							<u>270</u>	
<u>14</u>		<u>20.0</u>							<u>90</u>	
<u>15</u>		<u>19.75</u>							<u>270</u>	
<u>16</u>		<u>19.75</u>							<u>90</u>	
<u>17</u>		<u>19.50</u>							<u>270</u>	
<u>18</u>		<u>19.50</u>							<u>90</u>	
<u>19</u>		<u>19.25</u>							<u>270</u>	
<u>20</u>		<u>19.25</u>							<u>90</u>	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6.34 m above G.L.
 Azimuth x-axis: North
 Azimuth y-axis: 9963.10 Y= 10023.25 Z= 849.93
 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
 Date: 2 Nov 99 Location: X5 URISP (Low Water)
 High-Cut 1000 Low-Cut 4 Sample Int. 000 2 Number Samples 2500

Offset: 0 m
 Azimuth 0
 Elev. 0 m below G.L.
 X= 0 m
 Y= -1.20 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
21		19.0							270	
22		19.0							90	
23		18.75							270	
24		18.75							90	
25		18.50							270	
26		18.50							90	
27		18.25							270	
28		18.25							90	
29		18.0							270	
30		18.0							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: EAJH m above G.L.
 Azimuth x-axis: North
 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
 Date: 2 Nov 99 Location: XS URISP (Low Water)
 High-Cut 1000 Low-Cut 4 Sample Int. 0002 Number Samples 2500

Reference Phone: Offset: 0 m
 Azimuth 0
 Elev. 0.20 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

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
<u>31</u>		<u>17.75</u>							<u>270</u>	
<u>32</u>		<u>17.75</u>							<u>90</u>	
<u>33</u>		<u>17.50</u>							<u>270</u>	
<u>34</u>		<u>17.50</u>							<u>90</u>	
<u>35</u>		<u>17.25</u>							<u>270</u>	
<u>36</u>		<u>17.25</u>							<u>90</u>	
<u>37</u>		<u>17.0</u>							<u>270</u>	
<u>38</u>		<u>17.0</u>							<u>90</u>	
<u>39</u>		<u>16.75</u>							<u>270</u>	
<u>40</u>		<u>16.75</u>							<u>90</u>	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 2.34 m above G.L.
 Azimuth x-axis: N024E
 Azimuth y-axis: N024E
 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
 Date: 2 Nov 99 Location: X5 URISP (Low Water)
 High-Cut 1000 Low-Cut 4 Sample Int. 0002 Number Samples 2500

Offset: 0 m
 Azimuth 0
 Elev. 20 m below G.L.
 X= 0 m
 Y= -1.20 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
41		16.50							270	
42		16.50							90	
43		16.25							270	
44		16.25							90	
45		16.0							270	
46		16.0							90	
47		15.75							270	
48		15.75							90	
49		15.50							270	
50		15.50							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 633 m above G.L.
 Azimuth x-axis: North
 Azimuth y-axis: East
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 Channel Configuration: Borehole Phone
 V=Channel 1 V=Channel 4
 R=Channel 2 R=Channel 5
 T=Channel 3 T=Channel 6
 Date: 2 Nov 99 Location: X5 URISP (Low Water)
 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 = -1.20 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
51		15.25							270	
52		15.25							90	
53		15.0							270	
54		15.0							90	
55		14.75							270	
56		14.75							90	
57		14.50							270	
58		14.50							90	
59		14.25							270	
60		14.25							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6934 m above G.L.
 Azimuth x-axis: N0244
 Azimuth y-axis: N0244
 Well Coord: X= 9963.10 Y= 10023.25 Z= 849.93
 Channel 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
 Configuration: Vert. 0
 Date: 2 Nov 99 Location: X5 URISP (Low Water)
 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
61		14.0							270	
62		14.0							90	
63		13.75							270	
64		13.75							90	
65		13.50							270	
66		13.50							90	
67		13.25							270	
68		13.25							90	
69		13.0							270	
70		13.0							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6934 m above G.L.
 Azimuth x-axis: N0234
 Azimuth y-axis: N0234
 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: 2 Nov 99 Location: X5 URISP (Low Water)
 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		12.75							270	
72		12.75							90	
73		12.50							270	
74		12.50							90	
75		12.25							270	
76		12.25							90	
77		12.0							270	
78		12.0							90	
79		11.75							270	
80		11.75							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6.34 m above G.L.
 Azimuth x-axis: North
 Azimuth y-axis: 9963.10 Y= 10023.25 Z= 849.93
 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: 2 Nov 99 Location: X5 URISP (Low Water)
 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		11.50							270	
82		11.50							90	
83		11.25							270	
84		11.25							90	
85		11.0							270	
86		11.0							90	
87		10.75							270	
88		10.75							90	
89		10.50							270	
90		10.50							90	

* 11.75 m
 11.75 m
 11.75 m

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6934 m above G.L.
 Azimuth x-axis: N0244
 Azimuth y-axis: N0244
 Well Coord: X= 9963.10 Y= 10023.25 Z= 849.93
 Channel Borehole Phone Reference Phone
 V=Channel 1 V=Channel 4
 R=Channel 2 R=Channel 5
 T=Channel 3 T=Channel 6
 Configuration: Ref. Polarization: Az Vert.
 V 0 0
 R 0 90
 T 270 90
 Date: 2 Nov 99 Location: X5 URISP [Low Water]
 High-Cut 1000 Low-Cut 4 Sample Int. 0.002 Number Samples 2500

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
91		10.25							270	
92		10.25							90	
93		10.0							270	
94		10.0							90	
95		9.75							270	
96		9.75							90	
97		9.50							270	
98		9.50							90	
99		9.25							270	
100		9.25							90	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6934 m above G.L.
 Azimuth x-axis: N0241
 Azimuth y-axis: N0241
 Well Coord: X= 9963.10 Y= 10023.25 Z= 849.93
 Channel Borehole Phone Reference Phone
 V=Channel 1 V=Channel 4
 R=Channel 2 R=Channel 5
 T=Channel 3 T=Channel 6
 Date: 2 Nov 99 Location: X5 URISP (Low Water)
 High-Cut 1000 Low-Cut 4 Sample Int. 0002 Number Samples 2500

Offset: _____ m
 Azimuth _____
 Elev. 20 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

Shot		Borehole Phone			Source			Source Polarization		
Rec.	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth	Vertical
<u>101</u>		<u>9.0</u>							<u>270</u>	
<u>102</u>		<u>9.0</u>							<u>90</u>	
<u>103</u>		<u>8.75</u>							<u>270</u>	
<u>104</u>		<u>8.75</u>							<u>90</u>	
<u>105</u>		<u>8.50</u>							<u>270</u>	
<u>106</u>		<u>8.50</u>							<u>90</u>	
<u>107</u>		<u>8.25</u>							<u>270</u>	
<u>108</u>		<u>8.25</u>							<u>90</u>	
<u>109</u>		<u>8.0</u>							<u>270</u>	
<u>110</u>		<u>8.0</u>							<u>90</u>	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6934 m above G.L.
 Azimuth x-axis: Nor
 Azimuth y-axis: East
 Well Coord: X= 9963.10 Y= 10023.25 Z= 849.93
 Channel Borehole Phone Reference Phone
 V=Channel 1 V=Channel 4
 R=Channel 2 R=Channel 5
 T=Channel 3 T=Channel 6
 Configuration: Ref. Polarization: Az
 V 0
 R 0
 T 270
 Date: 2 Nov 99 Location: X5 URISP (Low Water)
 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>7.75</u>							<u>270</u>	
<u>112</u>		<u>7.75</u>							<u>90</u>	
<u>113</u>		<u>7.50</u>							<u>270</u>	
<u>114</u>		<u>7.50</u>							<u>90</u>	
<u>115</u>		<u>7.25</u>							<u>270</u>	
<u>116</u>		<u>7.25</u>							<u>90</u>	
<u>117</u>		<u>7.0</u>							<u>270</u>	
<u>118</u>		<u>7.0</u>							<u>90</u>	
<u>119</u>		<u>6.75</u>							<u>270</u>	
<u>120</u>		<u>6.75</u>							<u>90</u>	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6.31 m above G.L.
 Azimuth x-axis: North
 Azimuth y-axis: East
 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: 2 Nov 99 Location: X5 URISP (Low Water)
 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 = -1.20 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
<u>121</u>		<u>6.50</u>							<u>270</u>	
<u>122</u>		<u>6.50</u>							<u>90</u>	
<u>123</u>		<u>6.25</u>							<u>270</u>	
<u>124</u>		<u>6.25</u>							<u>90</u>	
<u>125</u>		<u>6.0</u>							<u>270</u>	
<u>126</u>		<u>6.0</u>							<u>90</u>	
<u>127</u>		<u>5.75</u>							<u>270</u>	
<u>128</u>		<u>5.75</u>							<u>90</u>	
<u>129</u>		<u>5.50</u>							<u>270</u>	
<u>130</u>		<u>5.50</u>							<u>90</u>	

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6934 m above G.L.
 Azimuth x-axis: North
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 Channel Borehole Phone
 Configuration: 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: 2 Nov 99 Location: X5 URISP (Low Water)
 High-Cut 1000 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
131		5.25								
132		5.25								
133		5.0								
134		5.0								
135		4.75								
136		4.75								
137		4.50								
138		4.50								
139		4.25								
140		4.25								

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 6.31 m above G.L.
 Azimuth x-axis: Norht
 Azimuth y-axis: Norht
 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: 2 Nov 99 Location: X5 URISP (Low Water) Vert. 0
 High-Cut 1000 Low-Cut 4 Sample Int. .0002 Number Samples 2500

Shot	Borehole Phone			Source			Source Polarization		
	File	Depth	Elev.	Offset	Azimuth	Elev.	X	Y	Azimuth Vertical
<u>141</u>		<u>4.0</u>							<u>270</u>
<u>142</u>		<u>4.0</u>							<u>90</u>
<u>143</u>		<u>3.75</u>							<u>270</u>
<u>144</u>		<u>3.75</u>							<u>90</u>
<u>145</u>		<u>3.50</u>							<u>270</u>
<u>146</u>		<u>3.50</u>							<u>90</u>
<u>147</u>		<u>3.25</u>							<u>270</u>
<u>148</u>		<u>3.25</u>							<u>90</u>
<u>149</u>		<u>3.0</u>							<u>270</u>
<u>150</u>		<u>3.0</u>							<u>90</u>

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: East m above G.L.
 Azimuth x-axis: North
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93
 Channel Borehole Phone Reference Phone
 V=Channel 1 V=Channel 4
 R=Channel 2 R=Channel 5
 T=Channel 3 T=Channel 6
 Configuration: Ref. Polarization: Az Vert.
 V 0 0
 R 0 90
 T 270 90
 Date: 2 Nov 99 Location: X5 URISP (Low Water)
 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		2.75							270	
152		2.75							90	
153		2.50							270	
154		2.50							90	
155		2.25							270	
156		2.25							90	
157		2.0							270	
158		2.0							90	
159		1.75							270	
160		1.75							90	

Coordinate System Origin at Borehole
Casing Elevation: _____ 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
Location: X5 URISP [Low Water]
Date: 2 Nov 99
High-Cut 1000 Low-Cut 4 Sample Int. .000 2 Number Samples 2500

[illegible]

VSP Check List

Project: VRISP

Date: 2 NOV 99

Odometer Start: 20507 Finish: 20529

Time Out: _____ Time In: _____

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			
Tripod , head and 3 poles	✓		
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	✓		

Red tool Box

Yellow tool Box

S'Love