

**Appendix 4. Plots and interpretations of
borehole geophysical logs collected by
Geophysical Applications, Inc., for boreholes
near Machiasport, Maine**

Explanation Information for Appendixes

Abbreviations on log plots:

Acou Caliper, in inch	caliper measured by acoustic televiewer, in inches
ATV	acoustic televiewer traveltime
ATV Amp	acoustic televiewer amplitude
ATV Amp, in mV	acoustic televiewer amplitude, in millivolts
Azi	azimuth
Caliper, in inch	3-arm mechanical caliper, in inches
deg	degrees
dev	deviation
DO	dissolved oxygen
Eh, in mV	electromotive potential, in millivolts
EMI Cond, in mmho/m	electromagnetic induction conductivity, in millimhos per meter
Frax	fracture
FRX	fracture
gal/min	gallon(s) per minute
gpm	gallon(s) per minute
Fl Cond, in $\mu\text{S}/\text{cm}$	fluid conductivity, in microsiemens per centimeter
Gamma, in CPS	natural gamma radiation, in counts per second
HPFM Amb, in gal/min	heat-pulse flowmeter, under ambient conditions, in gallons per minute
HPFM Pump, in gal/min	heat-pulse flowmeter, under pumped conditions, in gallons per minute
LH	lower hemisphere
Lith	lithologic feature
ls	land surface
Max	maximum
Min	minimum
Mtn	Mountain
O2 ppm	dissolved oxygen, in parts per million
OTV	optical televiewer image
pH	pH
R8, in Ohm-m	normal resistivity with electrode spacing of 8 inches, in ohm-meters
R16, in Ohm-m	normal resistivity with electrode spacing of 16 inches, in ohm-meters
R32, in Ohm-m	normal resistivity with electrode spacing of 32 inches, in ohm-meters
R64, in Ohm-m	normal resistivity with electrode spacing of 64 inches, in ohm-meters
SP, in mV	spontaneous potential, in millivolts
SP Cond, in $\mu\text{S}/\text{cm}$	specific conductivity, in microsiemens per centimeter
SPR, in Ohm	single point resistance, in ohms
Std. Dev.	standard deviation
T-Frax	transmissive fracture
tad	tadpole
Temp, in deg F	temperature, in degrees Fahrenheit
TN	true north
toc	top of casing
tt	travel time
Tx	transmissive

Image log interpretation:

Interpretations of structure from the image logs are shown in three forms, including projection, stereo, and tadpole plots. A consistent color code was used for all three plots. In addition, lithologic features are shown in the tadpole and stereoplots with squares, so as to distinguish them from interpreted fractures. Fractures interpreted as transmissive and shown with blue dots, were determined to be transmissive using the heat-pulse flowmeter. Transmissive fractures coded with blue squares were inferred to be transmissive from fluid conductivity, temperature, or other water-quality parameter logs.

- Transmissive fracture
- Large fracture
- Minor fracture
- Partial fracture
- Sealed fracture
- Possible fracture
- Lithologic feature
- Transmissive fracture,
inferred from fluid logs

Example of interpretation of borehole imaging data:

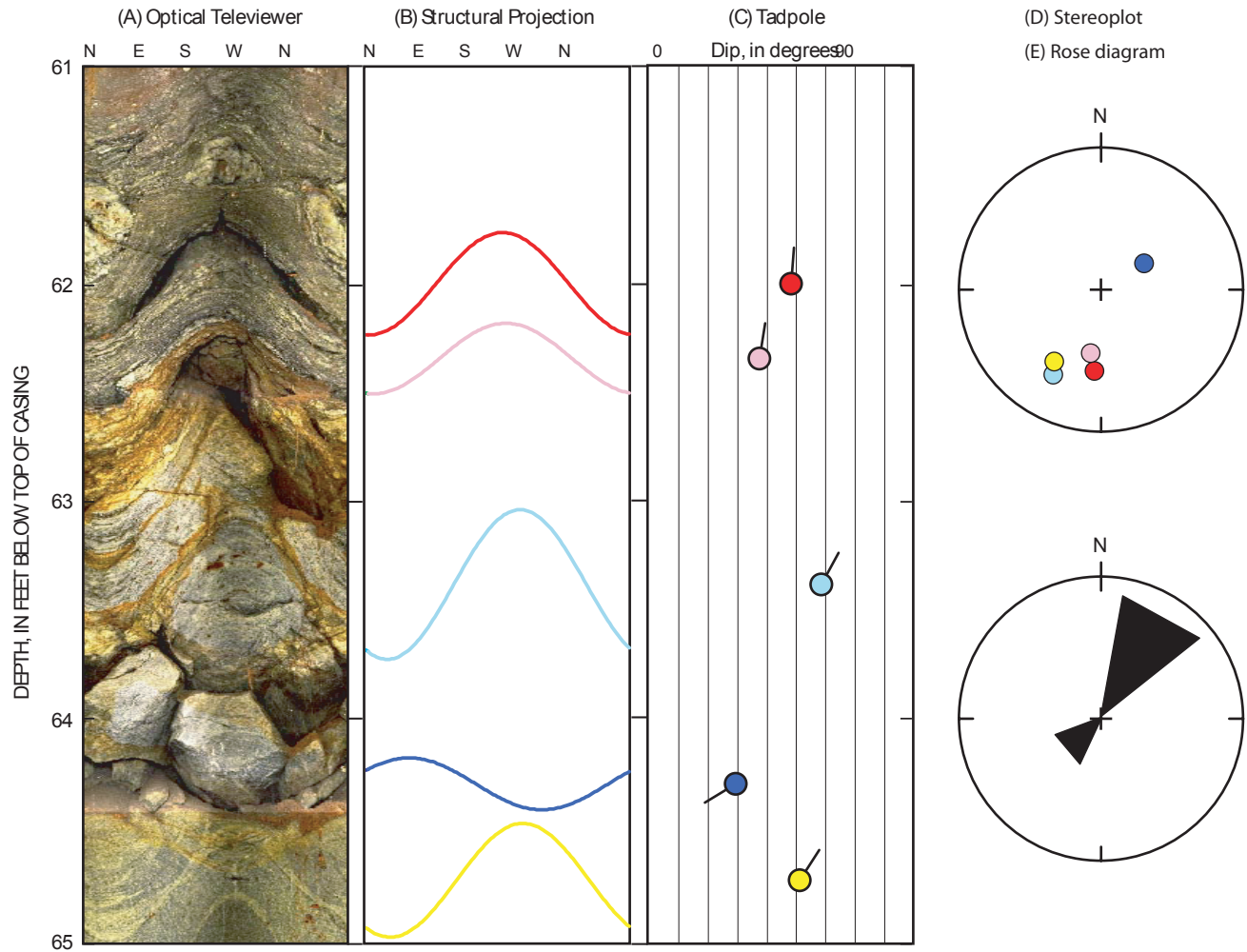


Figure. Example of interpretation of borehole imaging data.

(A) Optical televiewer image and the corresponding interpretation of planar data in (B) structural, (C) tadpole, and (D) stereographic projection plots. The trace of the features on the structural projection (B) directly overlays on the image (A). In the tadpole plot (C), depth is plotted along the y axis, and the magnitude of dip is plotted on the x axis. The tail of the tadpole points in the direction of dip relative to True North, which is at the top of the page. The poles to the planar features are shown in a lower-hemisphere equal-area stereonet (stereonet) (D), which reduces the plane to a point. (E) Rose diagram, which shows frequency of dip direction.

Appendix 4.

Plots and interpretations of borehole geophysical logs collected by Geophysical Applications, Inc., near Machiasport, Maine

- A. Borehole MW-14** (near the Ground-to-Air Transmitter/Receiver Site on Miller Mountain)
 - Figure 4A-1.** Borehole deviation logs for borehole MW-14, near Machiasport, Maine.
 - Table 4A-1.** Interpretation of acoustic televiwer logs for borehole MW-14, near Machiasport, Maine.
 - Figure 4A-2.** Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-14, near Machiasport, Maine.
- B. Borehole MW-8** (in the Air Force Radar Tracking Station area on Howard Mountain)
 - Figure 4B-1.** Borehole deviation logs for borehole MW-8, near Machiasport, Maine.
 - Table 4B-1.** Interpretation of acoustic televiwer logs for borehole MW-8, near Machiasport, Maine.
 - Figure 4B-2.** Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-8, near Machiasport, Maine.
- C. Borehole MW-9** (in the Air Force Radar Tracking Station area on Howard Mountain)
 - Figure 4C-1.** Borehole deviation logs for borehole MW-9, near Machiasport, Maine.
 - Table 4C-1.** Interpretation of acoustic televiwer logs for borehole MW-9, near Machiasport, Maine.
 - Figure 4C-2.** Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-9, near Machiasport, Maine.
- D. Borehole MW-10** (in the Air Force Radar Tracking Station area on Howard Mountain)
 - Figure 4D-1.** Borehole deviation logs for borehole MW-10, near Machiasport, Maine.
 - Table 4D-1.** Interpretation of combined acoustic and optical televiwer logs for borehole MW-10, near Machiasport, Maine.
 - Figure 4D-2.** Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-10, near Machiasport, Maine.
- E. Borehole MW-11** (in the Air Force Radar Tracking Station area on Howard Mountain)
 - Figure 4E-1.** Borehole deviation logs for borehole MW-11, near Machiasport, Maine.
 - Table 4E-1.** Interpretation of acoustic televiwer logs for borehole MW-11, near Machiasport, Maine.
 - Figure 4E-2.** Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-11, near Machiasport, Maine.
- F. Borehole MW-12** (in the Air Force Radar Tracking Station area on Howard Mountain)
 - Figure 4F-1.** Borehole deviation logs for borehole MW-12, near Machiasport, Maine.
 - Table 4F-1.** Interpretation of acoustic televiwer logs for borehole MW-12, near Machiasport, Maine.
 - Figure 4F-2.** Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-12, near Machiasport, Maine.
- G. Borehole WY-3** (in the Air Force Radar Tracking Station area on Howard Mountain)
 - Figure 4G-1.** Borehole deviation logs for borehole WY-3, near Machiasport, Maine.
 - Table 4G-1.** Interpretation of acoustic televiwer logs for borehole WY-3, near Machiasport, Maine.
 - Figure 4G-2.** Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole WY-3, near Machiasport, Maine.
- H. Borehole DW-4** (in the Air Force Radar Tracking Station area on Howard Mountain)
 - Figure 4H-1.** Borehole deviation logs for borehole DW-4, near Machiasport, Maine.
 - Table 4H-1.** Interpretation of acoustic televiwer logs for borehole DW-4, near Machiasport, Maine.
 - Figure 4H-2.** Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole DW-4, near Machiasport, Maine.

I. Borehole MW-4 (near the Transmitter Site on Howard Mountain)

Figure 4I-1. Borehole deviation logs for borehole MW-4, near Machiasport, Maine.

Table 4I-1. Interpretation of acoustic televiwer logs for borehole MW-4, near Machiasport, Maine.

Table 4I-2. Interpretation of optical televiwer logs for borehole MW-4, near Machiasport, Maine.

Figure 4I-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-4, near Machiasport, Maine.

J. Borehole MW-5 (near the Transmitter Site on Howard Mountain)

Figure 4J-1. Borehole deviation logs for borehole MW-5, near Machiasport, Maine.

Table 4J-1. Interpretation of acoustic televiwer logs for borehole MW-5, near Machiasport, Maine.

Figure 4J-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-5, near Machiasport, Maine.

K. Borehole MW-6 (near the Transmitter Site on Howard Mountain)

Figure 4K-1. Borehole deviation logs for borehole MW-6, near Machiasport, Maine.

Table 4K-1. Interpretation of acoustic televiwer logs for borehole MW-6, near Machiasport, Maine.

Figure 4K-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-6, near Machiasport, Maine.

L. Borehole MW-7 (near the Transmitter Site on Howard Mountain)

Figure 4L-1. Borehole deviation logs for borehole MW-7, near Machiasport, Maine.

Table 4L-1. Interpretation of acoustic televiwer logs for borehole MW-7, near Machiasport, Maine.

Figure 4L-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-7, near Machiasport, Maine.

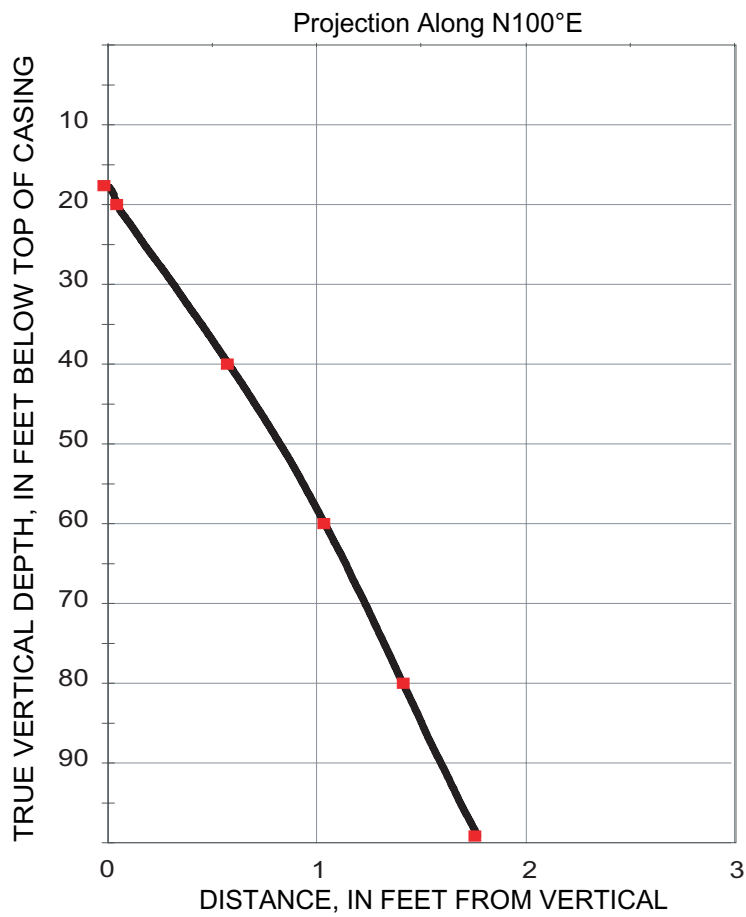
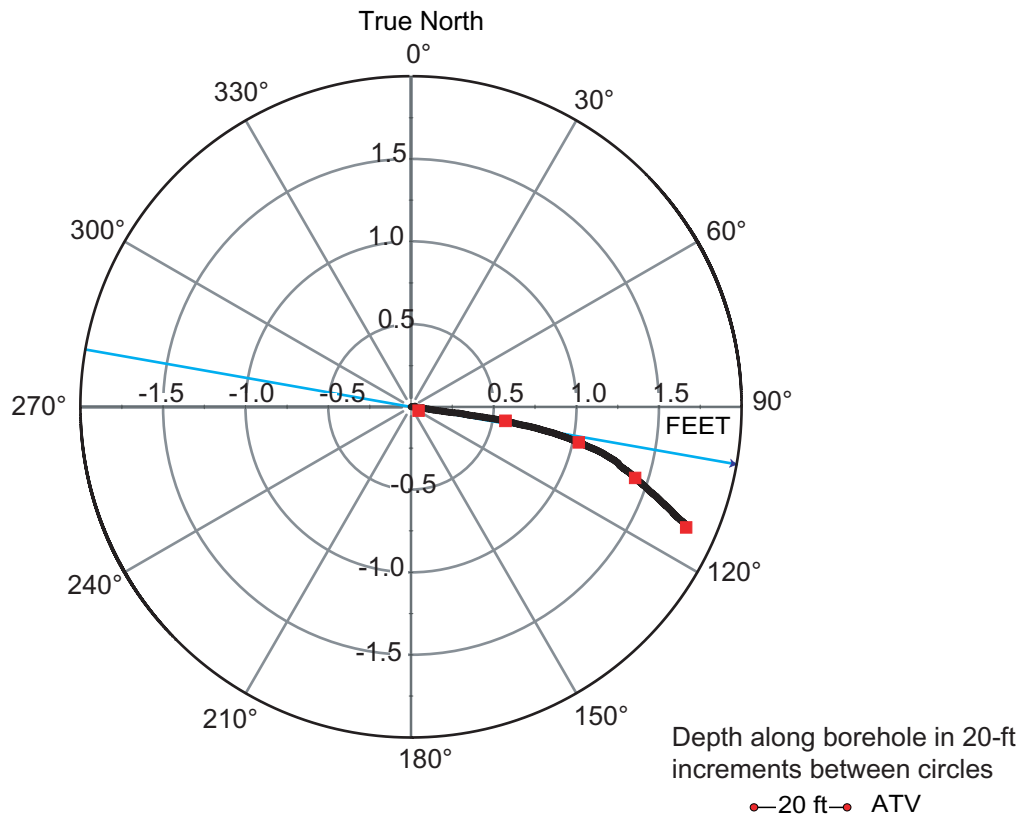


Figure 4A-1. Borehole deviation logs for borehole MW-14, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
 [ft, foot; ATV, acoustic televiewer]

Table 4A-1. Interpretation of acoustic televiewer logs for borehole MW-14, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 4.10 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
25.42	7.75	203	113	86	SW	Nearly vertical	Transmissive fracture
28.39	8.65	318	228	34	NW	Moderate	Minor fracture
28.88	8.80	196	106	48	S	Moderate	Minor fracture
29.22	8.91	332	242	61	NW	Steep	Transmissive fracture
29.83	9.09	63	333	36	NE	Moderate	Minor fracture
29.93	9.12	353	263	88	N	Nearly vertical	Minor fracture
30.55	9.31	317	227	41	NW	Moderate	Minor fracture
30.82	9.39	49	319	23	NE	Shallow	Minor fracture
32.70	9.97	153	63	41	SE	Moderate	Fracture
34.61	10.55	302	212	81	NW	Nearly vertical	Minor fracture
35.73	10.89	152	62	31	SE	Moderate	Minor fracture
36.20	11.03	146	56	39	SE	Moderate	Minor fracture
39.32	11.98	305	215	78	NW	Nearly vertical	Fracture
40.46	12.33	139	49	75	SE	Nearly vertical	Minor fracture
42.26	12.88	192	102	84	S	Nearly vertical	Minor fracture
44.12	13.45	309	219	79	NW	Nearly vertical	Fracture
45.37	13.83	199	109	75	S	Nearly vertical	Fracture
45.79	13.96	198	108	74	S	Nearly vertical	Fracture
47.77	14.56	118	28	52	SE	Steep	Fracture
48.93	14.91	219	129	26	SW	Shallow	Minor fracture
50.27	15.32	77	347	27	E	Shallow	Minor fracture
52.47	15.99	186	96	23	S	Shallow	Fracture
53.38	16.27	115	25	33	SE	Moderate	Minor fracture
54.11	16.49	214	124	24	SW	Shallow	Fracture
55.35	16.87	330	240	78	NW	Nearly vertical	Minor fracture
57.59	17.55	22	292	39	N	Moderate	Minor fracture
58.92	17.96	31	301	40	NE	Moderate	Minor fracture
59.45	18.12	67	337	31	NE	Moderate	Minor fracture
60.33	18.39	246	156	50	SW	Moderate	Fracture
60.50	18.44	241	151	55	SW	Steep	Minor fracture
61.01	18.59	239	149	58	SW	Steep	Fracture
61.27	18.67	239	149	61	SW	Steep	Transmissive fracture
61.90	18.87	249	159	60	W	Steep	Minor fracture
62.37	19.01	235	145	63	SW	Steep	Transmissive fracture
62.83	19.15	249	159	53	W	Steep	Transmissive fracture
63.33	19.30	248	158	36	W	Moderate	Fracture
63.36	19.31	242	152	36	SW	Moderate	Fracture
63.63	19.39	191	101	42	S	Moderate	Minor fracture
64.18	19.56	234	144	35	SW	Moderate	Minor fracture
64.68	19.71	73	343	72	E	Nearly vertical	Fracture
65.03	19.82	221	131	17	SW	Shallow	Minor fracture
65.25	19.89	245	155	56	SW	Steep	Sealed feature
66.59	20.30	69	339	68	E	Steep	Minor fracture
66.90	20.39	229	139	58	SW	Steep	Minor fracture
67.36	20.53	244	154	64	SW	Steep	Sealed feature
68.49	20.87	81	351	25	E	Shallow	Minor fracture
70.71	21.55	229	139	74	SW	Nearly vertical	Minor fracture
72.18	22.00	198	108	60	S	Steep	Minor fracture
73.35	22.36	34	304	58	NE	Steep	Sealed feature
74.10	22.58	233	143	71	SW	Nearly vertical	Minor fracture
75.90	23.13	213	123	78	SW	Nearly vertical	Fracture
77.33	23.57	244	154	67	SW	Steep	Sealed feature
78.05	23.79	233	143	72	SW	Nearly vertical	Sealed feature
78.71	23.99	228	138	68	SW	Steep	Sealed feature
79.91	24.36	250	160	65	W	Steep	Minor fracture
80.65	24.58	280	190	23	W	Shallow	Minor fracture

Table 4A-1. Interpretation of acoustic televiewer logs for borehole MW-14, near Machiasport, Maine.—Continued
 [Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 4.10 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
81.39	24.81	284	194	73	W	Nearly vertical	Lithologic feature
82.75	25.22	250	160	53	W	Steep	Lithologic feature
85.14	25.95	359	269	13	N	Shallow	Fracture
86.67	26.42	315	225	30	NW	Moderate	Minor fracture
87.86	26.78	14	284	19	N	Shallow	Minor fracture
88.15	26.87	115	25	17	SE	Shallow	Sealed feature
88.29	26.91	30	300	80	NE	Nearly vertical	Sealed feature
88.93	27.10	247	157	27	SW	Shallow	Sealed feature
90.64	27.63	237	147	67	SW	Steep	Sealed feature
95.81	29.20	36	306	24	NE	Shallow	Minor fracture
98.05	29.88	229	139	65	SW	Steep	Minor fracture
104.65	31.90	295	205	39	NW	Moderate	Transmissive fracture
105.01	32.01	35	305	11	NE	Shallow	Transmissive fracture

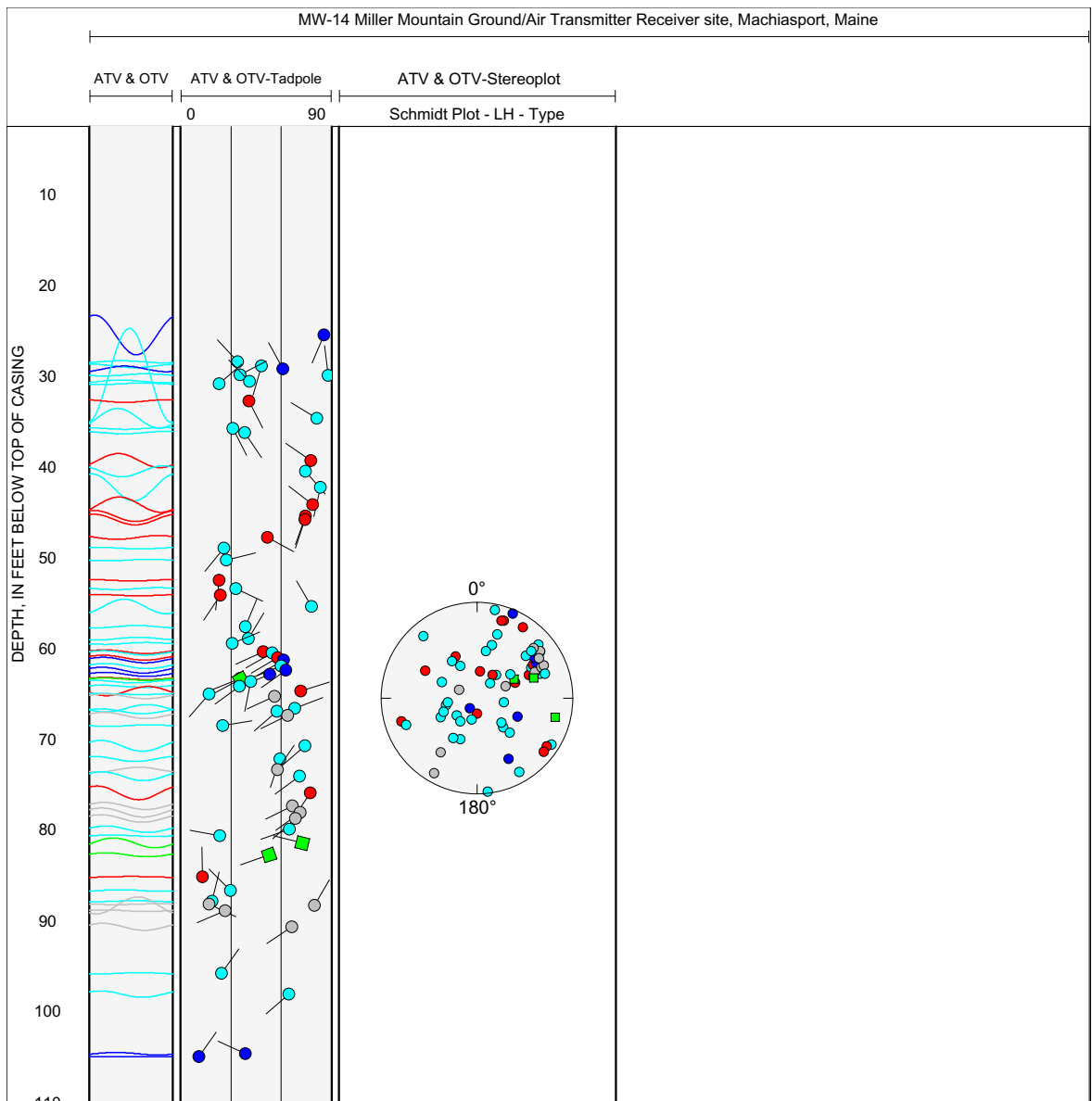


Figure 4A-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-14, near Machiasport, Maine.

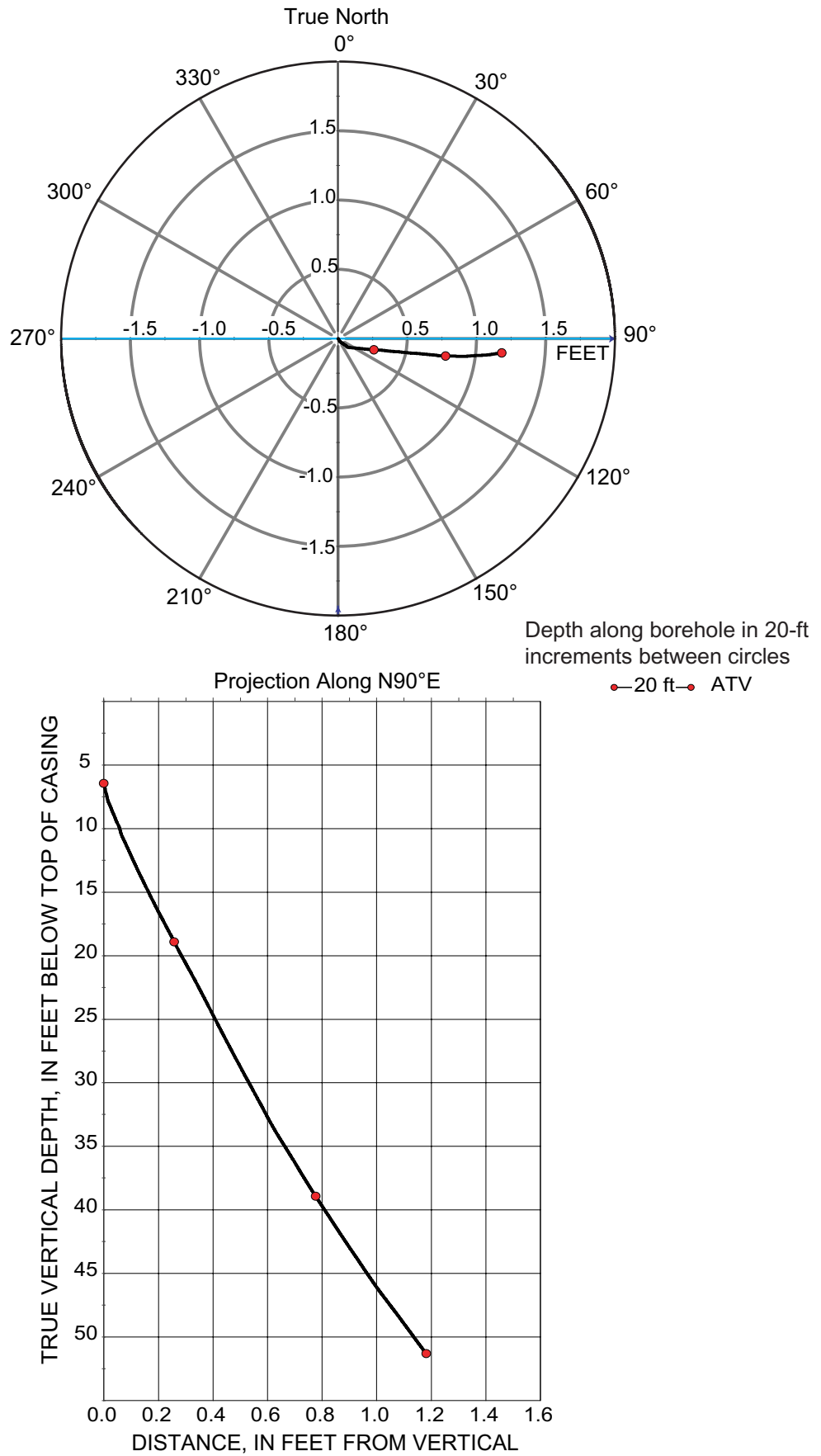


Figure 4B-1. Borehole deviation logs for borehole MW-8, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
[ft, foot; ATV, acoustic televiewer]

Table 4B-1. Interpretation of acoustic televiewer logs for borehole MW-8, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 3.42 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
12.09	3.68	172	82	17	S	Shallow	Fracture
12.50	3.81	146	56	43	SE	Moderate	Minor fracture
12.76	3.89	179	89	78	S	Nearly vertical	Minor fracture
12.97	3.95	124	34	52	SE	Steep	Minor fracture
13.47	4.11	274	184	13	W	Shallow	Minor fracture
13.98	4.26	101	11	28	E	Shallow	Minor fracture
14.24	4.34	120	30	30	SE	Shallow	Fracture
14.85	4.53	116	26	50	SE	Moderate	Fracture
14.97	4.56	286	196	33	W	Moderate	Minor fracture
15.27	4.65	114	24	84	SE	Nearly vertical	Minor fracture
16.48	5.02	193	103	14	S	Shallow	Fracture
16.91	5.15	220	130	36	SW	Moderate	Fracture
17.43	5.31	196	106	16	S	Shallow	Fracture
17.75	5.41	282	192	6	W	Nearly horizontal	Minor fracture
18.16	5.53	179	89	8	S	Nearly horizontal	Minor fracture
18.83	5.74	21	291	17	N	Shallow	Minor fracture
19.14	5.83	47	317	9	NE	Nearly horizontal	Minor fracture
19.57	5.96	212	122	14	SW	Shallow	Fracture
19.78	6.03	202	112	9	S	Nearly horizontal	Minor fracture
20.48	6.24	251	161	21	W	Shallow	Minor fracture
20.64	6.29	215	125	20	SW	Shallow	Minor fracture
21.09	6.43	173	83	39	S	Moderate	Minor fracture
21.20	6.46	186	96	17	S	Shallow	Fracture
21.55	6.57	231	141	22	SW	Shallow	Minor fracture
21.74	6.63	116	26	12	SE	Shallow	Minor fracture
22.03	6.71	224	134	14	SW	Shallow	Transmissive fracture
23.25	7.09	116	26	14	SE	Shallow	Fracture
23.40	7.13	135	45	70	SE	Steep	Minor fracture
23.58	7.19	137	47	58	SE	Steep	Minor fracture
24.06	7.33	194	104	29	S	Shallow	Fracture
24.65	7.51	166	76	36	S	Moderate	Minor fracture
25.22	7.69	178	88	25	S	Shallow	Fracture
26.40	8.05	213	123	49	SW	Moderate	Fracture
27.08	8.25	174	84	21	S	Shallow	Minor fracture
27.61	8.42	165	75	22	S	Shallow	Minor fracture
28.74	8.76	145	55	62	SE	Steep	Minor fracture
28.75	8.76	285	195	22	W	Shallow	Transmissive fracture
28.88	8.80	192	102	18	S	Shallow	Transmissive fracture
30.51	9.30	170	80	45	S	Moderate	Transmissive fracture
30.92	9.42	153	63	75	SE	Nearly vertical	Transmissive fracture
31.89	9.72	215	125	23	SW	Shallow	Minor fracture
33.18	10.11	131	41	83	SE	Nearly vertical	Minor fracture
33.98	10.36	149	59	23	SE	Shallow	Fracture
34.53	10.52	171	81	29	S	Shallow	Fracture
35.37	10.78	144	54	80	SE	Nearly vertical	Minor fracture
35.47	10.81	133	43	20	SE	Shallow	Fracture
35.82	10.92	191	101	18	S	Shallow	Fracture
37.47	11.42	163	73	17	S	Shallow	Fracture
37.76	11.51	325	235	86	NW	Nearly vertical	Minor fracture
39.21	11.95	150	60	18	SE	Shallow	Minor fracture
41.44	12.63	266	176	14	W	Shallow	Minor fracture
42.40	12.92	123	33	75	SE	Nearly vertical	Minor fracture
43.90	13.38	151	61	76	SE	Nearly vertical	Minor fracture
44.15	13.46	121	31	75	SE	Nearly vertical	Minor fracture
45.29	13.80	12	282	18	N	Shallow	Minor fracture
46.18	14.07	153	63	77	SE	Nearly vertical	Minor fracture

Table 4B-1. Interpretation of acoustic televiewer logs for borehole MW-8, near Machiasport, Maine.—Continued
 [Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 3.42 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
47.03	14.33	150	60	83	SE	Nearly vertical	Minor fracture
47.48	14.47	159	69	67	S	Steep	Fracture
47.53	14.49	236	146	19	SW	Shallow	Fracture
48.36	14.74	178	88	32	S	Moderate	Minor fracture
49.37	15.05	148	58	64	SE	Steep	Fracture
49.68	15.14	158	68	80	S	Nearly vertical	other
51.07	15.57	136	46	60	SE	Steep	Fracture
53.06	16.17	170	80	13	S	Shallow	Fracture

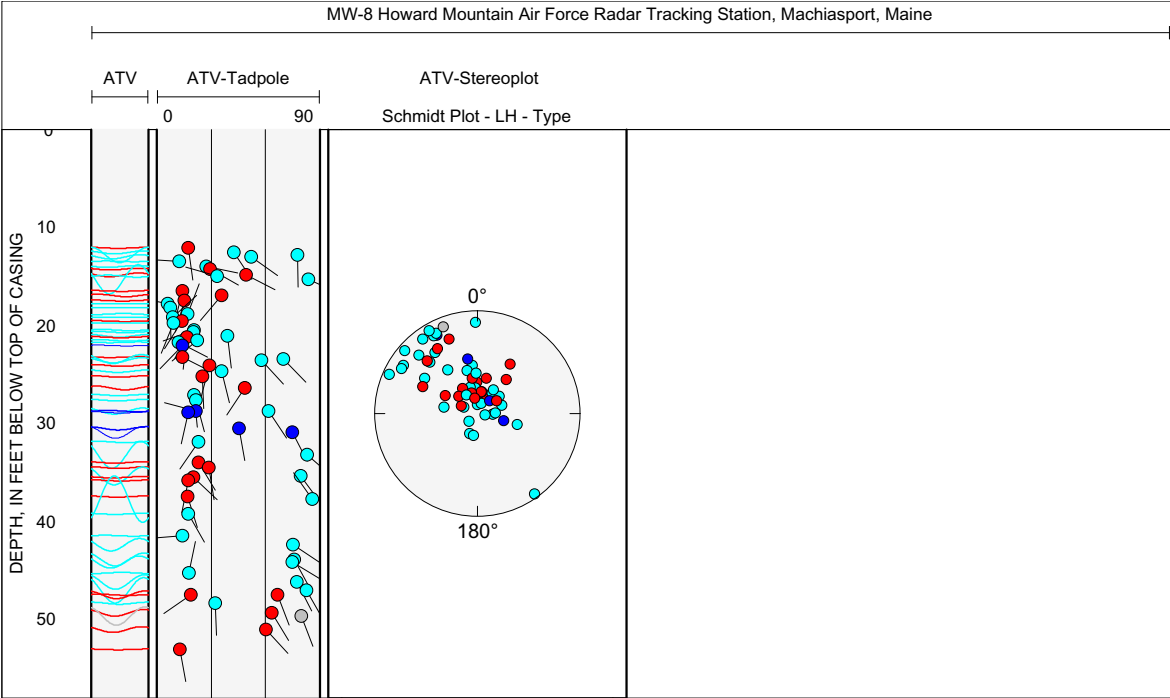


Figure 4B-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-8, near Machiasport, Maine.

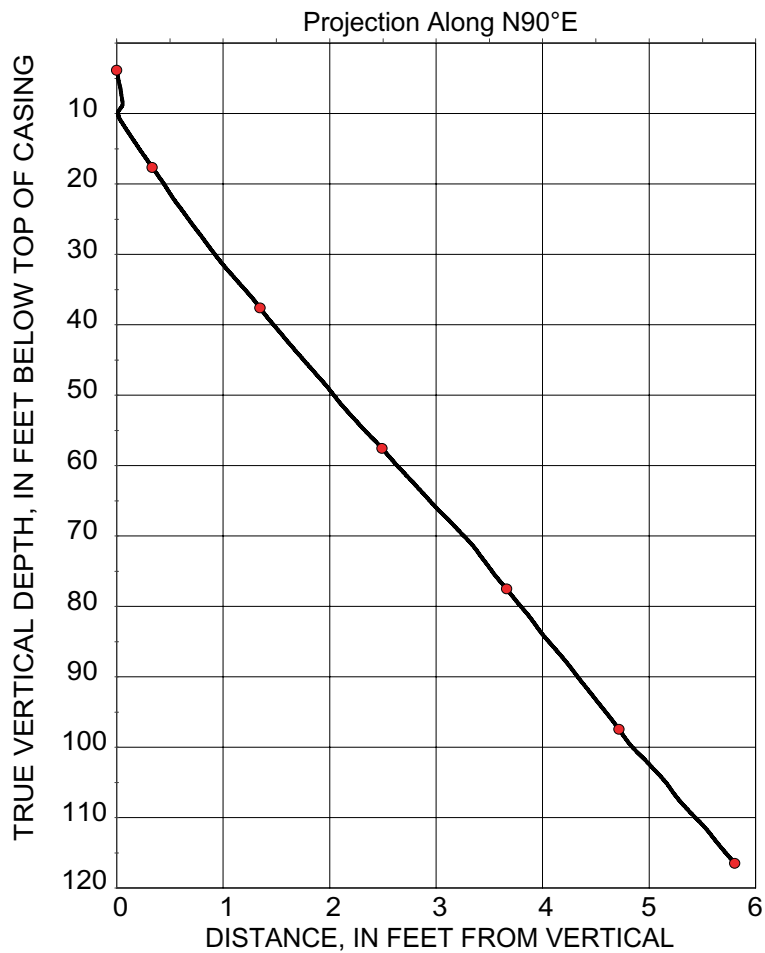
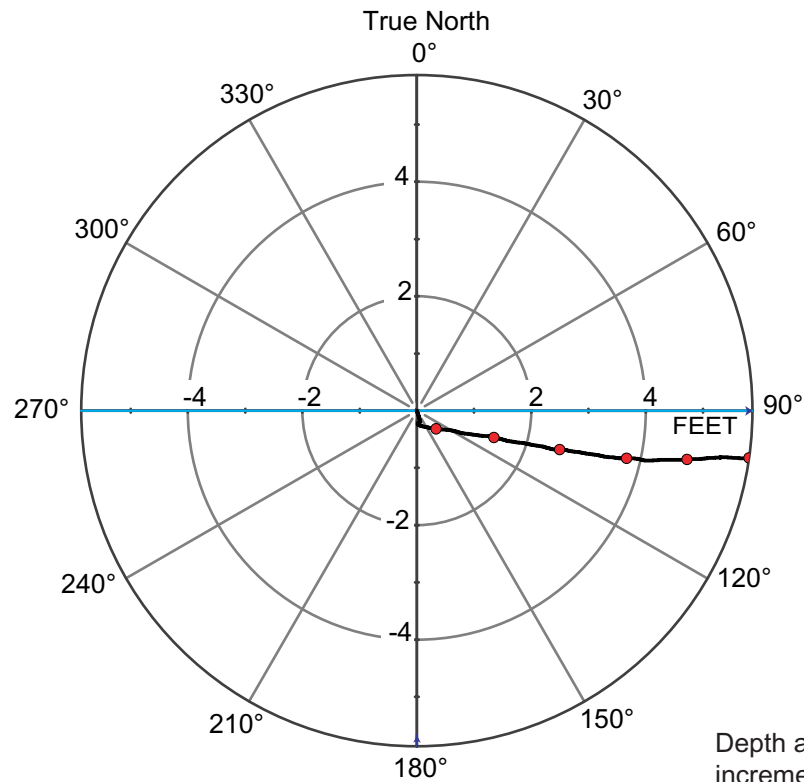


Figure 4C-1. Borehole deviation logs for borehole MW-9, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
[ft, foot; ATV, acoustic televiewer]

Table 4C-1. Interpretation of acoustic televiewer logs for borehole MW-9, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 2.89 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
14.59	4.45	303	213	79	NW	Nearly vertical	Minor fracture
17.85	5.44	30	300	35	NE	Moderate	Transmissive fracture
18.29	5.57	356	266	85	N	Nearly vertical	Partial trace - upper toe
20.06	6.11	354	264	85	N	Nearly vertical	Minor fracture
20.63	6.29	328	238	70	NW	Steep	Minor fracture
24.78	7.55	317	227	86	NW	Nearly vertical	Minor fracture
26.57	8.10	25	295	79	NE	Nearly vertical	Minor fracture
27.82	8.48	319	229	83	NW	Nearly vertical	Minor fracture
30.68	9.35	324	234	84	NW	Nearly vertical	Transmissive fracture
35.15	10.71	312	222	90	NW	Nearly vertical	Minor fracture
36.16	11.02	54	324	18	NE	Shallow	Minor fracture
41.54	12.66	269	179	85	W	Nearly vertical	Fracture
45.74	13.94	188	98	84	S	Nearly vertical	Minor fracture
49.08	14.96	18	288	24	N	Shallow	Contact
49.52	15.09	305	215	89	NW	Nearly vertical	Minor fracture
50.01	15.24	52	322	25	NE	Shallow	Contact
53.13	16.19	191	101	68	S	Steep	Minor fracture
57.44	17.51	150	60	79	SE	Nearly vertical	Minor fracture
60.38	18.40	141	51	81	SE	Nearly vertical	Minor fracture
61.86	18.85	170	80	84	S	Nearly vertical	Fracture
62.73	19.12	179	89	84	S	Nearly vertical	Minor fracture
63.19	19.26	161	71	81	S	Nearly vertical	Fracture
67.69	20.63	181	91	83	S	Nearly vertical	Minor fracture
68.25	20.80	11	281	86	N	Nearly vertical	Minor fracture
75.93	23.14	280	190	37	W	Moderate	Contact
76.01	23.17	65	335	22	NE	Shallow	Fracture
76.71	23.38	43	313	31	NE	Moderate	Fracture
77.33	23.57	241	151	18	SW	Shallow	Minor fracture
77.81	23.72	260	170	75	W	Nearly vertical	Transmissive fracture
78.58	23.95	273	183	79	W	Nearly vertical	Transmissive fracture
78.85	24.03	266	176	68	W	Steep	Minor fracture
80.22	24.45	10	280	35	N	Moderate	Minor fracture
80.26	24.46	157	67	61	SE	Steep	Fracture
81.33	24.79	360	270	38	N	Moderate	Fracture
82.75	25.22	60	330	5	NE	Nearly horizontal	Minor fracture
83.21	25.36	358	268	53	N	Steep	Fracture
84.52	25.76	157	67	46	SE	Moderate	Minor fracture
84.94	25.89	101	11	23	E	Shallow	Minor fracture
86.58	26.39	139	49	13	SE	Shallow	Minor fracture
88.48	26.97	0	270	69	N	Steep	Fracture
89.09	27.15	151	61	39	SE	Moderate	Minor fracture
89.46	27.27	138	48	23	SE	Shallow	Minor fracture
89.57	27.30	349	259	70	N	Steep	Fracture
90.29	27.52	347	257	81	N	Nearly vertical	Minor fracture
92.39	28.16	159	69	63	S	Steep	Minor fracture
94.49	28.80	273	183	76	W	Nearly vertical	Fracture
97.80	29.81	6	276	17	N	Shallow	Fracture
99.22	30.24	303	213	7	NW	Nearly horizontal	Minor fracture
99.33	30.27	178	88	31	S	Moderate	Fracture
103.96	31.69	258	168	84	W	Nearly vertical	Sealed fracture
106.58	32.48	68	338	13	E	Shallow	Contact
107.76	32.84	92	2	11	E	Shallow	Contact
109.21	33.29	255	165	88	W	Nearly vertical	Transmissive fracture
114.38	34.86	268	178	88	W	Nearly vertical	Minor fracture
119.88	36.54	159	69	42	S	Moderate	Minor fracture
120.43	36.71	160	70	54	S	Steep	Minor fracture

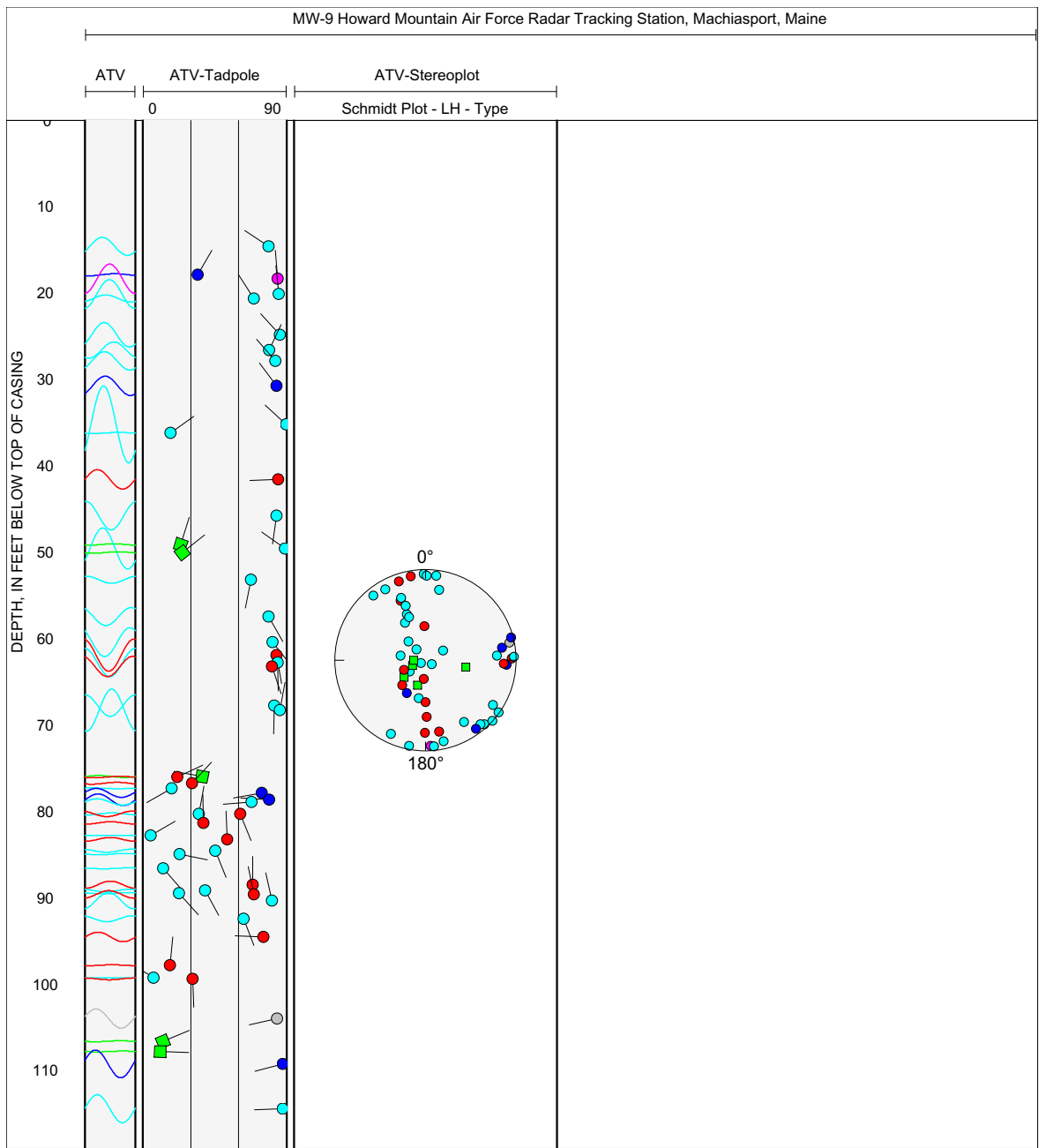


Figure 4C-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-9, near Machiasport, Maine.

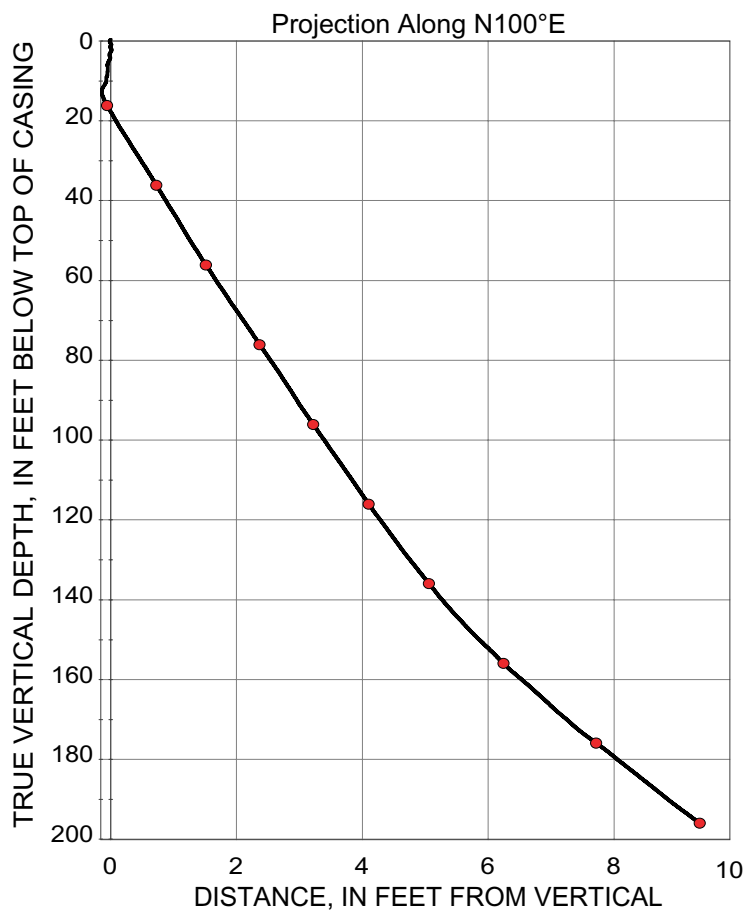
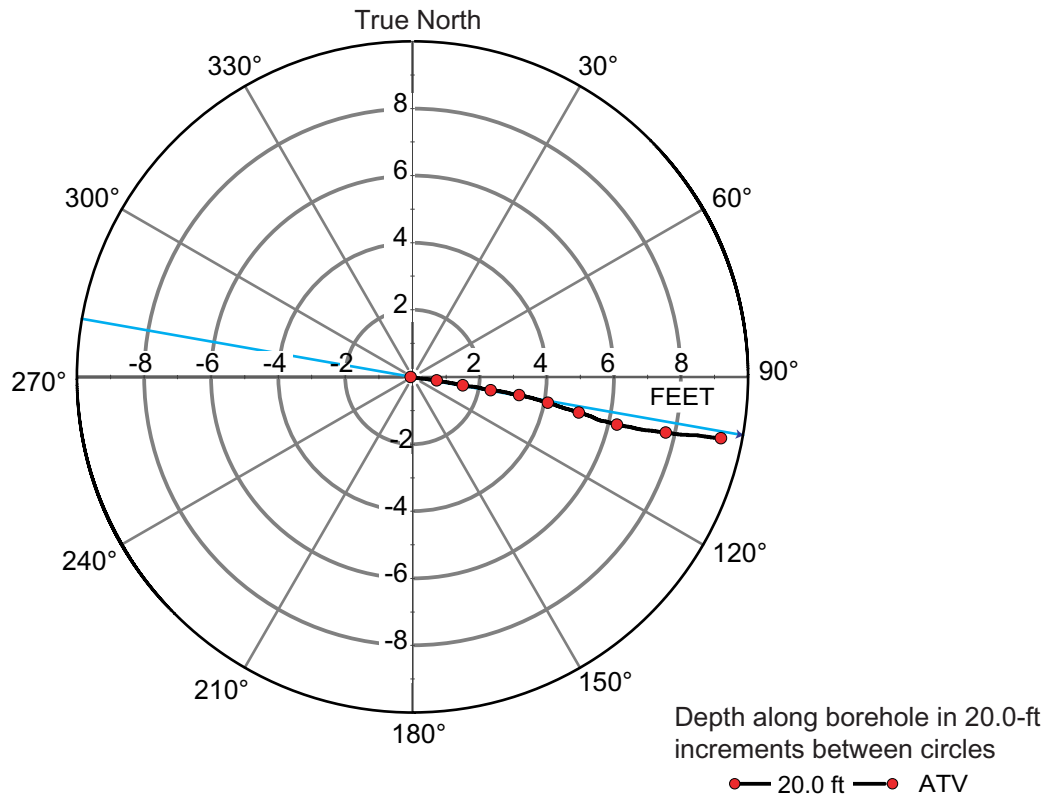


Figure 4D-1. Borehole deviation logs for borehole MW-10, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
 [ft, foot; ATV, acoustic televiewer]

Table 4D-1. Interpretation of combined acoustic and optical televiewer logs for borehole MW-10, near Machiasport, Maine. [Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 2.66 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
21.15	6.45	239	149	2	SW	Nearly horizontal	Bottom of casing
24.63	7.51	80	350	30	E	Moderate	Minor fracture
28.94	8.82	247	157	88	SW	Nearly vertical	Partial fracture
40.34	12.30	256	166	80	W	Nearly vertical	Partial fracture
53.06	16.17	57	327	57	NE	Steep	Minor fracture
60.00	18.29	116	26	54	SE	Steep	Minor fracture
64.88	19.77	296	206	84	NW	Nearly vertical	Partial fracture
66.76	20.35	124	34	82	SE	Nearly vertical	Minor fracture
69.13	21.07	321	231	80	NW	Nearly vertical	Minor fracture
72.55	22.11	29	299	18	NE	Shallow	Minor fracture
75.49	23.01	308	218	85	NW	Nearly vertical	Minor fracture
75.86	23.12	31	301	81	NE	Nearly vertical	Minor fracture
76.57	23.34	247	157	79	SW	Nearly vertical	Minor fracture
79.36	24.19	192	102	12	S	Shallow	Minor fracture
80.29	24.47	300	210	82	NW	Nearly vertical	Minor fracture
82.92	25.27	5	275	83	N	Nearly vertical	Minor fracture
84.49	25.75	185	95	48	S	Moderate	Minor fracture
85.73	26.13	26	296	80	NE	Nearly vertical	Minor fracture
89.02	27.13	12	282	85	N	Nearly vertical	Minor fracture
93.83	28.60	25	295	75	NE	Nearly vertical	Partial fracture
95.08	28.98	48	318	76	NE	Nearly vertical	Partial fracture
95.95	29.24	310	220	80	NW	Nearly vertical	Minor fracture
97.23	29.63	304	214	78	NW	Nearly vertical	Minor fracture
98.37	29.98	243	153	81	SW	Nearly vertical	Minor fracture
105.94	32.29	301	211	80	NW	Nearly vertical	Minor fracture
107.81	32.86	13	283	74	N	Nearly vertical	Minor fracture
108.92	33.20	31	301	73	NE	Nearly vertical	Minor fracture
109.86	33.48	75	345	67	E	Steep	Minor fracture
119.25	36.35	109	19	20	E	Shallow	Fracture
121.47	37.02	340	250	87	N	Nearly vertical	Minor fracture
123.69	37.70	287	197	2	W	Nearly horizontal	Other
126.62	38.59	32	302	59	NE	Steep	Fracture
129.78	39.56	73	343	54	E	Steep	Sealed fracture
132.15	40.28	77	347	52	E	Steep	Sealed fracture
132.55	40.40	219	129	42	SW	Moderate	Fracture
134.08	40.87	73	343	65	E	Steep	Minor fracture
140.66	42.87	155	65	48	SE	Moderate	Minor fracture
142.81	43.53	119	29	69	SE	Steep	Possible fracture
145.76	44.43	104	14	44	E	Moderate	Minor fracture
150.05	45.73	273	183	57	W	Steep	Sealed fracture
155.60	47.42	306	216	19	NW	Shallow	Transmissive fracture
155.87	47.51	77	347	79	E	Nearly vertical	Sealed fracture
156.42	47.67	331	241	64	NW	Steep	Sealed fracture
157.02	47.86	126	36	31	SE	Moderate	Sealed fracture
163.47	49.82	252	162	61	W	Steep	Minor fracture
164.65	50.18	271	181	67	W	Steep	Possible fracture
165.75	50.52	67	337	24	NE	Shallow	Contact
168.17	51.26	157	67	56	SE	Steep	Sealed fracture
168.49	51.35	295	205	72	NW	Nearly vertical	Transmissive fracture
171.51	52.27	148	58	56	SE	Steep	Sealed fracture
171.76	52.35	141	51	53	SE	Steep	Minor fracture
173.22	52.79	176	86	31	S	Moderate	Sealed fracture
175.01	53.34	91	1	59	E	Steep	Contact
177.16	54.00	82	352	52	E	Steep	Contact
180.17	54.91	92	2	37	E	Moderate	Minor fracture
182.71	55.69	239	149	87	SW	Nearly vertical	Minor fracture
207.13	63.13	2	272	89	N	Nearly vertical	Partial fracture

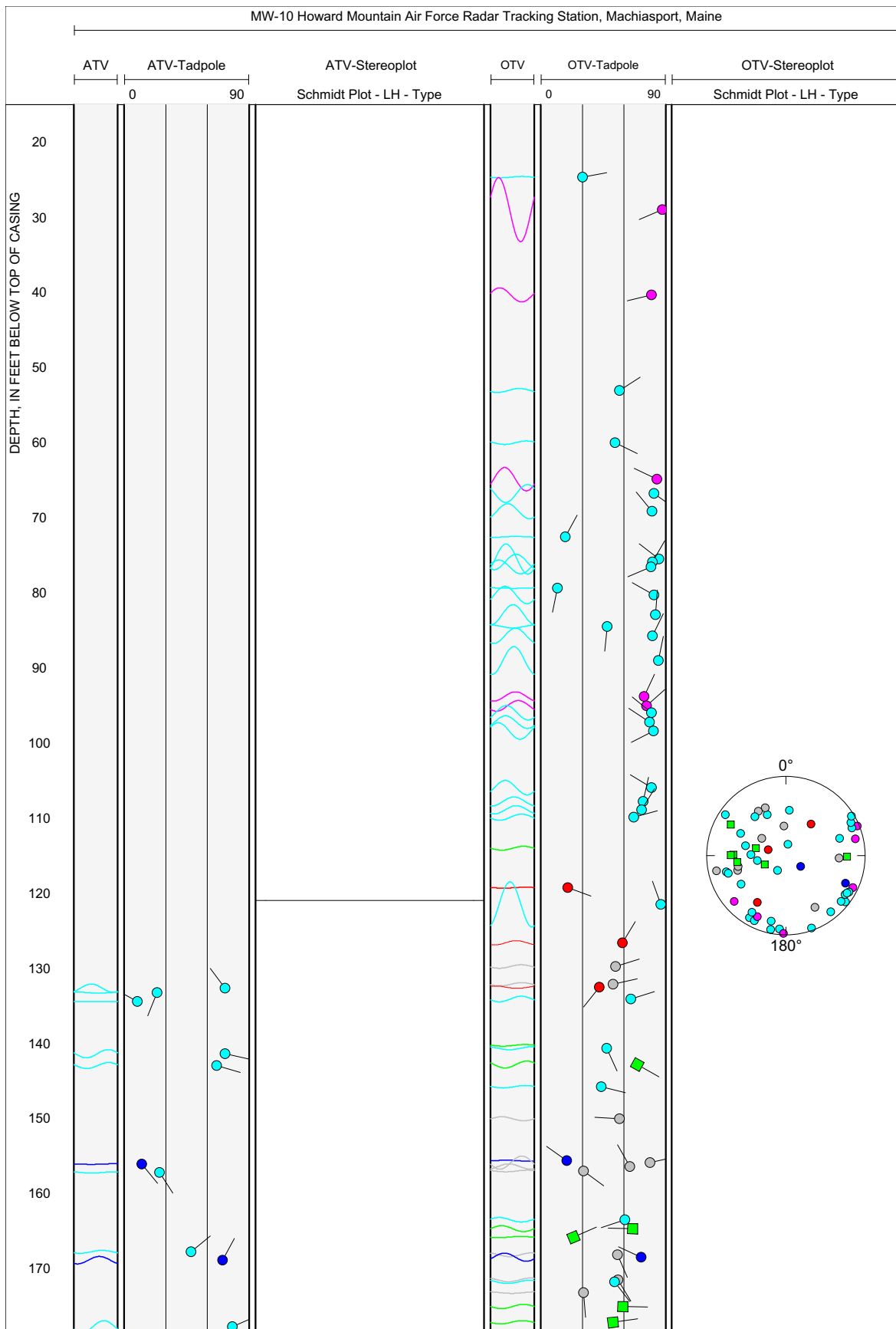


Figure 4D-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-10, near Machiasport, Maine.

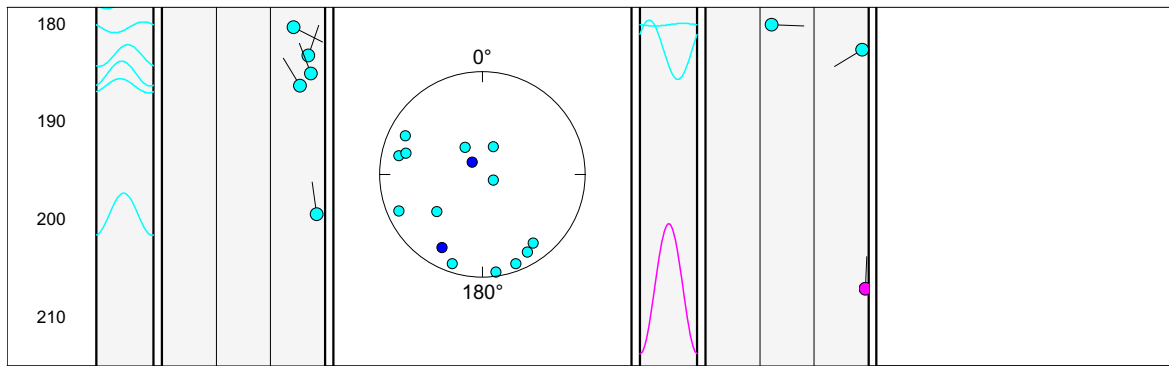


Figure 4D-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-10, near Machiasport, Maine.—Continued

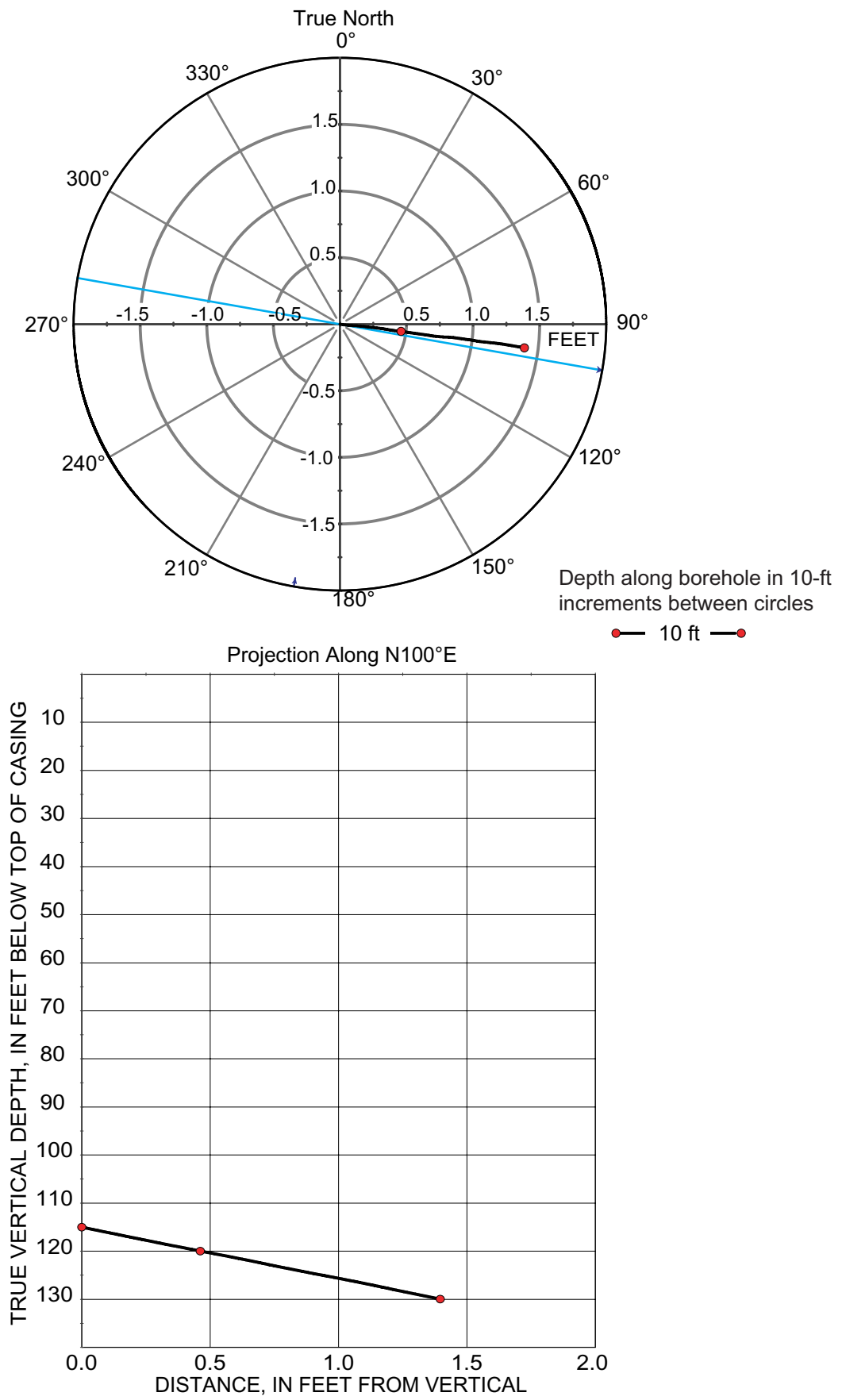


Figure 4E-1. Borehole deviation logs for borehole MW-11, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
[ft, foot; ATV, acoustic televiewer]

Table 4E-1. Interpretation of acoustic televiewer logs for borehole MW-11, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 2.21 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
101.03	30.79	218	128	7	SW	Nearly horizontal	Transmissive fracture
106.98	32.61	272	182	78	W	Nearly vertical	Sealed fracture
117.90	35.93	240	150	66	SW	Steep	Sealed fracture
125.32	38.20	251	161	69	W	Steep	Sealed fracture
128.84	39.27	188	98	62	S	Steep	Contact
128.87	39.28	191	101	64	S	Steep	Minor fracture
131.84	40.18	313	223	85	NW	Nearly vertical	Minor fracture
140.82	42.92	79	349	88	E	Nearly vertical	Minor fracture
144.42	44.02	71	341	83	E	Nearly vertical	Sealed fracture
152.16	46.38	197	107	75	S	Nearly vertical	Sealed fracture
153.78	46.87	105	15	61	E	Steep	Contact
153.98	46.93	100	10	59	E	Steep	Minor fracture
154.86	47.20	99	9	54	E	Steep	Transmissive fracture
155.73	47.46	120	30	61	SE	Steep	Transmissive fracture
158.67	48.36	81	351	67	E	Steep	Minor fracture
160.51	48.92	60	330	81	NE	Nearly vertical	Minor fracture
162.73	49.60	63	333	65	NE	Steep	Sealed fracture
164.71	50.20	271	181	28	W	Shallow	Transmissive fracture
167.99	51.20	322	232	73	NW	Nearly vertical	Minor fracture
168.77	51.44	36	306	78	NE	Nearly vertical	Minor fracture
169.75	51.74	107	17	55	E	Steep	Minor fracture
179.76	54.79	346	256	31	N	Moderate	Transmissive fracture
187.39	57.11	321	231	81	NW	Nearly vertical	Minor fracture
190.88	58.18	287	197	55	W	Steep	Sealed fracture
193.78	59.06	260	170	73	W	Nearly vertical	Contact
193.84	59.08	246	156	69	SW	Steep	Transmissive fracture
197.57	60.22	335	245	77	NW	Nearly vertical	Minor fracture

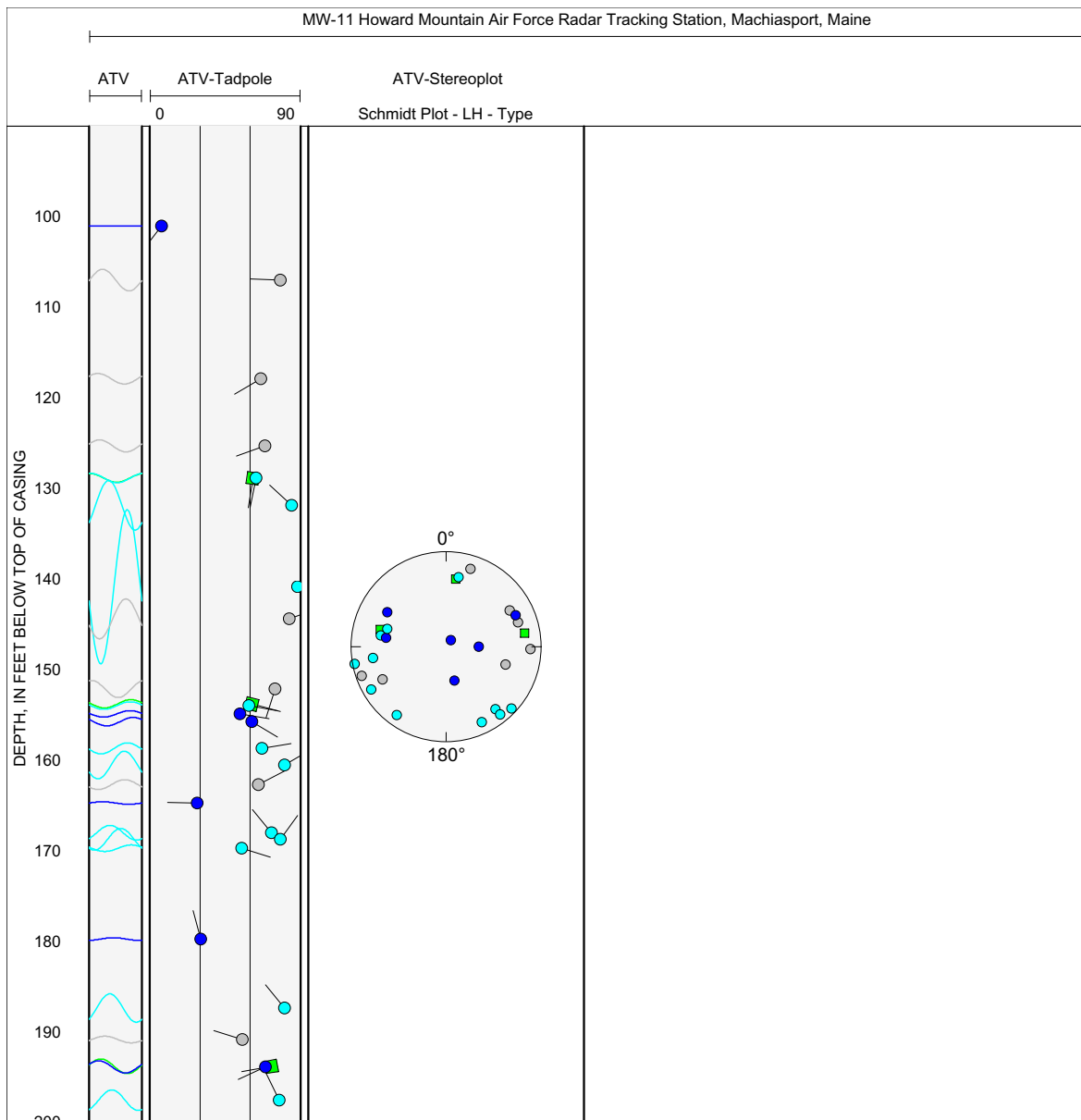


Figure 4E-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-11, near Machiasport, Maine.

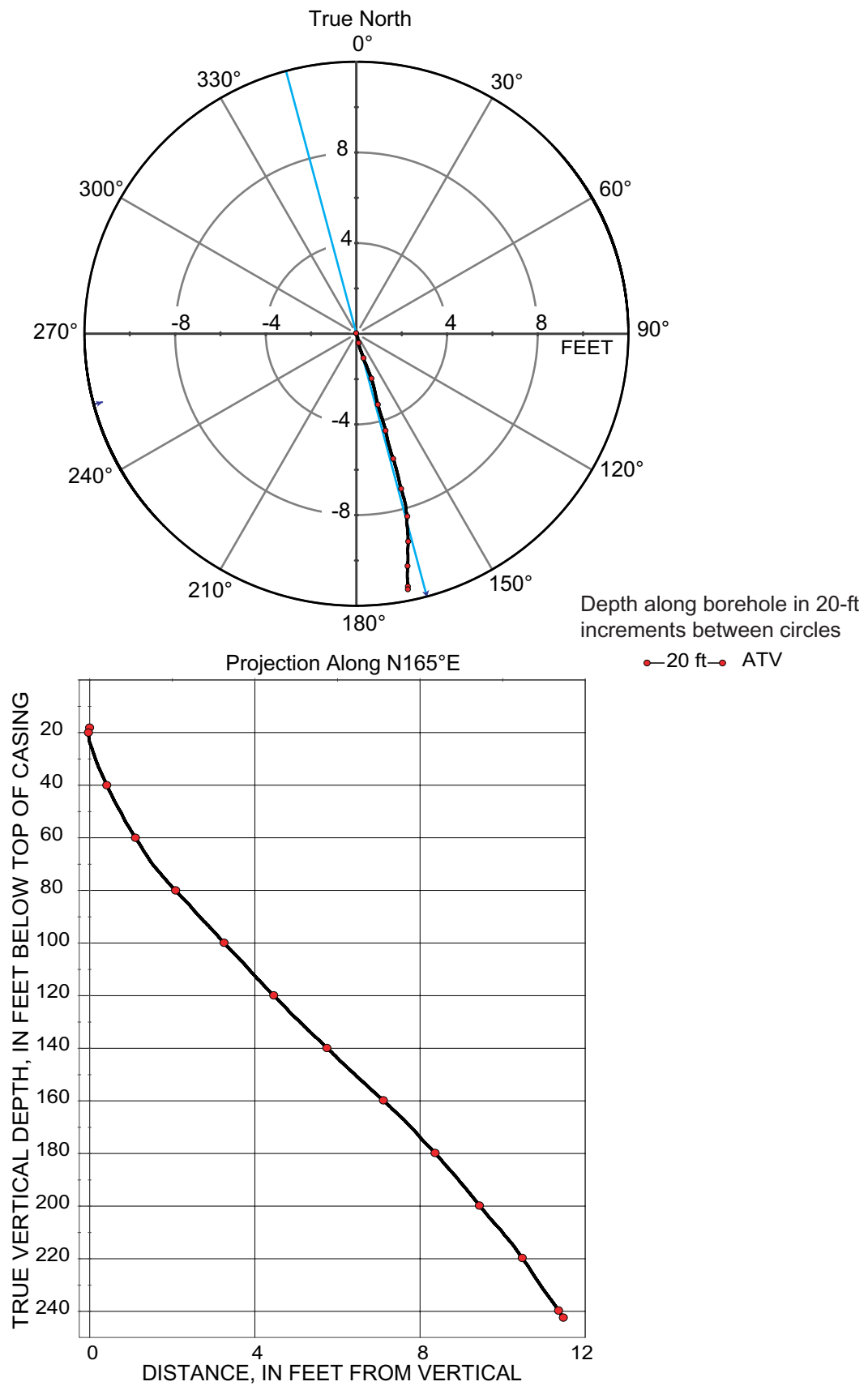


Figure 4F-1. Borehole deviation logs for borehole MW-12, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
[ft, foot; ATV, acoustic televiewer]

Table 4F-1. Interpretation of acoustic televiewer logs for borehole MW-12, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 1.44 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
20.34	6.20	156	66	1	SE	Nearly horizontal	Bottom of casing
21.44	6.53	160	70	1	S	Nearly horizontal	Minor fracture
23.89	7.28	111	21	40	E	Moderate	Fracture
24.71	7.53	111	21	31	E	Moderate	Fracture
26.00	7.92	241	151	77	SW	Nearly vertical	Contact
28.64	8.73	168	78	81	S	Nearly vertical	Minor fracture
34.46	10.50	180	90	79	S	Nearly vertical	Minor fracture
40.42	12.32	170	80	77	S	Nearly vertical	Minor fracture
45.60	13.90	170	80	76	S	Nearly vertical	Transmissive fracture
48.39	14.75	190	100	78	S	Nearly vertical	Fracture
59.84	18.24	135	45	75	SE	Nearly vertical	Minor fracture
61.21	18.66	138	48	74	SE	Nearly vertical	Fracture
77.62	23.66	168	78	25	S	Shallow	Minor fracture
79.78	24.32	171	81	74	S	Nearly vertical	Minor fracture
83.35	25.40	164	74	72	S	Nearly vertical	Minor fracture
87.49	26.67	186	96	71	S	Nearly vertical	Minor fracture
97.53	29.73	182	92	77	S	Nearly vertical	Transmissive fracture
111.61	34.02	289	199	77	W	Nearly vertical	Minor fracture
112.27	34.22	285	195	81	W	Nearly vertical	Minor fracture
160.08	48.79	228	138	69	SW	Steep	Minor fracture
164.47	50.13	85	355	81	E	Nearly vertical	Minor fracture
171.43	52.25	284	194	81	W	Nearly vertical	Contact
171.76	52.35	290	200	83	W	Nearly vertical	Fracture
175.45	53.47	247	157	70	SW	Nearly vertical	Minor fracture
183.73	56.00	64	334	37	NE	Moderate	Minor fracture
207.02	63.10	258	168	73	W	Nearly vertical	Minor fracture
209.34	63.80	239	149	57	SW	Steep	Contact
219.55	66.92	256	166	72	W	Nearly vertical	Fracture
219.56	66.92	264	174	73	W	Nearly vertical	Possible fracture
220.44	67.19	242	152	68	SW	Steep	Contact
235.30	71.72	340	250	79	N	Nearly vertical	Minor fracture

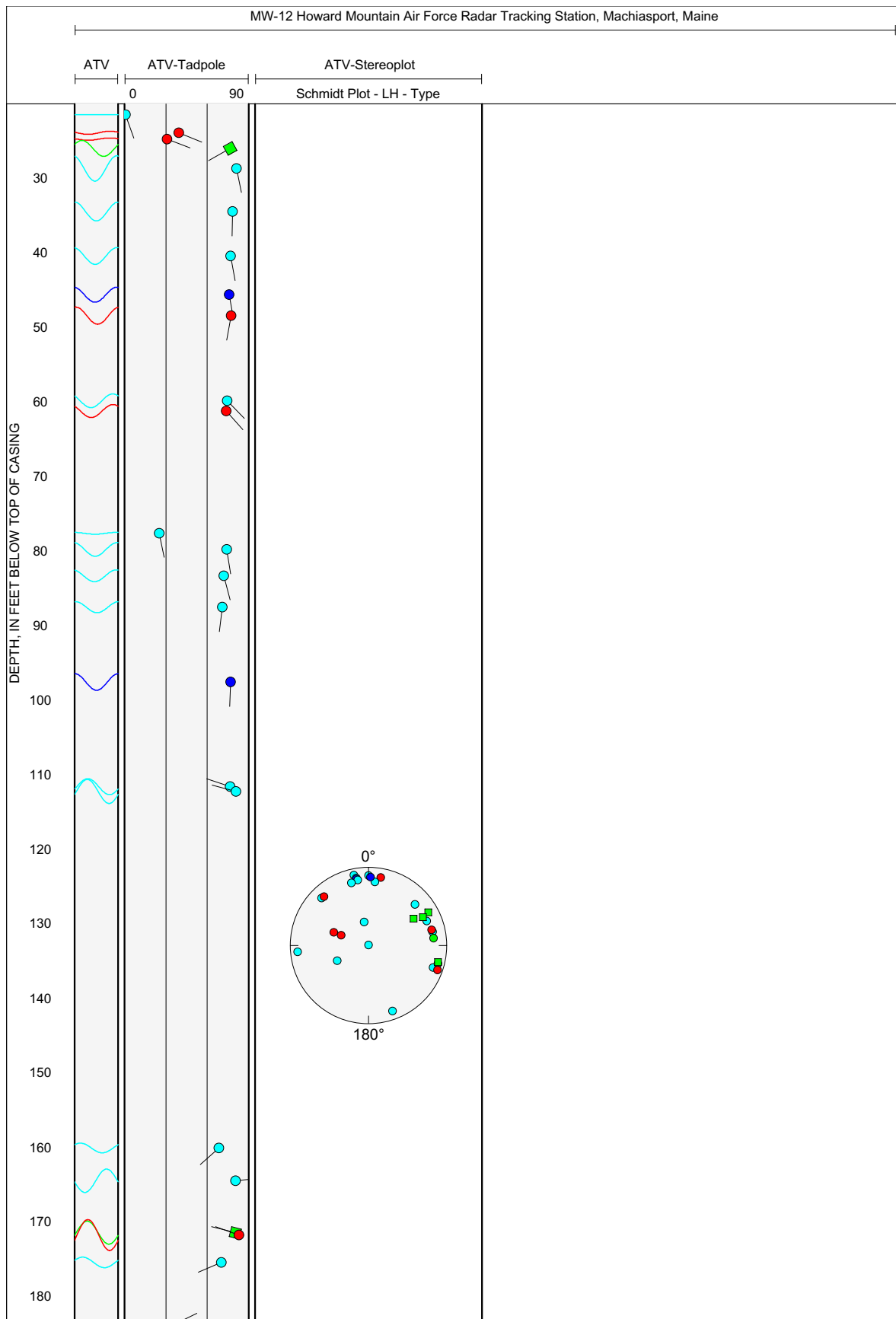


Figure 4F-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-12, near Machiasport, Maine.

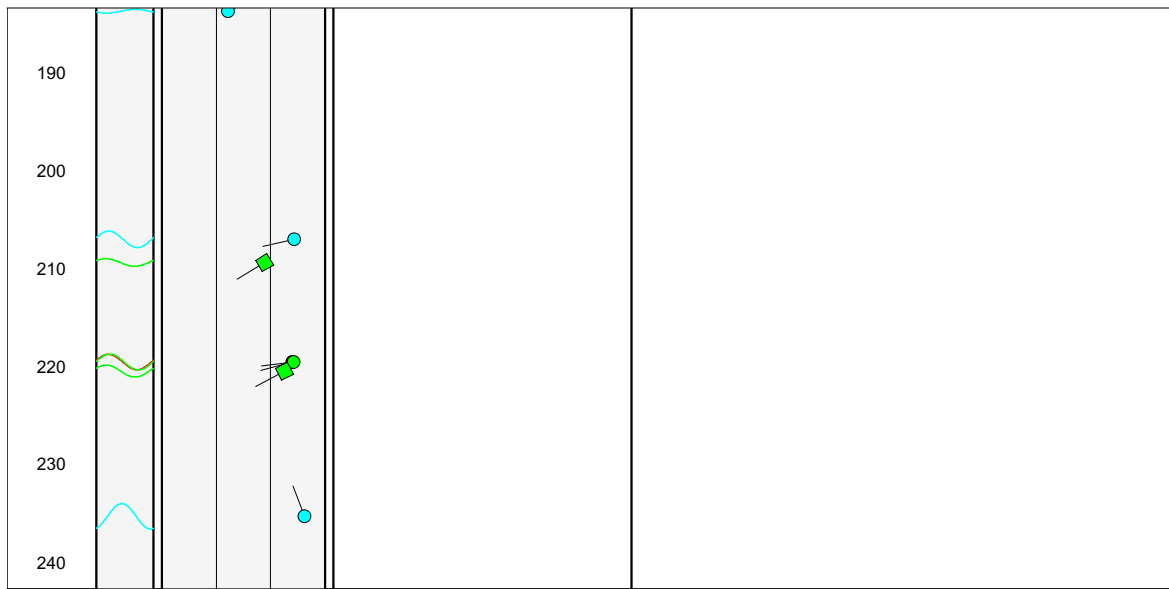


Figure 4F-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-12, near Machiasport, Maine.—Continued

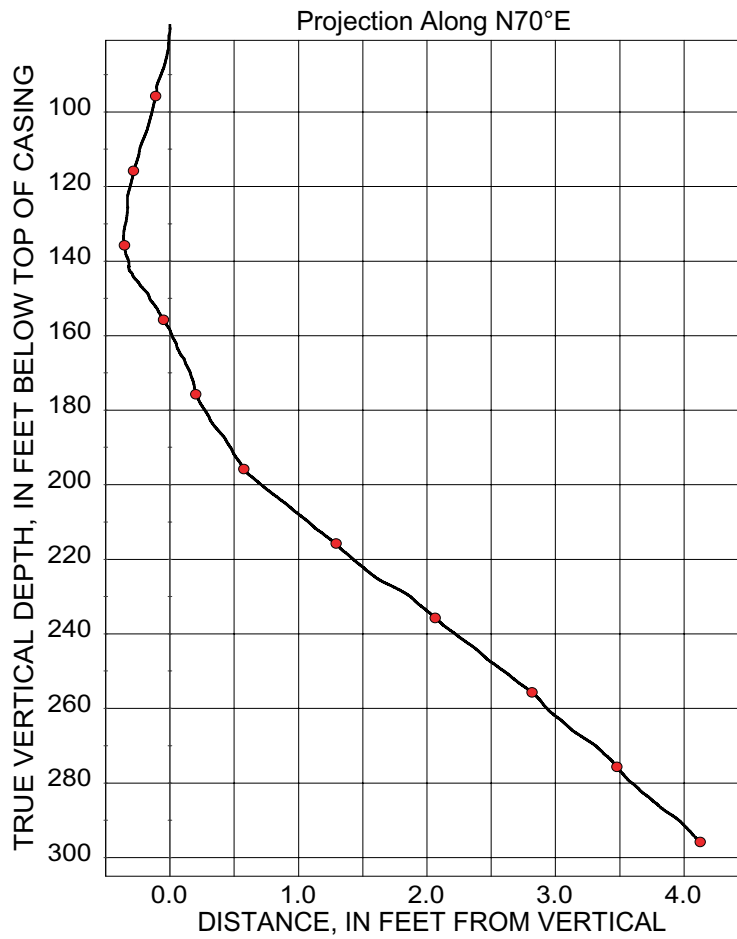
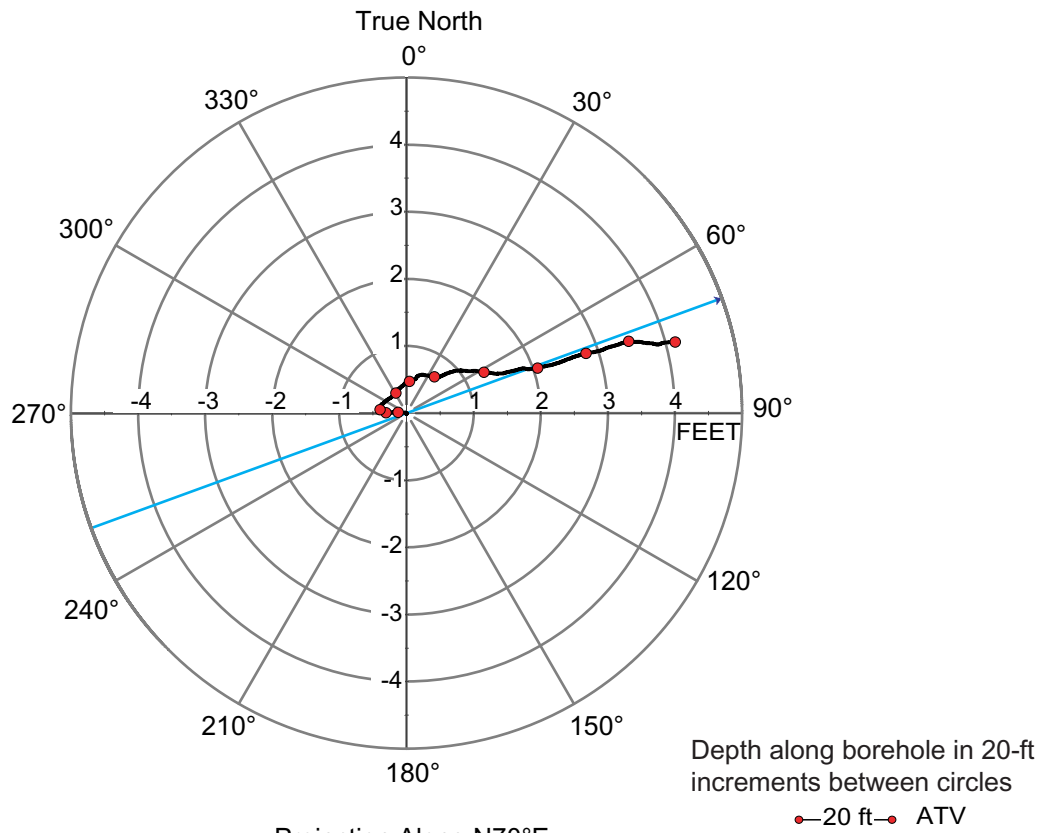


Figure 4G-1. Borehole deviation logs for borehole WY-3, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
[ft, foot; ATV, acoustic televiewer]

Table 4G–1. Interpretation of acoustic televiewer logs for borehole WY-3, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 0.91 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
83.78	8.65	352	262	7	N	Nearly horizontal	Bottom of casing
84.90	8.65	127	37	71	SE	Nearly vertical	Transmissive fracture, inferred from fluid logs
88.07	8.65	237	147	68	SW	Steep	Minor fracture
90.54	8.65	304	214	14	NW	Shallow	Transmissive fracture, inferred from fluid logs
96.30	8.65	26	296	68	NE	Steep	Minor fracture
97.82	8.65	34	304	58	NE	Steep	Sealed feature
100.66	8.65	17	287	75	N	Nearly vertical	Minor fracture
106.41	8.65	52	322	69	NE	Steep	Lithologic feature
109.84	8.65	359	269	72	N	Nearly vertical	Minor fracture
116.48	8.65	254	164	17	W	Shallow	Minor fracture
120.63	8.65	220	130	65	SW	Steep	Fracture
123.97	8.65	6	276	69	N	Steep	Minor fracture
125.27	8.65	50	320	43	NE	Moderate	Lithologic feature
127.25	8.65	151	61	34	SE	Moderate	Minor fracture
130.52	8.65	9	279	74	N	Nearly vertical	Partial fracture
131.31	8.65	74	344	30	E	Moderate	Partial fracture
131.55	8.65	253	163	70	W	Nearly vertical	Minor fracture
132.15	8.65	16	286	75	N	Nearly vertical	Partial fracture
132.44	8.65	226	136	43	SW	Moderate	Lithologic feature
132.84	8.65	225	135	34	SW	Moderate	Minor fracture
138.68	8.65	220	130	83	SW	Nearly vertical	Minor fracture
139.84	8.65	7	277	82	N	Nearly vertical	Minor fracture
143.23	8.65	68	338	55	E	Steep	sealed feature
144.48	8.65	52	322	38	NE	Moderate	Lithologic feature
147.45	8.65	90	0	21	E	Shallow	Fracture
152.55	8.65	147	57	12	SE	Shallow	Minor fracture
159.34	8.65	243	153	11	SW	Shallow	Minor fracture
167.20	8.65	229	139	17	SW	Shallow	Minor fracture
172.53	8.65	75	345	85	E	Nearly vertical	Partial fracture
174.97	8.65	149	59	18	SE	Shallow	Minor fracture
179.53	8.65	85	355	82	E	Nearly vertical	Minor fracture
180.39	8.65	171	81	7	S	Nearly horizontal	Minor fracture
181.72	8.65	291	201	18	W	Shallow	Minor fracture
183.78	8.65	337	247	26	NW	Shallow	Minor fracture
184.58	8.65	143	53	50	SE	Steep	Lithologic feature
190.25	8.65	31	301	12	NE	Shallow	Minor fracture
193.82	8.65	246	156	27	SW	Shallow	Minor fracture
194.45	8.65	317	227	73	NW	Nearly vertical	Minor fracture
196.28	8.65	41	311	31	NE	Moderate	Minor fracture
199.65	8.65	54	324	24	NE	Shallow	Lithologic feature
206.13	8.65	220	130	85	SW	Nearly vertical	Minor fracture
220.73	8.65	258	168	75	W	Nearly vertical	Minor fracture
227.34	8.65	142	52	54	SE	Steep	Minor fracture
232.63	8.65	143	53	68	SE	Steep	Minor fracture
238.44	8.65	168	78	9	S	Nearly horizontal	Minor fracture
240.01	8.65	147	57	65	SE	Steep	Minor fracture
240.40	8.65	19	289	48	N	Moderate	Lithologic feature
247.75	8.65	264	174	76	W	Nearly vertical	Transmissive fracture, inferred from fluid logs
255.86	8.65	11	281	81	N	Nearly vertical	Minor fracture
255.94	8.65	79	349	54	E	Steep	Minor fracture
257.36	8.65	106	16	66	E	Steep	Minor fracture
263.83	8.65	22	292	83	N	Nearly vertical	Transmissive fracture, inferred from fluid logs

Table 4G-1. Interpretation of acoustic televiewer logs for borehole WY-3, near Machiasport, Maine.—Continued
 [Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 0.91 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
269.00	8.65	357	267	82	N	Nearly vertical	Minor fracture
275.81	8.65	152	62	43	SE	Moderate	Minor fracture
277.00	8.65	142	52	62	SE	Steep	Minor fracture
279.10	8.65	139	49	71	SE	Nearly vertical	Minor fracture
280.94	8.65	177	87	69	S	Steep	Minor fracture
283.31	8.65	141	51	71	SE	Nearly vertical	Minor fracture
284.21	8.65	138	48	61	SE	Steep	Minor fracture
285.12	8.65	133	43	64	SE	Steep	Minor fracture
287.49	8.65	307	217	40	NW	Moderate	Minor fracture
289.17	8.65	69	339	63	E	Steep	Minor fracture
289.22	8.65	249	159	55	W	Steep	Minor fracture
298.18	8.65	59	329	75	NE	Nearly vertical	Minor fracture

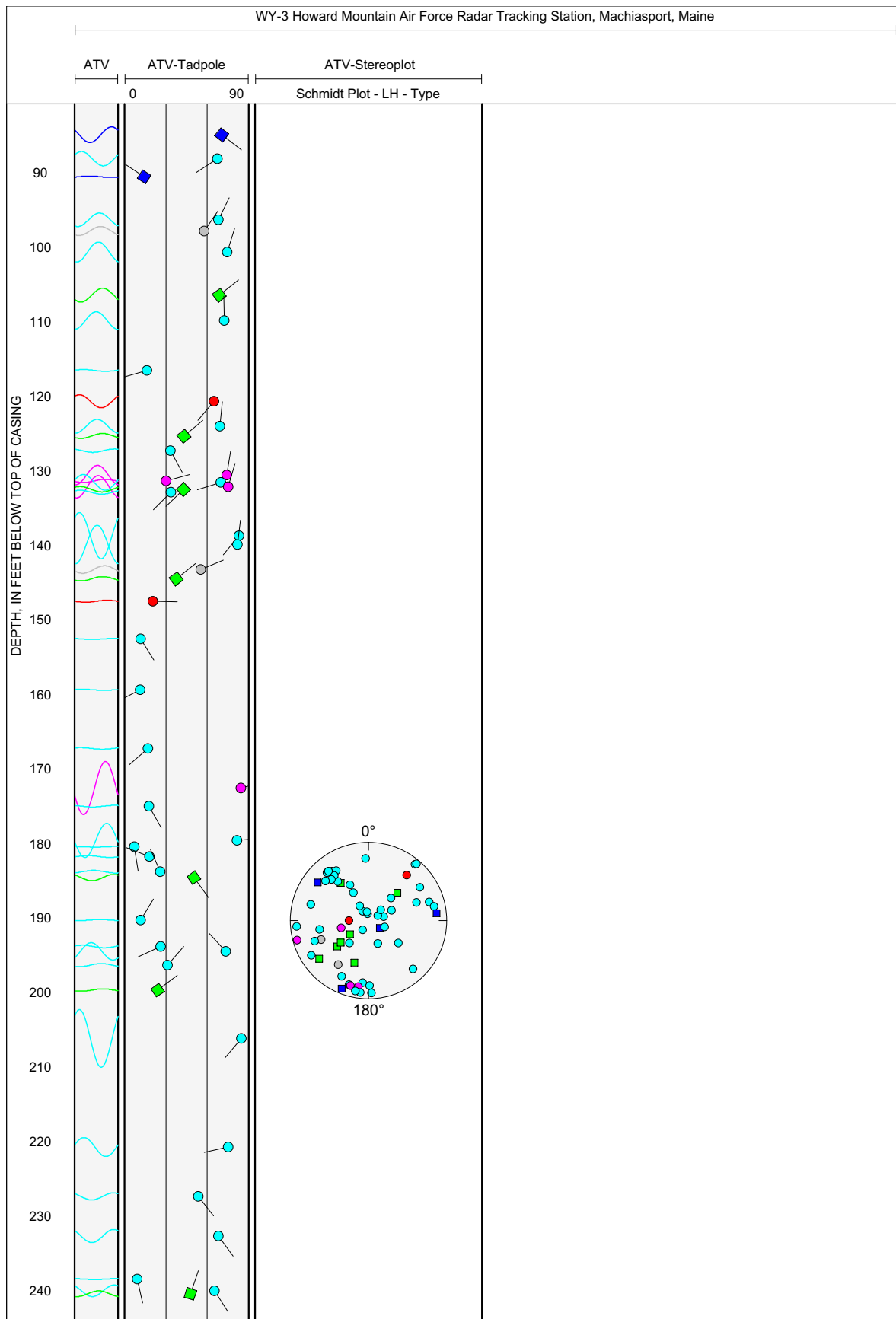


Figure 4G-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole WY-3, near Machiasport, Maine.

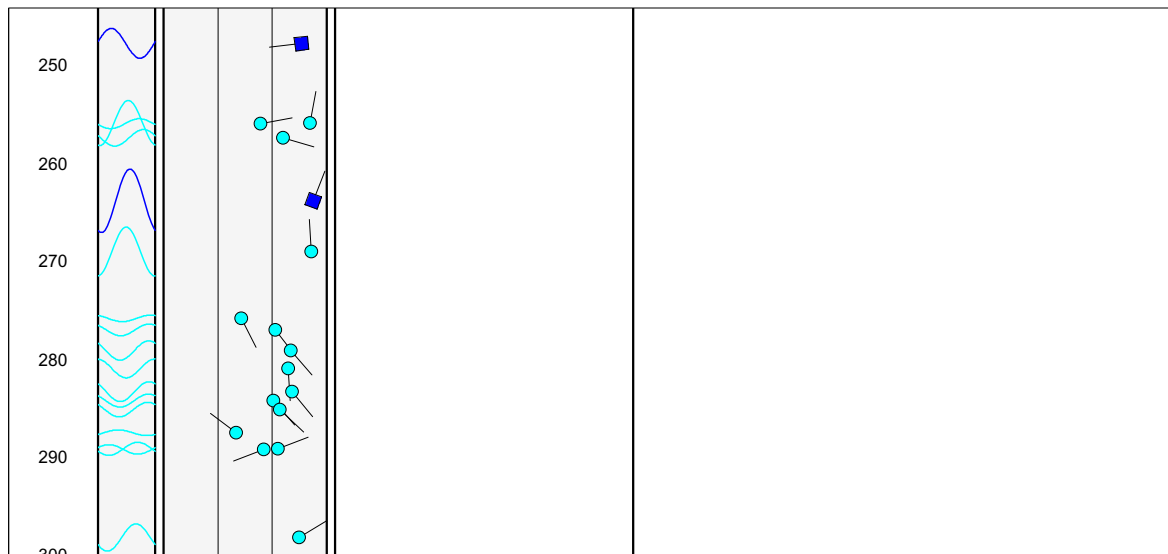
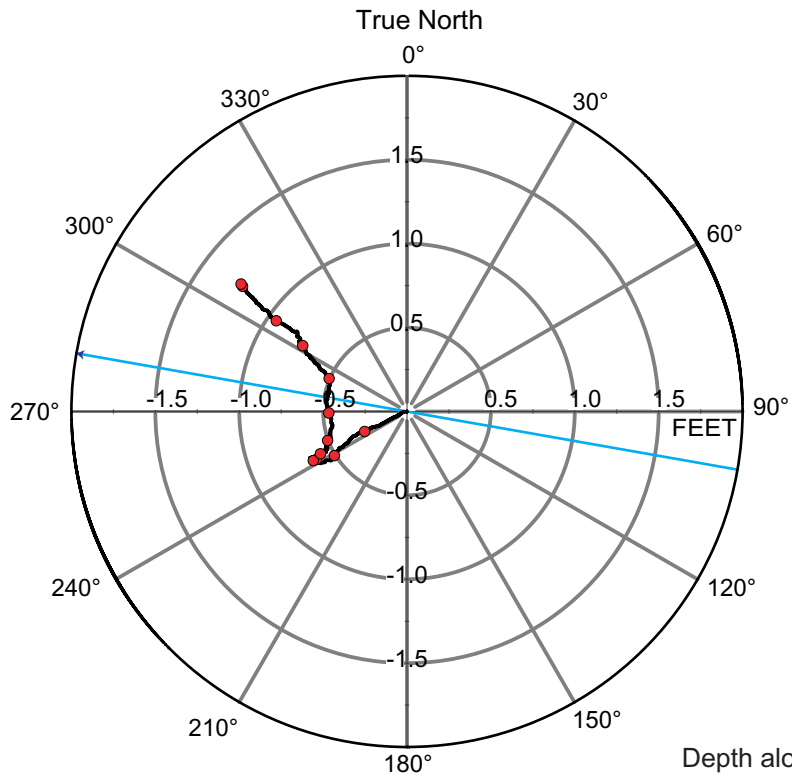


Figure 4G-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole WY-3, near Machiasport, Maine.—Continued



Depth along borehole in 20-ft increments between circles

→ 20 ft → ATV

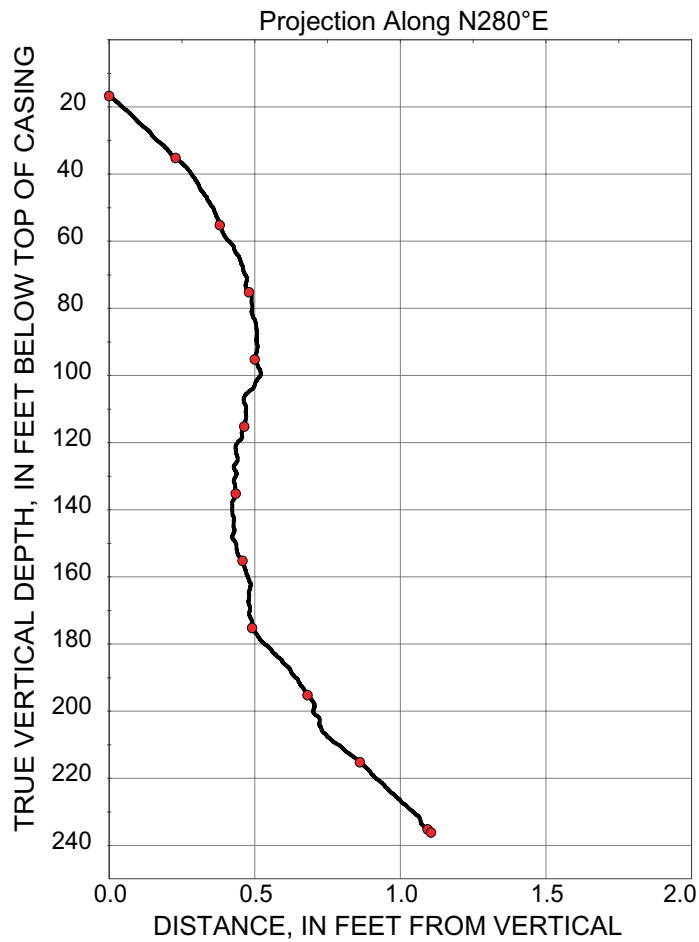


Figure 4H-1. Borehole deviation logs for borehole DW-4, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
[ft, foot; ATV, acoustic televiewer]

Table 4H-1. Interpretation of acoustic televiewer logs for borehole DW-4, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 1.06 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
25.05	7.63	333	243	78	NW	Nearly vertical	Minor fracture
26.99	8.23	323	233	73	NW	Nearly vertical	Minor fracture
28.88	8.80	313	223	78	NW	Nearly vertical	Minor fracture
34.83	10.62	335	245	70	NW	Nearly vertical	Minor fracture
38.77	11.82	316	226	73	NW	Nearly vertical	Transmissive fracture
42.86	13.06	333	243	80	NW	Nearly vertical	Minor fracture
45.49	13.86	323	233	75	NW	Nearly vertical	Minor fracture
46.54	14.18	316	226	78	NW	Nearly vertical	Minor fracture
48.50	14.78	321	231	77	NW	Nearly vertical	Minor fracture
50.06	15.26	324	234	71	NW	Nearly vertical	Minor fracture
51.67	15.75	251	161	14	W	Shallow	Transmissive fracture
52.02	15.85	326	236	78	NW	Nearly vertical	Minor fracture
52.83	16.10	327	237	77	NW	Nearly vertical	Minor fracture
53.36	16.26	329	239	76	NW	Nearly vertical	Minor fracture
54.13	16.50	329	239	73	NW	Nearly vertical	Minor fracture
56.08	17.09	329	239	71	NW	Nearly vertical	Minor fracture
64.75	19.73	302	212	65	NW	Steep	Minor fracture
70.88	21.60	308	218	78	NW	Nearly vertical	Minor fracture
81.40	24.81	346	256	74	N	Nearly vertical	Minor fracture
82.11	25.03	340	250	68	N	Steep	Minor fracture
82.76	25.22	340	250	70	N	Nearly vertical	Minor fracture
104.70	31.91	75	345	82	E	Nearly vertical	Minor fracture
109.41	33.35	73	343	84	E	Nearly vertical	Fracture
109.48	33.37	69	339	84	E	Nearly vertical	Contact
112.37	34.25	144	54	75	SE	Nearly vertical	Minor fracture
115.03	35.06	159	69	69	S	Steep	Minor fracture
116.25	35.43	153	63	52	SE	Steep	Minor fracture
117.42	35.79	46	316	75	NE	Nearly vertical	Minor fracture
119.37	36.38	66	336	80	NE	Nearly vertical	Minor fracture
119.49	36.42	218	128	75	SW	Nearly vertical	Minor fracture
119.63	36.46	76	346	59	E	Steep	Contact
125.68	38.31	255	165	85	W	Nearly vertical	Minor fracture
132.14	40.27	259	169	82	W	Nearly vertical	Minor fracture
144.31	43.98	252	162	77	W	Nearly vertical	Minor fracture
148.02	45.11	245	155	76	SW	Nearly vertical	Minor fracture
166.51	50.75	116	26	69	SE	Steep	Minor fracture
167.30	50.99	111	21	73	E	Nearly vertical	Minor fracture
167.81	51.15	118	28	73	SE	Nearly vertical	Minor fracture
187.78	57.23	229	139	70	SW	Steep	Transmissive fracture
193.36	58.93	265	175	45	W	Moderate	Contact
194.81	59.38	119	29	21	SE	Shallow	Minor fracture
194.94	59.41	330	240	80	NW	Nearly vertical	Minor fracture
195.31	59.53	101	11	18	E	Shallow	Minor fracture
195.72	59.65	97	7	49	E	Moderate	Minor fracture
196.45	59.88	177	87	72	S	Nearly vertical	Minor fracture
197.41	60.17	229	139	59	SW	Steep	Minor fracture
197.50	60.20	132	42	68	SE	Steep	Minor fracture
198.57	60.52	256	166	72	W	Nearly vertical	Minor fracture
201.76	61.49	201	111	57	S	Steep	Minor fracture
203.29	61.96	211	121	71	SW	Nearly vertical	Fracture
203.40	61.99	119	29	50	SE	Moderate	Minor fracture
204.32	62.27	247	157	64	SW	Steep	Contact
209.15	63.75	283	193	11	W	Shallow	Fracture
209.43	63.83	239	149	80	SW	Nearly vertical	Minor fracture
214.42	65.35	281	191	81	W	Nearly vertical	Minor fracture
224.21	68.34	239	149	72	SW	Nearly vertical	Transmissive fracture
225.23	68.65	242	152	65	SW	Steep	Minor fracture
227.11	69.22	244	154	69	SW	Steep	Minor fracture

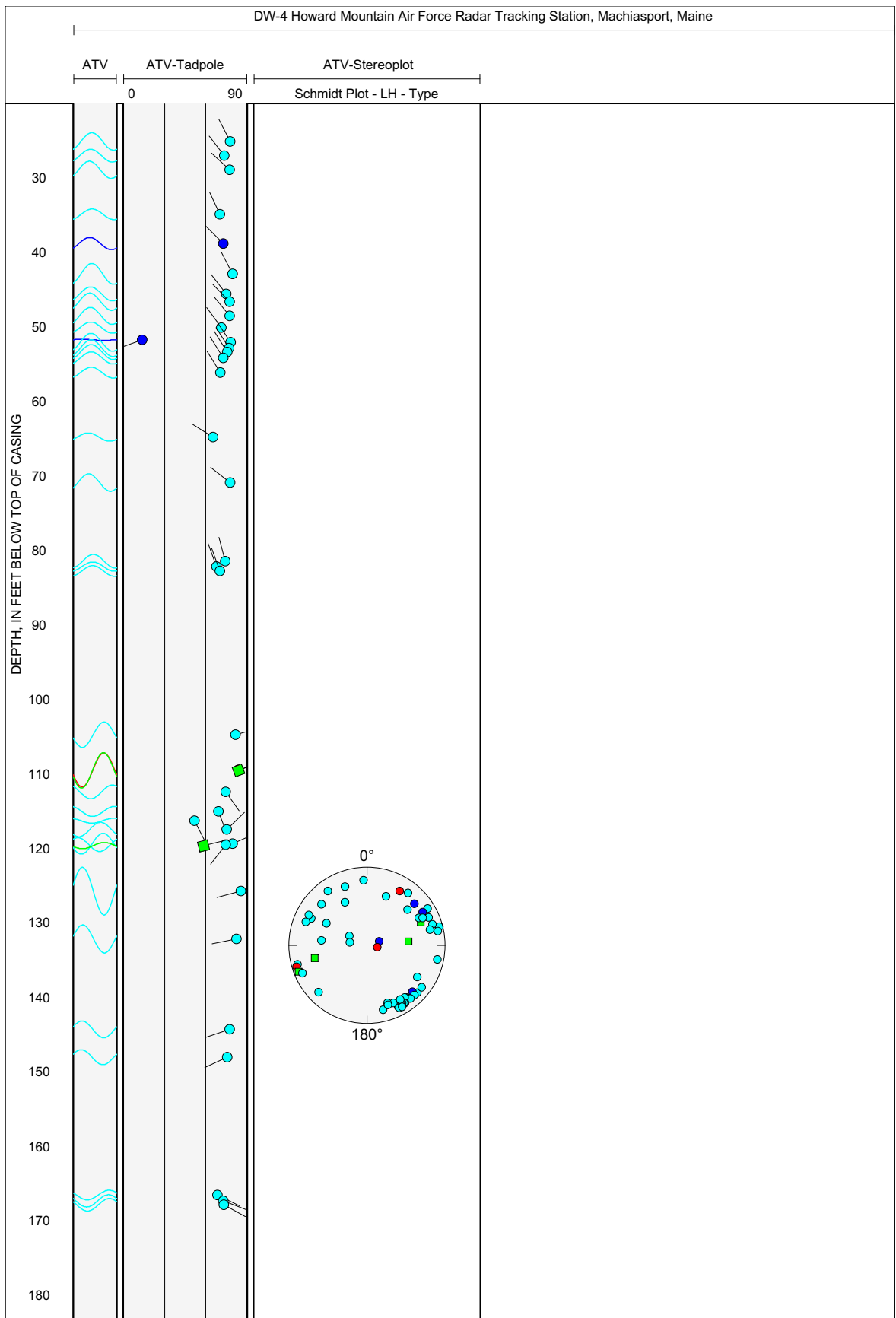


Figure 4H-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole DW-4, near Machiasport, Maine.

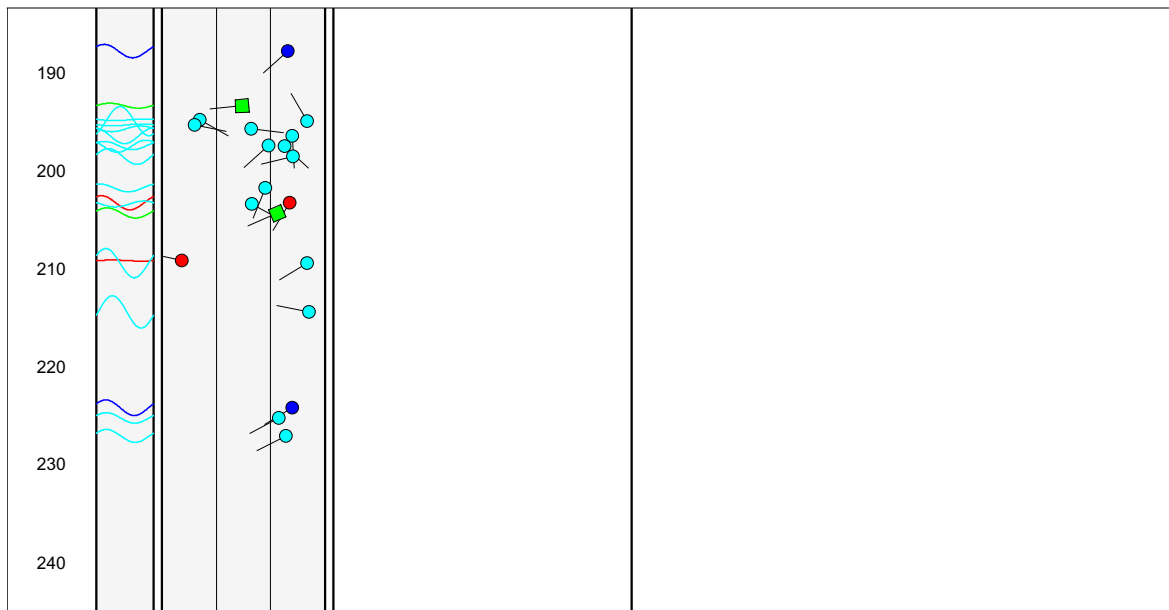


Figure 4H-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole DW-4, near Machiasport, Maine.—Continued

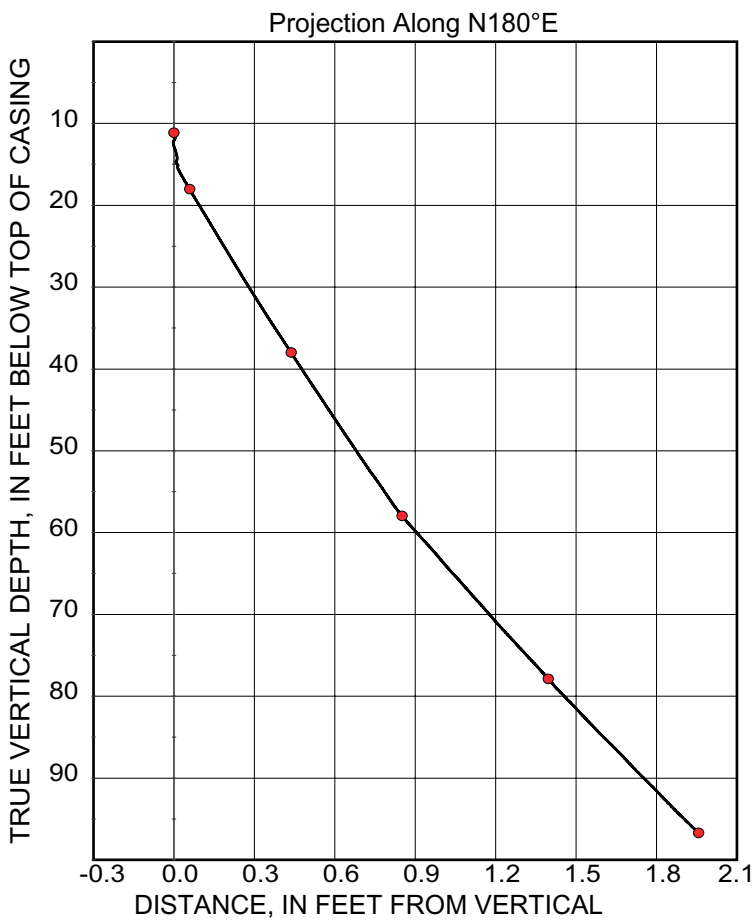
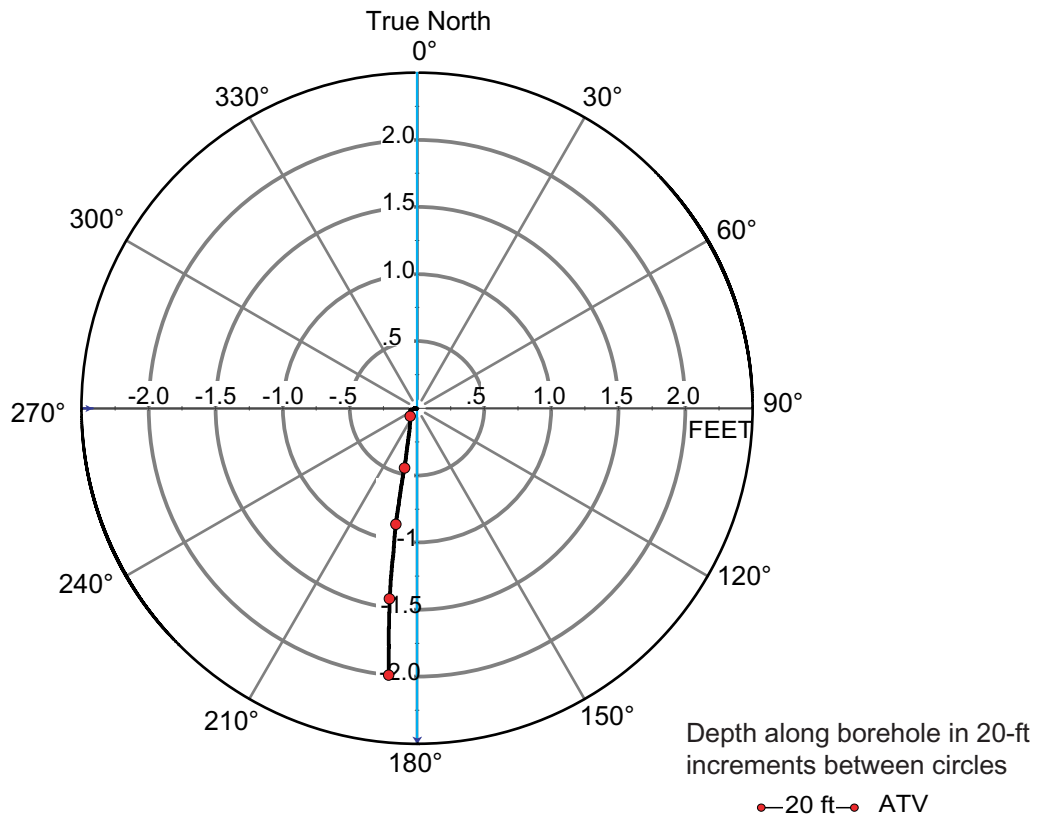


Figure 4I-1. Borehole deviation logs for borehole MW-4, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
 [ft, foot; ATV, acoustic televiewer]

Table 4I-1. Interpretation of acoustic televiewer logs for borehole MW-4, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 3.31 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
18.21	5.55	122	32	33	SE	Moderate	Fracture
18.83	5.74	158	68	49	S	Moderate	Fracture
19.27	5.87	117	27	33	SE	Moderate	Fracture
19.44	5.93	172	82	42	S	Moderate	Fracture
19.49	5.94	273	183	85	W	Nearly vertical	Fracture
20.32	6.19	324	234	73	NW	Nearly vertical	Fracture
21.47	6.54	352	262	53	N	Steep	Minor fracture
21.53	6.56	172	82	48	S	Moderate	Minor fracture
22.08	6.73	154	64	57	SE	Steep	Minor fracture
22.86	6.97	155	65	44	SE	Moderate	Fracture
23.18	7.06	7	277	38	N	Moderate	Fracture
23.41	7.14	166	76	42	S	Moderate	Minor fracture
23.65	7.21	338	248	73	N	Nearly vertical	Minor fracture
23.73	7.23	188	98	33	S	Moderate	Fracture
24.25	7.39	22	292	49	N	Moderate	Minor fracture
24.93	7.60	335	245	79	NW	Nearly vertical	Transmissive fracture
25.21	7.68	301	211	71	NW	Nearly vertical	Transmissive fracture
25.61	7.81	313	223	80	NW	Nearly vertical	Minor fracture
26.49	8.07	145	55	35	SE	Moderate	Minor fracture
26.57	8.10	325	235	76	NW	Nearly vertical	Minor fracture
27.06	8.25	172	82	35	S	Moderate	Minor fracture
27.90	8.50	144	54	43	SE	Moderate	Minor fracture
29.05	8.85	299	209	73	NW	Nearly vertical	Fracture
29.70	9.05	295	205	81	NW	Nearly vertical	Fracture
30.40	9.27	266	176	79	W	Nearly vertical	Fracture
30.90	9.42	160	70	48	S	Moderate	Fracture
31.82	9.70	278	188	78	W	Nearly vertical	Minor fracture
32.57	9.93	342	252	74	N	Nearly vertical	Fracture
33.14	10.10	254	164	67	W	Steep	Minor fracture
33.46	10.20	265	175	50	W	Moderate	Fracture
33.88	10.33	297	207	51	NW	Steep	Lithologic feature
35.57	10.84	314	224	77	NW	Nearly vertical	Minor fracture
43.45	13.24	154	64	67	SE	Steep	Fracture
43.67	13.31	280	190	75	W	Nearly vertical	Minor fracture
45.60	13.90	177	87	42	S	Moderate	Fracture
46.66	14.22	168	78	56	S	Steep	Fracture
53.57	16.33	162	72	88	S	Nearly vertical	Minor fracture
53.78	16.39	335	245	85	NW	Nearly vertical	Minor fracture
54.43	16.59	150	60	71	SE	Nearly vertical	Transmissive fracture
55.18	16.82	147	57	74	SE	Nearly vertical	Transmissive fracture
61.20	18.65	249	159	42	W	Moderate	Lithologic feature
70.21	21.40	214	124	68	SW	Steep	Minor fracture
83.73	25.52	139	49	60	SE	Steep	Transmissive fracture
83.97	25.59	150	60	60	SE	Steep	Fracture
96.94	29.55	166	76	74	S	Nearly vertical	Sealed feature

Table 4I-2. Interpretation of optical televiewer logs for borehole MW-4, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 3.31 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
18.76	5.72	154	64	28	SE	Shallow	Minor fracture
20.30	6.19	320	230	69	NW	Steep	Minor fracture
21.41	6.53	353	263	34	N	Moderate	Minor fracture
23.09	7.04	353	263	30	N	Shallow	Fracture
23.67	7.21	126	36	25	SE	Shallow	Minor fracture
24.86	7.58	290	200	71	W	Nearly vertical	Minor fracture
25.22	7.69	273	183	55	W	Steep	Transmissive fracture
26.45	8.06	95	5	23	E	Shallow	Minor fracture
26.53	8.09	287	197	69	W	Steep	Sealed feature
27.03	8.24	128	38	22	SE	Shallow	Minor fracture
27.89	8.50	99	9	30	E	Moderate	Minor fracture
29.66	9.04	274	184	76	W	Nearly vertical	Minor fracture
29.92	9.12	11	281	43	N	Moderate	Fracture
32.48	9.90	297	207	65	NW	Steep	Minor fracture
33.17	10.11	265	175	59	W	Steep	Minor fracture
33.36	10.17	264	174	46	W	Moderate	Fracture
34.50	10.52	256	166	29	W	Shallow	Lithologic feature
35.18	10.72	247	157	51	SW	Steep	Sealed feature
54.65	16.66	118	28	49	SE	Moderate	Transmissive fracture
55.99	17.06	123	33	53	SE	Steep	Fracture
70.06	21.35	290	200	52	W	Steep	Minor fracture
70.27	21.42	291	201	64	W	Steep	Minor fracture
76.65	23.36	262	172	65	W	Steep	Sealed feature
83.85	25.56	128	38	49	SE	Moderate	Fracture
85.16	25.96	116	26	60	SE	Steep	Sealed feature
87.23	26.59	90	360	31	E	Moderate	Sealed feature
92.20	28.10	302	212	63	NW	Steep	Sealed feature
94.55	28.82	257	167	73	W	Nearly vertical	Sealed feature
95.41	29.08	252	162	74	W	Nearly vertical	Sealed feature
98.99	30.17	105	15	61	E	Steep	Minor fracture
100.76	30.71	119	29	52	SE	Steep	Minor fracture

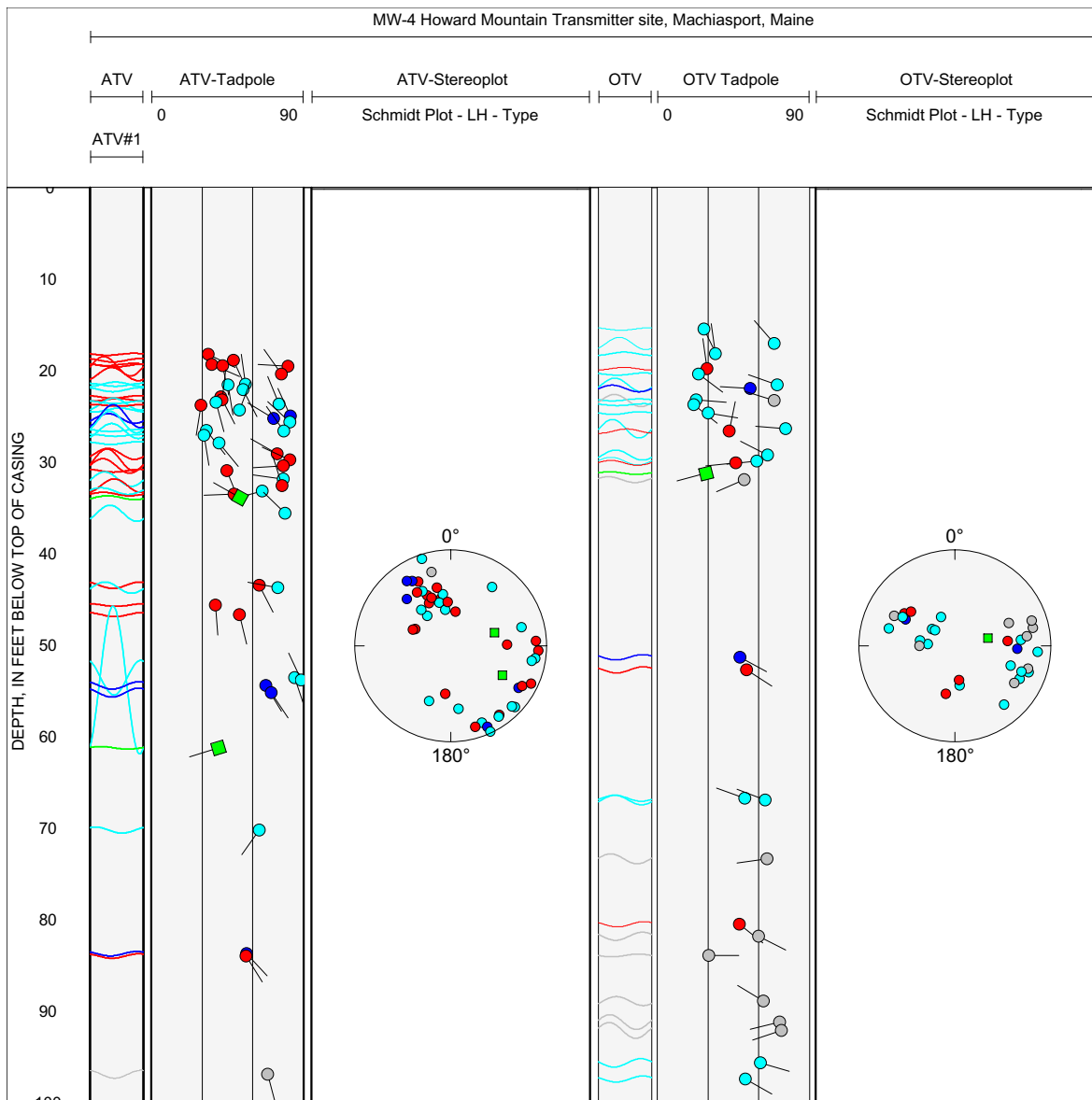


Figure 4I-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-4, near Machiasport, Maine.

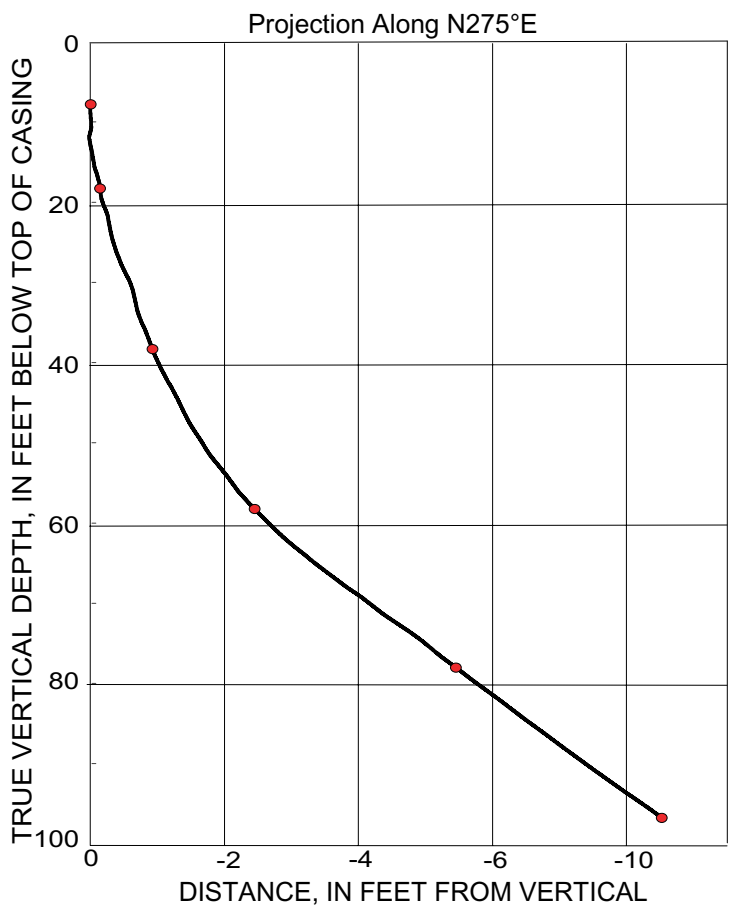
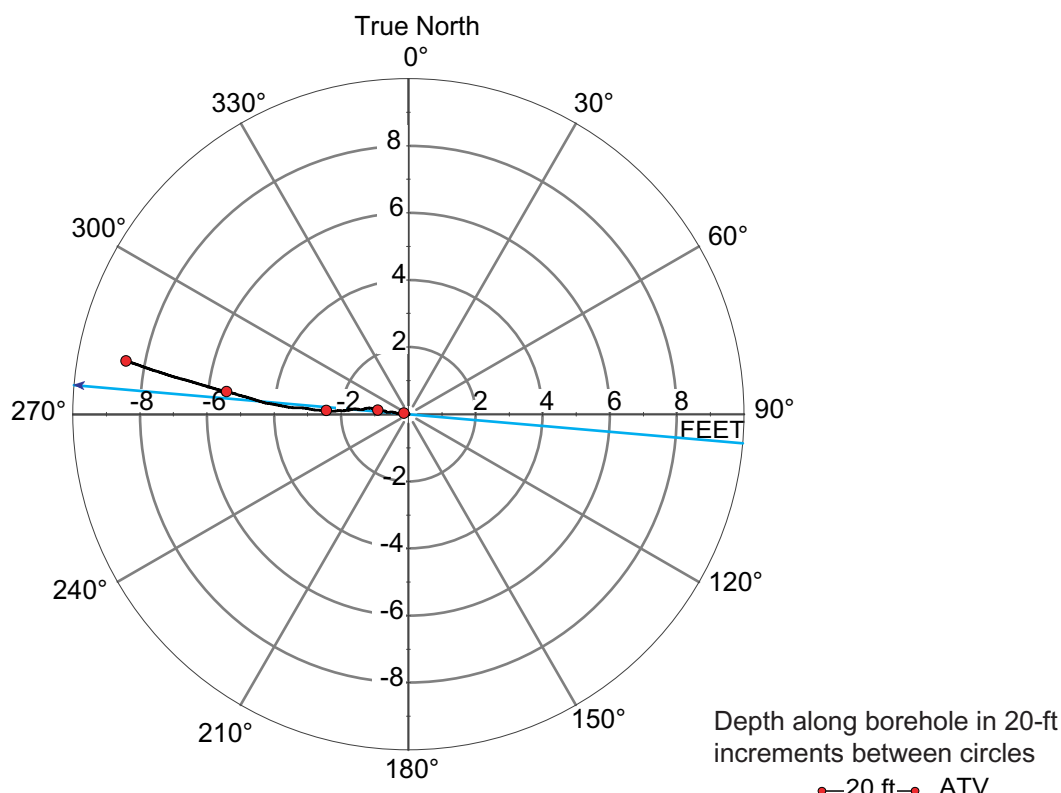


Figure 4J-1. Borehole deviation logs for borehole MW-5, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
[ft, foot; ATV, acoustic televiewer]

Table 4J-1. Interpretation of acoustic televiewer logs for borehole MW-5, near Machiasport, Maine.

[†Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 3.50 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
14.13	4.31	217	127	37	SW	Moderate	Minor fracture
14.75	4.50	179	89	65	S	Steep	Minor fracture
16.31	4.97	148	58	65	SE	Steep	Minor fracture
16.39	5.00	274	184	89	W	Nearly vertical	Minor fracture
18.66	5.69	292	202	84	W	Nearly vertical	Minor fracture
19.18	5.85	83	353	30	E	Moderate	Minor fracture
22.78	6.94	110	20	45	E	Moderate	Minor fracture
22.90	6.98	265	175	21	W	Shallow	Minor fracture
23.16	7.06	291	201	83	W	Nearly vertical	Minor fracture
25.15	7.67	302	212	80	NW	Nearly vertical	Minor fracture
27.26	8.31	320	230	84	NW	Nearly vertical	Minor fracture
29.20	8.90	208	118	62	SW	Steep	Transmissive fracture
29.22	8.91	183	93	8	S	Nearly horizontal	Transmissive fracture
30.26	9.22	229	139	53	SW	Steep	Minor fracture
31.91	9.73	200	110	54	S	Steep	Minor fracture
33.16	10.11	198	108	62	S	Steep	Minor fracture
43.26	13.19	189	99	50	S	Moderate	Minor fracture
45.84	13.97	196	106	46	S	Moderate	Minor fracture
46.65	14.22	183	93	50	S	Moderate	Minor fracture
49.49	15.08	260	170	23	W	Shallow	Minor fracture
50.57	15.41	290	200	21	W	Shallow	Minor fracture
57.84	17.63	311	221	83	NW	Nearly vertical	Minor fracture
64.46	19.65	147	57	37	SE	Moderate	Transmissive fracture
69.67	21.23	160	70	28	S	Shallow	Minor fracture
71.88	21.91	328	238	80	NW	Nearly vertical	Minor fracture
77.61	23.65	305	215	84	NW	Nearly vertical	Minor fracture
77.64	23.66	142	52	61	SE	Steep	Minor fracture
82.29	25.08	212	122	6	SW	Nearly horizontal	Transmissive fracture
82.90	25.27	191	101	15	S	Shallow	Minor fracture
83.87	25.56	318	228	85	NW	Nearly vertical	Minor fracture
88.64	27.02	314	224	87	NW	Nearly vertical	Minor fracture
100.64	30.67	325	235	63	NW	Steep	Minor fracture
101.65	30.98	332	242	65	NW	Steep	Minor fracture

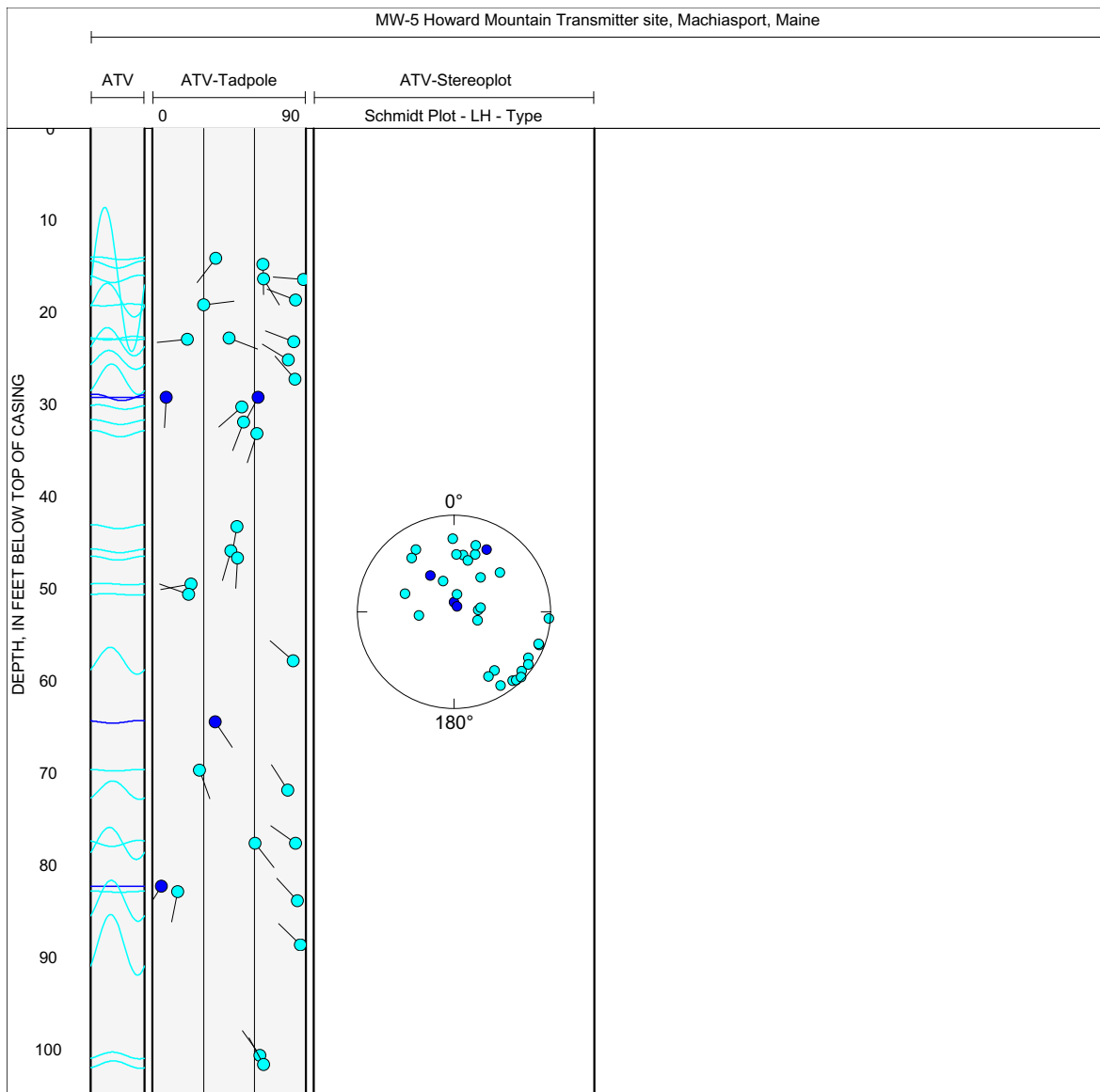


Figure 4J-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-5, near Machiasport, Maine.

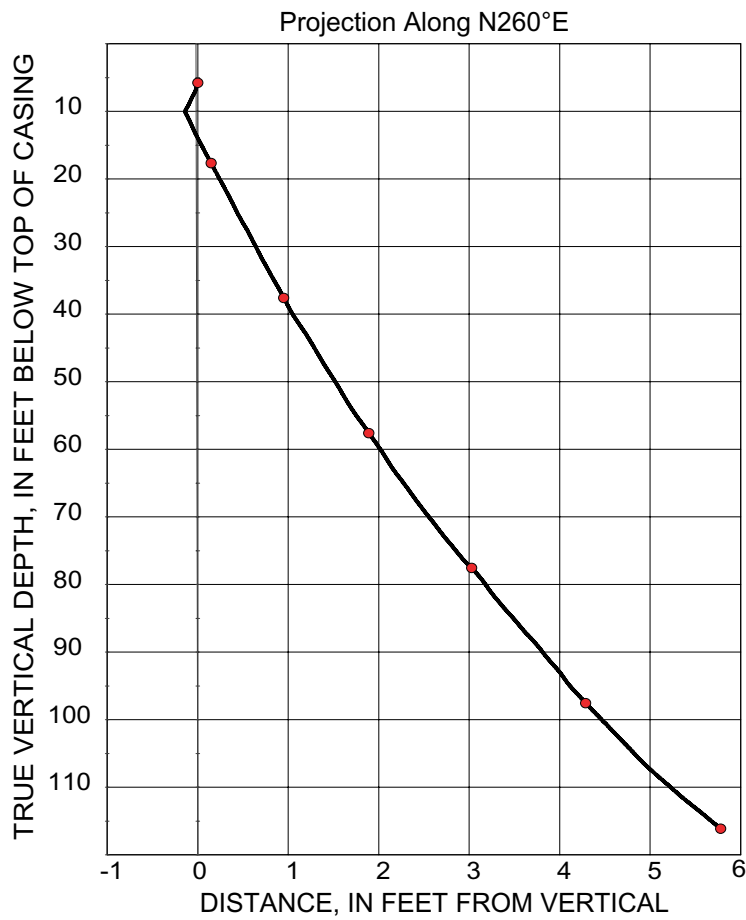
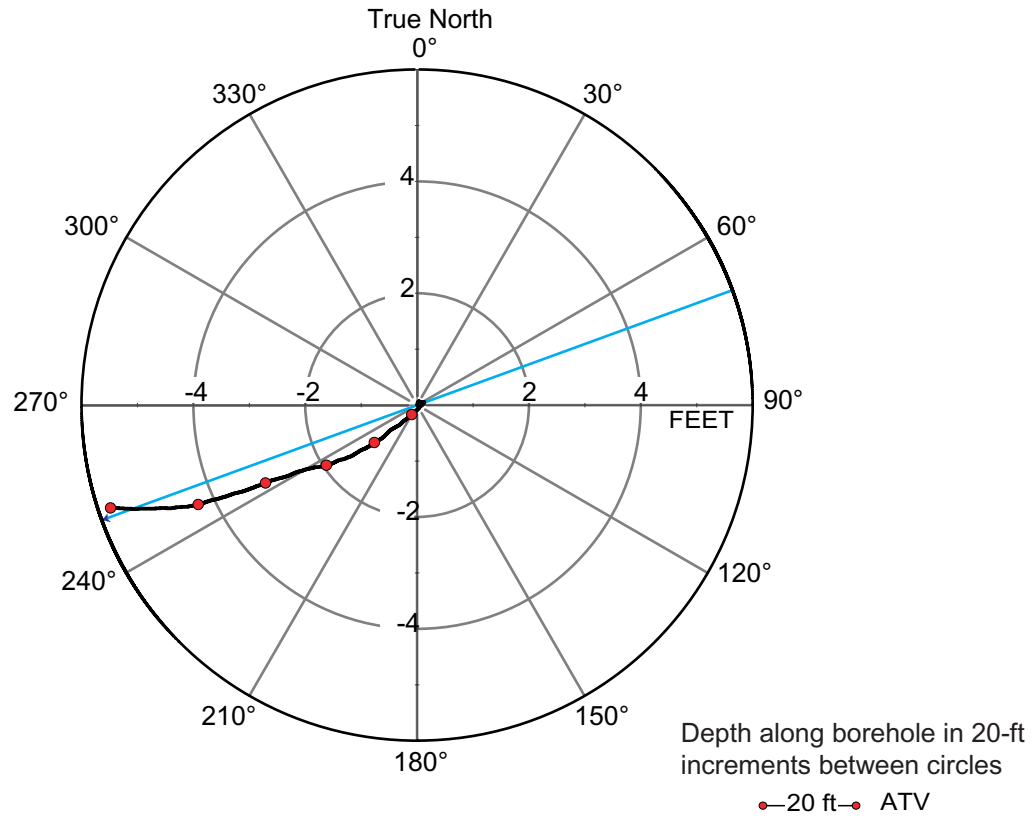


Figure 4K-1. Borehole deviation logs for borehole MW-6, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
[ft, foot; ATV, acoustic televiewer]

Table 4K-1. Interpretation of acoustic televiewer logs for borehole MW-6, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 3.21 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
13.44	4.10	96	6	19	E	Shallow	Transmissive fracture
17.73	5.40	311	221	84	NW	Nearly vertical	Minor fracture
20.45	6.23	110	20	36	E	Moderate	Minor fracture
24.48	7.46	325	235	78	NW	Nearly vertical	Minor fracture
36.50	11.12	328	238	79	NW	Nearly vertical	Partial fracture
59.11	18.02	232	142	27	SW	Shallow	Minor fracture
66.78	20.35	156	66	72	SE	Nearly vertical	Transmissive fracture
67.27	20.50	351	261	80	N	Nearly vertical	Transmissive fracture
68.15	20.77	352	262	60	N	Steep	Transmissive fracture
69.70	21.24	358	268	80	N	Nearly vertical	Minor fracture
87.65	26.71	11	281	85	N	Nearly vertical	Minor fracture
90.55	27.60	16	286	83	N	Nearly vertical	Minor fracture
91.90	28.01	131	41	67	SE	Steep	Fracture
93.73	28.57	31	301	84	NE	Nearly vertical	Minor fracture
96.88	29.53	21	291	87	N	Nearly vertical	Minor fracture
99.88	30.44	319	229	78	NW	Nearly vertical	Minor fracture
101.99	31.09	325	235	83	NW	Nearly vertical	Minor fracture
103.39	31.51	310	220	81	NW	Nearly vertical	Minor fracture
105.88	32.27	315	225	79	NW	Nearly vertical	Minor fracture
108.16	32.97	311	221	69	NW	Steep	Minor fracture
109.83	33.47	319	229	75	NW	Nearly vertical	Minor fracture
112.12	34.17	325	235	79	NW	Nearly vertical	Minor fracture
119.03	36.28	325	235	73	NW	Nearly vertical	Minor fracture
119.29	36.36	20	290	82	N	Nearly vertical	Minor fracture

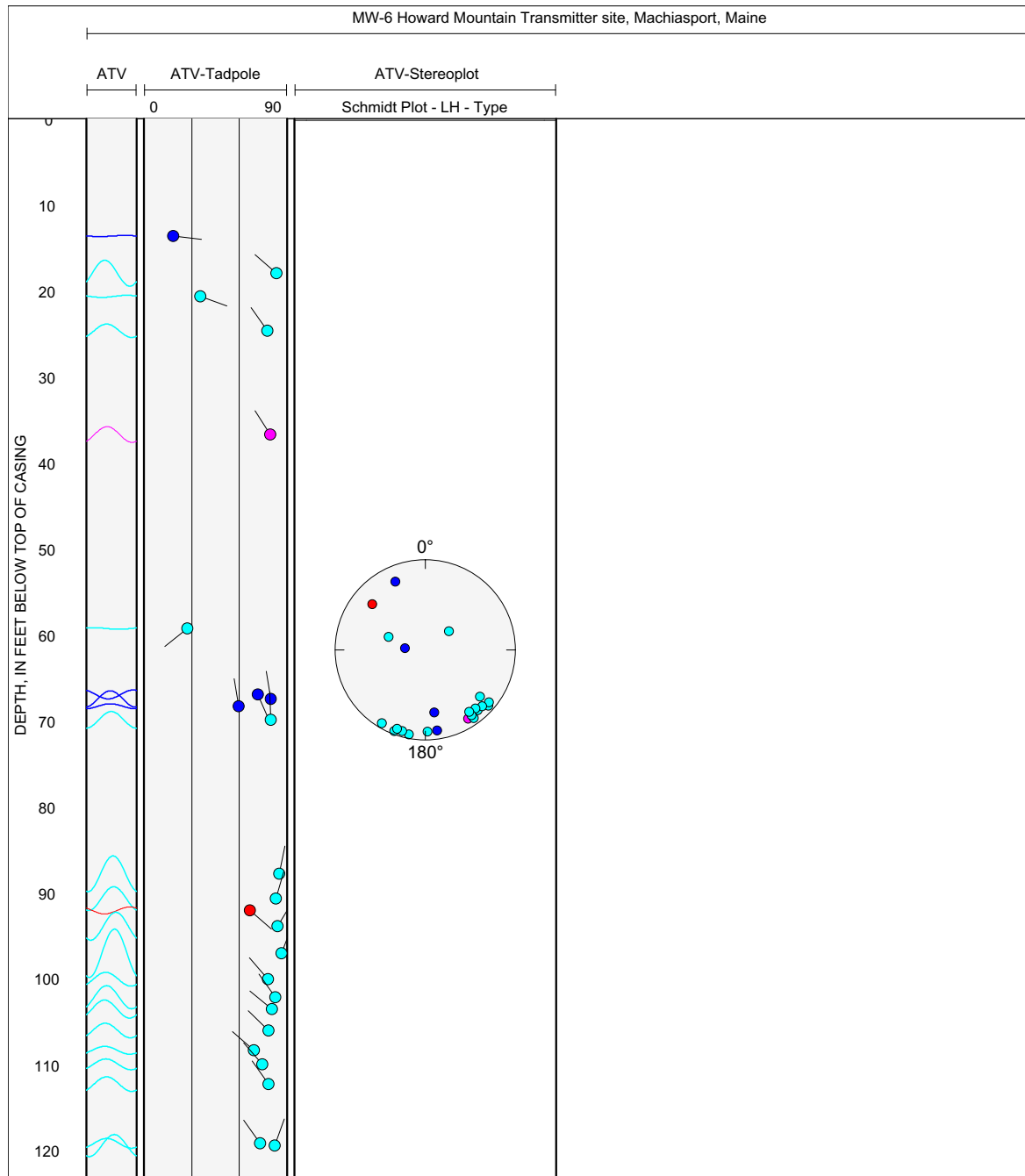


Figure 4K-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-6, near Machiasport, Maine.

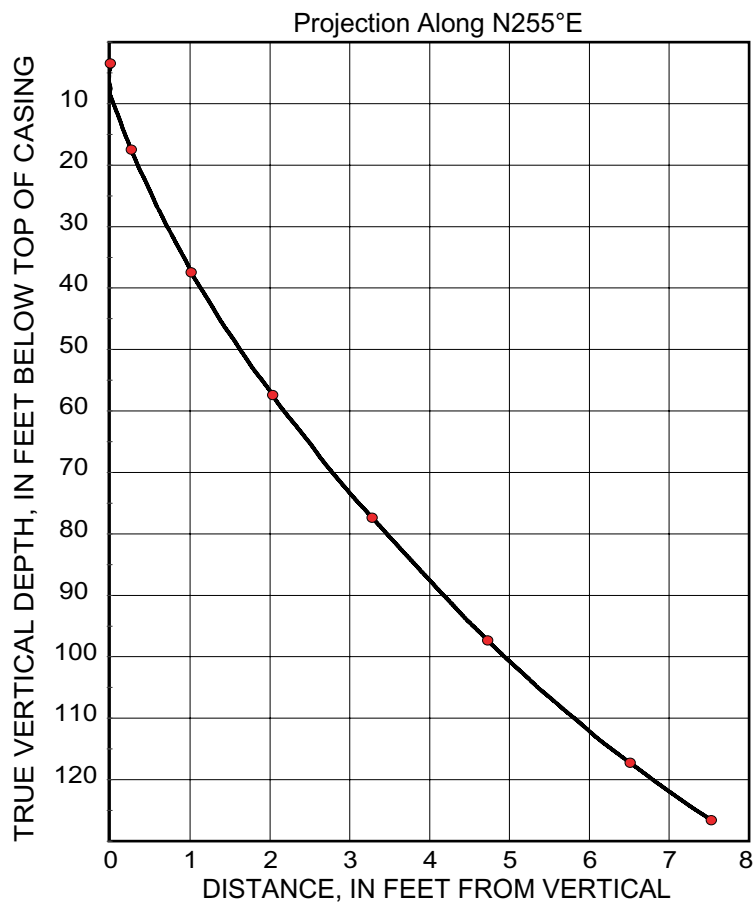
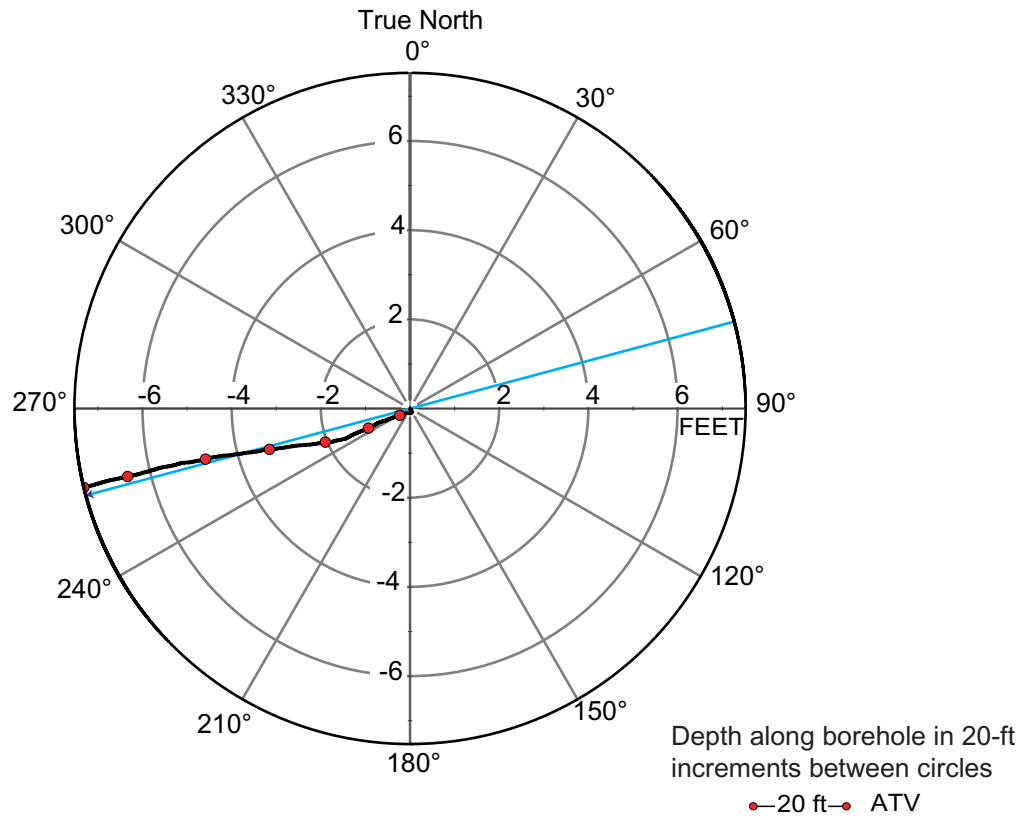


Figure 4L-1. Borehole deviation logs for borehole MW-7, near Machiasport, Maine. Blue line on radial plot (top) is line of projection for vertical plot (bottom).
[ft, foot; ATV, acoustic televiewer]

Table 4L-1. Interpretation of acoustic televiewer logs for borehole MW-7, near Machiasport, Maine.

[Televiewer data are corrected for deviation and magnetic declination, so orientations are relative to true north; depths are below top of casing, which is 2.41 feet above land surface; dip azimuth is given in degrees east of true north; strike is reported in right-hand-rule (RHR)-azimuthal degrees east of true north and where the direction of dip is 90 degrees to the right of strike]

Depth, in feet	Depth, in meters	Dip azimuth	Strike, in RHR	Dip	Dip direction	Dip descriptor	Comment
7.74	2.36	181	91	87	S	Nearly vertical	Minor fracture
9.25	2.82	276	186	2	W	Nearly horizontal	Water level
9.36	2.85	292	202	2	W	Nearly horizontal	Minor fracture
13.15	4.01	121	31	63	SE	Steep	Minor fracture
15.18	4.63	115	25	13	SE	Shallow	Transmissive fracture
15.24	4.64	116	26	79	SE	Nearly vertical	Transmissive fracture
17.82	5.43	166	76	82	S	Nearly vertical	Minor fracture
18.34	5.59	155	65	81	SE	Nearly vertical	Minor fracture
21.28	6.49	157	67	83	SE	Nearly vertical	Minor fracture
22.83	6.96	154	64	80	SE	Nearly vertical	Minor fracture
24.53	7.48	149	59	76	SE	Nearly vertical	Minor fracture
27.07	8.25	125	35	59	SE	Steep	Minor fracture
27.26	8.31	142	52	59	SE	Steep	Minor fracture
29.76	9.07	138	48	74	SE	Nearly vertical	Lithologic feature
34.26	10.44	144	54	66	SE	Steep	Lithologic feature
39.23	11.96	1	271	81	N	Nearly vertical	Minor fracture
39.87	12.15	9	279	80	N	Nearly vertical	Fracture
41.63	12.69	360	270	85	N	Nearly vertical	Fracture
44.63	13.60	319	229	82	NW	Nearly vertical	Minor fracture
50.35	15.35	73	343	25	E	Shallow	Transmissive fracture
51.98	15.84	356	266	85	N	Nearly vertical	Transmissive fracture
55.82	17.01	3	273	83	N	Nearly vertical	Lithologic feature
57.50	17.53	4	274	84	N	Nearly vertical	Minor fracture
62.01	18.90	314	224	78	NW	Nearly vertical	Minor fracture
74.09	22.58	171	81	83	S	Nearly vertical	Minor fracture
75.48	23.01	168	78	55	S	Steep	Minor fracture
79.00	24.08	295	205	71	NW	Nearly vertical	Lithologic feature
83.52	25.46	115	25	76	SE	Nearly vertical	Transmissive fracture
88.11	26.85	128	38	63	SE	Steep	Transmissive fracture
90.71	27.65	124	34	68	SE	Steep	Transmissive fracture
96.58	29.44	155	65	78	SE	Nearly vertical	Minor fracture
105.91	32.28	337	247	75	NW	Nearly vertical	Minor fracture
115.25	35.13	307	217	73	NW	Nearly vertical	Fracture
121.12	36.92	314	224	75	NW	Nearly vertical	Minor fracture

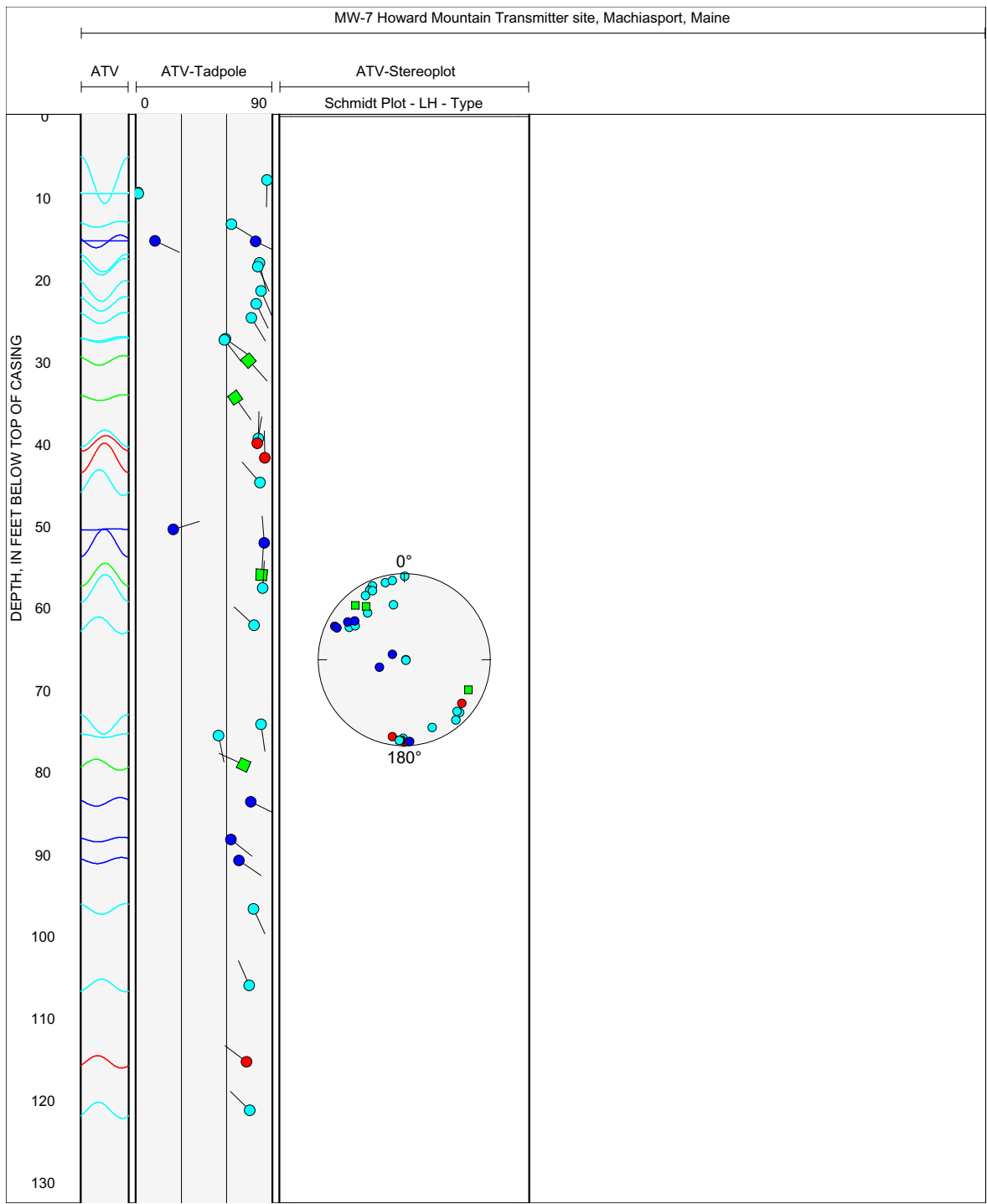


Figure 4L-2. Projection, tadpole, and stereoplots of interpretation of borehole image data for borehole MW-7, near Machiasport, Maine.