

VSP Preliminary Data Sheet

Date: 10 November 2000 Type of Phones 090

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) 9.53 ft = 2.9047m

4. Casing Elevation, distance above ground level= .78

5. Reference phone offset from borehole= -1.15 (South)

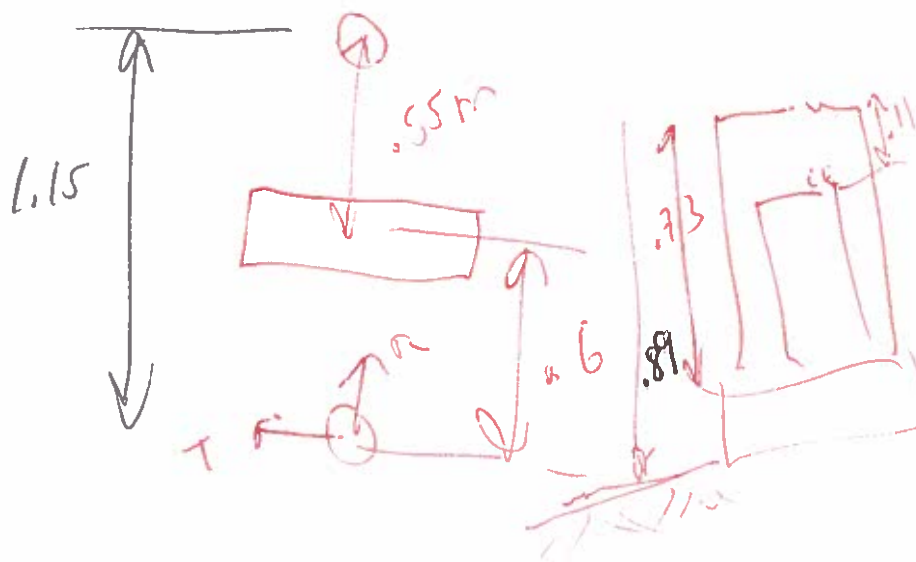
6. Reference phone depth below ground level= 0

7. Source Offset from borehole= .55

8. Sketch of setup:

$$\frac{V}{V} =$$

$$+847.025$$



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: 0.78 m above G.L.

Azimuth x-axis: East

Azimuth y-axis: North

Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)

Channel Borehole Phone

V=Channel 1

R=Channel 2

T=Channel 3

Reference Phone: Offset: _____ m

Azimuth _____ m

Elev. _____ m below G.L.

X = -10.15 m

Y = 0 m

Ref. Polarization:

V

R

T

Az

0

0

270

Vert.

0

90

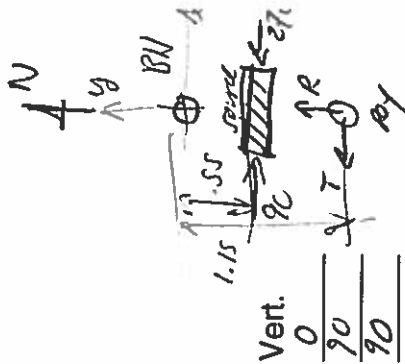
90

Date: 10 NOV 2000 Location: X5-VRLSP

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
1		21.25					-0.55	0	270	135
2		21.25							90	135°
3		21.40							270	135
4		21.40							90	135
5		20.75							270	135
6		20.75							90	135
7		20.50							270	135
8		20.50							90	135
9		20.25							270	135
10		20.25							90	135

17 = +847.025m above sea level



12:28

12:39

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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: _____ m
 Azimuth _____ m
 Elev. _____ m below G.L.
 X = _____ m
 Y = _____ m
 Vert. 0
90
90

Date: 10 Nov 2000 Location: XS - URISP
 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
<u>11</u>		<u>20.00</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>270</u>	<u>135</u>
<u>14</u>		<u>19.75</u>							<u>90</u>	<u>135</u>
<u>15</u>		<u>19.50</u>							<u>270</u>	<u>135</u>
<u>16</u>		<u>19.50</u>							<u>90</u>	<u>135</u>
<u>17</u>		<u>19.25</u>							<u>270</u>	<u>135</u>
<u>18</u>		<u>19.25</u>							<u>90</u>	<u>135</u>
<u>19</u>		<u>19.00</u>							<u>270</u>	<u>135</u>
<u>20</u>		<u>19.00</u>							<u>90</u>	<u>135</u>

12.45

12.45

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 Channel Configuration: Borehole Phone V=Channel 1 Reference Phone V=Channel 4 Az 0 Vert. 0
 R=Channel 2 R=Channel 5 R 0 90
 T=Channel 3 T=Channel 6 T 270 90

Date: 10 NOV 2000 Location: XS - URSP
 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
<u>21</u>		<u>18.75</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>270</u>	<u>135</u>
<u>24</u>		<u>18.50</u>							<u>90</u>	<u>135</u>
<u>25</u>		<u>18.25</u>							<u>270</u>	<u>135</u>
<u>26</u>		<u>18.25</u>							<u>90</u>	<u>135</u>
<u>27</u>		<u>18.00</u>							<u>270</u>	<u>135</u>
<u>28</u>		<u>18.00</u>							<u>90</u>	<u>135</u>
<u>29</u>		<u>17.75</u>							<u>270</u>	<u>135</u>
<u>30</u>		<u>17.75</u>							<u>90</u>	<u>135</u>

12:49

12:57

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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: _____ m
 Azimuth: _____ m
 Elev.: _____ m below G.L.
 X = _____ m
 Y = _____ m
 Vert. 0
90
90

Date: 10 NOV 2000 Location: XS - URISP
 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
<u>31</u>		<u>17.50</u>							<u>270</u>	<u>135</u>
<u>32</u>		<u>17.50</u>							<u>90</u>	<u>135</u>
<u>33</u>		<u>17.25</u>							<u>270</u>	<u>135</u>
<u>34</u>		<u>17.25</u>							<u>90</u>	<u>135</u>
<u>35</u>		<u>17.00</u>							<u>270</u>	<u>135</u>
<u>36</u>		<u>17.00</u>							<u>90</u>	<u>135</u>
<u>37</u>		<u>16.75</u>							<u>270</u>	<u>135</u>
<u>38</u>		<u>16.75</u>							<u>90</u>	<u>135</u>
<u>39</u>		<u>16.50</u>							<u>270</u>	<u>135</u>
<u>40</u>		<u>16.50</u>							<u>90</u>	<u>135</u>

12:58

13:04

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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 0 m below G.L.
 Elev. 0 m
 X = 0 m
 Y = 0 m
 Vert. 0

Date: 10 NOV 2000 Location: XS - URSP
 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
<u>41</u>		<u>16.25</u>							<u>270</u>	<u>135</u>
<u>42</u>		<u>16.25</u>							<u>90</u>	<u>135°</u>
<u>43</u>		<u>16.00</u>							<u>270</u>	<u>135</u>
<u>44</u>		<u>16.00</u>							<u>90</u>	<u>135</u>
<u>45</u>		<u>15.75</u>							<u>270</u>	<u>135</u>
<u>46</u>		<u>15.75</u>							<u>90</u>	<u>135</u>
<u>47</u>		<u>15.50</u>							<u>270</u>	<u>135</u>
<u>48</u>		<u>15.50</u>							<u>90</u>	<u>135</u>
<u>49</u>		<u>15.25</u>							<u>270</u>	<u>135</u>
<u>50</u>		<u>15.25</u>							<u>90</u>	<u>135</u>

13:05

13:10

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: EAST
 Azimuth y-axis: NORTH
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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
 Vert. 0
90
90

Date: 10 NOV 2000 Location: X5 - VRLSP
 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>51</u>		<u>15.00</u>							<u>270</u>	<u>135</u>
<u>52</u>		<u>15.00</u>							<u>90</u>	<u>135</u>
<u>53</u>		<u>14.75</u>							<u>270</u>	<u>135</u>
<u>54</u>		<u>14.75</u>							<u>90</u>	<u>135</u>
<u>55</u>		<u>14.50</u>							<u>270</u>	<u>135</u>
<u>56</u>		<u>14.50</u>							<u>90</u>	<u>135</u>
<u>57</u>		<u>14.25</u>							<u>270</u>	<u>135</u>
<u>58</u>		<u>14.25</u>							<u>90</u>	<u>135</u>
<u>59</u>		<u>14.00</u>							<u>270</u>	<u>135</u>
<u>60</u>		<u>14.00</u>							<u>90</u>	<u>135</u>

13:14

13:20

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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
 Vert. 0
90
90

Date: 10 Nov 2000 Location: XS - VRSP
 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
61		13.75							270	135
62		13.75							90	135°
63		13.50							270	135
64		13.50							90	135
65		13.15							270	135
66		13.25							90	135
67		13.00							270	135
68		13.00							90	135
69		12.75							270	135
70		12.75							90	135

13.25
13.32

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: E254
 Azimuth y-axis: N021
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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. m
 X = m
 Y = m

Date: 10 NOV 2000 Location: X5 - VRISP
 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
71		12.50							270	135
72		12.50							90	135°
73		12.25							270	135
74		12.25							90	135
75		12.00							270	135
76		12.00							90	135
77		11.75							270	135
78		11.75							90	135
79		11.50							270	135
80		11.50							90	135

13:33

13:39

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: E254
 Azimuth y-axis: N021h
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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: _____ m
 Azimuth: _____ m
 Elev.: _____ m below G.L.
 X = _____ m
 Y = _____ m
 Vert. 0
90
90

Date: 10 NOV 2000 Location: X5 - VR1SP
 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
<u>81</u>		<u>11.25</u>							<u>270</u>	<u>135</u>
<u>82</u>		<u>11.25</u>							<u>90</u>	<u>135°</u>
<u>83</u>		<u>11.00</u>							<u>270</u>	<u>135</u>
<u>84</u>		<u>11.00</u>							<u>90</u>	<u>135</u>
<u>85</u>		<u>10.75</u>							<u>270</u>	<u>135</u>
<u>86</u>		<u>10.75</u>							<u>90</u>	<u>135</u>
<u>87</u>		<u>10.50</u>							<u>270</u>	<u>135</u>
<u>88</u>		<u>10.50</u>							<u>90</u>	<u>135</u>
<u>89</u>		<u>10.25</u>							<u>270</u>	<u>135</u>
<u>90</u>		<u>10.25</u>							<u>90</u>	<u>135</u>

13:39

13:46

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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
 Vert. 0
90
90

Date: 10 NOV 2000 Location: XS - URSP
 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
<u>91</u>		<u>16.00</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>270</u>	<u>135</u>
<u>94</u>		<u>9.75</u>							<u>90</u>	<u>135</u>
<u>95</u>		<u>9.50</u>							<u>270</u>	<u>135</u>
<u>96</u>		<u>9.50</u>							<u>90</u>	<u>135</u>
<u>97</u>		<u>9.25</u>							<u>270</u>	<u>135</u>
<u>98</u>		<u>9.25</u>							<u>90</u>	<u>135</u>
<u>99</u>		<u>9.00</u>							<u>270</u>	<u>135</u>
<u>100</u>		<u>9.00</u>							<u>90</u>	<u>135</u>

13:46

18:54

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X= 9963.10 Y= 10023.25 Z= 899.93 (meters)
 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
 Vert. 0
 Ref. Polarization: V 0 R 0 T 270

Date: 10 Nov 2000 Location: X5 - VRLSP
 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
101		8.75							270	135
102		8.75							90	135
103	V	8.50							270	135
104		8.50							90	135
105		8.25							270	135
106		8.25							90	135
107		8.00							270	135
108		8.00							90	135
109		7.75							270	135
110		7.75							90	135

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 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 V=Channel 4
 R=Channel 2 R=Channel 5
 T=Channel 3 T=Channel 6
 Date: 10 NOV 2000 Location: XS - URSP
 High-Cut 100.0 Low-Cut 4 Sample Int. 0.002 Number Samples 2500

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

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>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>270</u>	<u>135</u>
<u>114</u>		<u>7.25</u>							<u>90</u>	<u>135</u>
<u>115</u>		<u>7.00</u>							<u>270</u>	<u>135</u>
<u>116</u>		<u>7.00</u>							<u>90</u>	<u>135</u>
<u>117</u>		<u>6.75</u>							<u>270</u>	<u>135</u>
<u>118</u>		<u>6.75</u>							<u>90</u>	<u>135</u>
<u>119</u>		<u>6.50</u>							<u>270</u>	<u>135</u>
<u>120</u>		<u>6.50</u>							<u>90</u>	<u>135</u>

11.12

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 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: _____ m
 Azimuth _____ m below G.L.
 Elev. _____ m
 X = _____ m
 Y = _____ m
 Vert. 0
90
90

Date: 10 NOV 2000 Location: XS - VRLSP
 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
<u>121</u>		<u>6.25</u>							<u>270</u>	<u>135</u>
<u>122</u>		<u>6.25</u>							<u>90</u>	<u>135°</u>
<u>123</u>		<u>6.00</u>							<u>270</u>	<u>135</u>
<u>124</u>		<u>6.00</u>							<u>90</u>	<u>135</u>
<u>125</u>		<u>5.75</u>							<u>270</u>	<u>135</u>
<u>126</u>		<u>5.75</u>							<u>90</u>	<u>135</u>
<u>127</u>		<u>5.50</u>							<u>270</u>	<u>135</u>
<u>128</u>		<u>5.50</u>							<u>90</u>	<u>135</u>
<u>129</u>		<u>5.25</u>							<u>270</u>	<u>135</u>
<u>130</u>		<u>5.25</u>							<u>90</u>	<u>135</u>

14:13

14:20

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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 m below G.L.
 Elev.: 0 m
 X = 0 m
 Y = 0 m
 Vert. 0

Date: 10 Nov 2000 Location: XS - VRLSP
 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
<u>131</u>		<u>5.00</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>270</u>	<u>135</u>
<u>134</u>		<u>4.75</u>							<u>90</u>	<u>135</u>
<u>135</u>		<u>4.50</u>							<u>270</u>	<u>135</u>
<u>136</u>		<u>4.50</u>							<u>90</u>	<u>135</u>
<u>137</u>		<u>4.25</u>							<u>270</u>	<u>135</u>
<u>138</u>		<u>4.25</u>							<u>90</u>	<u>135</u>
<u>139</u>		<u>4.00</u>							<u>270</u>	<u>135</u>
<u>140</u>		<u>4.00</u>							<u>90</u>	<u>135</u>

14:21

14:28

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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 m below G.L.
 Elev.: 0 m
 X = 0 m
 Y = 0 m
 Vert. 0

Date: 10 NOV 2000 Location: XS - URISP
 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
141		3.75							270	135
142		3.75							90	135°
143		3.50							270	135
144		3.50							90	135
145		3.25							270	135
146		3.25							90	135
147		3.00							270	135
148		3.00							90	135
149		2.75							270	135
150		2.75							90	135

1428

1436

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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
 Vert. 0
90
90

Date: 10 NOV 2000 Location: X5 - VRLSP
 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
<u>151</u>		<u>2.50</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>270</u>	<u>135</u>
<u>154</u>		<u>2.25</u>							<u>90</u>	<u>135</u>
<u>155</u>		<u>2.00</u>							<u>270</u>	<u>135</u>
<u>156</u>		<u>2.00</u>							<u>90</u>	<u>135</u>
<u>157</u>		<u>1.75</u>							<u>270</u>	<u>135</u>
<u>158</u>		<u>1.75</u>							<u>90</u>	<u>135</u>
<u>159</u>		<u>1.50</u>							<u>270</u>	<u>135</u>
<u>160</u>		<u>1.50</u>							<u>90</u>	<u>135</u>

14:36

14:44

BSU GEOPHYSICS VSP OBSERVER'S LOG

Coordinate System Origin at Borehole
 Casing Elevation: 0.78 m above G.L.
 Azimuth x-axis: East
 Azimuth y-axis: North
 Well Coord: X = 9963.10 Y = 10023.25 Z = 849.93 (meters)
 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: m
 Azimuth m below G.L.
 Elev. m
 X = m
 Y = m
 Vert. 0
90
90

Date: 10 NOV 2000 Location: XS - URISP
 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
<u>161</u>		<u>1.25</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>270</u>	<u>135</u>
<u>164</u>		<u>1.00</u>							<u>90</u>	<u>135</u>
<u>165</u>		<u>0.75</u>							<u>270</u>	<u>135</u>
<u>166</u>		<u>0.75</u>							<u>90</u>	<u>135</u>
<u>167</u>									<u>270</u>	<u>135</u>
<u>168</u>									<u>90</u>	<u>135</u>
<u>169</u>									<u>270</u>	<u>135</u>
<u>170</u>									<u>90</u>	<u>135</u>

14:04

14:50

N ↑ 30° SW 100°

Project: URISP XJ

VSP Check List

Date: 10 Nov 2000

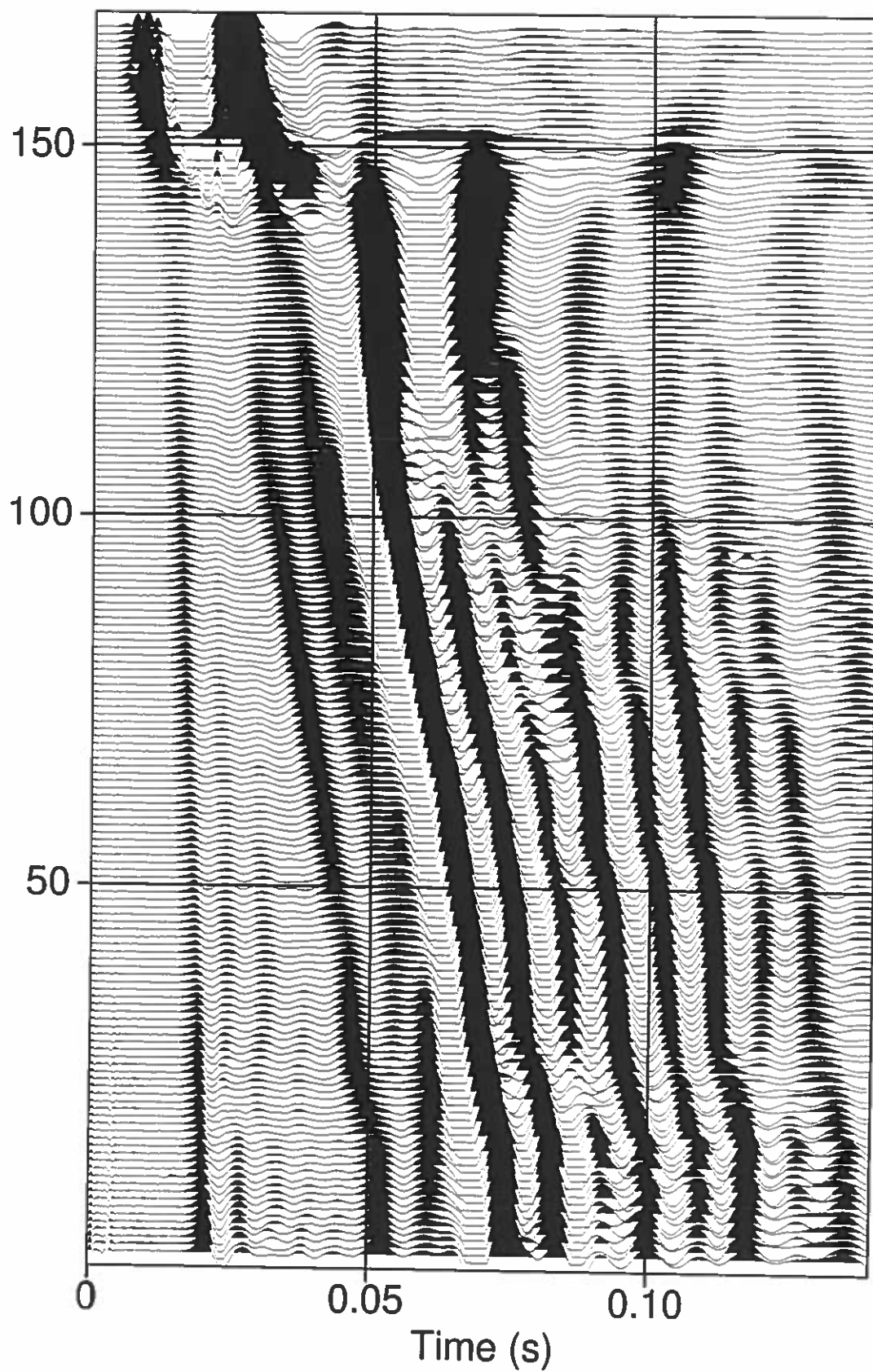
Odometer Start: _____ Finish: _____

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	✓	-	
EGG Strataview Seismograph + Adapter cable	✓	-	
90° Hammer Source + Sand Bags Vertical Hammer Source + Sand Bags 135° Hammer Source	-	-	
Tripod and Tripod Head	-	-	
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	✓	-	

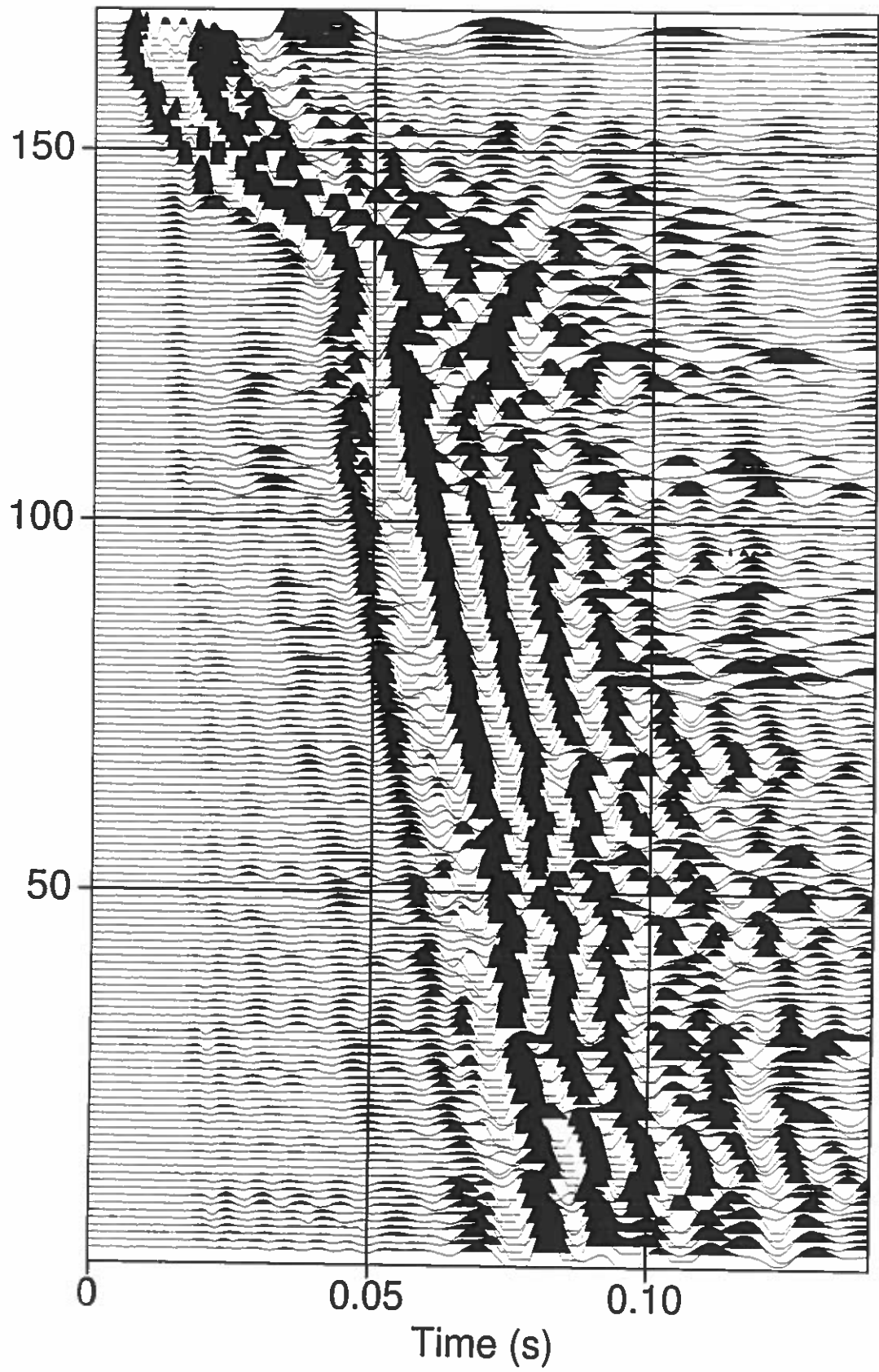
10 NOV 2000 X5

Ch1 x bmrq.sec vert



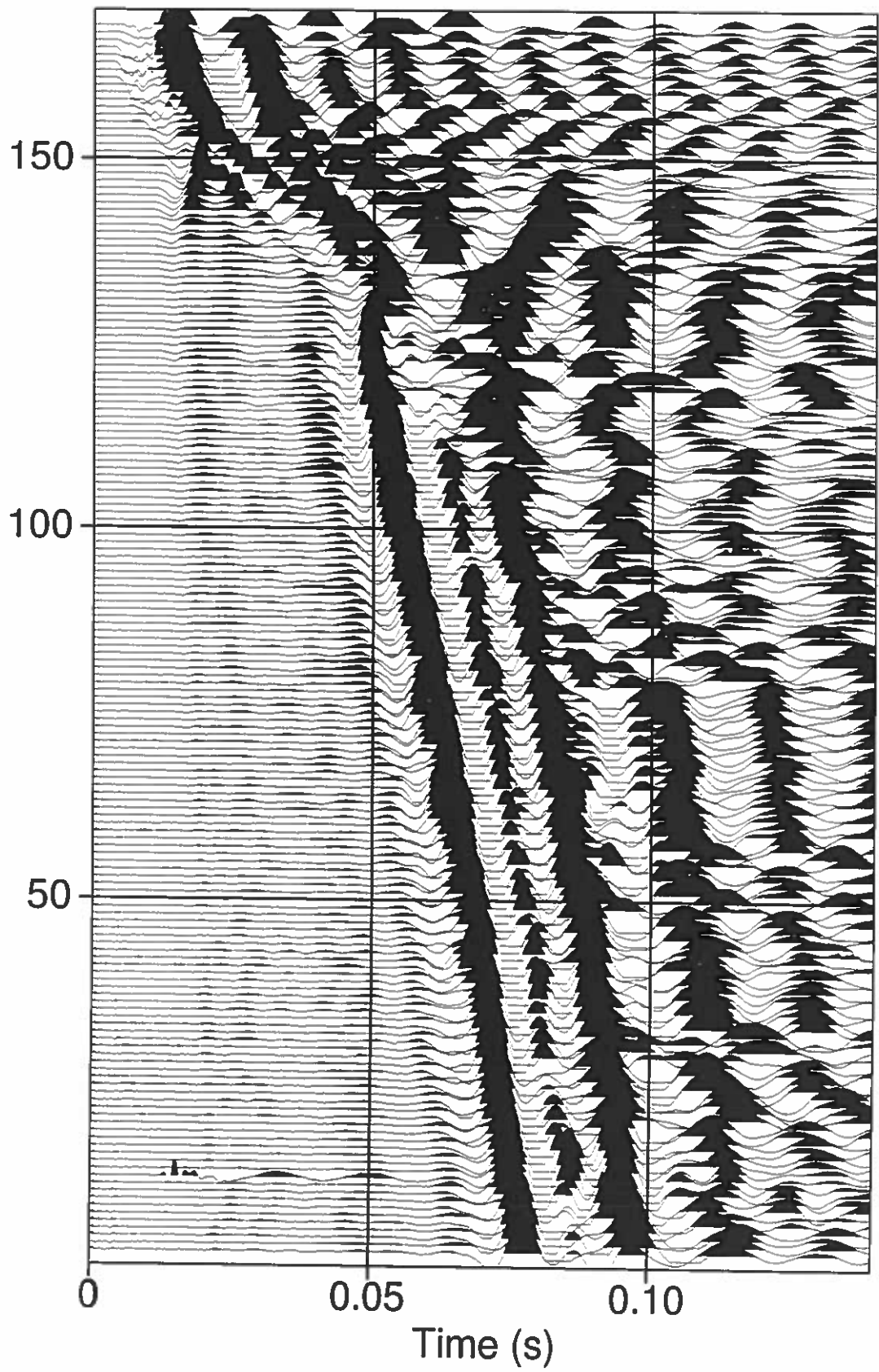
10 NOV 2000 X5

Ch2 bmrq.seg



10 Nov 2000 X5

Ch3 bmrq.seg



```
-----  
Copyright (C) 1997 P. Michaels  
All rights reserved  
-----
```

TIME: 10:58:48 DATE: 11/Nov/2000

PROGRAM: bis2.c

FILES:

Input File= wlx50166
Output File= wlx50166.seg
Listing File= wlx50166.1st

INPUT PARAMETERS:

none

0001
0002 WLX5
0003 1110001507
0004 REF 115CM SOUTH
0005 BISON-2
0006 WLX50166
0007 S
0008 L
0009 9000
0010 3.28
0011 Out
0012 Out
0013 Out
0014 Out
0015 6
0016 1- 1
0017 002500
0018 .200
0019
0020 4 BU
0021 1000 BU
0022
0023 0
0024 55CM SOUTH
0025 SWC GEOSTUF

tday=1110 tyear=2000 time=15:07
Instrument code: scrs=BISO
Data format code=2
Number of Channels nchan=6
Number of Samples npts=2500
Sample interval fsamin=0.000200 seconds
Delay Time delayt=0.000000 seconds
Low Cut Filter flc=4 Hz
High Cut Filter fhc=1000 Hz
Channel Fold Gain_dB
1 3 0
2 3 0
3 3 0
4 3 0
5 3 0
6 3 0

sbhed

lowcut= 4, highct=1000, year=2000, day=1110,

line='0005', hour=15, minute=07,

sdepth= 0.0, uphole=0.000, phone='VERT', srec= 166,

/

001 0.0000	002	9963.100	10022.700	849.150	991	9963.100	10023.250	849.180	0 090 135 000 000
002 0.0000	002	9963.100	10022.700	849.150	992	9963.100	10023.250	849.180	0 090 135 000 090
003 0.0000	002	9963.100	10022.700	849.150	993	9963.100	10023.250	849.180	0 090 135 000 090
004 0.0000	002	9963.100	10022.700	849.150	994	9963.100	10022.100	849.150	0 090 135 000 000
005 0.0000	002	9963.100	10022.700	849.150	995	9963.100	10022.100	849.150	0 090 135 000 090
006 0.0000	002	9963.100	10022.700	849.150	996	9963.100	10022.100	849.150	0 090 135 270 090