

Depth (feet)	Dip azimuth	Dip	Structure description
28.7	N164	39	Fracture Planar Open-fracture
29.4	N157	35	Primary-structure Planar Bedding
30.0	N156	34	Primary-structure Planar Bedding
30.9	N328	68	Fracture Discontinuous Open-fracture
31.0	N162	34	Primary-structure Planar Bedding
31.5	N328	50	Fracture Discontinuous Hairline-fracture
31.6	N152	33	Primary-structure Planar Bedding
32.3	N158	33	Primary-structure Planar Bedding
32.9	N148	32	Primary-structure Planar Bedding
32.9	N330	62	Fracture Discontinuous Hairline-fracture
33.5	N154	31	Primary-structure Planar Bedding
33.8	N157	31	Fracture Planar Open-fracture
33.9	N331	49	Fracture Planar Open-fracture
34.1	N159	33	Primary-structure Planar Bedding
34.8	N148	33	Primary-structure Planar Bedding
35.1	N170	39	Primary-structure Planar Bedding
35.2	N320	74	Fracture Discontinuous Hairline-fracture
35.6	N150	34	Primary-structure Planar Bedding
35.9	N323	71	Fracture Discontinuous Hairline-fracture
36.2	N156	32	Primary-structure Planar Bedding
36.8	N149	34	Primary-structure Planar Bedding
37.7	N150	37	Primary-structure Planar Bedding
37.7	N334	64	Fracture Discontinuous Hairline-fracture
38.2	N153	35	Primary-structure Planar Bedding
38.5	N149	32	Primary-structure Planar Bedding
39.5	N351	28	Fracture Discontinuous Hairline-fracture
40.1	N159	32	Primary-structure Planar Bedding
40.9	N159	30	Primary-structure Planar Bedding
41.7	N158	27	Primary-structure Planar Bedding
42.5	N334	79	Fracture Discontinuous Hairline-fracture
42.8	N319	67	Fracture Discontinuous Hairline-fracture
43.3	N151	29	Primary-structure Planar Bedding
43.4	N339	53	Fracture Discontinuous Hairline-fracture
43.9	N158	34	Primary-structure Planar Bedding
44.2	N157	33	Primary-structure Planar Bedding
45.4	N154	34	Primary-structure Planar Bedding
45.6	N319	68	Fracture Discontinuous Hairline-fracture
46.0	N161	30	Primary-structure Planar Bedding
46.2	N318	67	Fracture Discontinuous Hairline-fracture

Depth (feet)	Dip azimuth	Dip	Structure description
46.8	N154	30	Primary-structure Planar Bedding
47.9	N149	31	Primary-structure Planar Bedding
48.7	N161	33	Primary-structure Planar Bedding
49.4	N153	34	Primary-structure Planar Bedding
50.2	N159	31	Primary-structure Planar Bedding
51.1	N158	33	Primary-structure Planar Bedding
51.3	N323	50	Fracture Discontinuous Hairline-fracture
51.8	N158	31	Primary-structure Planar Bedding
52.1	N162	31	Primary-structure Planar Bedding
53.5	N150	31	Primary-structure Planar Bedding
54.6	N162	30	Primary-structure Planar Bedding
55.3	N153	31	Primary-structure Planar Bedding
56.1	N157	35	Primary-structure Planar Bedding
56.9	N151	33	Primary-structure Planar Bedding
58.4	N153	42	Primary-structure Planar Bedding
59.5	N154	29	Primary-structure Planar Bedding
61.1	N157	30	Primary-structure Planar Bedding
62.4	N158	30	Primary-structure Planar Bedding
63.4	N152	31	Primary-structure Planar Bedding
64.1	N157	30	Primary-structure Planar Bedding
65.3	N157	36	Primary-structure Planar Bedding
65.4	N329	60	Fracture Planar Open-fracture
65.9	N158	27	Primary-structure Planar Bedding
66.8	N175	25	Primary-structure Planar Bedding
69.4	N158	31	Primary-structure Planar Bedding
70.5	N156	29	Primary-structure Planar Bedding
71.2	N154	30	Primary-structure Planar Bedding
72.1	N156	28	Primary-structure Planar Bedding
73.1	N149	34	Primary-structure Planar Bedding
74.1	N159	35	Primary-structure Planar Bedding
74.8	N152	35	Primary-structure Planar Bedding
75.7	N158	29	Primary-structure Planar Bedding
76.6	N333	70	Fracture Discontinuous Hairline-fracture
76.8	N161	26	Primary-structure Planar Bedding
77.5	N154	26	Primary-structure Planar Bedding
77.9	N303	65	Fracture Discontinuous Hairline-fracture
77.9	N163	32	Primary-structure Planar Bedding
78.5	N157	29	Primary-structure Planar Bedding
78.9	N325	62	Fracture Discontinuous Hairline-fracture

Depth (feet)	Dip azimuth	Dip	Structure description
79.3	N155	28	Primary-structure Planar Bedding
80.3	N157	30	Primary-structure Planar Bedding
81.5	N157	40	Primary-structure Planar Bedding
82.8	N155	31	Primary-structure Planar Bedding
83.9	N156	32	Primary-structure Planar Bedding
85.5	N157	32	Primary-structure Planar Bedding
86.6	N152	29	Primary-structure Planar Bedding
88.1	N148	31	Primary-structure Planar Bedding
88.8	N329	60	Fracture Discontinuous Hairline-fracture
89.1	N145	34	Primary-structure Planar Bedding
90.1	N156	31	Primary-structure Planar Bedding
90.3	N327	62	Fracture Discontinuous Hairline-fracture
91.0	N164	32	Primary-structure Planar Bedding
91.8	N153	34	Primary-structure Planar Bedding
94.2	N161	39	Primary-structure Planar Bedding
96.5	N323	60	Fracture Discontinuous Hairline-fracture
96.6	N149	32	Primary-structure Planar Bedding
98.3	N152	34	Primary-structure Planar Bedding
103.8	N155	27	Primary-structure Planar Bedding
104.7	N155	32	Primary-structure Planar Bedding
105.3	N153	34	Primary-structure Planar Bedding
106.2	N145	29	Primary-structure Planar Bedding
107.6	N152	27	Primary-structure Planar Bedding
107.7	N332	61	Fracture Discontinuous Hairline-fracture
108.8	N160	33	Primary-structure Planar Bedding
110.4	N162	26	Primary-structure Planar Bedding
111.4	N145	31	Primary-structure Planar Bedding
112.2	N143	31	Primary-structure Planar Bedding
112.3	N330	48	Fracture Planar Hairline-fracture
112.3	N327	64	Fracture Planar Hairline-fracture
113.9	N139	24	Primary-structure Planar Bedding
114.4	N150	32	Primary-structure Planar Bedding
115.8	N146	30	Primary-structure Planar Bedding
116.0	N325	65	Fracture Discontinuous Hairline-fracture
116.2	N149	31	Fracture Planar Hairline-fracture
121.4	N151	33	Primary-structure Planar Bedding
121.7	N144	29	Primary-structure Planar Bedding
122.7	N334	62	Fracture Discontinuous Hairline-fracture
123.1	N138	35	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
124.0	N153	29	Primary-structure Planar Bedding
124.9	N155	27	Primary-structure Planar Bedding
125.6	N161	30	Primary-structure Planar Bedding
128.5	N146	30	Primary-structure Planar Bedding
129.8	N149	27	Primary-structure Planar Bedding
134.6	N328	54	Fracture Discontinuous Hairline-fracture
134.9	N152	29	Primary-structure Planar Bedding
143.3	N330	58	Fracture Discontinuous Hairline-fracture
151.4	N152	33	Primary-structure Planar Bedding
153.2	N140	27	Primary-structure Planar Bedding
154.8	N150	31	Primary-structure Planar Bedding
157.2	N155	32	Primary-structure Planar Bedding
159.3	N144	33	Primary-structure Planar Bedding
159.5	N327	63	Fracture Discontinuous Hairline-fracture
159.9	N127	31	Primary-structure Planar Bedding
160.4	N136	38	Primary-structure Planar Bedding
161.7	N325	58	Fracture Planar Hairline-fracture
162.3	N145	31	Primary-structure Planar Bedding
163.6	N328	55	Fracture Discontinuous Hairline-fracture
163.6	N151	32	Primary-structure Planar Bedding
164.6	N162	39	Primary-structure Planar Bedding
165.3	N145	33	Primary-structure Planar Bedding
165.8	N334	55	Fracture Discontinuous Hairline-fracture
166.0	N160	33	Primary-structure Planar Bedding
166.5	N160	33	Primary-structure Planar Bedding
167.7	N157	42	Primary-structure Planar Bedding
168.5	N142	36	Primary-structure Planar Bedding
168.6	N342	42	Fracture Discontinuous Hairline-fracture
169.1	N334	54	Fracture Discontinuous Hairline-fracture
169.4	N148	31	Primary-structure Planar Bedding
169.8	N320	68	Fracture Discontinuous Hairline-fracture
169.9	N156	33	Primary-structure Planar Bedding
170.8	N153	34	Primary-structure Planar Bedding
171.6	N150	32	Primary-structure Planar Bedding
172.7	N151	32	Primary-structure Planar Bedding
173.4	N148	30	Primary-structure Planar Bedding
174.6	N153	34	Primary-structure Planar Bedding
175.8	N154	32	Primary-structure Planar Bedding
177.0	N151	30	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
178.4	N156	31	Primary-structure Planar Bedding
179.1	N150	32	Primary-structure Planar Bedding
180.1	N154	35	Primary-structure Planar Bedding
181.3	N147	30	Primary-structure Planar Bedding
182.4	N152	31	Primary-structure Planar Bedding
182.8	N153	36	Primary-structure Planar Bedding
184.0	N147	27	Primary-structure Planar Bedding
185.4	N161	34	Primary-structure Planar Bedding
186.9	N154	28	Primary-structure Planar Bedding
188.3	N151	31	Primary-structure Planar Bedding
189.4	N162	35	Primary-structure Planar Bedding
190.2	N143	33	Primary-structure Planar Bedding
190.3	N326	61	Fracture Discontinuous Hairline-fracture
190.8	N328	57	Fracture Discontinuous Hairline-fracture
191.2	N154	39	Primary-structure Planar Bedding
192.3	N158	31	Primary-structure Planar Bedding
194.8	N157	34	Primary-structure Planar Bedding
195.7	N160	33	Primary-structure Planar Bedding
197.4	N163	33	Primary-structure Planar Bedding
198.1	N150	31	Fracture Planar Hairline-fracture
198.2	N338	68	Fracture Discontinuous Hairline-fracture
200.9	N153	31	Primary-structure Planar Bedding
202.6	N149	31	Primary-structure Planar Bedding
203.6	N160	34	Primary-structure Planar Bedding
205.7	N156	29	Primary-structure Planar Bedding
207.0	N159	31	Primary-structure Planar Bedding
208.4	N156	30	Primary-structure Planar Bedding
209.8	N159	28	Primary-structure Planar Bedding
210.9	N160	28	Primary-structure Planar Bedding
211.9	N157	30	Primary-structure Planar Bedding
213.2	N160	31	Primary-structure Planar Bedding
215.3	N163	34	Primary-structure Planar Bedding
216.6	N150	34	Primary-structure Planar Bedding
217.1	N158	48	Fracture Planar Hairline-fracture
217.3	N157	28	Primary-structure Planar Bedding
218.3	N157	28	Primary-structure Planar Bedding
219.0	N155	31	Primary-structure Planar Bedding
220.0	N152	32	Primary-structure Planar Bedding
221.6	N330	65	Fracture Discontinuous Hairline-fracture

Depth (feet)	Dip azimuth	Dip	Structure description
221.7	N151	31	Primary-structure Planar Bedding
221.9	N340	57	Fracture Planar Hairline-fracture
222.5	N151	31	Primary-structure Planar Bedding
223.1	N147	27	Primary-structure Planar Bedding
224.5	N148	27	Primary-structure Planar Bedding
226.7	N159	35	Primary-structure Planar Bedding
228.1	N162	24	Primary-structure Planar Bedding
229.3	N161	29	Primary-structure Planar Bedding
230.7	N337	59	Fracture Discontinuous Hairline-fracture
230.9	N156	29	Primary-structure Planar Bedding
231.7	N147	26	Primary-structure Planar Bedding
233.7	N157	28	Primary-structure Planar Bedding
234.4	N160	30	Primary-structure Planar Bedding
235.9	N157	28	Primary-structure Planar Bedding
237.2	N151	29	Primary-structure Planar Bedding
237.9	N147	23	Primary-structure Planar Bedding
238.5	N166	28	Primary-structure Planar Bedding
239.6	N151	28	Primary-structure Planar Bedding
240.6	N155	32	Primary-structure Planar Bedding
241.5	N153	29	Primary-structure Planar Bedding
241.8	N328	70	Fracture Discontinuous Hairline-fracture
241.9	N144	67	Fracture Discontinuous Hairline-fracture
242.9	N151	28	Primary-structure Planar Bedding
244.2	N150	28	Primary-structure Planar Bedding
245.3	N153	33	Primary-structure Planar Bedding
246.7	N155	29	Primary-structure Planar Bedding
247.1	N143	27	Primary-structure Planar Bedding
248.3	N141	27	Primary-structure Planar Bedding
249.0	N332	61	Fracture Discontinuous Hairline-fracture
249.1	N149	28	Primary-structure Planar Bedding
249.4	N142	31	Primary-structure Planar Bedding
250.0	N156	24	Primary-structure Planar Bedding
250.8	N144	29	Primary-structure Planar Bedding
252.0	N165	31	Primary-structure Planar Bedding
253.2	N153	27	Primary-structure Planar Bedding
254.6	N154	32	Primary-structure Planar Bedding
255.3	N157	29	Primary-structure Planar Bedding
255.6	N324	50	Fracture Discontinuous Hairline-fracture
255.9	N150	31	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
257.1	N148	32	Primary-structure Planar Bedding
257.9	N156	32	Primary-structure Planar Bedding
258.9	N153	31	Fracture Planar Hairline-fracture
259.3	N144	31	Primary-structure Planar Bedding
260.5	N153	27	Primary-structure Planar Bedding
261.0	N144	27	Primary-structure Planar Bedding
261.8	N151	29	Primary-structure Planar Bedding
265.0	N147	30	Primary-structure Planar Bedding
266.8	N145	29	Primary-structure Planar Bedding
269.4	N142	33	Primary-structure Planar Bedding
270.3	N152	27	Primary-structure Planar Bedding
271.1	N155	35	Primary-structure Planar Bedding
272.2	N150	29	Primary-structure Planar Bedding
273.4	N146	27	Primary-structure Planar Bedding
274.2	N150	31	Primary-structure Planar Bedding
275.2	N159	31	Primary-structure Planar Bedding
276.5	N150	29	Primary-structure Planar Bedding
277.7	N150	30	Primary-structure Planar Bedding
278.6	N146	33	Primary-structure Planar Bedding
280.3	N149	30	Primary-structure Planar Bedding
282.1	N337	46	Fracture Discontinuous Hairline-fracture
282.2	N152	30	Primary-structure Planar Bedding
283.4	N157	36	Primary-structure Planar Bedding
284.7	N139	33	Primary-structure Planar Bedding
286.9	N152	31	Primary-structure Planar Bedding
287.5	N152	31	Primary-structure Planar Bedding
289.3	N153	27	Primary-structure Planar Bedding
290.3	N149	35	Primary-structure Planar Bedding
291.0	N331	54	Fracture Planar Hairline-fracture
293.1	N154	34	Primary-structure Planar Bedding
293.7	N150	32	Primary-structure Planar Bedding
294.5	N145	29	Primary-structure Planar Bedding
295.8	N152	30	Primary-structure Planar Bedding
296.6	N139	31	Primary-structure Planar Bedding
297.3	N147	34	Primary-structure Planar Bedding
298.7	N142	28	Primary-structure Planar Bedding
300.4	N154	32	Primary-structure Planar Bedding
301.8	N141	30	Primary-structure Planar Bedding
302.9	N145	32	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
303.4	N147	31	Primary-structure Planar Bedding
305.2	N138	28	Primary-structure Planar Bedding
306.0	N151	28	Primary-structure Planar Bedding
306.9	N146	31	Primary-structure Planar Bedding
309.2	N149	33	Primary-structure Planar Bedding
310.3	N334	50	Fracture Discontinuous Hairline-fracture
310.8	N147	28	Primary-structure Planar Bedding
311.3	N149	29	Primary-structure Planar Bedding

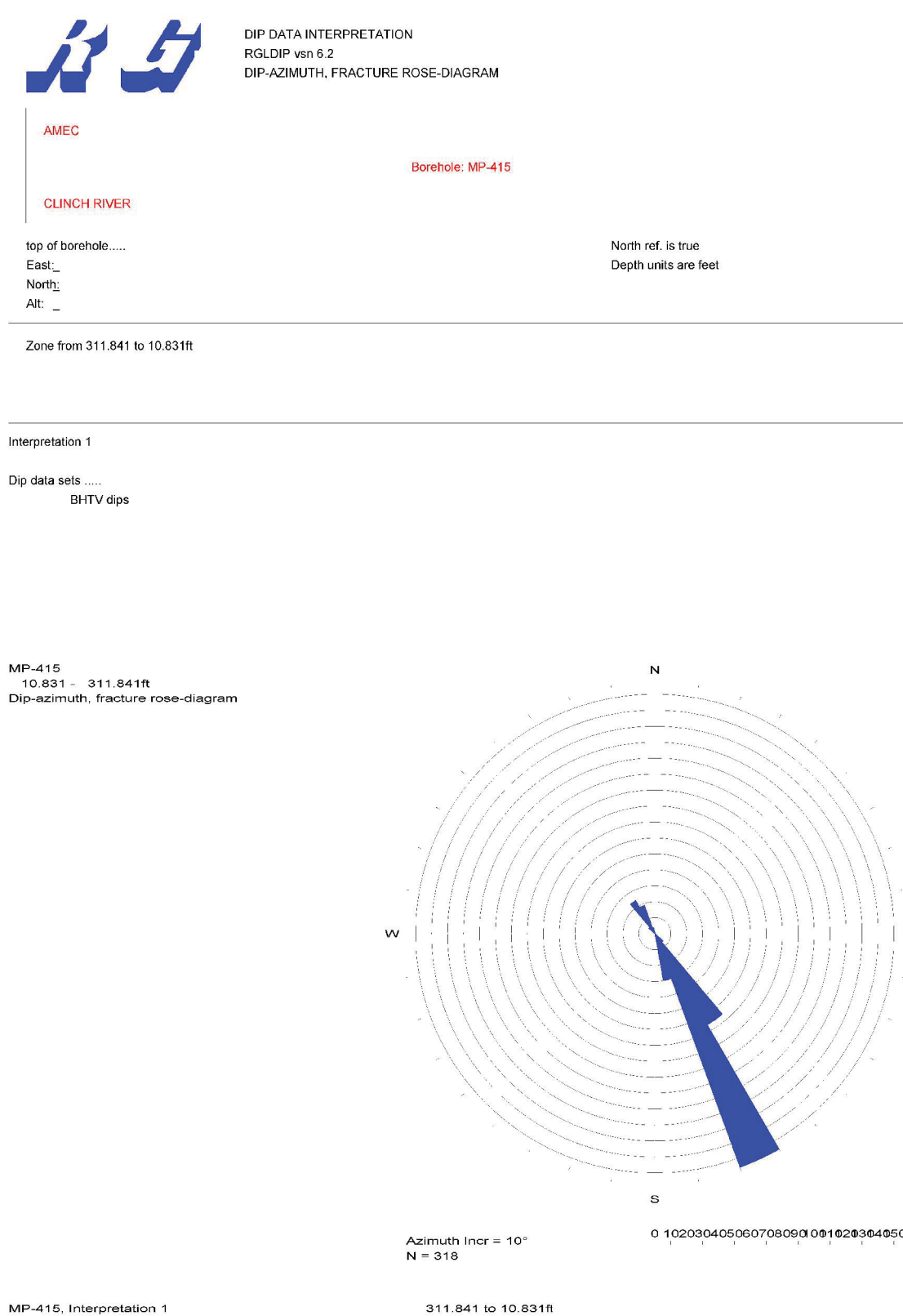


Figure 69. Boring MP-415, Rose Diagram

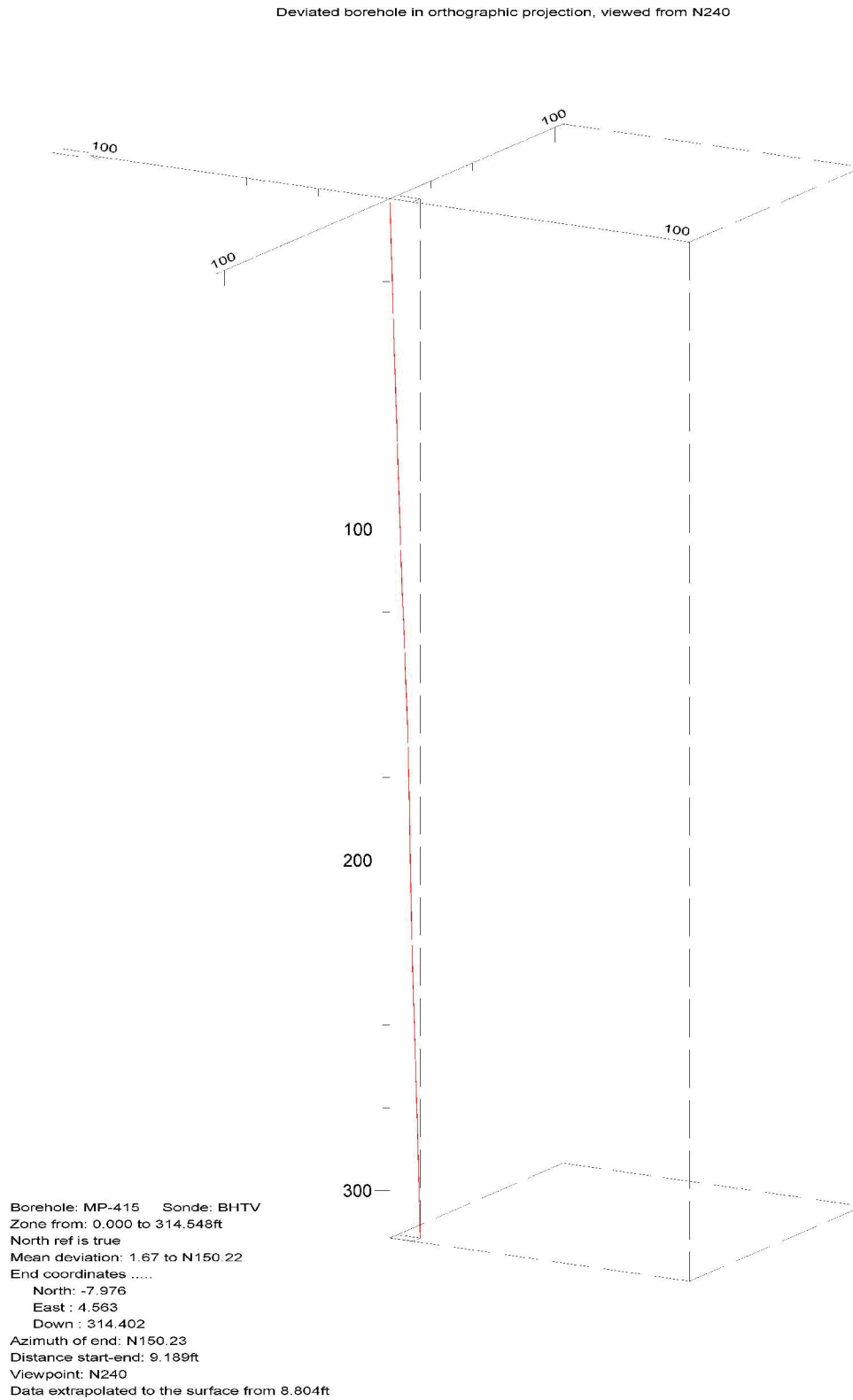


Figure 70. Boring MP-415, Up Deviation Projection

CLINCH RIVER SMR PROJECT BOREHOLE MP-416 Source to Receiver and Receiver to Receiver Analysis

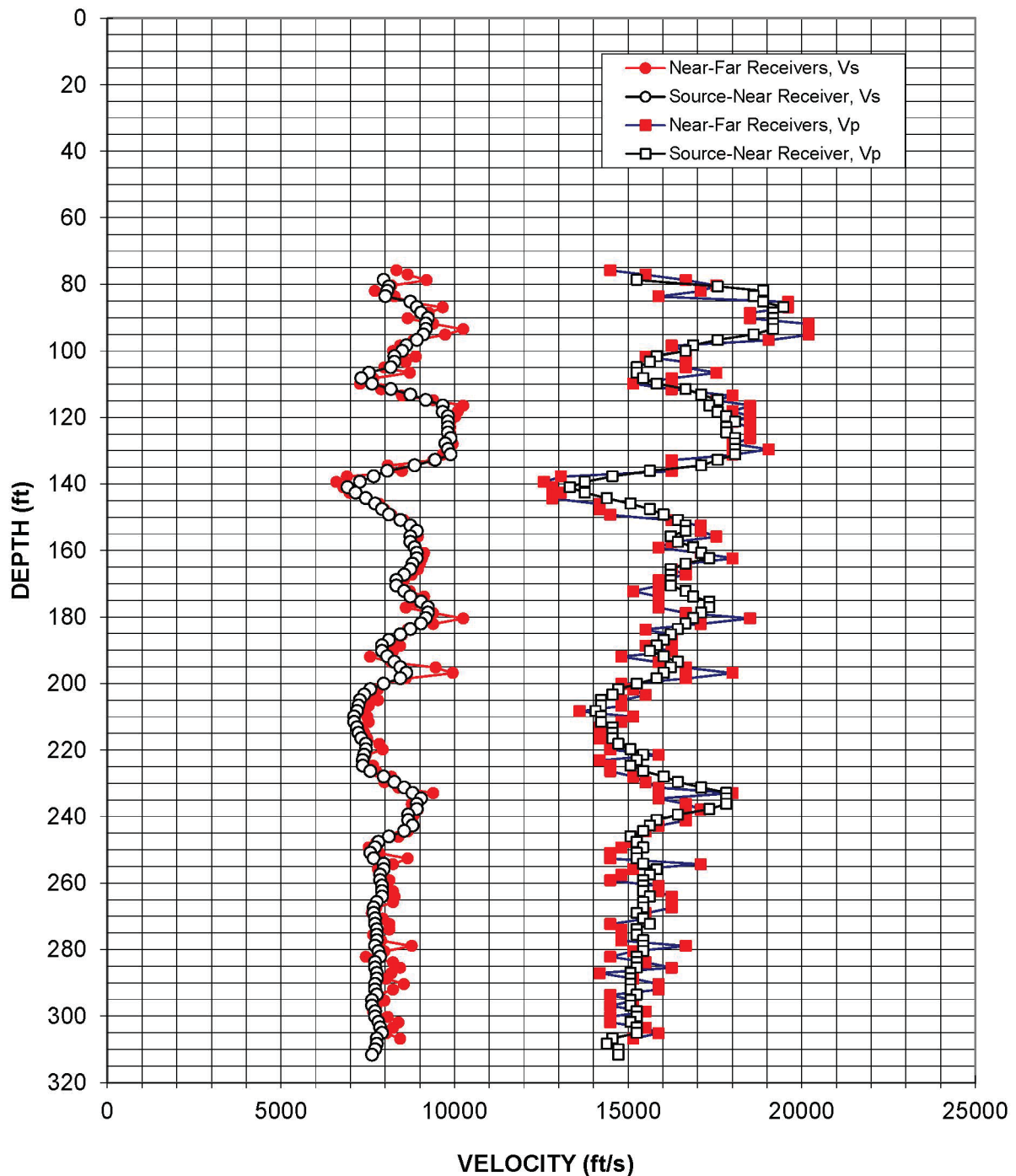


Figure 71: Boring MP-416, Suspension R1-R2 P- and S_H -wave velocities

Table 38. Boring MP-416, Suspension R1-R2 depths and P- and S_H-wave velocities

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-416**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
73.8	-	-	-	22.5	-	-	-
75.8	8330	14490	0.25	23.1	2540	4420	0.25
77.1	8660	15500	0.27	23.5	2640	4730	0.27
78.7	9200	16670	0.28	24.0	2800	5080	0.28
80.4	8180	17540	0.36	24.5	2490	5350	0.36
82.0	7710	17090	0.37	25.0	2350	5210	0.37
83.7	8280	15870	0.31	25.5	2520	4840	0.31
85.3	8710	19610	0.38	26.0	2660	5980	0.38
86.9	9660	19610	0.34	26.5	2940	5980	0.34
88.6	9260	18520	0.33	27.0	2820	5640	0.33
90.2	8660	18520	0.36	27.5	2640	5640	0.36
91.9	9390	20200	0.36	28.0	2860	6160	0.36
93.5	10260	20200	0.33	28.5	3130	6160	0.33
95.1	9730	20200	0.35	29.0	2970	6160	0.35
96.8	8830	19050	0.36	29.5	2690	5810	0.36
98.4	8440	16260	0.32	30.0	2570	4960	0.32
100.1	8230	16670	0.34	30.5	2510	5080	0.34
101.7	8890	15500	0.26	31.0	2710	4730	0.26
103.4	8600	16670	0.32	31.5	2620	5080	0.32
105.0	7980	16670	0.35	32.0	2430	5080	0.35
106.6	8710	17540	0.34	32.5	2660	5350	0.34
108.3	7660	16260	0.36	33.0	2340	4960	0.36
109.9	7290	15150	0.35	33.5	2220	4620	0.35
111.6	7890	16260	0.35	34.0	2400	4960	0.35
113.5	8490	18020	0.36	34.6	2590	5490	0.36
114.8	9390	17540	0.30	35.0	2860	5350	0.30
116.5	10260	18520	0.28	35.5	3130	5640	0.28
118.1	10100	18020	0.27	36.0	3080	5490	0.27
119.8	10030	18520	0.29	36.5	3060	5640	0.29
121.4	9880	18020	0.29	37.0	3010	5490	0.29
123.0	9880	18520	0.30	37.5	3010	5640	0.30
124.7	9880	18520	0.30	38.0	3010	5640	0.30
126.3	9800	18520	0.31	38.5	2990	5640	0.31
128.0	9950	18020	0.28	39.0	3030	5490	0.28
129.6	9800	19050	0.32	39.5	2990	5810	0.32
131.2	9660	18020	0.30	40.0	2940	5490	0.30
132.9	9390	16260	0.25	40.5	2860	4960	0.25

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-416**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
134.5	8080	16260	0.34	41.0	2460	4960	0.34
136.2	8490	16260	0.31	41.5	2590	4960	0.31
137.8	6910	13070	0.31	42.0	2110	3980	0.31
139.4	6600	12580	0.31	42.5	2010	3830	0.31
141.1	6800	12820	0.30	43.0	2070	3910	0.30
142.7	6980	13070	0.30	43.5	2130	3980	0.30
144.4	7450	12820	0.25	44.0	2270	3910	0.25
146.0	7840	14180	0.28	44.5	2390	4320	0.28
147.6	7980	14180	0.27	45.0	2430	4320	0.27
149.3	8180	14490	0.27	45.5	2490	4420	0.27
150.9	8550	16260	0.31	46.0	2610	4960	0.31
152.6	8710	17090	0.32	46.5	2660	5210	0.32
154.2	8890	17090	0.31	47.0	2710	5210	0.31
155.8	8950	17540	0.32	47.5	2730	5350	0.32
157.5	8710	16260	0.30	48.0	2660	4960	0.30
159.1	8890	15870	0.27	48.5	2710	4840	0.27
160.8	9130	17090	0.30	49.0	2780	5210	0.30
162.4	9070	18020	0.33	49.5	2760	5490	0.33
164.0	9010	16670	0.29	50.0	2750	5080	0.29
165.7	8950	16260	0.28	50.5	2730	4960	0.28
167.3	8770	16670	0.31	51.0	2670	5080	0.31
169.0	8550	15870	0.30	51.5	2610	4840	0.30
170.6	8440	15870	0.30	52.0	2570	4840	0.30
172.2	8710	15150	0.25	52.5	2660	4620	0.25
173.9	9130	15870	0.25	53.0	2780	4840	0.25
175.5	8890	15870	0.27	53.5	2710	4840	0.27
177.2	8600	15870	0.29	54.0	2620	4840	0.29
178.8	9390	16670	0.27	54.5	2860	5080	0.27
180.5	10260	18520	0.28	55.0	3130	5640	0.28
182.1	9390	17090	0.28	55.5	2860	5210	0.28
183.7	8660	15500	0.27	56.0	2640	4730	0.27
185.4	8490	16260	0.31	56.5	2590	4960	0.31
187.0	8330	16260	0.32	57.0	2540	4960	0.32
188.7	8440	15500	0.29	57.5	2570	4730	0.29
190.3	8230	16260	0.33	58.0	2510	4960	0.33
191.9	7580	14810	0.32	58.5	2310	4520	0.32
193.6	8180	15870	0.32	59.0	2490	4840	0.32
195.2	9460	16670	0.26	59.5	2880	5080	0.26
196.9	9950	18020	0.28	60.0	3030	5490	0.28

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-416**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
198.5	8600	16670	0.32	60.5	2620	5080	0.32
200.1	7940	14810	0.30	61.0	2420	4520	0.30
201.8	7800	15150	0.32	61.5	2380	4620	0.32
203.4	7660	15500	0.34	62.0	2340	4730	0.34
205.1	7800	14810	0.31	62.5	2380	4520	0.31
206.7	7530	14810	0.33	63.0	2300	4520	0.33
208.3	7290	13610	0.30	63.5	2220	4150	0.30
210.0	7490	15150	0.34	64.0	2280	4620	0.34
211.6	7530	14810	0.33	64.5	2300	4520	0.33
213.3	7330	14180	0.32	65.0	2230	4320	0.32
214.9	7410	14490	0.32	65.5	2260	4420	0.32
216.5	7490	14180	0.31	66.0	2280	4320	0.31
218.2	7840	14490	0.29	66.5	2390	4420	0.29
219.8	7940	14490	0.29	67.0	2420	4420	0.29
221.5	7450	15870	0.36	67.5	2270	4840	0.36
223.1	7410	14180	0.31	68.0	2260	4320	0.31
224.7	7660	14490	0.31	68.5	2340	4420	0.31
226.4	7750	14490	0.30	69.0	2360	4420	0.30
228.0	8180	15150	0.29	69.5	2490	4620	0.29
229.7	7980	15500	0.32	70.0	2430	4730	0.32
231.3	8390	15870	0.31	70.5	2560	4840	0.31
232.9	9390	18020	0.31	71.0	2860	5490	0.31
234.6	8950	15870	0.27	71.5	2730	4840	0.27
236.2	8770	16670	0.31	72.0	2670	5080	0.31
237.9	8950	17090	0.31	72.5	2730	5210	0.31
239.5	8830	16670	0.30	73.0	2690	5080	0.30
241.1	8770	16670	0.31	73.5	2670	5080	0.31
242.8	8830	15870	0.28	74.0	2690	4840	0.28
244.4	8660	15500	0.27	74.5	2640	4730	0.27
246.1	8390	15150	0.28	75.0	2560	4620	0.28
247.7	7750	15150	0.32	75.5	2360	4620	0.32
249.3	7530	14810	0.33	76.0	2300	4520	0.33
251.0	7840	14490	0.29	76.5	2390	4420	0.29
252.6	8660	14490	0.22	77.0	2640	4420	0.22
254.3	8230	17090	0.35	77.5	2510	5210	0.35
255.9	7800	15150	0.32	78.0	2380	4620	0.32
257.6	7940	14810	0.30	78.5	2420	4520	0.30
259.2	8130	14490	0.27	79.0	2480	4420	0.27
260.8	8030	15870	0.33	79.5	2450	4840	0.33

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-416**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
262.5	8230	15870	0.32	80.0	2510	4840	0.32
264.1	8280	16260	0.32	80.5	2520	4960	0.32
265.8	8230	16260	0.33	81.0	2510	4960	0.33
267.4	7750	16260	0.35	81.5	2360	4960	0.35
269.0	7620	15500	0.34	82.0	2320	4730	0.34
270.7	7940	15500	0.32	82.5	2420	4730	0.32
272.3	8130	14490	0.27	83.0	2480	4420	0.27
274.0	8130	14810	0.28	83.5	2480	4520	0.28
275.6	7660	14810	0.32	84.0	2340	4520	0.32
277.2	7890	14810	0.30	84.5	2400	4520	0.30
278.9	8770	16670	0.31	85.0	2670	5080	0.31
280.5	7980	15150	0.31	85.5	2430	4620	0.31
282.2	7450	14490	0.32	86.0	2270	4420	0.32
283.8	8230	15500	0.30	86.5	2510	4730	0.30
285.4	8440	16260	0.32	87.0	2570	4960	0.32
287.1	8180	14180	0.25	87.5	2490	4320	0.25
288.7	8030	15150	0.30	88.0	2450	4620	0.30
290.4	8550	15870	0.30	88.5	2610	4840	0.30
292.0	8230	15870	0.32	89.0	2510	4840	0.32
293.6	7800	14490	0.30	89.5	2380	4420	0.30
295.3	7980	15150	0.31	90.0	2430	4620	0.31
296.9	7750	14490	0.30	90.5	2360	4420	0.30
298.6	7660	15500	0.34	91.0	2340	4730	0.34
300.2	8080	14490	0.27	91.5	2460	4420	0.27
301.8	8390	14490	0.25	92.0	2560	4420	0.25
303.5	8230	15500	0.30	92.5	2510	4730	0.30
305.1	8030	15870	0.33	93.0	2450	4840	0.33
306.8	8440	15150	0.28	93.5	2570	4620	0.28

Notes: "-" means no data available at that particular interval of depth.

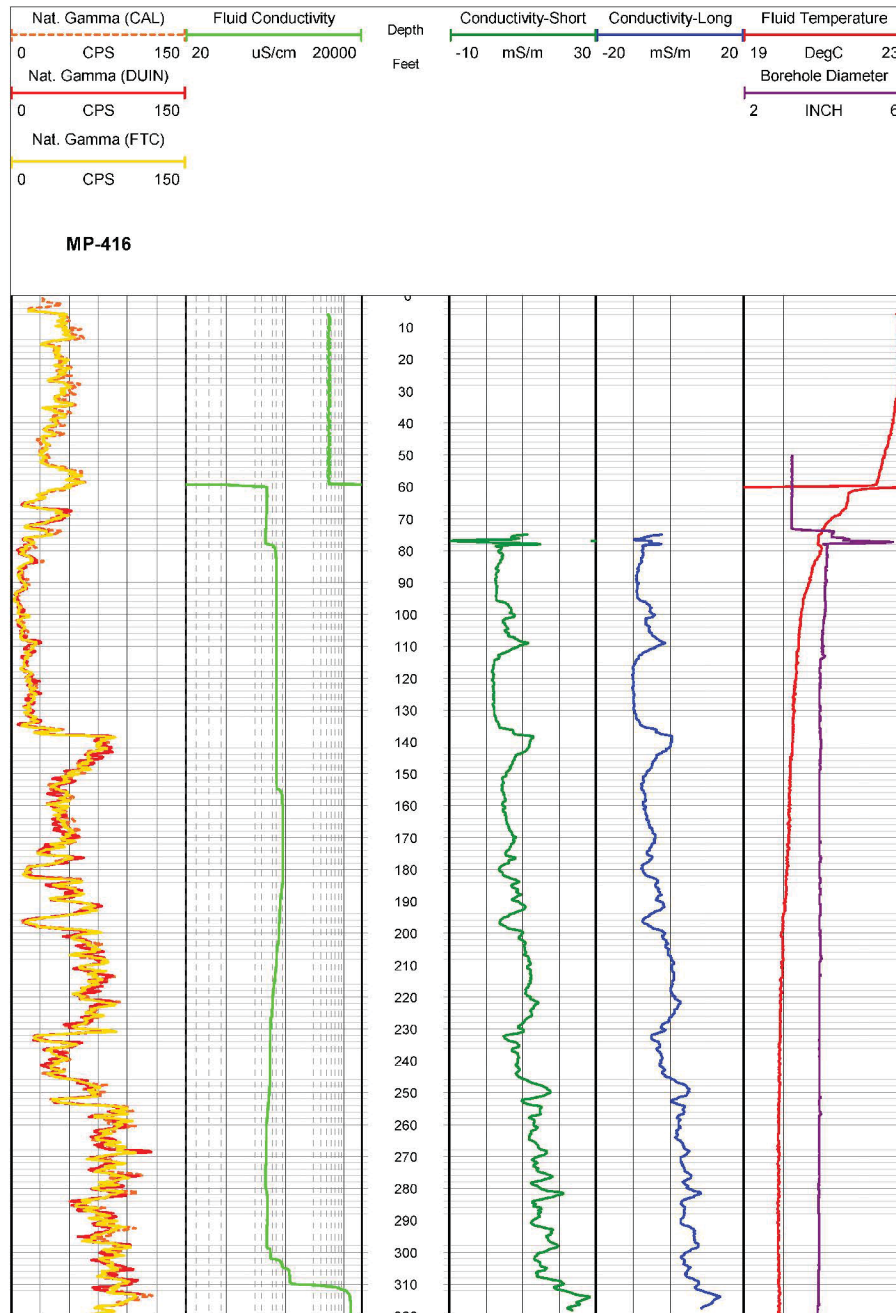


Figure 72. Boring MP-416, Induction, Fluid Temperature/Conductivity, Natural Gamma and Caliper logs

Table 39. Boring MP-416, Acoustic Televiewer Feature depth, dip azimuth, dip and description

Depth (feet)	Dip azimuth	Dip	Structure description
74.0	N153	35	Primary-structure Planar Bedding
76.1	N121	33	Primary-structure Planar Bedding
76.3	N122	34	Primary-structure Planar Bedding
76.7	N295	72	Fracture Planar Open-fracture
78.9	N123	30	Primary-structure Planar Bedding
79.9	N146	30	Primary-structure Planar Bedding
80.6	N131	30	Primary-structure Planar Bedding
81.2	N138	30	Primary-structure Planar Bedding
81.5	N172	29	Primary-structure Planar Bedding
82.0	N138	29	Primary-structure Planar Bedding
83.3	N136	29	Primary-structure Planar Bedding
85.0	N154	35	Primary-structure Planar Bedding
85.2	N335	61	Fracture Planar Hairline-fracture
86.3	N358	42	Fracture Planar Hairline-fracture
87.8	N139	75	Fracture Irregular Hairline-fracture
89.6	N132	76	Fracture Irregular Hairline-fracture
90.6	N137	61	Fracture Discontinuous Hairline-fracture
91.0	N336	36	Fracture Planar Hairline-fracture
91.9	N152	36	Primary-structure Planar Bedding
92.1	N329	50	Fracture Discontinuous Hairline-fracture
92.5	N137	41	Primary-structure Planar Bedding
92.8	N147	61	Fracture Planar Hairline-fracture
93.8	N145	70	Fracture Discontinuous Hairline-fracture
95.3	N153	42	Primary-structure Planar Bedding
96.0	N021	22	Fracture Planar Hairline-fracture
96.5	N321	39	Fracture Planar Hairline-fracture
96.9	N156	44	Primary-structure Planar Bedding
97.3	N148	72	Fracture Planar Hairline-fracture
97.7	N135	70	Fracture Irregular Hairline-fracture
98.6	N140	74	Fracture Planar Hairline-fracture
100.1	N082	22	Fracture Irregular Hairline-fracture
100.8	N140	27	Fracture Planar Hairline-fracture
102.6	N141	34	Primary-structure Planar Bedding
104.5	N150	59	Fracture Planar Hairline-fracture
104.8	N149	49	Primary-structure Planar Bedding
105.5	N149	45	Primary-structure Planar Bedding
105.8	N151	46	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
107.0	N148	22	Primary-structure Planar Bedding
109.1	N152	24	Primary-structure Planar Bedding
109.6	N160	23	Fracture Planar Hairline-fracture
110.0	N337	71	Fracture Discontinuous Hairline-fracture
111.4	N152	24	Primary-structure Planar Bedding
112.9	N152	33	Primary-structure Planar Bedding
115.0	N152	43	Primary-structure Planar Bedding
116.9	N141	36	Primary-structure Planar Bedding
117.7	N148	32	Primary-structure Planar Bedding
118.6	N336	63	Fracture Irregular Hairline-fracture
119.2	N143	45	Primary-structure Planar Bedding
119.6	N349	63	Fracture Discontinuous Hairline-fracture
121.8	N156	33	Primary-structure Planar Bedding
122.6	N150	31	Primary-structure Planar Bedding
123.5	N149	29	Primary-structure Planar Bedding
124.1	N158	31	Primary-structure Planar Bedding
125.8	N161	31	Primary-structure Planar Bedding
126.8	N144	40	Primary-structure Planar Bedding
127.6	N155	35	Primary-structure Planar Bedding
128.5	N153	37	Primary-structure Planar Bedding
129.4	N156	34	Primary-structure Planar Bedding
130.4	N144	35	Primary-structure Planar Bedding
132.1	N154	37	Primary-structure Planar Bedding
132.6	N151	42	Primary-structure Planar Bedding
133.1	N130	23	Primary-structure Planar Bedding
134.0	N140	29	Primary-structure Planar Bedding
134.9	N337	63	Fracture Discontinuous Hairline-fracture
135.0	N145	29	Primary-structure Planar Bedding
136.3	N153	26	Primary-structure Planar Bedding
136.4	N346	76	Fracture Discontinuous Hairline-fracture
136.9	N156	31	Primary-structure Planar Bedding
137.9	N152	28	Primary-structure Planar Bedding
143.4	N153	31	Primary-structure Planar Bedding
144.4	N155	30	Primary-structure Planar Bedding
149.5	N145	32	Primary-structure Planar Bedding
153.3	N142	31	Primary-structure Planar Bedding
153.8	N152	28	Primary-structure Planar Bedding
155.3	N156	24	Primary-structure Planar Bedding
157.7	N153	27	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
159.0	N151	29	Primary-structure Planar Bedding
160.2	N151	29	Primary-structure Planar Bedding
162.9	N150	29	Primary-structure Planar Bedding
164.1	N148	33	Primary-structure Planar Bedding
166.0	N150	29	Primary-structure Planar Bedding
168.7	N152	33	Primary-structure Planar Bedding
170.4	N154	31	Primary-structure Planar Bedding
171.9	N146	28	Primary-structure Planar Bedding
174.2	N149	30	Primary-structure Planar Bedding
175.8	N161	29	Primary-structure Planar Bedding
177.2	N150	37	Primary-structure Planar Bedding
178.3	N142	28	Primary-structure Planar Bedding
180.0	N161	34	Primary-structure Planar Bedding
180.7	N154	37	Primary-structure Planar Bedding
182.4	N159	34	Primary-structure Planar Bedding
183.3	N160	31	Primary-structure Planar Bedding
184.5	N327	47	Fracture Discontinuous Hairline-fracture
184.6	N162	34	Primary-structure Planar Bedding
185.6	N172	36	Primary-structure Planar Bedding
187.9	N149	30	Primary-structure Planar Bedding
189.4	N163	35	Primary-structure Planar Bedding
189.4	N321	50	Fracture Discontinuous Hairline-fracture
191.1	N154	36	Primary-structure Planar Bedding
193.5	N165	43	Primary-structure Planar Bedding
194.7	N151	33	Primary-structure Planar Bedding
195.0	N313	54	Fracture Discontinuous Hairline-fracture
195.6	N158	37	Primary-structure Planar Bedding
197.5	N159	34	Primary-structure Planar Bedding
197.9	N145	38	Primary-structure Planar Bedding
198.2	N317	60	Fracture Discontinuous Hairline-fracture
198.3	N151	38	Primary-structure Planar Bedding
202.6	N162	35	Primary-structure Planar Bedding
203.5	N151	39	Primary-structure Planar Bedding
207.6	N162	40	Primary-structure Planar Bedding
209.2	N151	44	Primary-structure Planar Bedding
212.3	N132	44	Primary-structure Planar Bedding
214.2	N158	32	Primary-structure Planar Bedding
215.7	N155	32	Primary-structure Planar Bedding
218.0	N153	32	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
218.9	N149	31	Primary-structure Planar Bedding
219.5	N157	30	Primary-structure Planar Bedding
221.8	N154	36	Primary-structure Planar Bedding
224.3	N147	35	Primary-structure Planar Bedding
225.9	N152	30	Primary-structure Planar Bedding
228.2	N154	28	Primary-structure Planar Bedding
229.2	N165	33	Primary-structure Planar Bedding
231.2	N171	43	Primary-structure Planar Bedding
233.3	N324	42	Fracture Discontinuous Hairline-fracture
233.4	N161	31	Primary-structure Planar Bedding
234.6	N158	43	Primary-structure Planar Bedding
234.8	N333	26	Fracture Discontinuous Hairline-fracture
235.4	N130	43	Primary-structure Planar Bedding
236.0	N149	34	Primary-structure Planar Bedding
237.3	N161	35	Primary-structure Planar Bedding
238.7	N155	38	Primary-structure Planar Bedding
240.1	N151	37	Primary-structure Planar Bedding
240.7	N156	38	Primary-structure Planar Bedding
241.3	N330	45	Fracture Planar Hairline-fracture
241.8	N153	31	Primary-structure Planar Bedding
242.2	N322	49	Fracture Discontinuous Hairline-fracture
242.5	N325	48	Fracture Discontinuous Hairline-fracture
243.1	N159	38	Primary-structure Planar Bedding
244.2	N158	46	Primary-structure Planar Bedding
244.8	N157	44	Primary-structure Planar Bedding
245.1	N158	44	Primary-structure Planar Bedding
249.8	N156	36	Primary-structure Planar Bedding
250.7	N158	33	Primary-structure Planar Bedding
251.7	N144	38	Primary-structure Planar Bedding
252.9	N150	33	Primary-structure Planar Bedding
253.0	N323	56	Fracture Discontinuous Hairline-fracture
253.2	N151	33	Primary-structure Planar Bedding
253.7	N325	50	Fracture Discontinuous Hairline-fracture
253.9	N148	31	Primary-structure Planar Bedding
256.4	N155	31	Primary-structure Planar Bedding
257.5	N165	36	Primary-structure Planar Bedding
258.2	N324	59	Fracture Discontinuous Hairline-fracture
260.5	N150	34	Primary-structure Planar Bedding
261.4	N160	31	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
262.2	N149	31	Primary-structure Planar Bedding
266.7	N149	33	Primary-structure Planar Bedding
270.6	N150	31	Primary-structure Planar Bedding
273.0	N156	30	Primary-structure Planar Bedding
274.4	N153	35	Primary-structure Planar Bedding
278.4	N326	55	Fracture Discontinuous Hairline-fracture
278.8	N148	33	Primary-structure Planar Bedding
278.9	N326	57	Fracture Discontinuous Hairline-fracture
280.0	N149	31	Primary-structure Planar Bedding
280.4	N145	31	Primary-structure Planar Bedding
280.7	N320	57	Fracture Planar Hairline-fracture
283.5	N131	33	Primary-structure Planar Bedding
283.9	N299	63	Fracture Discontinuous Hairline-fracture
285.8	N133	34	Primary-structure Planar Bedding
285.8	N322	64	Fracture Discontinuous Hairline-fracture
286.8	N343	56	Fracture Discontinuous Hairline-fracture
287.4	N148	37	Primary-structure Planar Bedding
287.7	N137	30	Primary-structure Planar Bedding
289.8	N155	28	Primary-structure Planar Bedding
294.5	N152	31	Primary-structure Planar Bedding
297.1	N155	32	Primary-structure Planar Bedding
297.7	N151	32	Primary-structure Planar Bedding
299.6	N154	34	Primary-structure Planar Bedding
300.2	N294	59	Fracture Discontinuous Hairline-fracture
300.5	N147	34	Primary-structure Planar Bedding
307.5	N326	54	Fracture Discontinuous Hairline-fracture
307.5	N156	29	Primary-structure Planar Bedding
308.1	N145	30	Primary-structure Planar Bedding
309.6	N152	30	Primary-structure Planar Bedding
310.3	N153	30	Primary-structure Planar Bedding
310.7	N148	34	Primary-structure Planar Bedding
312.0	N337	55	Fracture Discontinuous Hairline-fracture
312.2	N148	32	Primary-structure Planar Bedding
317.0	N327	48	Fracture Discontinuous Hairline-fracture
317.3	N153	35	Primary-structure Planar Bedding
318.2	N151	38	Primary-structure Planar Bedding
318.6	N152	31	Primary-structure Planar Bedding
319.7	N155	38	Primary-structure Planar Bedding
319.9	N322	50	Fracture Discontinuous Hairline-fracture

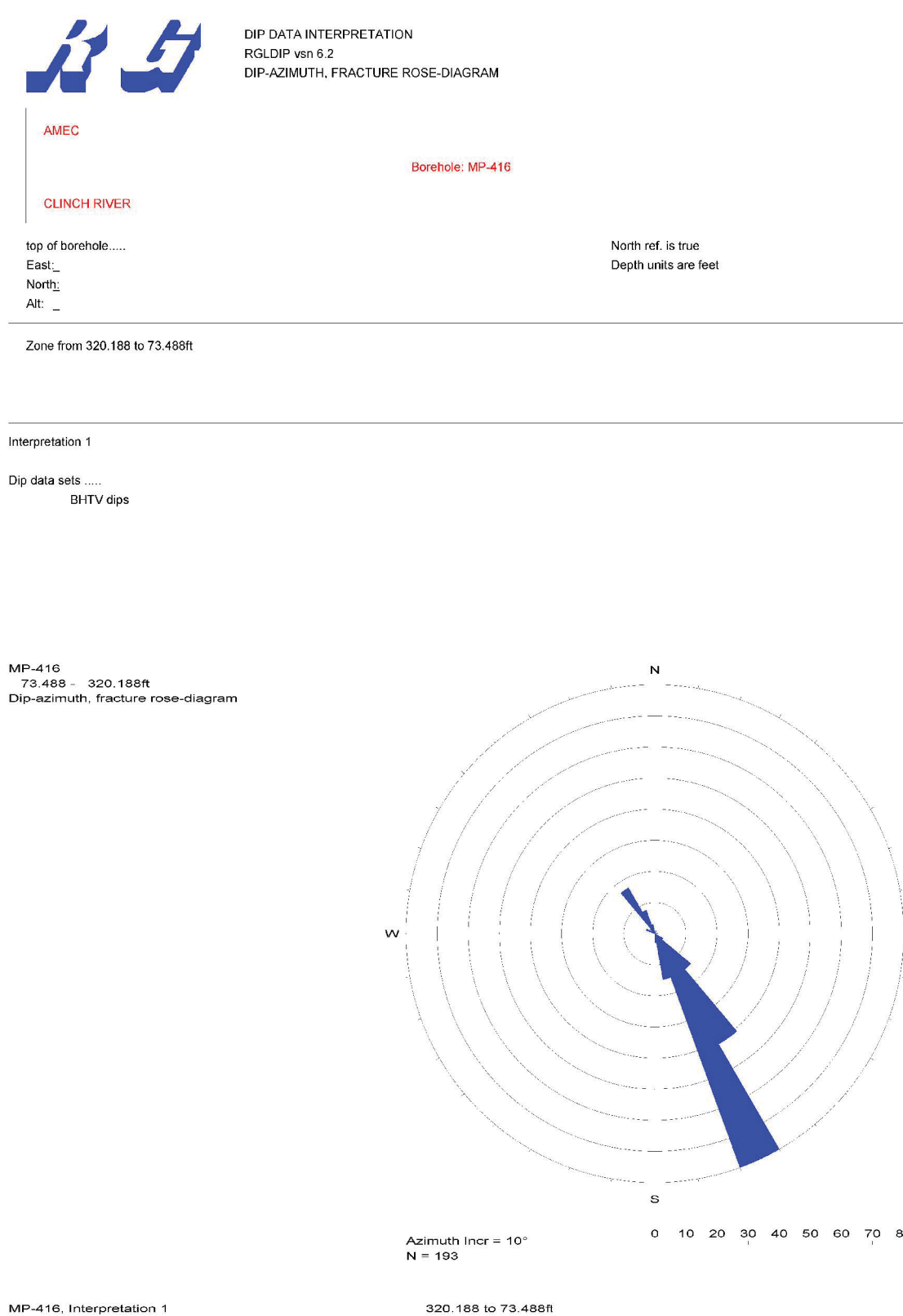


Figure 73. Boring MP-416, Rose Diagram

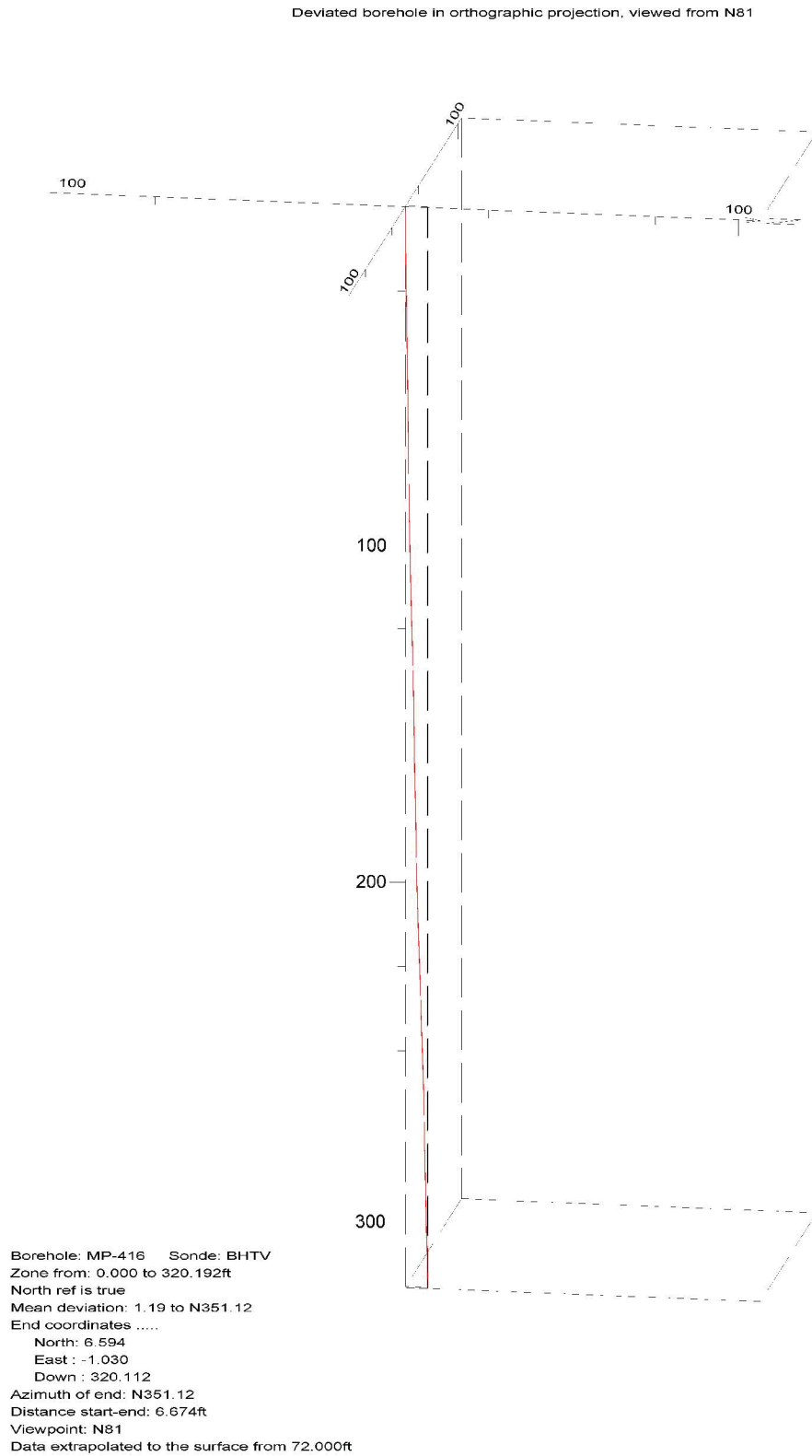


Figure 74. Boring MP-416, Up Deviation Projection

CLINCH RIVER SMR PROJECT BOREHOLE MP-417 Receiver to Receiver V_s and V_p Analysis

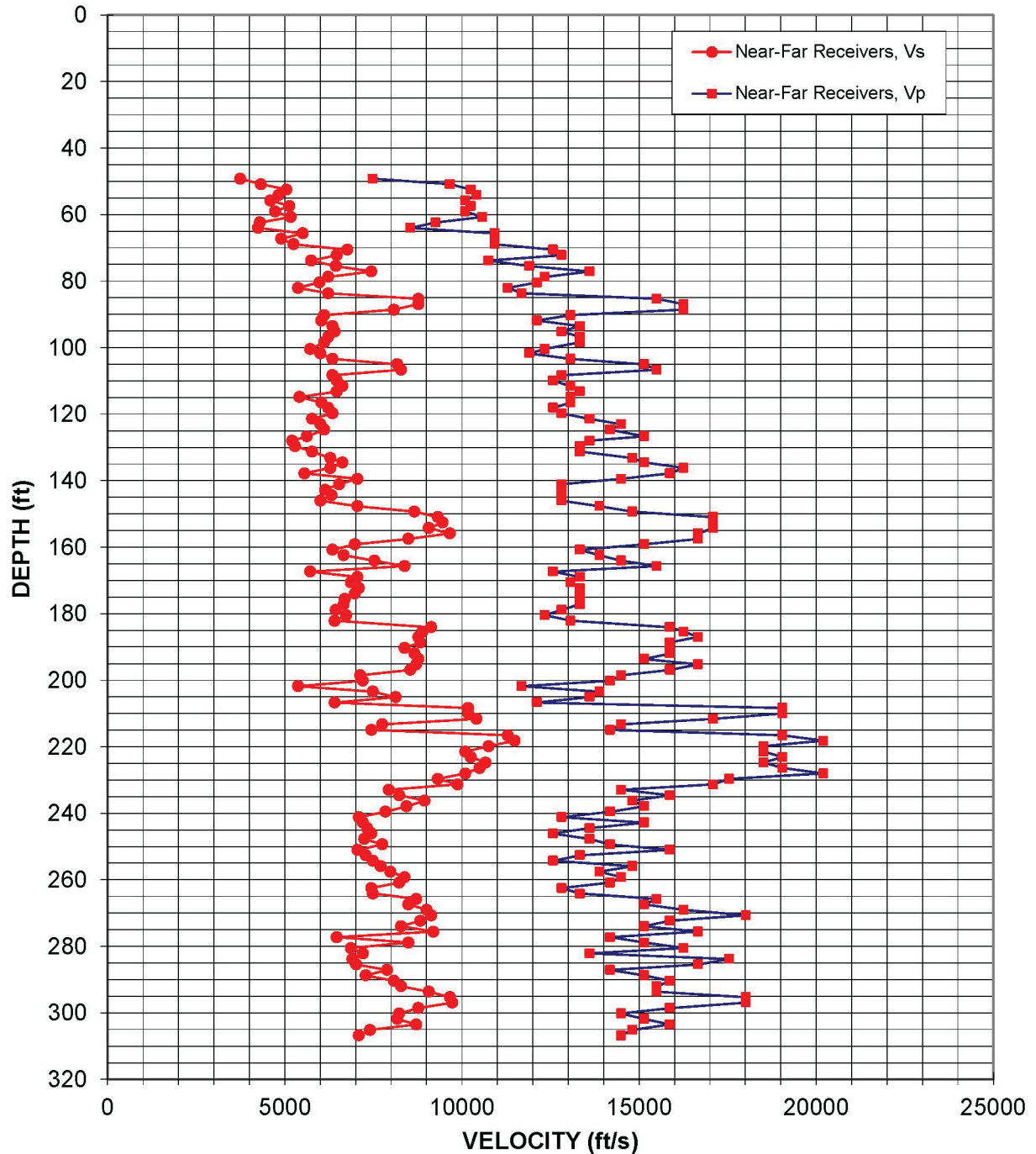


Figure 75: Boring MP-417, Suspension R1-R2 P- and S_H -wave velocities

Table 40. Boring MP-417, Suspension R1-R2 depths and P- and S_H-wave velocities

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-417**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
49.2	3750	7490	0.33	15.0	1140	2280	0.33
50.9	4330	9660	0.37	15.5	1320	2940	0.37
52.5	5050	10260	0.34	16.0	1540	3130	0.34
54.1	4830	10420	0.36	16.5	1470	3180	0.36
55.8	4600	10100	0.37	17.0	1400	3080	0.37
57.4	5130	10260	0.33	17.5	1560	3130	0.33
59.1	4730	10100	0.36	18.0	1440	3080	0.36
60.7	5170	10580	0.34	18.5	1580	3230	0.34
62.3	4300	9260	0.36	19.0	1310	2820	0.36
64.0	4250	8550	0.34	19.5	1290	2610	0.34
65.6	5510	10930	0.33	20.0	1680	3330	0.33
67.3	4900	10930	0.37	20.5	1490	3330	0.37
68.9	5250	10930	0.35	21.0	1600	3330	0.35
70.5	6770	12580	0.30	21.5	2060	3830	0.30
72.2	6470	12820	0.33	22.0	1970	3910	0.33
73.8	5750	10750	0.30	22.5	1750	3280	0.30
75.5	6440	11900	0.29	23.0	1960	3630	0.29
77.1	7450	13610	0.29	23.5	2270	4150	0.29
78.7	6230	12350	0.33	24.0	1900	3760	0.33
80.4	5980	12120	0.34	24.5	1820	3690	0.34
82.0	5380	11300	0.35	25.0	1640	3440	0.35
83.7	6230	11700	0.30	25.5	1900	3560	0.30
85.3	8770	15500	0.26	26.0	2670	4730	0.26
86.9	8770	16260	0.29	26.5	2670	4960	0.29
88.6	8080	16260	0.34	27.0	2460	4960	0.34
90.2	6120	13070	0.36	27.5	1860	3980	0.36
91.9	6030	12120	0.34	28.0	1840	3690	0.34
93.5	6350	13330	0.35	28.5	1940	4060	0.35
95.1	6410	12820	0.33	29.0	1950	3910	0.33
96.8	6230	13330	0.36	29.5	1900	4060	0.36
98.4	6120	13330	0.37	30.0	1860	4060	0.37
100.4	5720	12350	0.36	30.6	1740	3760	0.36
101.7	6010	11900	0.33	31.0	1830	3630	0.33
103.4	6350	13070	0.35	31.5	1940	3980	0.35
105.0	8180	15150	0.29	32.0	2490	4620	0.29
106.6	8280	15500	0.30	32.5	2520	4730	0.30
108.3	6350	12820	0.34	33.0	1940	3910	0.34

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-417**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
109.9	6470	12580	0.32	33.5	1970	3830	0.32
111.6	6630	13070	0.33	34.0	2020	3980	0.33
113.2	6470	13330	0.35	34.5	1970	4060	0.35
114.8	5420	13070	0.40	35.0	1650	3980	0.40
116.5	6030	13070	0.36	35.5	1840	3980	0.36
118.1	6230	12580	0.34	36.0	1900	3830	0.34
119.8	6350	12820	0.34	36.5	1940	3910	0.34
121.4	5770	13610	0.39	37.0	1760	4150	0.39
123.0	6010	14490	0.40	37.5	1830	4420	0.40
124.7	6120	14180	0.39	38.0	1860	4320	0.39
126.6	5630	15150	0.42	38.6	1710	4620	0.42
128.0	5210	13610	0.41	39.0	1590	4150	0.41
129.6	5290	13330	0.41	39.5	1610	4060	0.41
131.2	5770	13330	0.38	40.0	1760	4060	0.38
133.2	6290	14810	0.39	40.6	1920	4520	0.39
134.5	6630	15150	0.38	41.0	2020	4620	0.38
136.2	6290	16260	0.41	41.5	1920	4960	0.41
137.8	5560	15870	0.43	42.0	1690	4840	0.43
139.4	7050	14490	0.34	42.5	2150	4420	0.34
141.1	6540	12820	0.32	43.0	1990	3910	0.32
142.7	6140	12820	0.35	43.5	1870	3910	0.35
144.4	6320	12820	0.34	44.0	1930	3910	0.34
146.0	6010	12820	0.36	44.5	1830	3910	0.36
147.6	7050	13890	0.33	45.0	2150	4230	0.33
149.3	8660	14810	0.24	45.5	2640	4520	0.24
150.9	9320	17090	0.29	46.0	2840	5210	0.29
152.6	9460	17090	0.28	46.5	2880	5210	0.28
154.2	9070	17090	0.30	47.0	2760	5210	0.30
155.8	9660	16670	0.25	47.5	2940	5080	0.25
157.5	8490	16670	0.32	48.0	2590	5080	0.32
159.1	6980	15150	0.37	48.5	2130	4620	0.37
160.8	6350	13330	0.35	49.0	1940	4060	0.35
162.4	6670	13890	0.35	49.5	2030	4230	0.35
164.0	7530	14490	0.31	50.0	2300	4420	0.31
165.7	8390	15500	0.29	50.5	2560	4730	0.29
167.3	5720	12580	0.37	51.0	1740	3830	0.37
169.0	7050	13330	0.31	51.5	2150	4060	0.31
170.6	6870	13070	0.31	52.0	2090	3980	0.31
172.2	7090	13330	0.30	52.5	2160	4060	0.30

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-417**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
173.9	6980	13330	0.31	53.0	2130	4060	0.31
175.5	6700	13330	0.33	53.5	2040	4060	0.33
177.2	6670	13330	0.33	54.0	2030	4060	0.33
178.8	6440	12820	0.33	54.5	1960	3910	0.33
180.5	6730	12350	0.29	55.0	2050	3760	0.29
182.1	6410	13070	0.34	55.5	1950	3980	0.34
184.1	9130	15870	0.25	56.1	2780	4840	0.25
185.4	8890	16260	0.29	56.5	2710	4960	0.29
187.0	8770	16670	0.31	57.0	2670	5080	0.31
188.7	8830	15870	0.28	57.5	2690	4840	0.28
190.3	8390	15870	0.31	58.0	2560	4840	0.31
191.9	8660	15870	0.29	58.5	2640	4840	0.29
193.6	8770	15150	0.25	59.0	2670	4620	0.25
195.2	8710	16670	0.31	59.5	2660	5080	0.31
196.9	8550	15870	0.30	60.0	2610	4840	0.30
198.5	7130	14490	0.34	60.5	2170	4420	0.34
200.1	7210	14180	0.33	61.0	2200	4320	0.33
201.8	5380	11700	0.37	61.5	1640	3560	0.37
203.4	7490	13890	0.29	62.0	2280	4230	0.29
205.1	8130	13610	0.22	62.5	2480	4150	0.22
206.7	6410	12120	0.31	63.0	1950	3690	0.31
208.3	10180	19050	0.30	63.5	3100	5810	0.30
210.0	10180	19050	0.30	64.0	3100	5810	0.30
211.6	10420	17090	0.20	64.5	3180	5210	0.20
213.3	7750	14490	0.30	65.0	2360	4420	0.30
214.9	7450	14180	0.31	65.5	2270	4320	0.31
216.5	11300	19050	0.23	66.0	3440	5810	0.23
218.2	11490	20200	0.26	66.5	3500	6160	0.26
219.8	10750	18520	0.25	67.0	3280	5640	0.25
221.5	10100	18520	0.29	67.5	3080	5640	0.29
223.1	10260	19050	0.30	68.0	3130	5810	0.30
224.7	10670	18520	0.25	68.5	3250	5640	0.25
226.4	10500	19050	0.28	69.0	3200	5810	0.28
228.0	10100	20200	0.33	69.5	3080	6160	0.33
229.7	9320	17540	0.30	70.0	2840	5350	0.30
231.3	9880	17090	0.25	70.5	3010	5210	0.25
232.9	7940	14490	0.29	71.0	2420	4420	0.29
234.6	8230	15870	0.32	71.5	2510	4840	0.32
236.2	8950	14810	0.21	72.0	2730	4520	0.21

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-417**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
237.9	8440	15150	0.28	72.5	2570	4620	0.28
239.5	7840	14180	0.28	73.0	2390	4320	0.28
241.1	7090	12820	0.28	73.5	2160	3910	0.28
242.8	7210	15150	0.35	74.0	2200	4620	0.35
244.4	7330	13610	0.30	74.5	2230	4150	0.30
246.1	7450	12580	0.23	75.0	2270	3830	0.23
247.7	7250	13610	0.30	75.5	2210	4150	0.30
249.3	7750	14180	0.29	76.0	2360	4320	0.29
251.0	7050	15870	0.38	76.5	2150	4840	0.38
252.6	7290	13330	0.29	77.0	2220	4060	0.29
254.3	7490	12580	0.23	77.5	2280	3830	0.23
255.9	7710	14810	0.31	78.0	2350	4520	0.31
257.6	7980	13890	0.25	78.5	2430	4230	0.25
259.2	8390	14490	0.25	79.0	2560	4420	0.25
260.8	8230	14180	0.25	79.5	2510	4320	0.25
262.5	7450	12820	0.25	80.0	2270	3910	0.25
264.1	7490	13330	0.27	80.5	2280	4060	0.27
265.8	8710	15500	0.27	81.0	2660	4730	0.27
267.4	8490	15150	0.27	81.5	2590	4620	0.27
269.0	9010	16260	0.28	82.0	2750	4960	0.28
270.7	9130	18020	0.33	82.5	2780	5490	0.33
272.3	8830	15870	0.28	83.0	2690	4840	0.28
274.0	8280	15150	0.29	83.5	2520	4620	0.29
275.6	9200	16670	0.28	84.0	2800	5080	0.28
277.2	6470	14180	0.37	84.5	1970	4320	0.37
278.9	8490	15150	0.27	85.0	2590	4620	0.27
280.5	6870	16260	0.39	85.5	2090	4960	0.39
282.2	7210	13610	0.30	86.0	2200	4150	0.30
283.8	6910	17540	0.41	86.5	2110	5350	0.41
285.4	7020	16670	0.39	87.0	2140	5080	0.39
287.1	7890	14180	0.28	87.5	2400	4320	0.28
288.7	7290	15150	0.35	88.0	2220	4620	0.35
290.4	8080	15870	0.33	88.5	2460	4840	0.33
292.0	8280	15500	0.30	89.0	2520	4730	0.30
293.6	9070	15500	0.24	89.5	2760	4730	0.24
295.3	9660	18020	0.30	90.0	2940	5490	0.30
296.9	9730	18020	0.29	90.5	2970	5490	0.29
298.6	8770	15870	0.28	91.0	2670	4840	0.28
300.2	8230	14490	0.26	91.5	2510	4420	0.26

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-417**

American Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p	
(ft)	(ft/s)	(ft/s)	
301.8	8180	15150	0.29
303.5	8710	15870	0.28
305.1	7410	14810	0.33
306.8	7090	14490	0.34

Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p	
(m)	(m/s)	(m/s)	
92.0	2490	4620	0.29
92.5	2660	4840	0.28
93.0	2260	4520	0.33
93.5	2160	4420	0.34

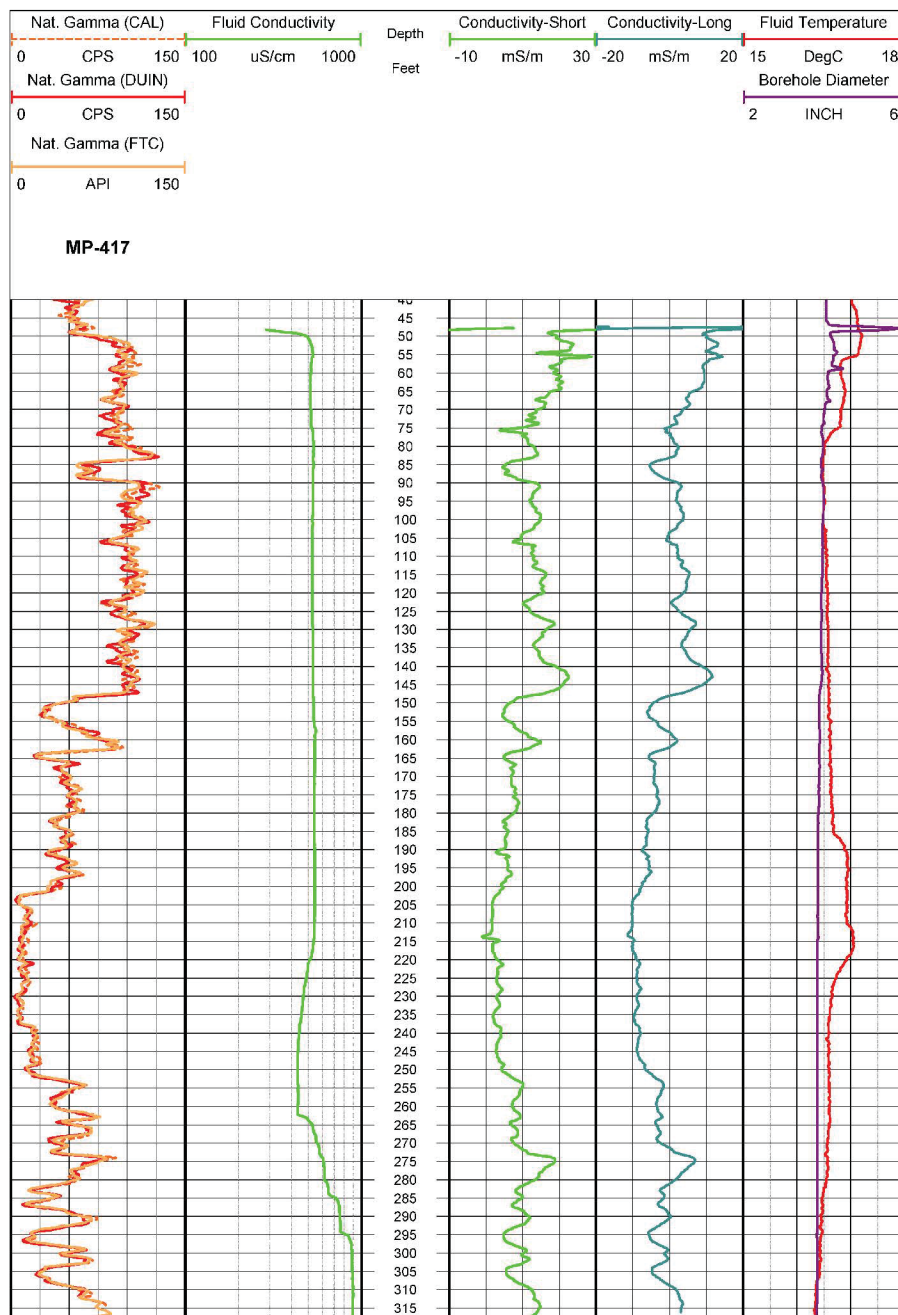


Figure 76. Boring MP-417, Induction, Fluid Temperature/Conductivity, Natural Gamma and Caliper logs

Table 41. Boring MP-417, Acoustic Televiewer Feature depth, dip azimuth, dip and description

Depth (feet)	Dip azimuth	Dip	Structure description
47.2	N153	38	Primary-structure Planar Bedding
47.6	N003	35	Fracture Planar Open-fracture
48.9	N154	39	Primary-structure Planar Bedding
49.5	N342	46	Fracture Planar Hairline-fracture
49.7	N152	42	Primary-structure Planar Bedding
51.2	N312	61	Fracture Discontinuous Hairline-fracture
51.7	N122	40	Primary-structure Planar Bedding
52.0	N157	40	Primary-structure Planar Bedding
52.4	N149	37	Primary-structure Planar Bedding
54.3	N155	40	Primary-structure Planar Bedding
54.8	N324	63	Fracture Planar Open-fracture
55.1	N153	37	Primary-structure Planar Bedding
55.4	N157	38	Primary-structure Planar Bedding
56.9	N146	33	Primary-structure Planar Bedding
58.2	N156	42	Primary-structure Planar Bedding
58.9	N330	58	Fracture Planar Open-fracture
60.3	N163	37	Primary-structure Planar Bedding
60.7	N312	47	Fracture Discontinuous Hairline-fracture
61.0	N153	38	Primary-structure Planar Bedding
61.4	N150	37	Primary-structure Planar Bedding
62.0	N152	40	Primary-structure Planar Bedding
62.1	N311	57	Fracture Discontinuous Hairline-fracture
62.4	N325	62	Fracture Planar Open-fracture
62.8	N158	36	Primary-structure Planar Bedding
63.6	N191	49	Primary-structure Planar Bedding
63.8	N311	62	Fracture Discontinuous Hairline-fracture
64.4	N146	35	Fracture Planar Open-fracture
65.2	N157	42	Primary-structure Planar Bedding
65.3	N321	65	Fracture Discontinuous Hairline-fracture
66.8	N157	39	Primary-structure Planar Bedding
67.0	N141	43	Primary-structure Planar Bedding
67.5	N340	58	Fracture Irregular Hairline-fracture
67.5	N144	38	Primary-structure Planar Bedding
67.7	N324	61	Fracture Discontinuous Hairline-fracture
67.9	N160	40	Fracture Planar Open-fracture
68.0	N152	39	Primary-structure Planar Bedding
68.8	N154	42	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
69.4	N155	35	Primary-structure Planar Bedding
71.1	N155	34	Primary-structure Planar Bedding
71.8	N315	67	Fracture Irregular Hairline-fracture
72.8	N314	53	Fracture Irregular Hairline-fracture
73.6	N154	31	Primary-structure Planar Bedding
73.9	N318	63	Fracture Discontinuous Hairline-fracture
74.0	N181	27	Fracture Planar Open-fracture
74.2	N327	67	Fracture Planar Hairline-fracture
74.8	N149	34	Primary-structure Planar Bedding
75.5	N328	50	Fracture Planar Hairline-fracture
75.6	N157	34	Primary-structure Planar Bedding
76.1	N335	43	Fracture Discontinuous Hairline-fracture
76.3	N157	37	Primary-structure Planar Bedding
77.1	N327	68	Fracture Irregular Hairline-fracture
78.2	N339	49	Fracture Discontinuous Hairline-fracture
78.4	N151	39	Primary-structure Planar Bedding
78.7	N337	57	Fracture Discontinuous Hairline-fracture
79.0	N337	49	Fracture Discontinuous Hairline-fracture
79.2	N145	38	Primary-structure Planar Bedding
79.6	N150	35	Primary-structure Planar Bedding
79.7	N315	56	Fracture Discontinuous Hairline-fracture
80.6	N158	34	Primary-structure Planar Bedding
82.4	N158	33	Primary-structure Planar Bedding
83.6	N159	35	Primary-structure Planar Bedding
84.9	N169	34	Primary-structure Planar Bedding
86.6	N317	49	Fracture Discontinuous Hairline-fracture
86.7	N152	30	Primary-structure Planar Bedding
86.8	N333	56	Fracture Planar Open-fracture
87.0	N320	66	Fracture Discontinuous Hairline-fracture
87.3	N158	33	Primary-structure Planar Bedding
87.9	N336	66	Fracture Planar Hairline-fracture
89.4	N160	33	Primary-structure Planar Bedding
90.4	N151	34	Primary-structure Planar Bedding
94.9	N325	46	Fracture Discontinuous Hairline-fracture
95.2	N156	35	Primary-structure Planar Bedding
98.8	N146	29	Primary-structure Planar Bedding
99.5	N159	39	Primary-structure Planar Bedding
101.4	N154	34	Primary-structure Planar Bedding
106.5	N331	53	Fracture Planar Hairline-fracture

Depth (feet)	Dip azimuth	Dip	Structure description
108.4	N171	39	Primary-structure Planar Bedding
108.9	N331	61	Fracture Discontinuous Hairline-fracture
109.2	N136	31	Primary-structure Planar Bedding
109.4	N324	49	Fracture Discontinuous Hairline-fracture
110.7	N321	63	Fracture Discontinuous Hairline-fracture
110.7	N154	32	Primary-structure Planar Bedding
113.3	N330	68	Fracture Discontinuous Hairline-fracture
113.4	N170	34	Primary-structure Planar Bedding
115.4	N359	53	Fracture Discontinuous Hairline-fracture
117.1	N156	33	Primary-structure Planar Bedding
117.1	N336	52	Fracture Discontinuous Hairline-fracture
120.9	N152	34	Primary-structure Planar Bedding
121.3	N154	31	Primary-structure Planar Bedding
122.1	N325	53	Fracture Discontinuous Hairline-fracture
123.1	N331	53	Fracture Planar Hairline-fracture
123.7	N150	34	Primary-structure Planar Bedding
128.0	N153	51	Primary-structure Planar Bedding
128.9	N138	35	Primary-structure Planar Bedding
144.9	N151	30	Primary-structure Planar Bedding
154.7	N325	52	Fracture Planar Hairline-fracture
156.3	N325	65	Fracture Discontinuous Hairline-fracture
161.2	N136	38	Primary-structure Planar Bedding
163.3	N337	51	Fracture Discontinuous Hairline-fracture
167.1	N148	33	Primary-structure Planar Bedding
167.7	N158	37	Primary-structure Planar Bedding
170.5	N309	55	Fracture Discontinuous Hairline-fracture
175.7	N161	33	Primary-structure Planar Bedding
175.8	N332	57	Fracture Discontinuous Hairline-fracture
181.0	N158	33	Primary-structure Planar Bedding
182.2	N334	48	Fracture Discontinuous Hairline-fracture
182.2	N162	40	Primary-structure Planar Bedding
182.8	N349	48	Fracture Discontinuous Hairline-fracture
183.6	N141	44	Primary-structure Planar Bedding
186.8	N155	35	Primary-structure Planar Bedding
187.5	N160	34	Primary-structure Planar Bedding
190.3	N158	33	Primary-structure Planar Bedding
191.3	N334	54	Fracture Planar Hairline-fracture
192.6	N159	35	Primary-structure Planar Bedding
193.1	N149	36	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
194.9	N155	34	Primary-structure Planar Bedding
195.9	N337	62	Fracture Discontinuous Hairline-fracture
196.1	N151	36	Primary-structure Planar Bedding
198.5	N149	33	Primary-structure Planar Bedding
199.2	N151	32	Primary-structure Planar Bedding
199.9	N320	54	Fracture Irregular Hairline-fracture
201.3	N159	34	Primary-structure Planar Bedding
201.9	N155	38	Primary-structure Planar Bedding
202.8	N331	54	Fracture Planar Hairline-fracture
203.2	N162	34	Primary-structure Planar Bedding
204.2	N146	31	Primary-structure Planar Bedding
206.2	N146	30	Primary-structure Planar Bedding
208.1	N142	31	Primary-structure Planar Bedding
210.1	N149	34	Primary-structure Planar Bedding
211.7	N152	31	Primary-structure Planar Bedding
212.4	N147	34	Primary-structure Planar Bedding
214.4	N330	53	Fracture Planar Open-fracture
214.6	N150	30	Primary-structure Planar Bedding
215.3	N155	32	Primary-structure Planar Bedding
216.7	N153	30	Primary-structure Planar Bedding
216.9	N152	35	Primary-structure Planar Bedding
218.4	N154	32	Primary-structure Planar Bedding
218.8	N345	61	Fracture Discontinuous Hairline-fracture
219.5	N332	65	Fracture Discontinuous Hairline-fracture
219.8	N157	30	Primary-structure Planar Bedding
221.8	N151	34	Primary-structure Planar Bedding
222.9	N322	54	Fracture Discontinuous Hairline-fracture
223.3	N140	32	Primary-structure Planar Bedding
223.6	N151	28	Primary-structure Planar Bedding
223.9	N162	34	Primary-structure Planar Bedding
224.4	N166	35	Primary-structure Planar Bedding
225.2	N159	30	Primary-structure Planar Bedding
226.7	N152	29	Primary-structure Planar Bedding
227.4	N153	32	Primary-structure Planar Bedding
227.7	N326	62	Fracture Discontinuous Hairline-fracture
228.6	N137	41	Primary-structure Irregular Bedding
229.6	N286	75	Fracture Irregular Hairline-fracture
229.9	N153	30	Primary-structure Planar Bedding
231.7	N340	62	Fracture Irregular Hairline-fracture

Depth (feet)	Dip azimuth	Dip	Structure description
232.4	N151	29	Primary-structure Planar Bedding
232.7	N337	60	Fracture Discontinuous Hairline-fracture
232.9	N333	68	Fracture Discontinuous Hairline-fracture
233.7	N301	43	Fracture Discontinuous Hairline-fracture
233.8	N139	40	Primary-structure Planar Bedding
233.9	N323	57	Fracture Discontinuous Hairline-fracture
234.1	N152	45	Primary-structure Planar Bedding
236.1	N163	34	Primary-structure Planar Bedding
237.6	N138	28	Primary-structure Planar Bedding
238.2	N151	29	Primary-structure Planar Bedding
238.2	N302	57	Fracture Discontinuous Hairline-fracture
242.6	N146	35	Primary-structure Planar Bedding
243.6	N307	51	Fracture Discontinuous Hairline-fracture
248.3	N310	68	Fracture Discontinuous Hairline-fracture
248.8	N162	34	Primary-structure Planar Bedding
250.1	N293	57	Fracture Discontinuous Hairline-fracture
256.1	N154	39	Primary-structure Planar Bedding
264.0	N296	67	Fracture Discontinuous Hairline-fracture
266.3	N142	33	Primary-structure Planar Bedding
269.7	N160	32	Primary-structure Planar Bedding
270.6	N152	49	Fracture Planar Hairline-fracture
271.0	N151	31	Primary-structure Planar Bedding
272.5	N163	41	Primary-structure Planar Bedding
273.4	N158	36	Primary-structure Planar Bedding
273.9	N156	30	Primary-structure Planar Bedding
276.3	N136	35	Primary-structure Planar Bedding
282.4	N328	53	Fracture Discontinuous Hairline-fracture
282.5	N155	46	Primary-structure Planar Bedding
283.1	N158	32	Primary-structure Planar Bedding
284.2	N315	57	Fracture Discontinuous Hairline-fracture
286.8	N304	57	Fracture Planar Hairline-fracture
287.3	N151	28	Primary-structure Planar Bedding
287.3	N333	48	Fracture Discontinuous Hairline-fracture
287.9	N317	60	Fracture Discontinuous Hairline-fracture
289.0	N293	67	Fracture Discontinuous Hairline-fracture
289.7	N300	55	Fracture Discontinuous Hairline-fracture
290.2	N158	36	Primary-structure Planar Bedding
293.1	N329	66	Fracture Discontinuous Hairline-fracture
293.2	N163	37	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
294.2	N315	54	Fracture Planar Hairline-fracture
296.1	N159	36	Primary-structure Planar Bedding
297.1	N158	34	Primary-structure Planar Bedding
297.4	N329	54	Fracture Planar Hairline-fracture
297.5	N146	35	Primary-structure Planar Bedding
298.4	N317	63	Fracture Discontinuous Hairline-fracture
298.6	N153	36	Primary-structure Planar Bedding
300.2	N321	56	Fracture Discontinuous Hairline-fracture
303.3	N324	55	Fracture Discontinuous Hairline-fracture
305.1	N160	34	Primary-structure Planar Bedding
305.4	N328	44	Fracture Planar Hairline-fracture
307.1	N139	36	Primary-structure Planar Bedding
307.7	N324	51	Fracture Discontinuous Hairline-fracture



Figure 77. Boring MP-417, Rose Diagram

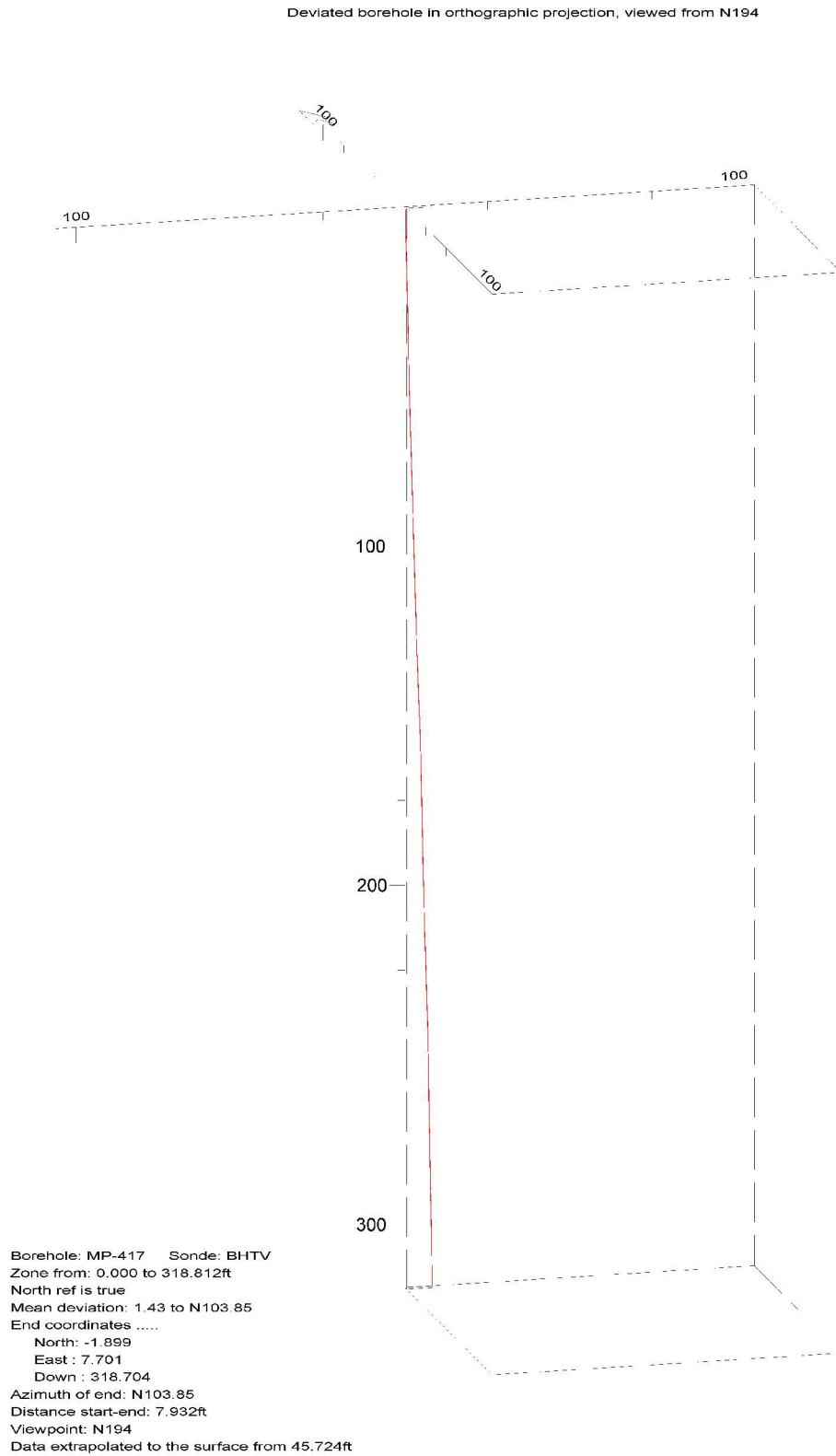


Figure 78. Boring MP-417, Up Deviation Projection

CLINCH RIVER SMR PROJECT BOREHOLE MP-418A Receiver to Receiver V_s and V_p Analysis

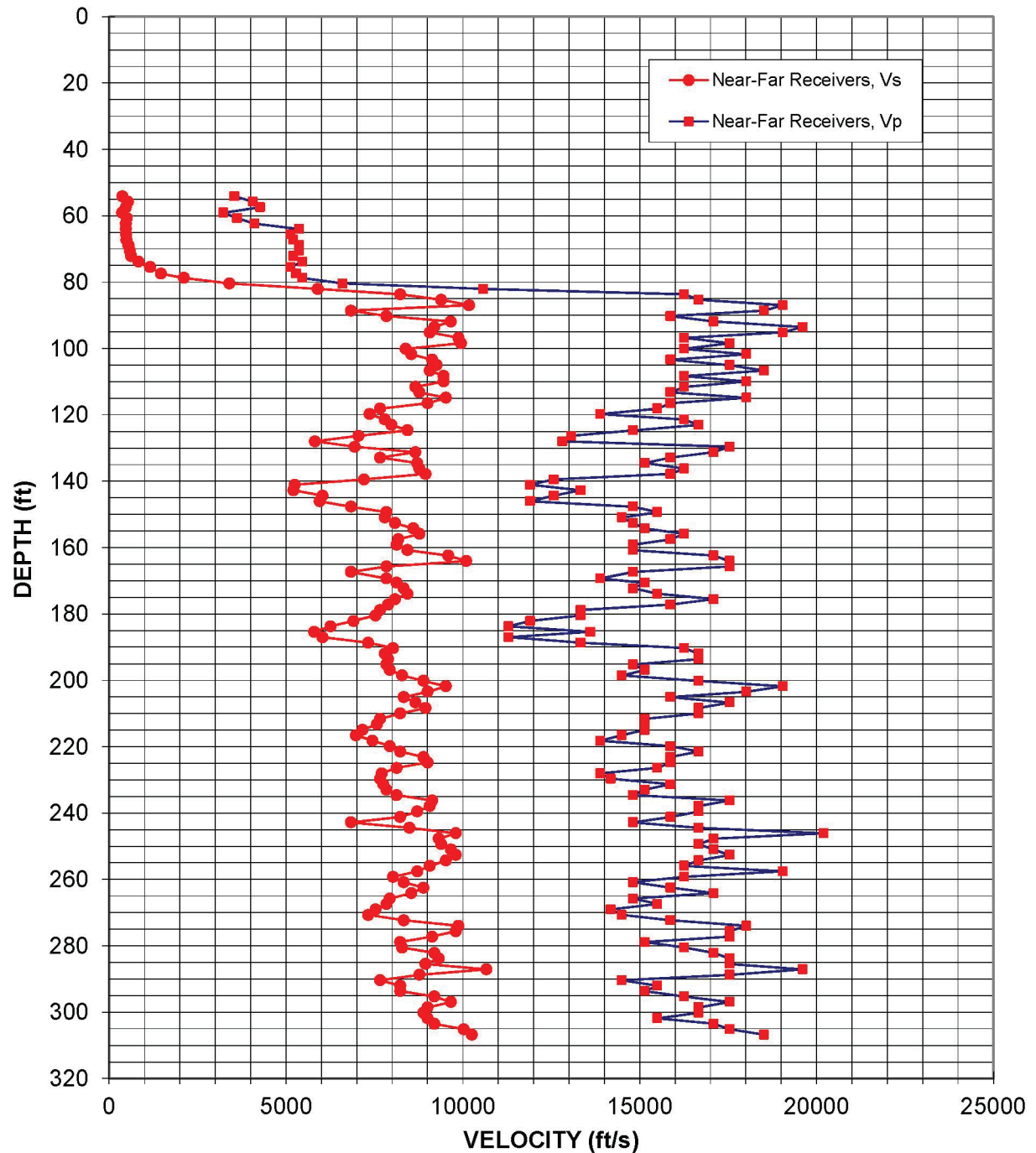


Figure 79: Boring MP-418A, Suspension R1-R2 P- and S_H -wave velocities

Table 42. Boring MP-418A, Suspension R1-R2 depths and P- and S_H-wave velocities

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-418A**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
54.1	380	3550	0.49	16.5	120	1080	0.49
55.8	540	4070	0.49	17.0	160	1240	0.49
57.4	480	4270	0.49	17.5	150	1300	0.49
59.1	370	3240	0.49	18.0	110	990	0.49
60.7	500	3620	0.49	18.5	150	1100	0.49
62.3	470	4120	0.49	19.0	140	1250	0.49
64.0	470	5380	0.50	19.5	140	1640	0.50
65.6	480	5130	0.50	20.0	150	1560	0.50
67.3	490	5210	0.50	20.5	150	1590	0.50
68.9	550	5380	0.49	21.0	170	1640	0.49
70.5	590	5380	0.49	21.5	180	1640	0.49
72.2	620	5210	0.49	22.0	190	1590	0.49
73.8	830	5460	0.49	22.5	250	1670	0.49
75.5	1160	5130	0.47	23.0	350	1560	0.47
77.4	1470	5290	0.46	23.6	450	1610	0.46
78.7	2120	5460	0.41	24.0	650	1670	0.41
80.4	3400	6600	0.32	24.5	1040	2010	0.32
82.0	5900	10580	0.27	25.0	1800	3230	0.27
83.7	8230	16260	0.33	25.5	2510	4960	0.33
85.3	9390	16670	0.27	26.0	2860	5080	0.27
86.9	10180	19050	0.30	26.5	3100	5810	0.30
88.6	6840	18520	0.42	27.0	2080	5640	0.42
90.2	7840	15870	0.34	27.5	2390	4840	0.34
91.9	9660	17090	0.27	28.0	2940	5210	0.27
93.5	9200	19610	0.36	28.5	2800	5980	0.36
95.1	9070	19050	0.35	29.0	2760	5810	0.35
96.8	9880	16260	0.21	29.5	3010	4960	0.21
98.4	9950	17540	0.26	30.0	3030	5350	0.26
100.1	8390	16260	0.32	30.5	2560	4960	0.32
101.7	8550	18020	0.35	31.0	2610	5490	0.35
103.4	9130	15870	0.25	31.5	2780	4840	0.25
105.0	9260	17540	0.31	32.0	2820	5350	0.31
106.6	9070	18520	0.34	32.5	2760	5640	0.34
108.3	9460	16260	0.24	33.0	2880	4960	0.24
109.9	9460	18020	0.31	33.5	2880	5490	0.31
111.6	8660	16260	0.30	34.0	2640	4960	0.30
113.2	8770	15870	0.28	34.5	2670	4840	0.28
114.8	9520	18020	0.31	35.0	2900	5490	0.31

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-418A**

American Units				Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio	Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p			V _s	V _p	
(ft)	(ft/s)	(ft/s)		(m)	(m/s)	(m/s)	
116.5	9010	15870	0.26	35.5	2750	4840	0.26
118.1	7660	15500	0.34	36.0	2340	4730	0.34
119.8	7370	13890	0.30	36.5	2250	4230	0.30
121.4	7800	16260	0.35	37.0	2380	4960	0.35
123.0	7980	16670	0.35	37.5	2430	5080	0.35
124.7	8440	14810	0.26	38.0	2570	4520	0.26
126.3	7050	13070	0.29	38.5	2150	3980	0.29
128.0	5820	12820	0.37	39.0	1770	3910	0.37
129.6	6940	17540	0.41	39.5	2120	5350	0.41
131.2	8660	17090	0.33	40.0	2640	5210	0.33
132.9	7660	15870	0.35	40.5	2340	4840	0.35
134.5	8710	15150	0.25	41.0	2660	4620	0.25
136.2	8770	16260	0.29	41.5	2670	4960	0.29
137.8	8950	15870	0.27	42.0	2730	4840	0.27
139.4	7210	12580	0.26	42.5	2200	3830	0.26
141.1	5250	11900	0.38	43.0	1600	3630	0.38
142.7	5210	13330	0.41	43.5	1590	4060	0.41
144.4	6030	12580	0.35	44.0	1840	3830	0.35
146.0	5950	11900	0.33	44.5	1810	3630	0.33
147.6	6840	14810	0.36	45.0	2080	4520	0.36
149.3	7840	15500	0.33	45.5	2390	4730	0.33
150.9	7800	14490	0.30	46.0	2380	4420	0.30
152.6	8080	14810	0.29	46.5	2460	4520	0.29
154.2	8600	15150	0.26	47.0	2620	4620	0.26
155.8	8770	16260	0.29	47.5	2670	4960	0.29
157.5	8180	15870	0.32	48.0	2490	4840	0.32
159.1	8130	14810	0.28	48.5	2480	4520	0.28
160.8	8440	14810	0.26	49.0	2570	4520	0.26
162.4	9590	17090	0.27	49.5	2920	5210	0.27
164.0	10100	17540	0.25	50.0	3080	5350	0.25
165.7	7840	17540	0.38	50.5	2390	5350	0.38
167.3	6840	14810	0.36	51.0	2080	4520	0.36
169.3	7840	13890	0.27	51.6	2390	4230	0.27
170.6	8130	15150	0.30	52.0	2480	4620	0.30
172.2	8330	14810	0.27	52.5	2540	4520	0.27
173.9	8440	15500	0.29	53.0	2570	4730	0.29
175.5	8080	17090	0.36	53.5	2460	5210	0.36
177.2	7890	15870	0.34	54.0	2400	4840	0.34
178.8	7660	13330	0.25	54.5	2340	4060	0.25
180.5	7530	13330	0.27	55.0	2300	4060	0.27

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-418A**

American Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p	
(ft)	(ft/s)	(ft/s)	
182.1	6910	11900	0.25
183.7	6260	11300	0.28
185.4	5800	13610	0.39
187.0	6030	11300	0.30
188.7	7330	13330	0.28
190.3	8030	16260	0.34
191.9	7800	16670	0.36
193.6	7890	16670	0.36
195.2	7840	14810	0.31
196.9	7940	15150	0.31
198.5	8280	14490	0.26
200.1	8890	16670	0.30
201.8	9520	19050	0.33
203.4	9010	18020	0.33
205.1	8330	15870	0.31
206.7	8660	17540	0.34
208.3	8950	16670	0.30
210.0	8230	16670	0.34
211.6	7660	15150	0.33
213.3	7580	15150	0.33
214.9	7170	15150	0.36
216.5	6980	14490	0.35
218.2	7450	13890	0.30
219.8	7940	15870	0.33
221.5	8230	16670	0.34
223.1	8890	15870	0.27
224.7	9010	15870	0.26
226.4	8130	15500	0.31
228.0	7710	13890	0.28
229.7	7660	14180	0.29
231.3	7750	15870	0.34
232.9	7840	15150	0.32
234.6	8130	14810	0.28
236.2	9130	17540	0.31
237.9	9070	16670	0.29
239.5	8710	16670	0.31
241.1	8230	15870	0.32
242.8	6840	14810	0.36
244.4	8490	16670	0.32
246.1	9800	20200	0.35

Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p	
(m)	(m/s)	(m/s)	
55.5	2110	3630	0.25
56.0	1910	3440	0.28
56.5	1770	4150	0.39
57.0	1840	3440	0.30
57.5	2230	4060	0.28
58.0	2450	4960	0.34
58.5	2380	5080	0.36
59.0	2400	5080	0.36
59.5	2390	4520	0.31
60.0	2420	4620	0.31
60.5	2520	4420	0.26
61.0	2710	5080	0.30
61.5	2900	5810	0.33
62.0	2750	5490	0.33
62.5	2540	4840	0.31
63.0	2640	5350	0.34
63.5	2730	5080	0.30
64.0	2510	5080	0.34
64.5	2340	4620	0.33
65.0	2310	4620	0.33
65.5	2180	4620	0.36
66.0	2130	4420	0.35
66.5	2270	4230	0.30
67.0	2420	4840	0.33
67.5	2510	5080	0.34
68.0	2710	4840	0.27
68.5	2750	4840	0.26
69.0	2480	4730	0.31
69.5	2350	4230	0.28
70.0	2340	4320	0.29
70.5	2360	4840	0.34
71.0	2390	4620	0.32
71.5	2480	4520	0.28
72.0	2780	5350	0.31
72.5	2760	5080	0.29
73.0	2660	5080	0.31
73.5	2510	4840	0.32
74.0	2080	4520	0.36
74.5	2590	5080	0.32
75.0	2990	6160	0.35

**Summary of Compressional Wave Velocity, Shear Wave Velocity, and Poisson's Ratio
Based on Receiver-to-Receiver Travel Time Data - Borehole MP-418A**

American Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p	
(ft)	(ft/s)	(ft/s)	
247.7	9320	17090	0.29
249.3	9390	16670	0.27
251.0	9660	17090	0.27
252.6	9800	17540	0.27
254.3	9520	16670	0.26
255.9	9070	16260	0.27
257.6	8710	19050	0.37
259.2	8030	16260	0.34
260.8	8330	14810	0.27
262.5	8890	15870	0.27
264.1	8550	17090	0.33
265.8	7940	14810	0.30
267.4	7840	15500	0.33
269.0	7530	14180	0.30
270.7	7330	14490	0.33
272.3	8330	15870	0.31
274.0	9880	18020	0.29
275.6	9800	17540	0.27
277.2	9130	17540	0.31
278.9	8230	15150	0.29
280.5	8280	16260	0.32
282.2	9200	17090	0.30
283.8	9320	17540	0.30
285.4	8950	17540	0.32
287.1	10670	19610	0.29
288.7	8770	17540	0.33
290.4	7660	14490	0.31
292.0	8230	15500	0.30
293.6	8230	15150	0.29
295.3	9200	16260	0.26
296.9	9660	17540	0.28
298.6	9010	16670	0.29
300.2	8890	16670	0.30
301.8	9010	15500	0.25
303.5	9200	17090	0.30
305.1	10030	17540	0.26
306.8	10260	18520	0.28

Metric Units			
Depth at Midpoint Between Receivers	Velocity		Poisson's Ratio
	V _s	V _p	
(m)	(m/s)	(m/s)	
75.5	2840	5210	0.29
76.0	2860	5080	0.27
76.5	2940	5210	0.27
77.0	2990	5350	0.27
77.5	2900	5080	0.26
78.0	2760	4960	0.27
78.5	2660	5810	0.37
79.0	2450	4960	0.34
79.5	2540	4520	0.27
80.0	2710	4840	0.27
80.5	2610	5210	0.33
81.0	2420	4520	0.30
81.5	2390	4730	0.33
82.0	2300	4320	0.30
82.5	2230	4420	0.33
83.0	2540	4840	0.31
83.5	3010	5490	0.29
84.0	2990	5350	0.27
84.5	2780	5350	0.31
85.0	2510	4620	0.29
85.5	2520	4960	0.32
86.0	2800	5210	0.30
86.5	2840	5350	0.30
87.0	2730	5350	0.32
87.5	3250	5980	0.29
88.0	2670	5350	0.33
88.5	2340	4420	0.31
89.0	2510	4730	0.30
89.5	2510	4620	0.29
90.0	2800	4960	0.26
90.5	2940	5350	0.28
91.0	2750	5080	0.29
91.5	2710	5080	0.30
92.0	2750	4730	0.25
92.5	2800	5210	0.30
93.0	3060	5350	0.26
93.5	3130	5640	0.28

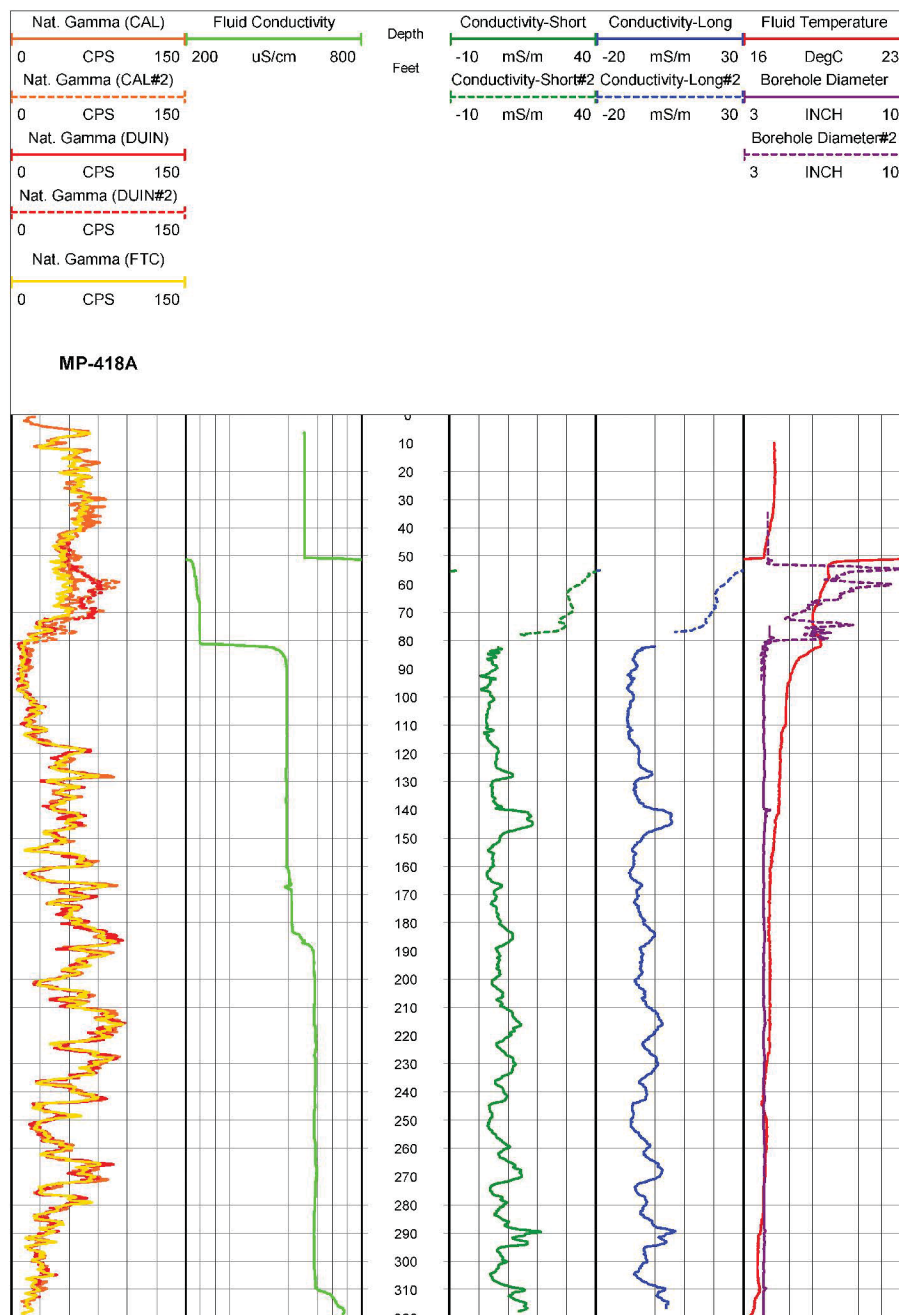


Figure 80. Boring MP-418A, Induction, Fluid Temperature/Conductivity, Natural Gamma and Caliper logs

Table 43. Boring MP-418A, Acoustic Televiwer Feature depth, dip azimuth, dip and description

Depth (feet)	Dip azimuth	Dip	Structure description
81.3	N157	49	Primary-structure Planar Bedding
81.9	N154	48	Primary-structure Planar Bedding
83.1	N155	48	Fracture Planar Open-fracture
83.5	N327	54	Fracture Discontinuous Hairline-fracture
83.7	N152	46	Primary-structure Planar Bedding
84.0	N154	44	Fracture Planar Open-fracture
84.6	N139	44	Fracture Planar Hairline-fracture
85.2	N147	38	Fracture Planar Open-fracture
86.4	N168	45	Fracture Planar Hairline-fracture
86.5	N316	55	Fracture Planar Hairline-fracture
87.3	N151	40	Fracture Planar Open-fracture
87.8	N150	41	Primary-structure Planar Bedding
88.6	N145	44	Primary-structure Planar Bedding
88.9	N152	46	Primary-structure Planar Bedding
89.4	N088	74	Fracture Planar Hairline-fracture
89.7	N148	45	Primary-structure Planar Bedding
90.4	N135	46	Primary-structure Planar Bedding
91.0	N153	45	Primary-structure Planar Bedding
91.7	N158	44	Primary-structure Planar Bedding
91.9	N151	48	Primary-structure Planar Bedding
92.7	N292	58	Fracture Irregular Hairline-fracture
93.5	N150	46	Primary-structure Planar Bedding
94.4	N146	44	Primary-structure Planar Bedding
95.2	N159	43	Primary-structure Planar Bedding
97.8	N339	44	Fracture Planar Hairline-fracture
98.7	N159	48	Primary-structure Planar Bedding
100.0	N154	44	Primary-structure Planar Bedding
100.8	N145	40	Primary-structure Planar Bedding
100.9	N046	61	Fracture Discontinuous Hairline-fracture
101.8	N156	39	Primary-structure Planar Bedding
102.3	N151	38	Primary-structure Planar Bedding
102.8	N149	42	Primary-structure Planar Bedding
104.5	N161	47	Primary-structure Planar Bedding
105.4	N164	38	Primary-structure Planar Bedding
106.4	N156	42	Primary-structure Planar Bedding
107.1	N154	41	Primary-structure Planar Bedding
107.3	N332	68	Fracture Discontinuous Hairline-fracture

Depth (feet)	Dip azimuth	Dip	Structure description
108.1	N155	45	Primary-structure Planar Bedding
108.6	N150	43	Primary-structure Planar Bedding
109.5	N151	40	Primary-structure Planar Bedding
110.3	N153	38	Primary-structure Planar Bedding
111.6	N320	25	Fracture Planar Hairline-fracture
112.0	N150	41	Primary-structure Planar Bedding
113.0	N311	42	Fracture Planar Hairline-fracture
113.2	N151	48	Primary-structure Planar Bedding
118.6	N153	45	Primary-structure Planar Bedding
127.7	N133	51	Primary-structure Planar Bedding
128.3	N157	46	Primary-structure Planar Bedding
129.0	N154	42	Primary-structure Planar Bedding
130.1	N146	38	Primary-structure Planar Bedding
132.5	N157	42	Primary-structure Planar Bedding
132.9	N161	43	Primary-structure Planar Bedding
133.2	N347	42	Fracture Discontinuous Hairline-fracture
133.9	N316	43	Fracture Discontinuous Hairline-fracture
134.2	N150	43	Primary-structure Planar Bedding
134.6	N331	39	Fracture Planar Hairline-fracture
135.4	N154	40	Primary-structure Planar Bedding
136.3	N152	41	Primary-structure Planar Bedding
137.2	N149	47	Primary-structure Planar Bedding
138.6	N157	46	Primary-structure Planar Bedding
139.2	N155	47	Primary-structure Planar Bedding
139.7	N338	45	Fracture Discontinuous Hairline-fracture
140.3	N149	39	Fracture Planar Open-fracture
140.7	N152	41	Primary-structure Planar Bedding
141.2	N146	47	Primary-structure Planar Bedding
142.3	N154	43	Fracture Planar Open-fracture
142.5	N165	43	Primary-structure Planar Bedding
143.8	N177	58	Primary-structure Planar Bedding
144.2	N168	56	Primary-structure Planar Bedding
144.6	N164	57	Primary-structure Planar Bedding
145.1	N174	48	Primary-structure Planar Bedding
145.6	N175	40	Primary-structure Planar Bedding
146.3	N145	38	Primary-structure Planar Bedding
147.4	N155	48	Primary-structure Planar Bedding
152.8	N160	35	Primary-structure Planar Bedding
153.3	N315	33	Fracture Discontinuous Hairline-fracture

Depth (feet)	Dip azimuth	Dip	Structure description
153.9	N154	43	Primary-structure Planar Bedding
155.1	N317	40	Fracture Discontinuous Hairline-fracture
155.2	N153	39	Primary-structure Planar Bedding
156.2	N163	45	Primary-structure Planar Bedding
157.3	N154	41	Primary-structure Planar Bedding
160.4	N149	38	Primary-structure Planar Bedding
160.5	N322	41	Fracture Discontinuous Hairline-fracture
161.0	N321	40	Fracture Discontinuous Hairline-fracture
161.2	N152	45	Primary-structure Planar Bedding
164.8	N162	38	Primary-structure Planar Bedding
166.6	N147	45	Primary-structure Planar Bedding
167.0	N146	44	Primary-structure Planar Bedding
167.8	N157	44	Primary-structure Planar Bedding
170.2	N155	41	Primary-structure Planar Bedding
172.5	N323	32	Fracture Discontinuous Hairline-fracture
173.8	N160	39	Primary-structure Planar Bedding
173.8	N322	49	Fracture Discontinuous Hairline-fracture
177.3	N160	44	Primary-structure Planar Bedding
177.5	N156	42	Primary-structure Planar Bedding
178.8	N148	45	Primary-structure Planar Bedding
182.7	N146	38	Primary-structure Planar Bedding
183.4	N157	56	Fracture Planar Hairline-fracture
183.9	N142	38	Primary-structure Planar Bedding
185.4	N142	41	Primary-structure Planar Bedding
185.9	N182	40	Primary-structure Planar Bedding
186.9	N175	45	Primary-structure Irregular Bedding
187.1	N154	49	Primary-structure Irregular Bedding
188.4	N153	39	Primary-structure Planar Bedding
188.6	N336	47	Fracture Discontinuous Hairline-fracture
189.6	N149	36	Primary-structure Planar Bedding
190.1	N150	46	Primary-structure Planar Bedding
192.5	N163	43	Primary-structure Planar Bedding
193.3	N161	36	Primary-structure Planar Bedding
195.0	N159	36	Primary-structure Planar Bedding
196.0	N347	53	Fracture Discontinuous Hairline-fracture
196.2	N159	39	Primary-structure Planar Bedding
196.8	N156	38	Primary-structure Planar Bedding
197.7	N163	36	Primary-structure Planar Bedding
199.3	N159	35	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
199.8	N152	37	Primary-structure Planar Bedding
201.1	N299	54	Fracture Discontinuous Hairline-fracture
205.7	N151	35	Primary-structure Planar Bedding
207.4	N317	48	Fracture Planar Hairline-fracture
207.7	N154	37	Primary-structure Planar Bedding
209.0	N161	41	Primary-structure Planar Bedding
209.6	N153	38	Primary-structure Planar Bedding
209.9	N151	37	Primary-structure Planar Bedding
211.5	N168	43	Primary-structure Planar Bedding
216.1	N139	29	Primary-structure Planar Bedding
219.0	N155	37	Primary-structure Planar Bedding
219.7	N151	35	Primary-structure Planar Bedding
220.2	N149	37	Primary-structure Planar Bedding
222.1	N162	36	Primary-structure Planar Bedding
222.3	N298	38	Fracture Discontinuous Hairline-fracture
223.7	N162	35	Primary-structure Planar Bedding
226.8	N149	41	Primary-structure Planar Bedding
232.4	N149	40	Primary-structure Planar Bedding
235.5	N151	37	Primary-structure Planar Bedding
237.6	N316	65	Fracture Irregular Hairline-fracture
238.1	N148	32	Primary-structure Planar Bedding
241.0	N153	38	Primary-structure Planar Bedding
243.7	N152	39	Primary-structure Planar Bedding
243.9	N305	52	Fracture Discontinuous Hairline-fracture
244.2	N155	38	Primary-structure Planar Bedding
245.5	N143	39	Primary-structure Planar Bedding
248.3	N147	40	Primary-structure Planar Bedding
250.7	N150	40	Primary-structure Planar Bedding
251.3	N158	45	Primary-structure Planar Bedding
252.5	N144	36	Primary-structure Planar Bedding
254.2	N151	43	Primary-structure Planar Bedding
254.5	N310	30	Fracture Planar Hairline-fracture
254.6	N152	40	Primary-structure Planar Bedding
261.8	N155	39	Primary-structure Planar Bedding
266.7	N150	36	Primary-structure Planar Bedding
267.4	N178	58	Fracture Planar Hairline-fracture
270.8	N139	62	Fracture Planar Hairline-fracture
271.1	N167	40	Primary-structure Planar Bedding
273.4	N151	35	Primary-structure Planar Bedding

Depth (feet)	Dip azimuth	Dip	Structure description
273.6	N319	52	Fracture Discontinuous Hairline-fracture
278.2	N162	40	Primary-structure Planar Bedding
278.5	N150	37	Primary-structure Planar Bedding
280.8	N155	36	Primary-structure Planar Bedding
283.0	N152	39	Primary-structure Planar Bedding
287.4	N155	38	Primary-structure Planar Bedding
288.9	N150	41	Primary-structure Planar Bedding
289.4	N153	38	Primary-structure Planar Bedding
290.0	N144	43	Primary-structure Planar Bedding
292.3	N142	32	Primary-structure Planar Bedding
294.3	N139	40	Primary-structure Planar Bedding
295.0	N142	43	Primary-structure Planar Bedding
298.3	N152	34	Primary-structure Planar Bedding
299.4	N151	34	Primary-structure Planar Bedding
300.5	N152	38	Primary-structure Planar Bedding
307.1	N160	35	Primary-structure Planar Bedding
310.0	N164	52	Fracture Planar Open-fracture
310.1	N150	38	Primary-structure Planar Bedding
316.6	N155	37	Primary-structure Planar Bedding

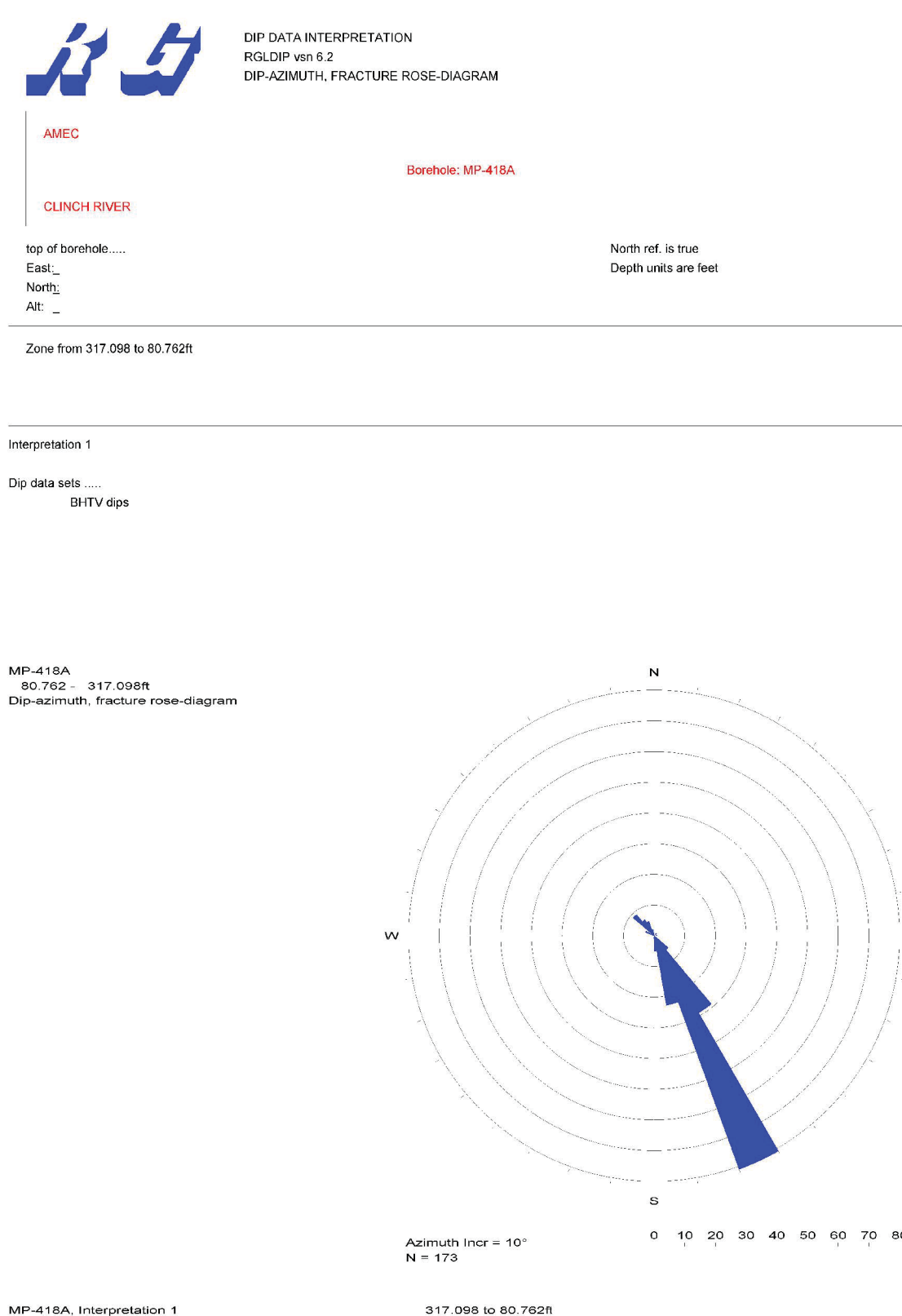


Figure 81. Boring MP-418A, Rose Diagram