ATTACHMENT A3

BOREHOLE GEOPHYSICAL DATA

WELL SUMMARY FOR BORING 1

Depth:		
	0-114	Casing
	114-127	Strong easterly bedding patterns probably associated with structural dip. Dip angle 40-60 degrees. Returns on ATV would indicate less competent bedding or shaley.
	127-135	Unfractured competent rock.
	135-144	High resistivity zone, dip angle and direction consistent with previous structural dip pattern.
	144-149	Increasing gamma probably indicating shale. Little discreet bedding planes, one small angle dip to the east direction.
	149-151	Large open fracture dipping to the SW at 75 deg.
	151-156	Shaley zone, few fractures indicated.
	156-160	Large open fracture, top of fracture appears to be dipping as same structural dip.
	160-162	Small resistive feature, top consistent with previous dip and direction.
	162-168	No returns from ATV, large fracture, washout or cave.
	168-186	This section not logged due to hole conditions.
	186-195	No interpretation through this zone due to magnetic influence of casing on deviation data.
	195-213	Interbedded zone with primary structural dip to the East – Northeast. Dip angles from 5 to 40 degrees. Few fractures dipping in the Northerly direction.
	213-220	No observed features on the ATV data. Gamma and resistivity would indicate shaley type formation.

Century GEOPHYSICAL CORP.

Boring # 1

COMPANY	: IT				
WELL	: Boring # 1				
LOCATION/FIELD	: FT MC-OLF3				
COUNTY	: Calhoun				
STATE	: AL				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 05/16/00	PERMANENT DATUM	:		
DEPTH DRILLER	: 228			KB	:
LOG BOTTOM	: 219.86	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 110.56	DRL MEASURED FROM:	GL	GL	:
CASING DIAMETER	: 5.5	LOGGING UNIT	: 9607		
CASING TYPE	: Steel	FIELD OFFICE	: TULSA		
NG THICKNESS:		RECORDED BY	: Federwisch		
BIT SIZE	: 5	BOREHOLE FLUID	: WATER	FILE	: PROCESSED
MAGNETIC DECL.	: -1	RM	: 0	TYPE	: 9800A
MATRIX DENSITY	: 2.71	RM TEMPERATURE	: 0		
NEUTRON MATRIX	: Sandstone	MATRIX DELTA T	: 54		
				THRESH:	20000

OTHER SERVICES:

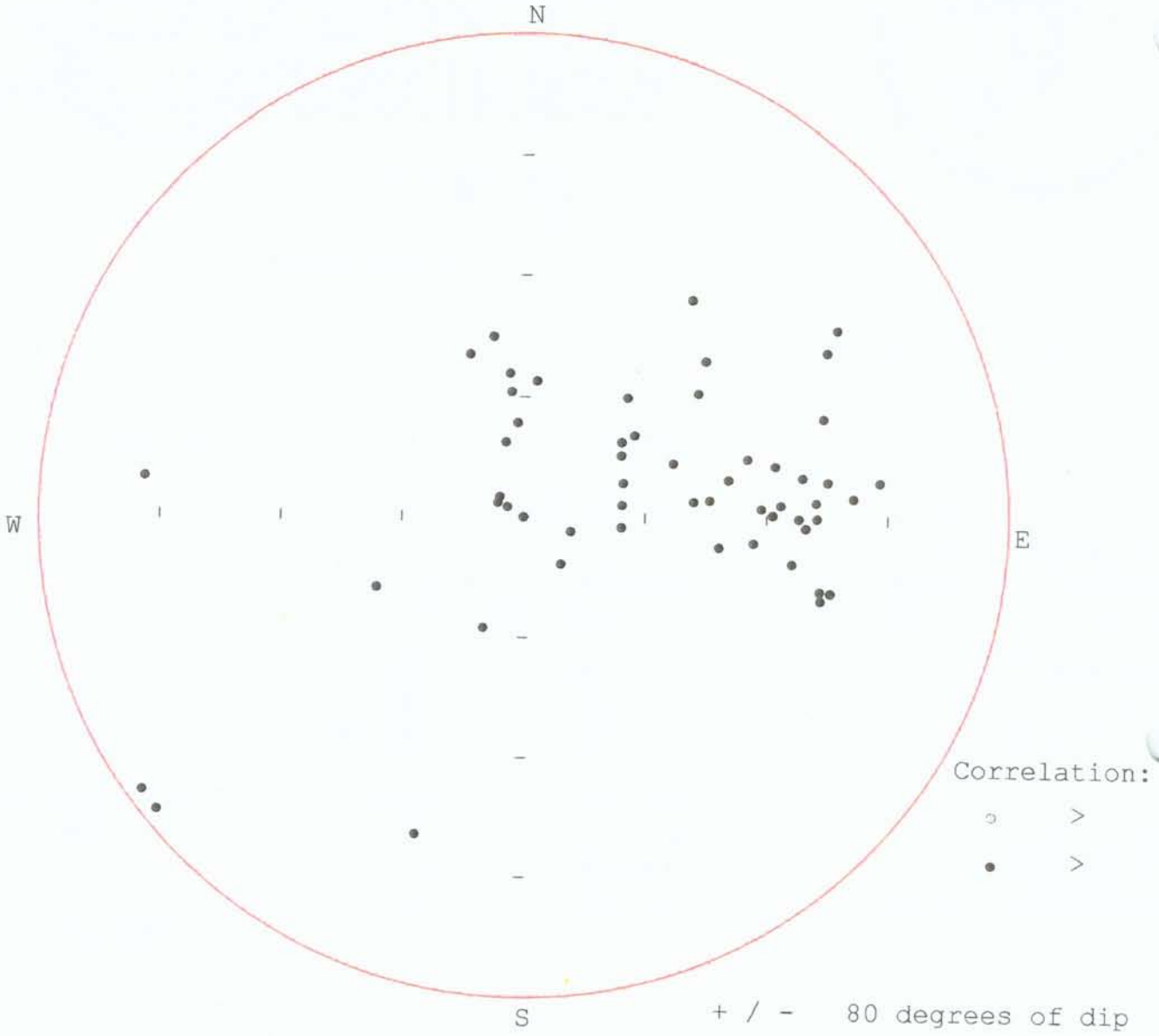
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

Polar_Dip Plot

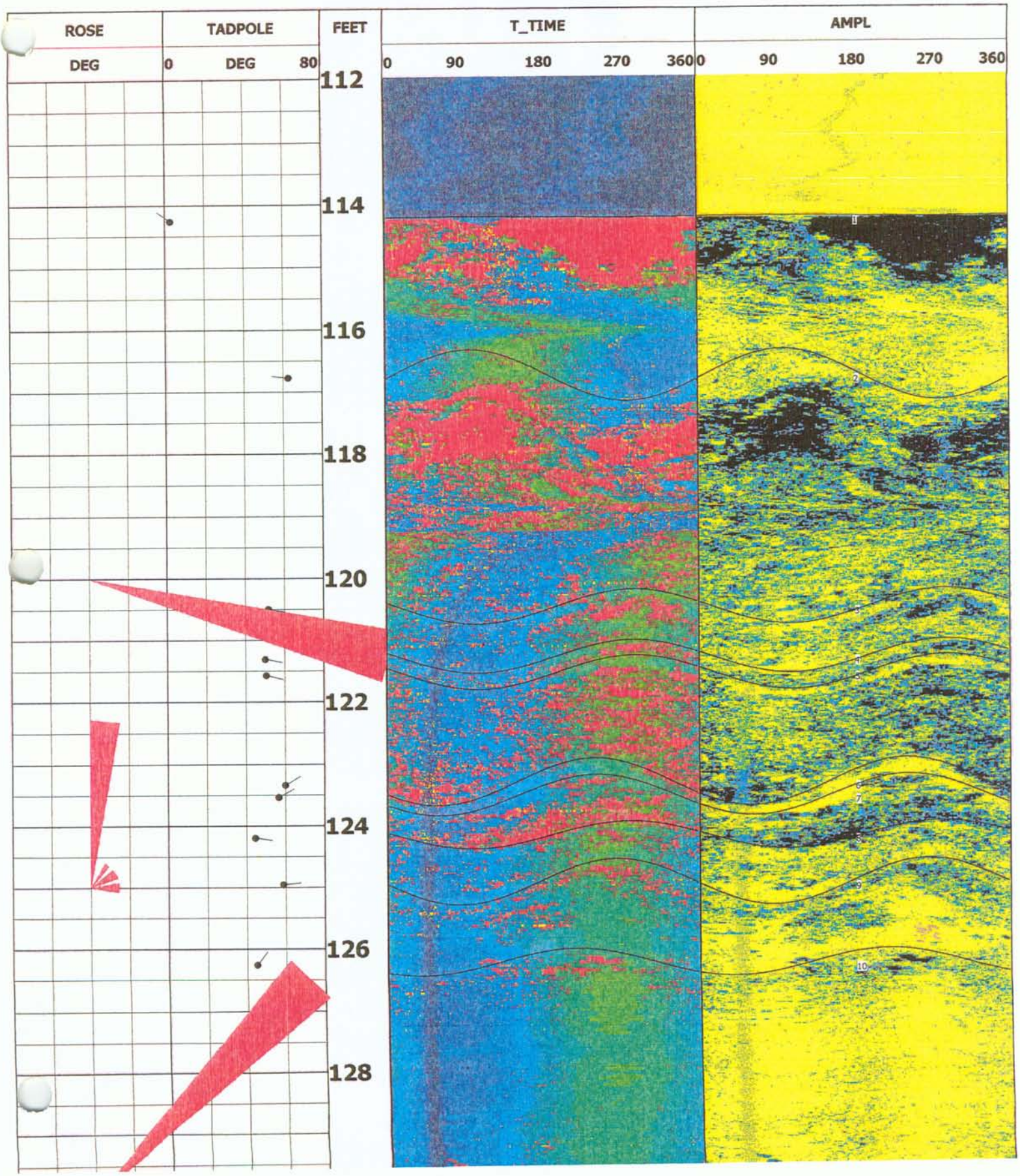
COMPU-LOG

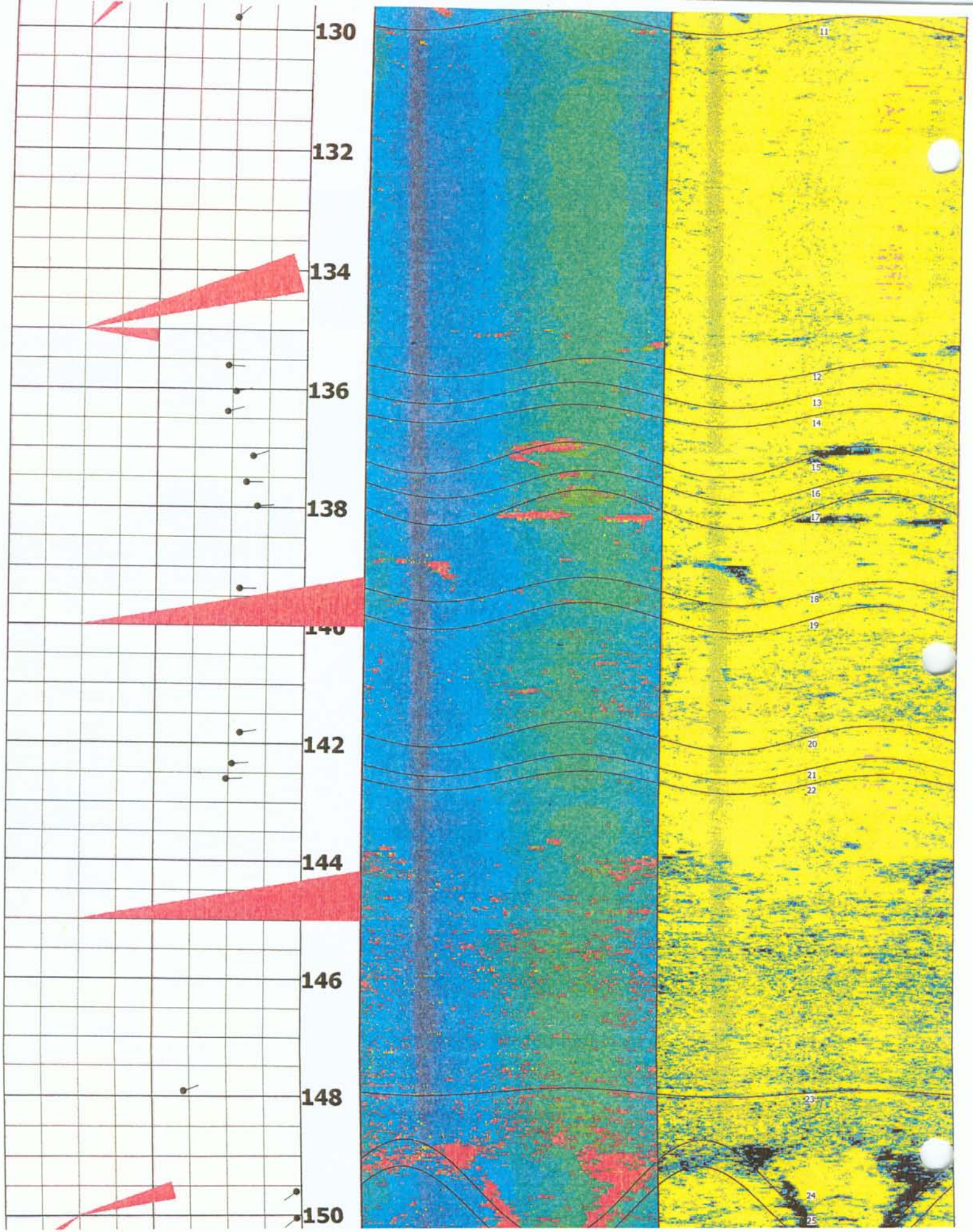
IT
FT MC-OLF3
Well Boring # 1

Date of Log: 05/16/00
Probe: 9800A , 1103
From 110.56 to 219.86 FT

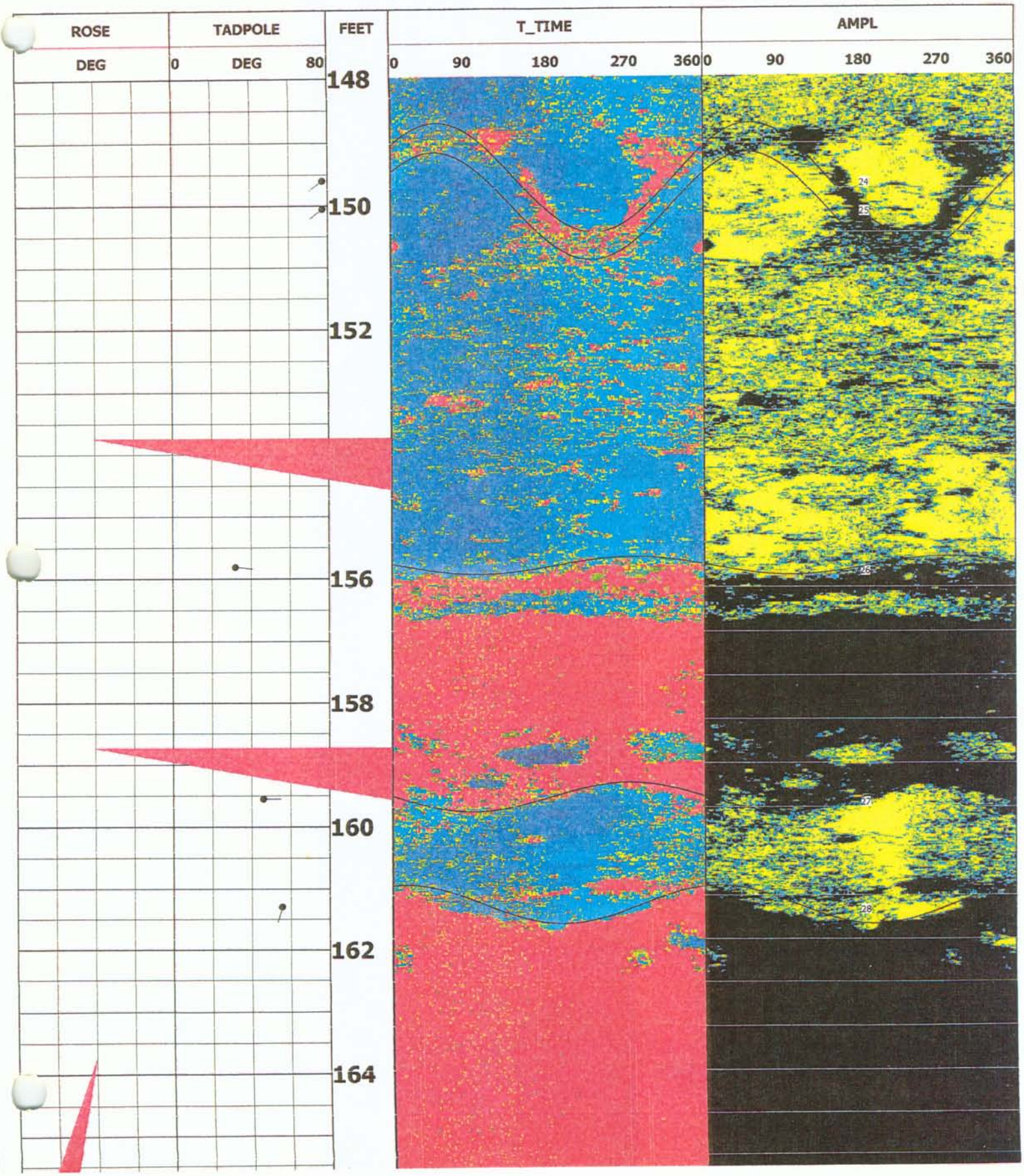


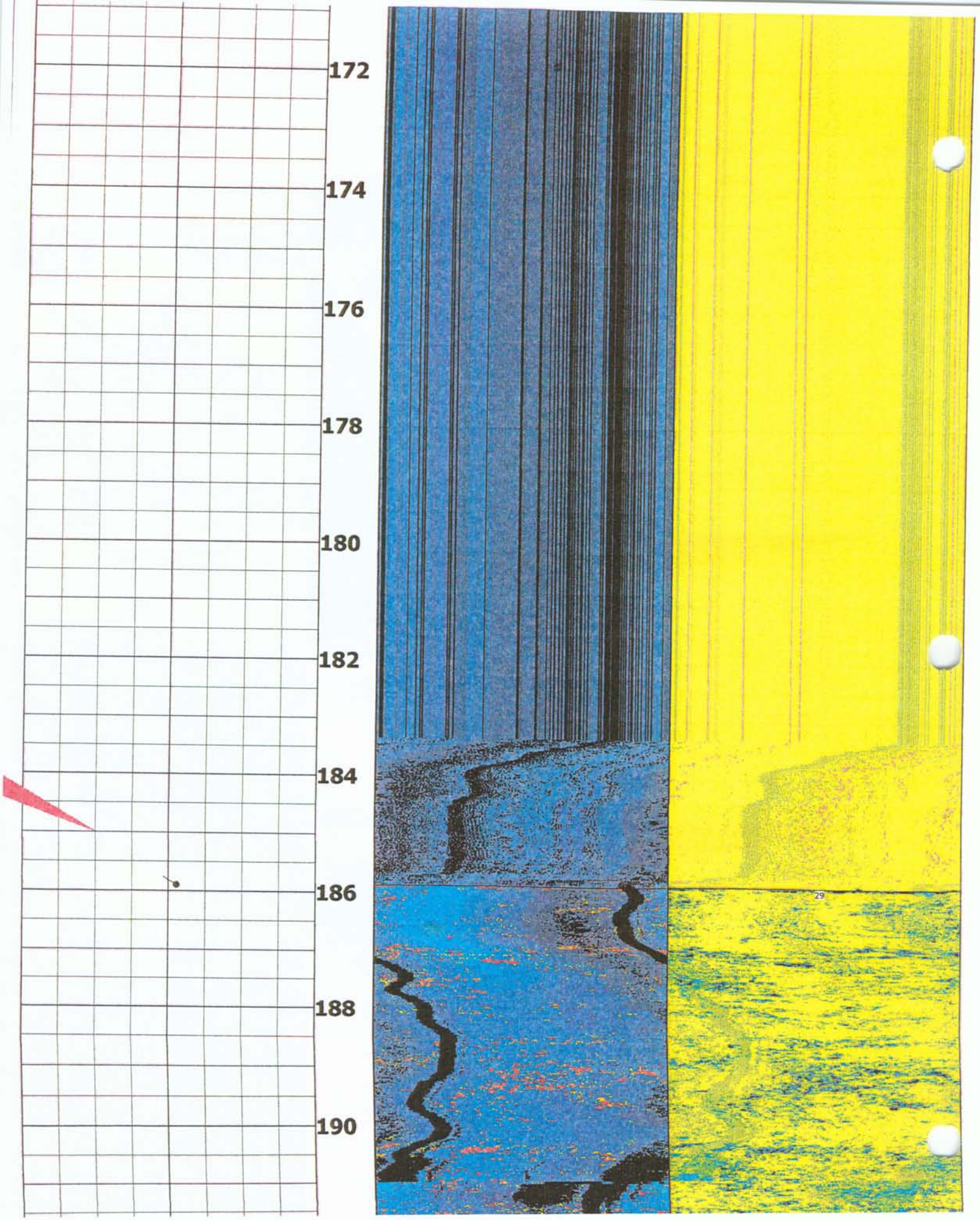
Boring # 1 05/16/00 1103

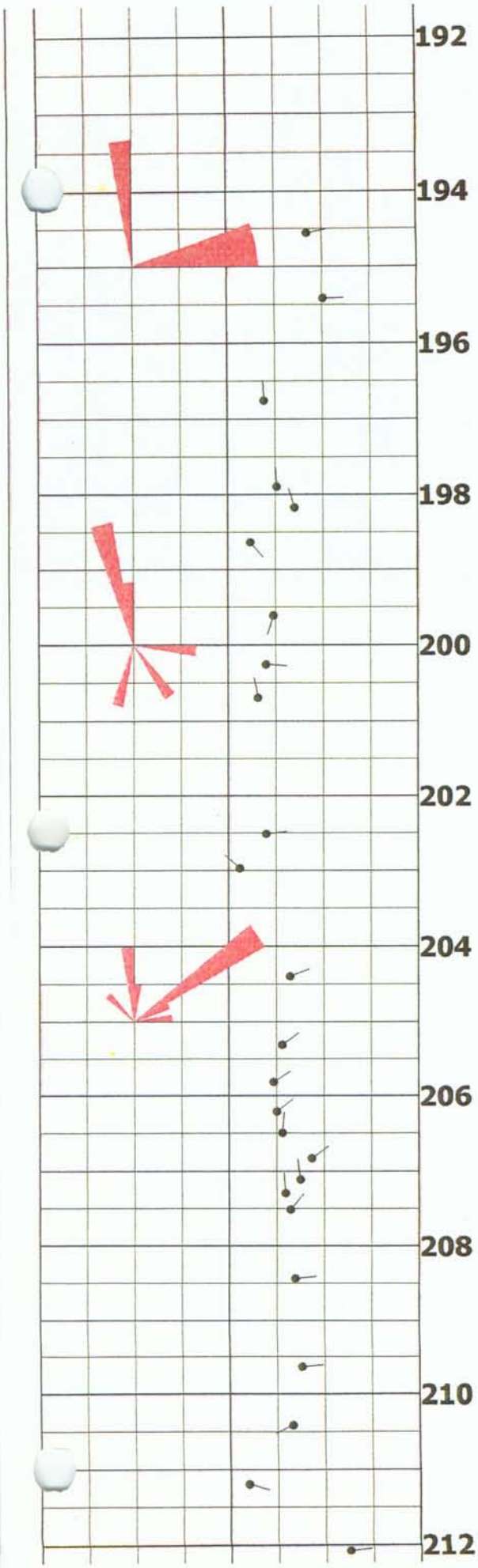


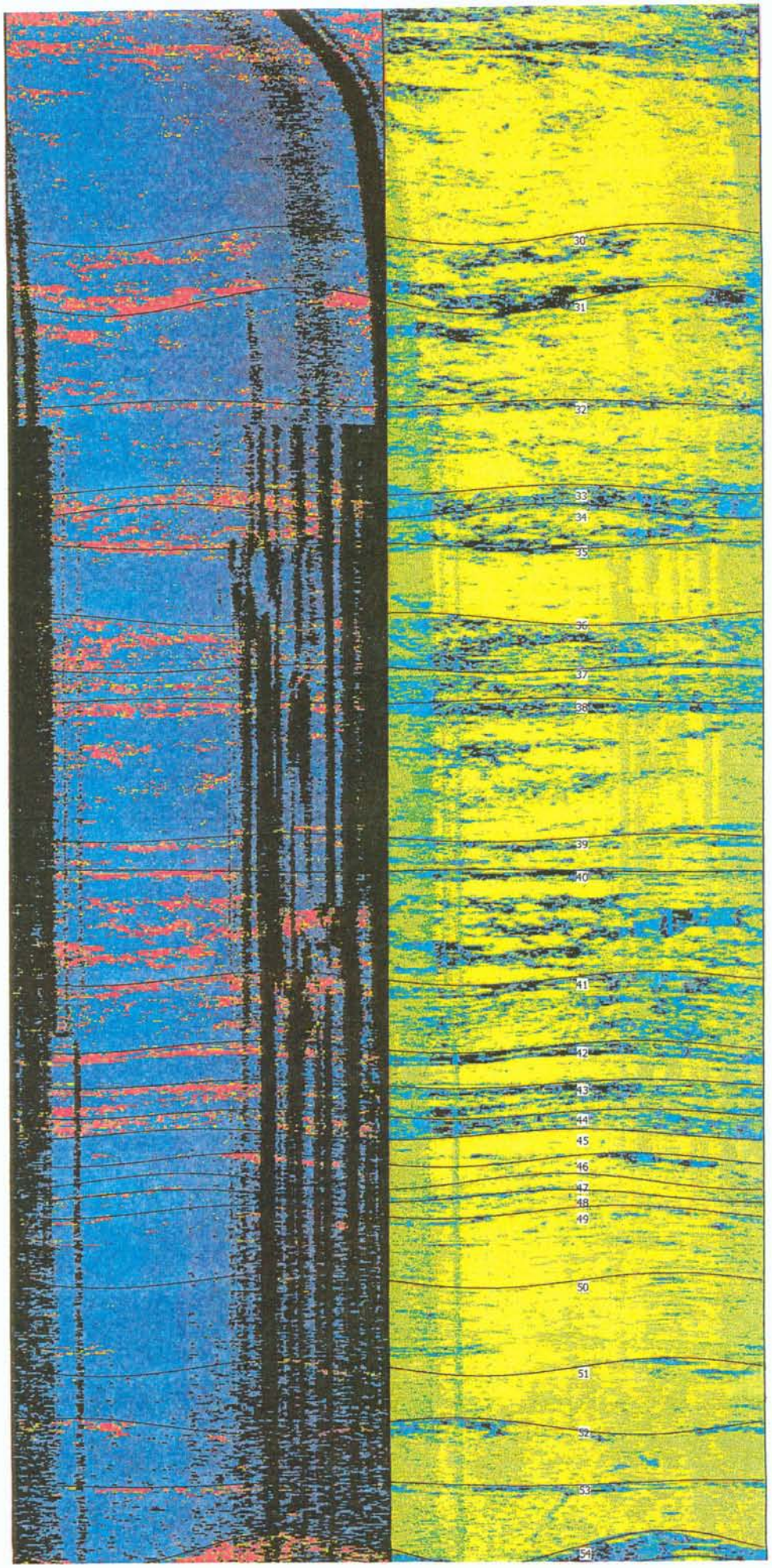

130
132
134
136
138
140
142
144
146
148
150
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

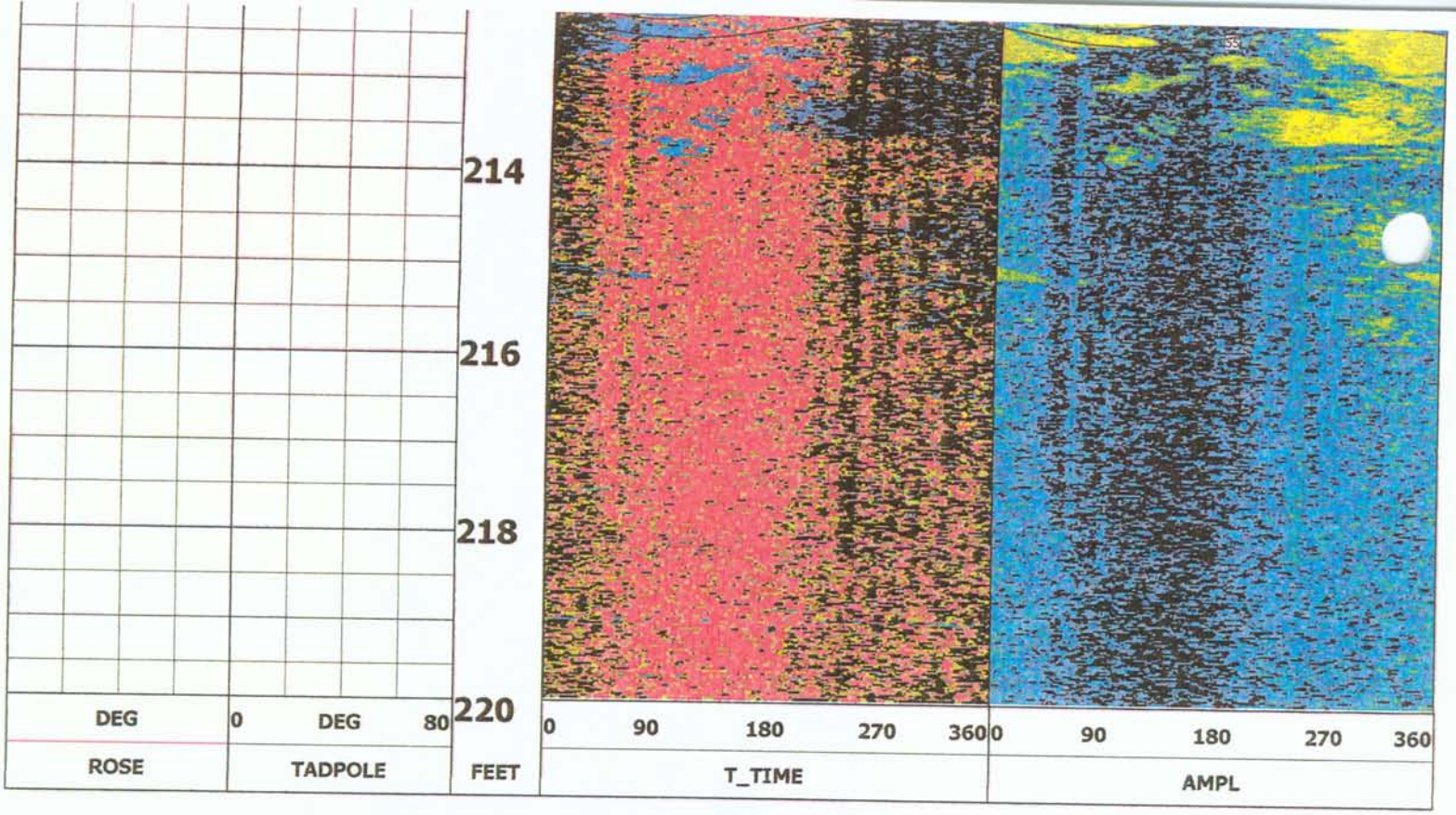
Boring # 1 05/16/00 1103




172
174
176
178
180
182
184
186
188
190
29


192
194
196
198
200
202
204
206
208
210
212


30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54


214
216
218
220
DEG
ROSE
0 DEG 80
TADPOLE
FEET
0 90 180 270 360
T_TIME
0 90 180 270 360
AMPL

COMPANY	: IT	OTHER SERVICES:			
WELL	: Boring # 1				
LOCATION/FIELD	: FT MC-OLF3				
COUNTY	: FT MC-OLF3				
STATE	: AL				
SECTOR	:	TOWNSHIP	:	RANGE:	
DATE	: 05/16/00	PERMANENT DATUM	:		
DEPTH DRILLER	:	ELEV.PERM.DATUM	:	KB	:
LOG BOTTOM	: 219.86	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 110.56	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	:	LOGGING UNIT	: 9607		
CASING TYPE	: Steel	FIELD OFFICE	: TULSA		
CASING THICKNESS:		RECORDED BY	: Federwisch		
BIT SIZE	: 5	BOREHOLE FLUID	: WATER	FILE	: PROCESSED
MAGNETIC DECL	: -1	RM	:	TYPE	: 9800A
BIT SIZE	: 5	BOREHOLE FLUID	: WATER	FILE	: PROCESSED
MAGNETIC DECL	: -1	RM	:	TYPE	: 9800A
MATRIX DENISTY	: 2.71	RM TEMPERATURE	:		
FLUID DENSITY	:	MATRIX DELTA T	: 54		
NEUTRON MATRIX	: Sandstone	FLUID DELTAT T	:	THRESH:	2000

FRACTURE NUMBER	DIP (DEG)	AZIMUTH (DEG)	TO (FT)	FROM (FT)	APERTURE (IN)	BORE (IN)	CATEGORY
1	3.05	303.56	114.22	114.24	0.00	4.90	CASING BOTTOM
2	62.91	275.81	116.35	117.18	0.00	5.00	SMALL FRACTURE
3	52.00	103.42	120.21	120.77	0.00	5.00	SMALL FRACTURE
4	50.26	103.69	121.03	121.57	0.00	5.00	SMALL FRACTURE
5	50.77	105.23	121.28	121.83	0.00	5.00	SMALL FRACTURE
6	60.15	58.35	122.93	123.70	0.00	5.00	SMALL FRACTURE
7	56.89	60.70	123.20	123.86	0.00	5.00	SMALL FRACTURE
8	44.79	99.44	123.96	124.40	0.00	5.00	SMALL FRACTURE
9	58.90	83.93	124.57	125.32	0.00	5.00	SMALL FRACTURE
10	45.42	37.01	126.02	126.46	0.00	5.00	SMALL FRACTURE
11	39.54	48.47	129.61	129.96	0.00	5.00	SMALL FRACTURE
12	38.07	96.01	135.41	135.76	0.00	5.00	BEDDING
13	42.25	77.88	135.81	136.22	0.00	5.00	BEDDING
14	38.03	74.75	136.19	136.54	0.00	5.00	BEDDING
15	51.90	71.03	136.84	137.40	0.00	5.00	SMALL FRACTURE
16	48.27	89.82	137.31	137.82	0.00	5.00	BEDDING
17	54.40	86.22	137.64	138.27	0.00	5.00	BEDDING
18	45.30	89.89	139.11	139.56	0.00	5.00	BEDDING
19	48.17	86.69	139.54	140.04	0.00	5.00	BEDDING
20	46.34	81.33	141.56	142.03	0.00	5.00	BEDDING
21	42.33	86.80	142.12	142.52	0.00	5.00	BEDDING
22	39.11	87.49	142.40	142.76	0.00	5.00	BEDDING
23	17.30	70.42	147.84	147.98	0.00	5.00	SMALL FRACTURE
24	77.43	233.64	148.71	150.45	0.00	5.00	TOP OF FRACTURE
25	77.46	230.58	149.17	150.90	0.00	5.00	FRACTURE BOTTOM
26	32.46	98.38	155.66	155.95	0.00	5.00	TOP OF FRACTURE
27	46.45	91.74	159.30	159.78	0.00	5.00	FRACTURE BOTTOM
28	55.72	198.03	160.96	161.58	0.00	5.00	TOP OF FRACTURE
29	4.78	299.79	185.87	185.88	0.00	5.00	CASING BOTTOM
30	34.22	79.10	194.41	194.67	0.00	4.59	SMALL FRACTURE
31	40.96	89.09	195.22	195.57	0.00	5.00	SMALL FRACTURE
32	15.72	356.20	196.69	196.78	0.00	5.00	SMALL FRACTURE
33	20.95	354.19	197.81	197.94	0.00	5.00	SMALL FRACTURE
34	28.47	341.49	198.06	198.26	0.00	5.00	SMALL FRACTURE
35	9.92	141.15	198.58	198.67	0.00	5.00	SMALL FRACTURE
36	19.42	199.34	199.51	199.69	0.00	5.00	SMALL FRACTURE
37	16.17	95.58	200.19	200.31	0.00	4.65	SMALL FRACTURE
38	12.85	346.55	200.64	200.71	0.00	5.00	SMALL FRACTURE
39	16.32	82.64	202.45	202.57	0.00	5.00	SMALL FRACTURE
40	5.11	310.86	202.93	202.97	0.00	5.00	SMALL FRACTURE
41	26.13	69.50	204.28	204.47	0.00	5.00	BEDDING
42	22.77	52.62	205.21	205.38	0.00	5.41	BEDDING

WELL SUMMARY FOR BORING 2

0-89	Surface Casing
89-94	Bedding with East Dips
94-96	Open fracture, dips to NW
96-105	Bedding or Foliation, dips to North – Northwest
105-107	Competent Zone
107-108	Fracture – dip to E – NE
108-110	Competent Zone
110	Joint – dip to North
111-115	Bedding or Foliation, dips to South – Southwest
115-117	Competent Zone
117-119	19 Southwest, bottom dipping to Southeast
119-140	Competent zone, some small fractures and bedding planes indicated, general dip direction to E – NE
140 – 156	Large zone of incompetent rock, general dip direction E-SE, some jointing at 145
156-161	Competent zone, small fracture at 160 with dip to E-NE
161-163	Fracture with East dip
163-165	Competent zone
165-172	Bedding or foliation with N –NW dips
172-176	Competent zone
176-183	Some small fractures with general dip direction to E-NE
183-194	Competent zone
194-199	Small fractures with E dip
199-204	Large washout or cave, Dip at bottom to East
204-206	Competent zone, dip East
206-215	Zone of small fractures, Dip direction scattered
215-228	Fairly competent zone, dips primarily to East
228-237	Small fractures or foliation, with East dips
237-239	Large open fracture dip to East
239-248	Bedding or foliation with general dip direction to East, some jointing indicated at 245 in more competent rock

Century GEOPHYSICAL CORP.

Boring # 2

COMPANY	: IT			OTHER SERVICES:	
WELL	: Boring # 2				
LOCATION/FIELD	: FT MC-OLF3				
COUNTY	: Calhoun				
STATE	: AL				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 05/11/00	PERMANENT DATUM	:		
DEPTH DRILLER	: 250			KB	:
LOG BOTTOM	: 251.70	LOG MEASURED FROM	: GL	DF	:
LOG TOP	: 80.00	DRL MEASURED FROM	: GL	GL	:
CASING DIAMETER	: 6	LOGGING UNIT	: 9607		
CASING TYPE	: Steel	FIELD OFFICE	: TULSA		
ING THICKNESS:		RECORDED BY	: Federwisch		
BIT SIZE	: 5.8	BOREHOLE FLUID	: WATER	FILE	: PROCESSED
MAGNETIC DECL.	: -1	RM	: 0	TYPE	: 9800A
MATRIX DENSITY	: 2.71	RM TEMPERATURE	: 0		
NEUTRON MATRIX	: Sandstone	MATRIX DELTA T	: 54		
				THRESH:	20000

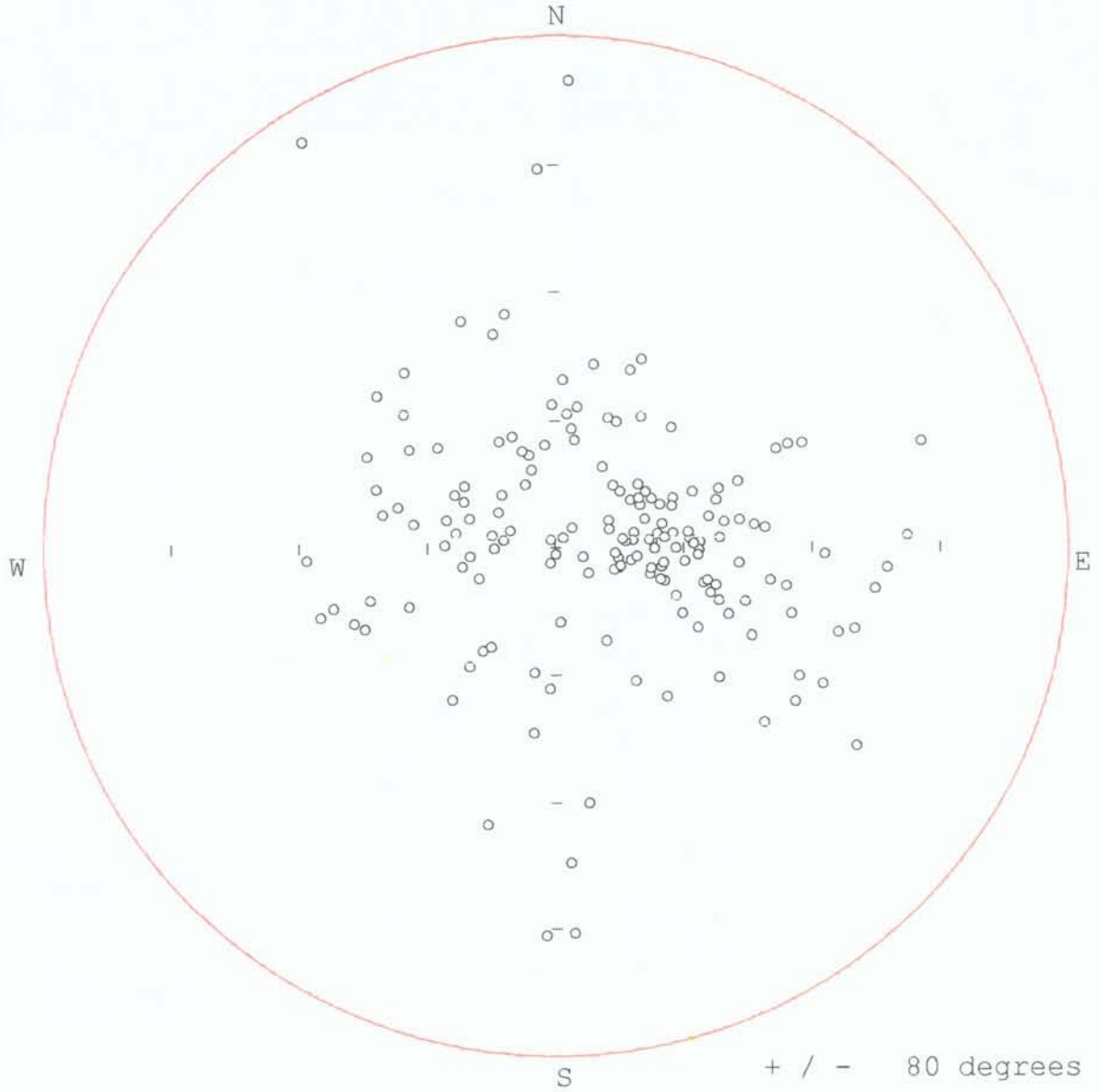
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

Polar_Dip Plot

COMPU-LOG

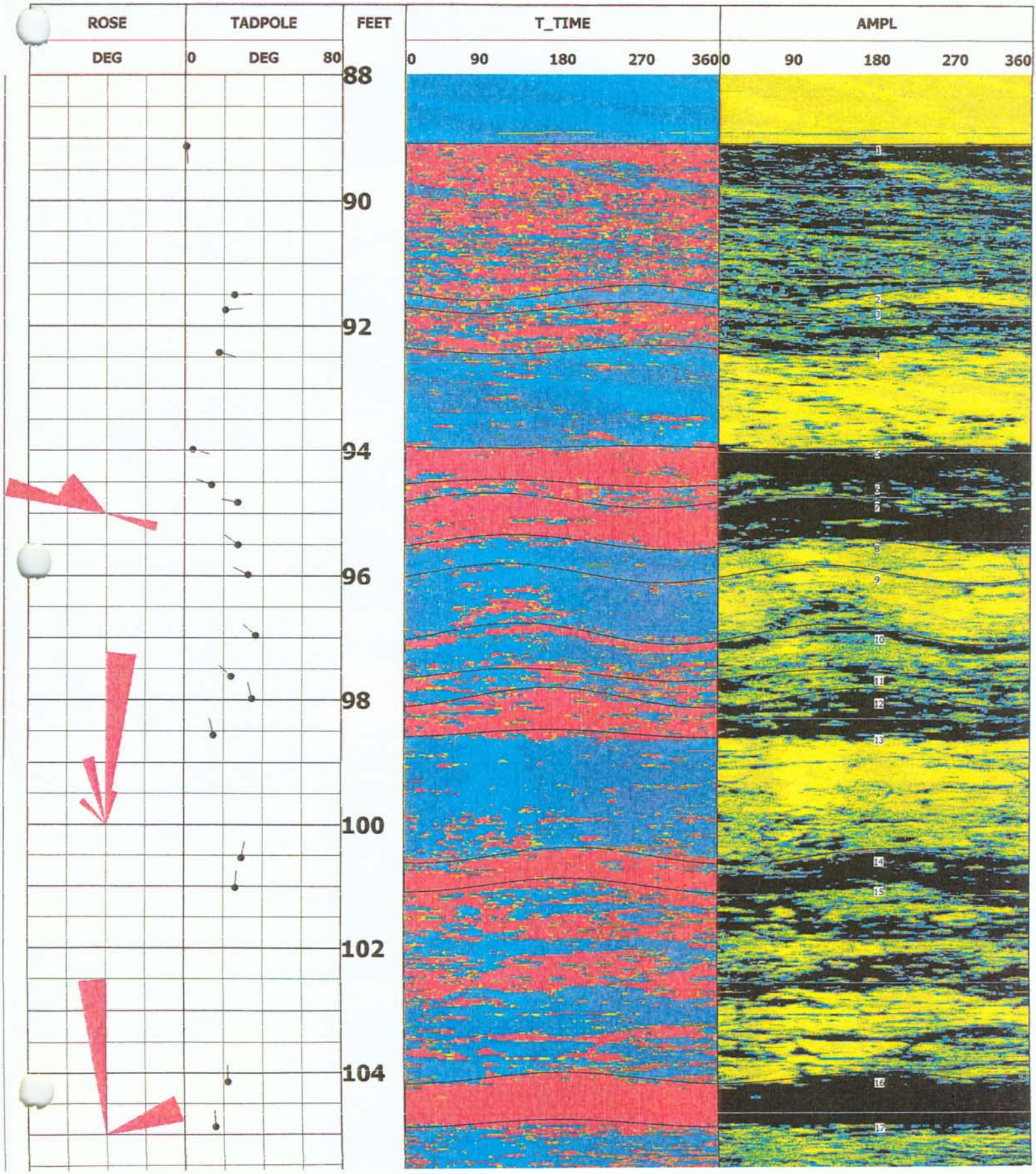
IT
FT MC-OLF3
Well Boring # 2

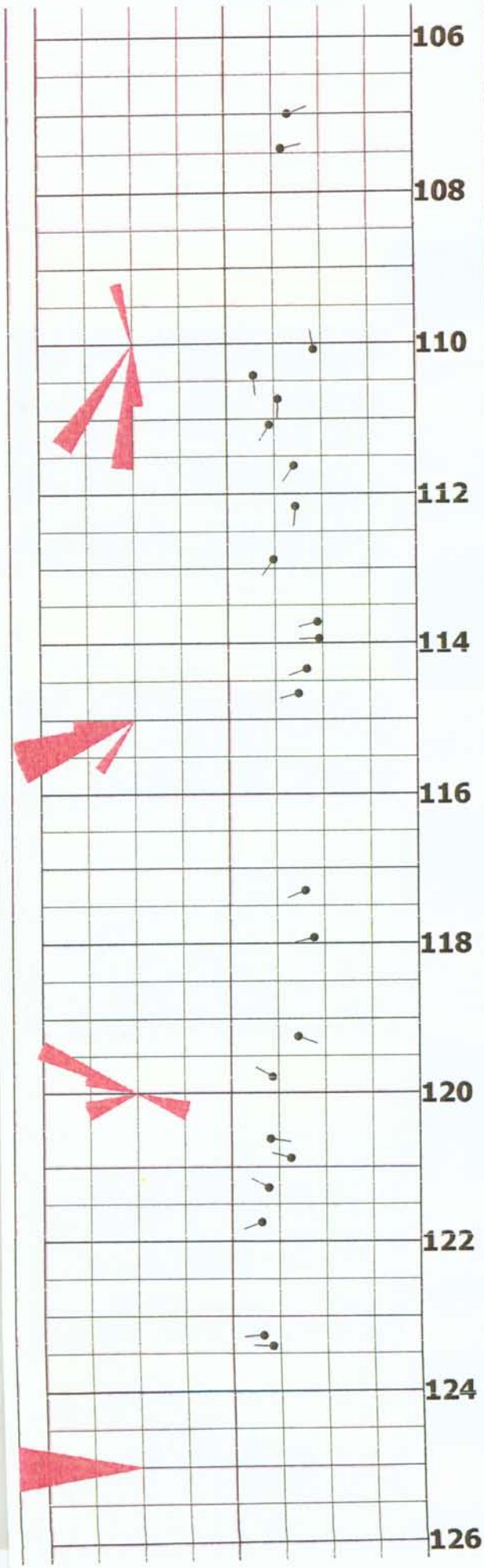
Date of Log: 05/11/00
Probe: 9800A , 1103
From 83.46 to 248.09 FT

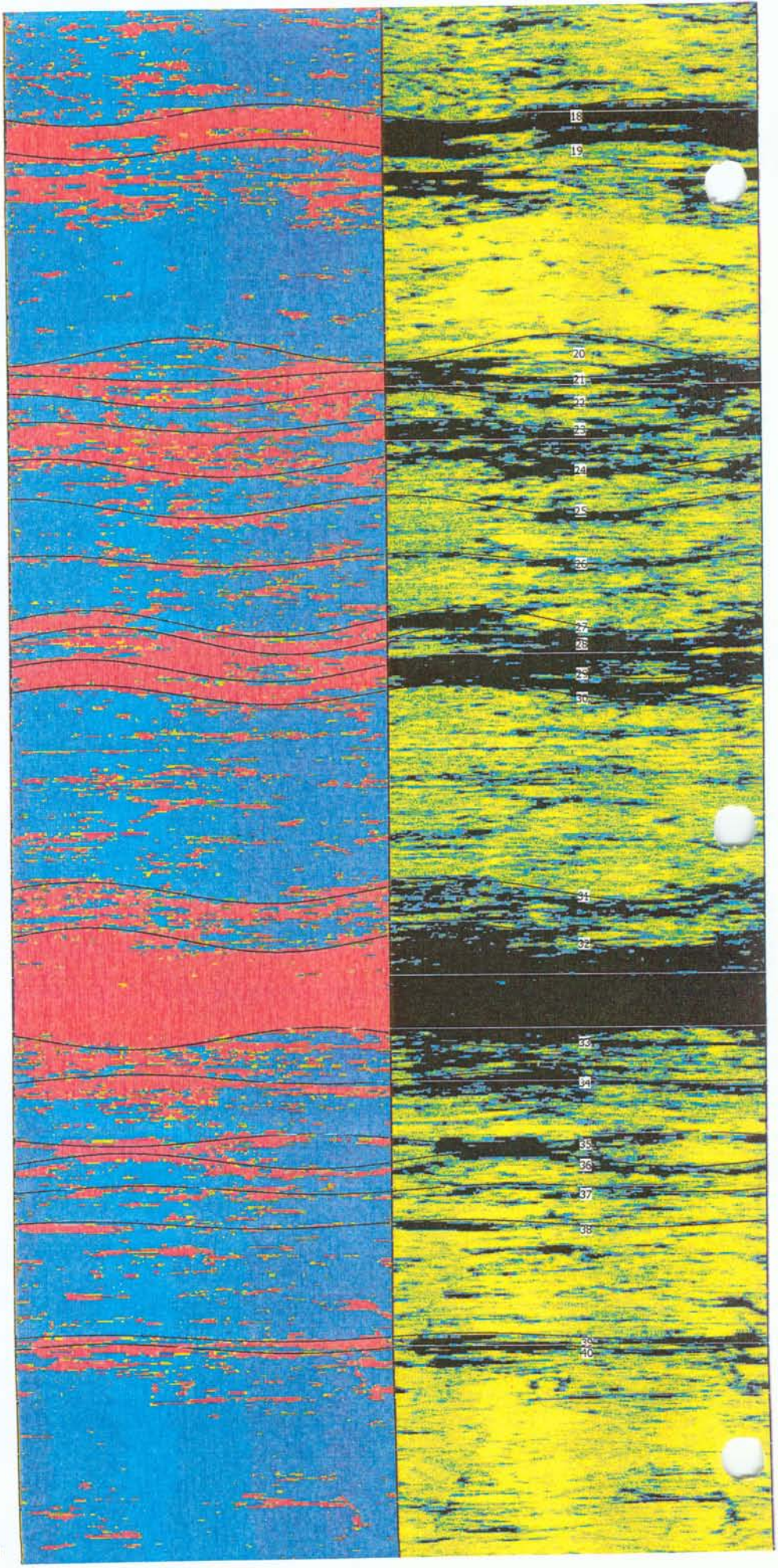


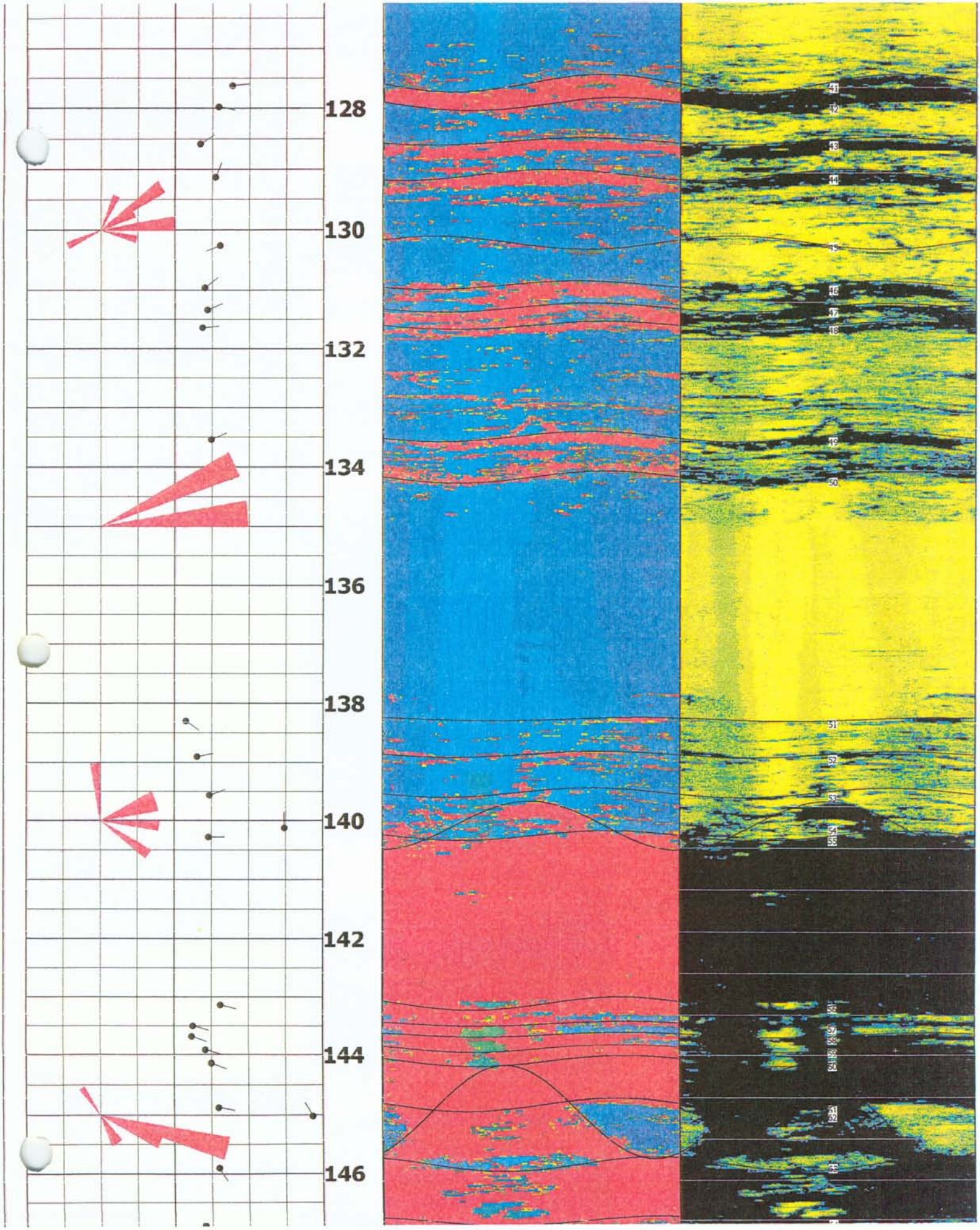
+ / - 80 degrees of dip

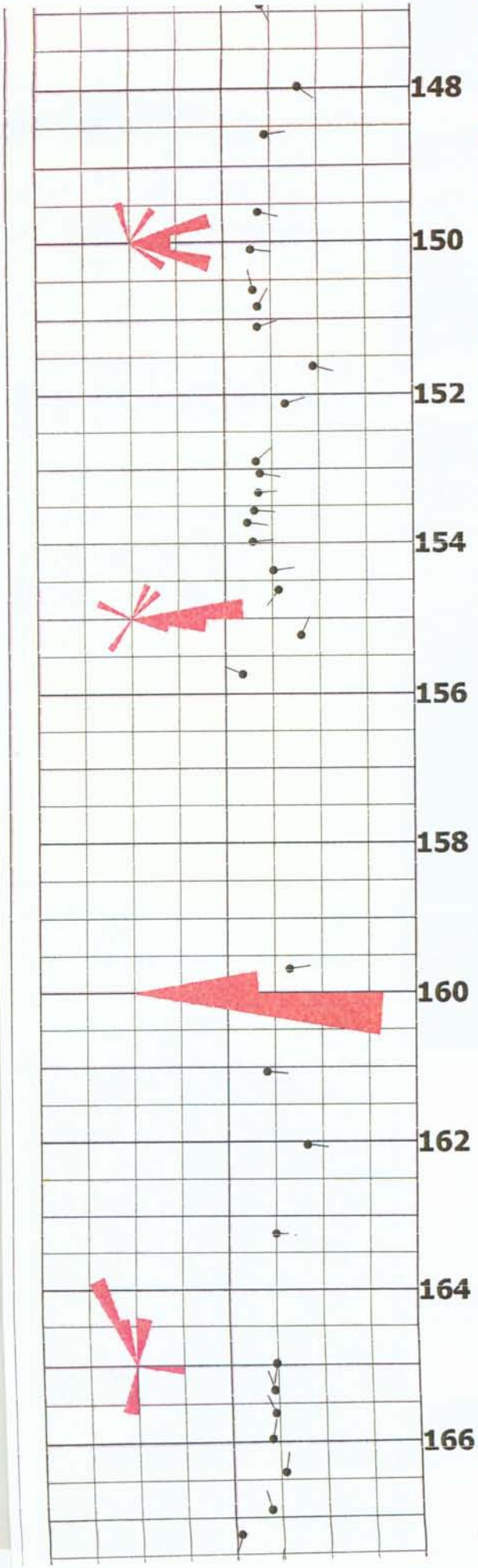
Boring # 2 05/11/00 1103

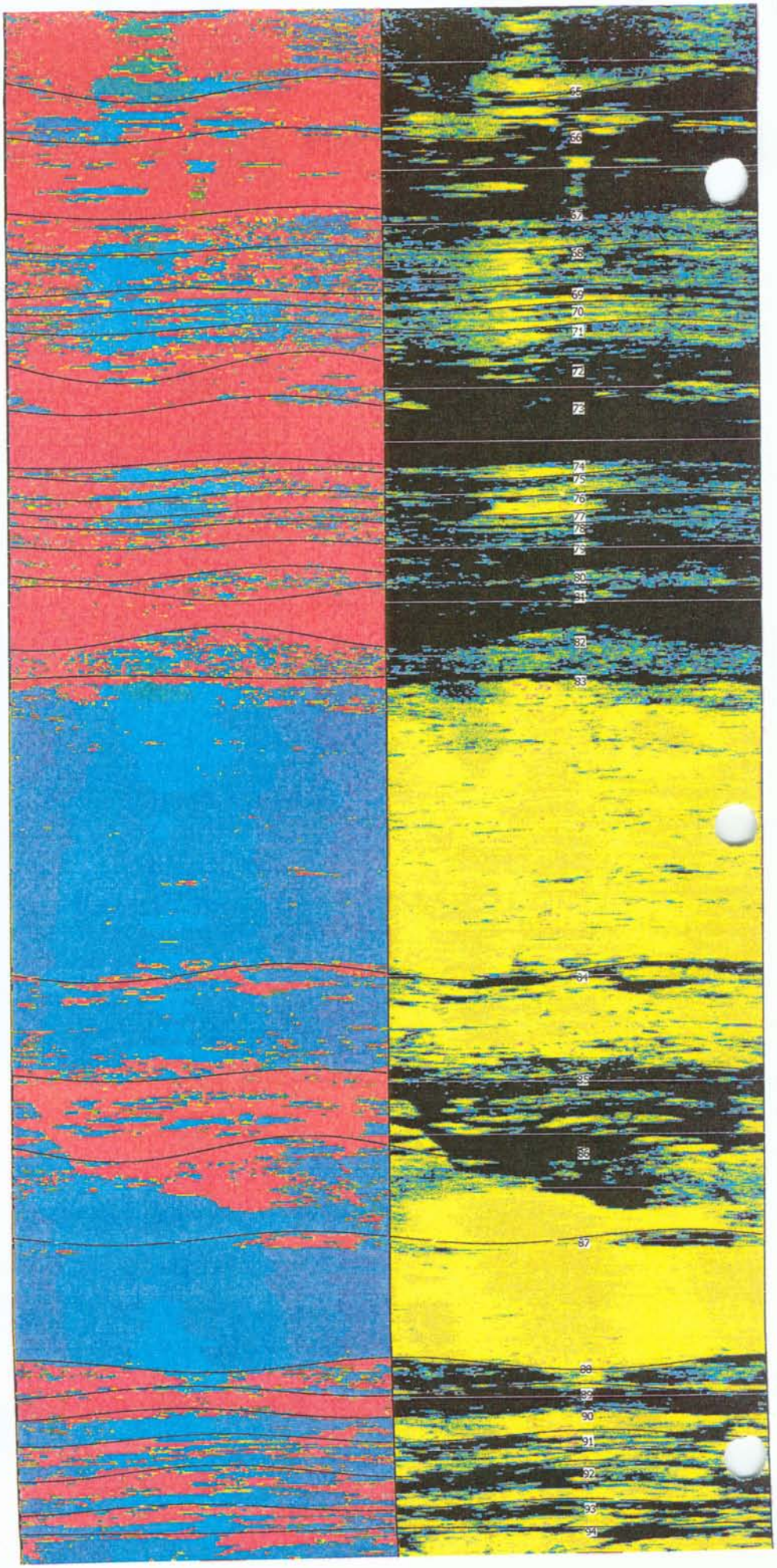


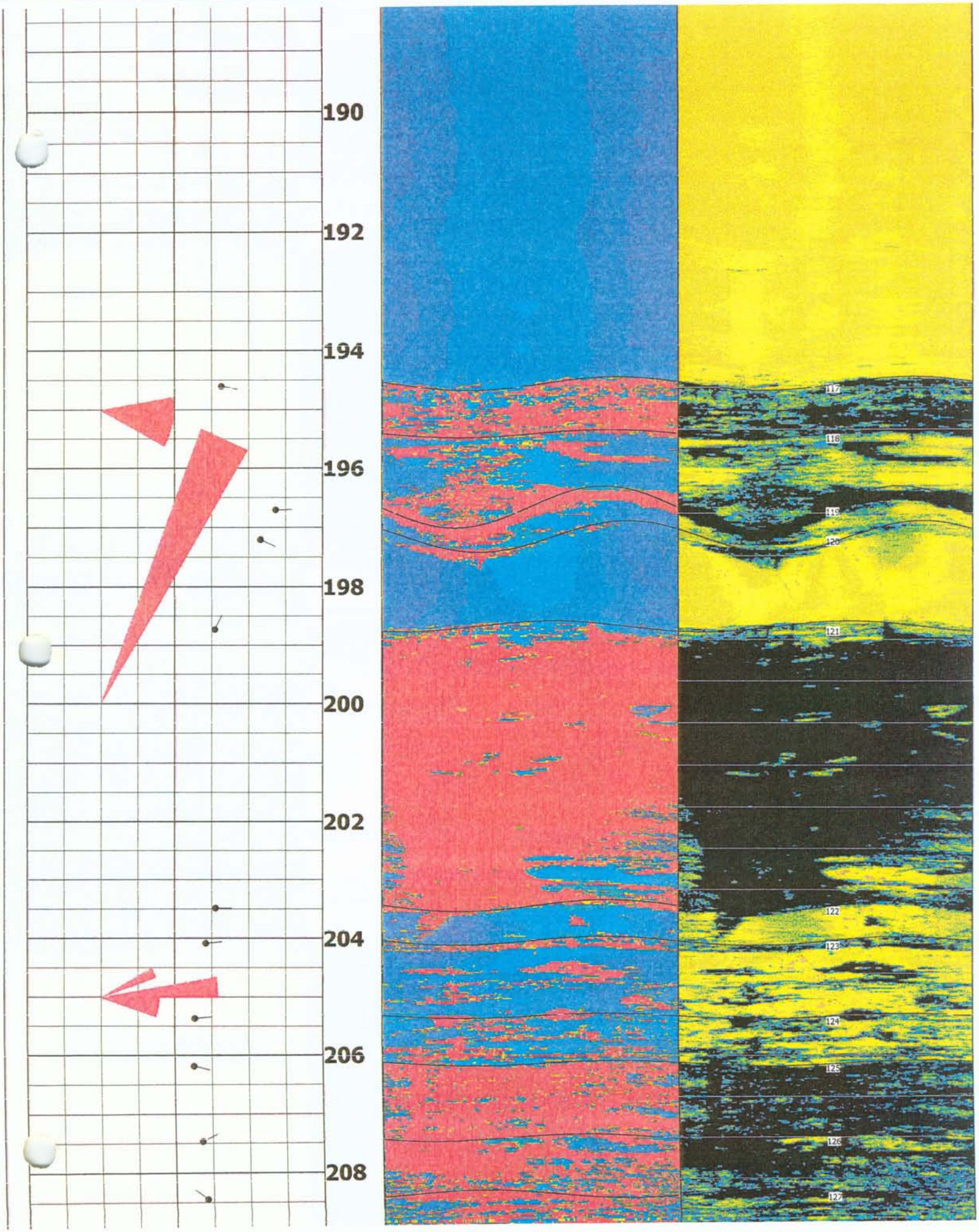

106
108
110
112
114
116
118
120
122
124
126

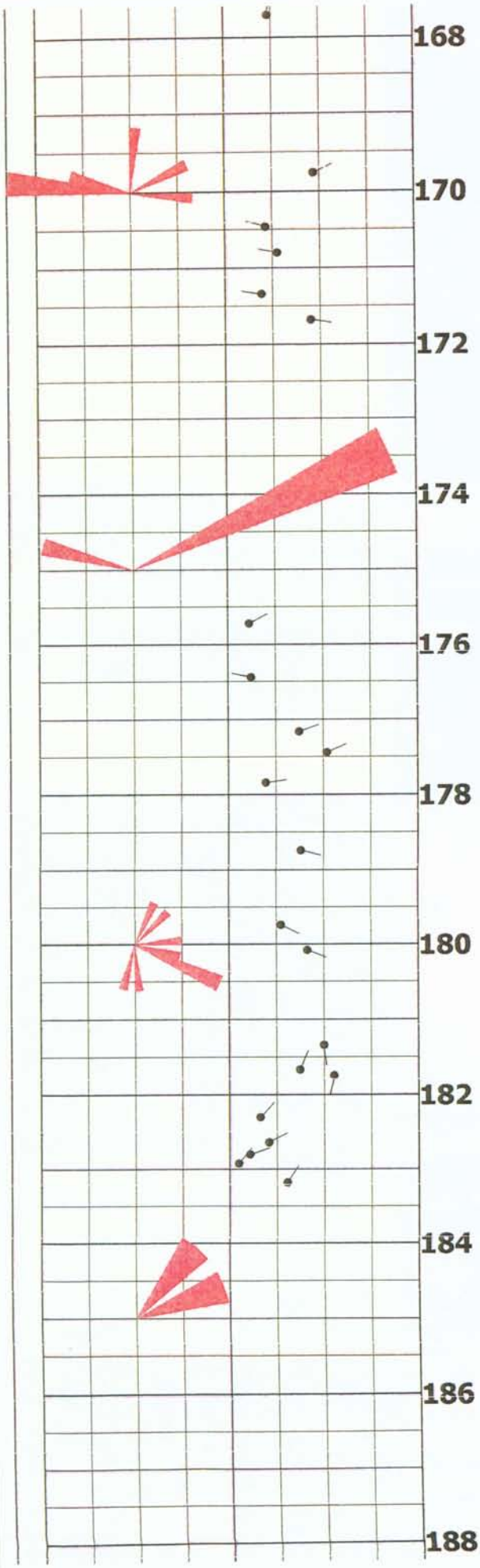

18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

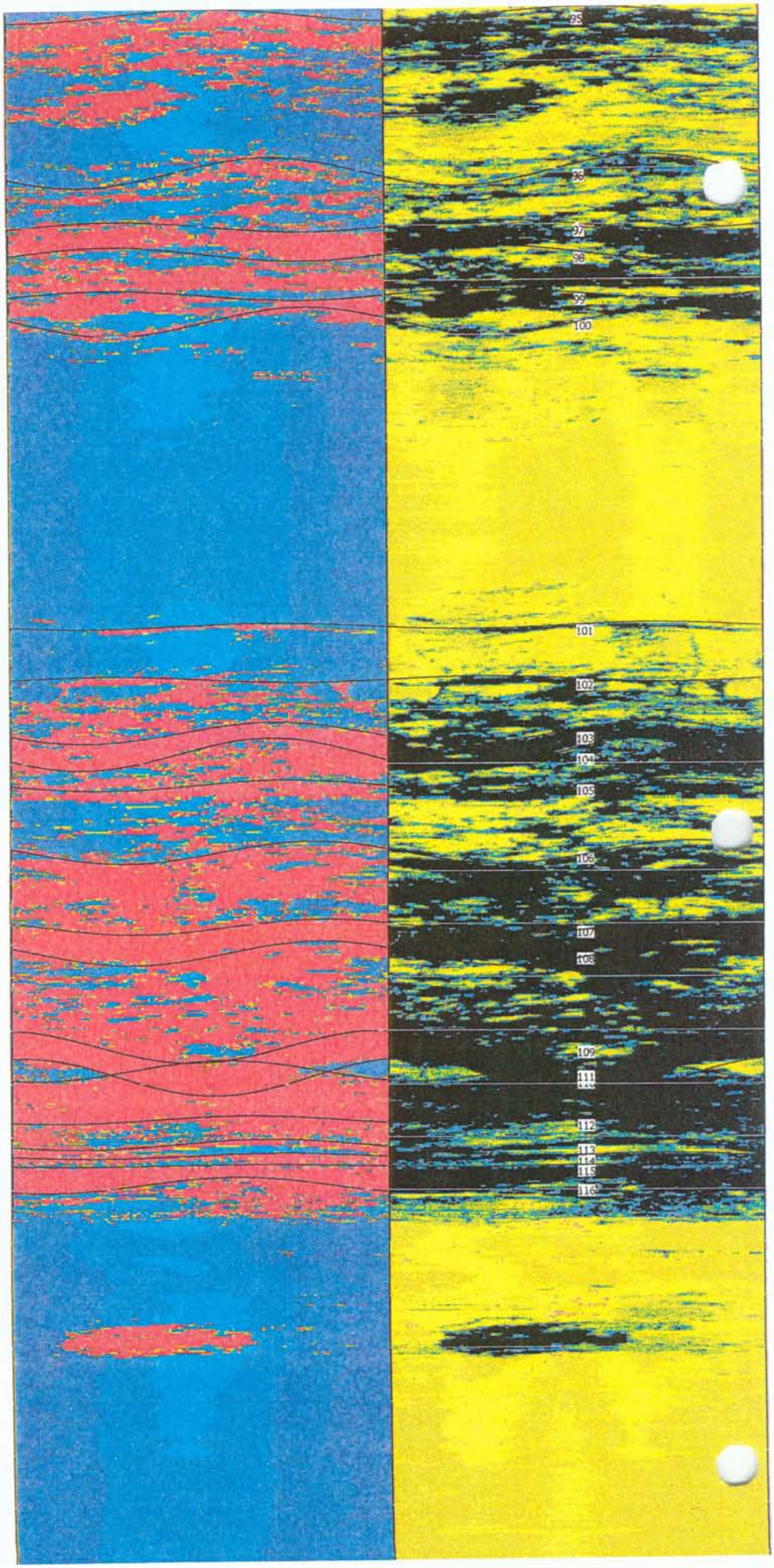

128
130
132
134
136
138
140
142
144
146

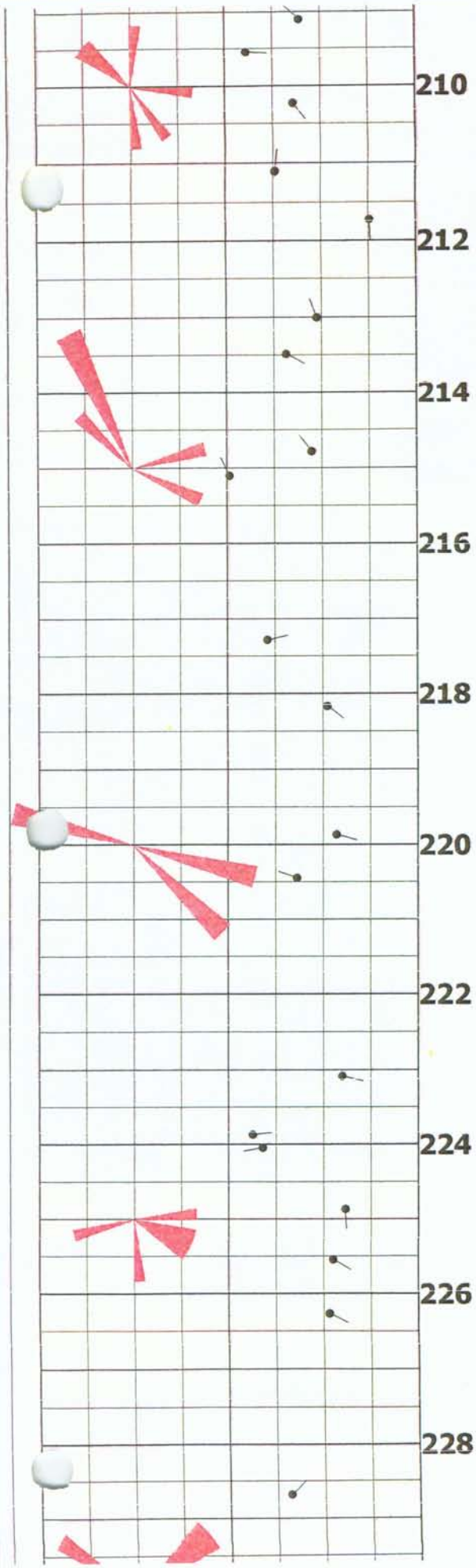

148
150
152
154
156
158
160
162
164
166

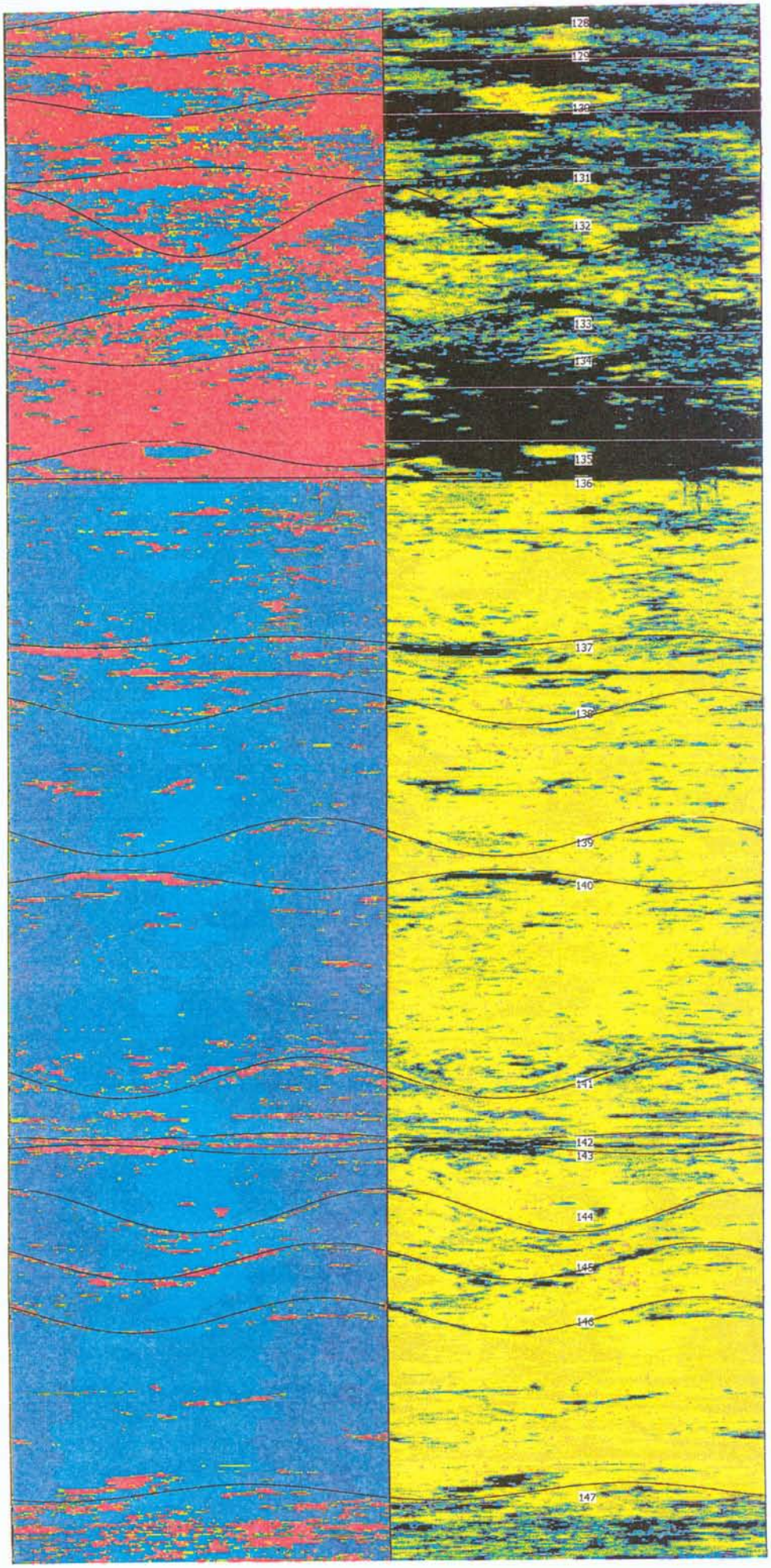

35
36
37
38
39
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94

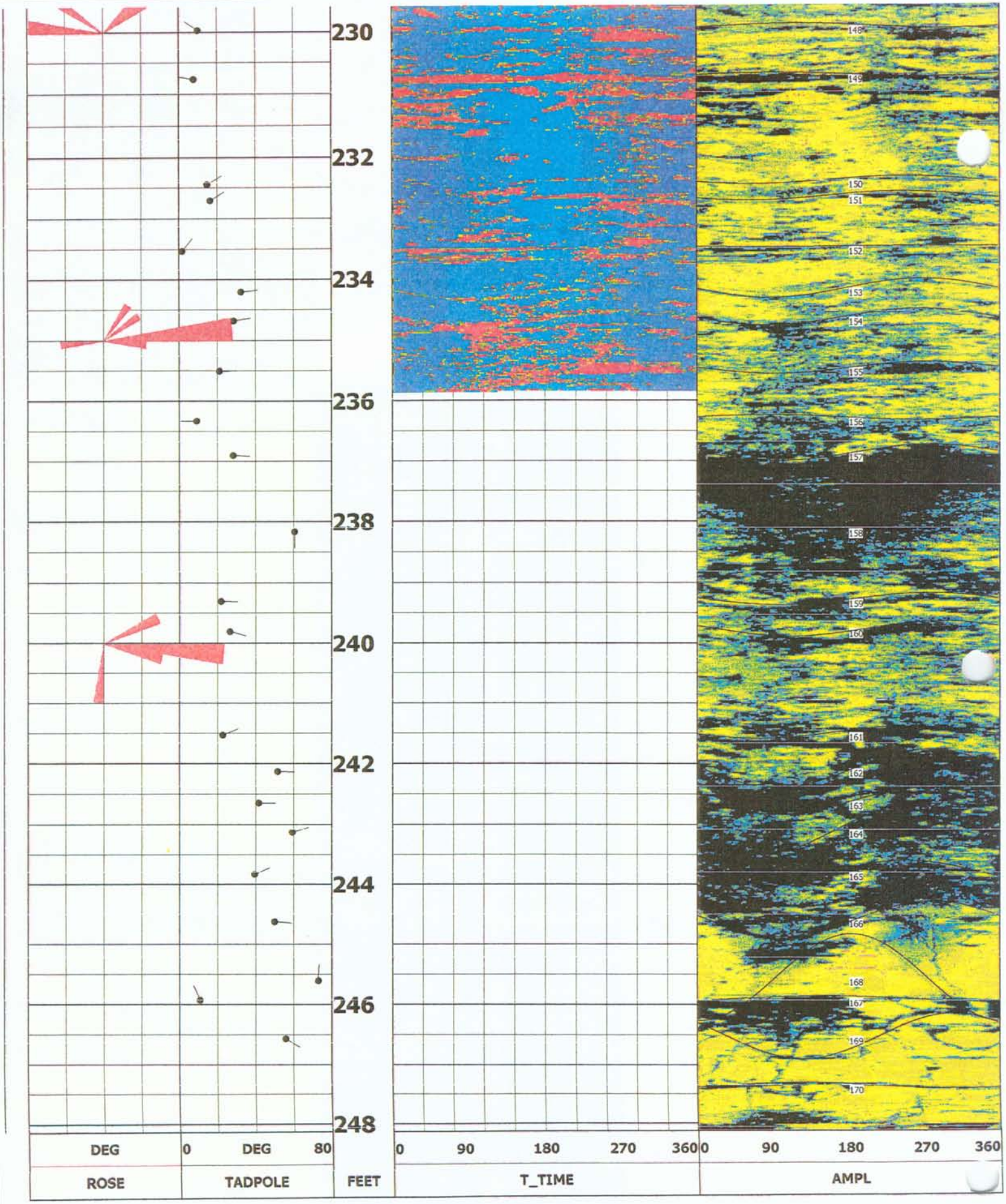

190
192
194
196
198
200
202
204
206
208
117
118
119
120
121
122
123
124
125
126
127


168
170
172
174
176
178
180
182
184
186
188


95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
111
112
113
114
115
116


210
212
214
216
218
220
222
224
226
228


128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147


230
232
234
236
238
240
242
244
246
248
DEG
0
DEG
80
ROSE
TADPOLE
FEET
0
90
180
270
360
T_TIME
0
90
180
270
360
AMPL
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
168
167
169
170

COMPANY	: IT	OTHER SERVICES:			
WELL	: Boring # 2				
LOCATION/FIELD	: FT MC-OLF3				
COUNTY	: FT MC-OLF3				
STATE	: AL				
SECTOR	:	TOWNSHIP	:		RANGE:
DATE	: 05/11/00	PERMANENT DATUM	:		
DEPTH DRILLER	:	ELEV.PERM.DATUM	:	KB	:
LOG BOTTOM	: 248.09	LOG MEASURED FROM:	GL	DF	:
LOG TOP	: 83.46	DRL MEASURED FROM:	GL	GL	:
CASING DRILLER	:	LOGGING UNIT	: 9607		
CASING TYPE	: Steel	FIELD OFFICE	: TULSA		
CASING THICKNESS:		RECORDED BY	: Federwisch		
BIT SIZE	: 5.8	BOREHOLE FLUID	: WATER	FILE	:
ORIGINAL					
MAGNETIC DECL	: -1	RM	:	TYPE	:
9800A					
BIT SIZE	: 5.8	BOREHOLE FLUID	: WATER	FILE	:
ORIGINAL					
MAGNETIC DECL	: -1	RM	:	TYPE	:
9800A					
MATRIX DENISTY	: 2.71	RM TEMPERATURE	:		
FLUID DENSITY	:	MATRIX DELTA T	: 54		
NEUTRON MATRIX	: Sandstone	FLUID DELTAT T	:	THRESH:	
2000					

FRACTURE NUMBER	DIP (DEG)	AZIMUTH (DEG)	TO (FT)	FROM (FT)	APERTURE (IN)	BORE (IN)	CATEGORY
1	1.06	175.79	89.07	89.09	0.00	5.80	CASING BOTTOM
2	25.67	86.51	91.35	91.59	0.00	5.80	SMALL FRACTURE
3	20.99	86.01	91.61	91.80	0.00	5.80	SMALL FRACTURE
4	17.78	106.96	92.30	92.45	0.00	5.80	BEDDING
5	4.55	108.44	93.91	93.96	0.00	5.80	TOP OF FRACTURE
6	14.09	289.16	94.45	94.56	0.00	5.80	FRACTURE BOTTOM
7	27.47	281.23	94.67	94.90	0.00	5.80	TOP OF FRACTURE
8	27.53	304.40	95.33	95.57	0.00	5.80	FRACTURE BOTTOM
9	32.68	296.29	95.80	96.09	0.00	5.80	SMALL FRACTURE
10	36.64	310.96	96.75	97.09	0.00	5.80	FRACTURE
11	24.21	311.04	97.48	97.69	0.00	5.80	SMALL FRACTURE
12	34.84	344.21	97.79	98.11	0.00	5.80	TOP OF FRACTURE
13	15.19	344.99	98.47	98.59	0.00	5.80	FRACTURE BOTTOM
14	29.45	12.17	100.36	100.62	0.00	5.80	TOP OF FRACTURE
15	26.44	2.99	100.87	101.09	0.00	5.80	FRACTURE BOTTOM
16	22.55	359.15	104.00	104.19	0.00	5.80	TOP OF FRACTURE
17	16.28	354.73	104.78	104.91	0.00	5.80	FRACTURE BOTTOM
18	27.15	69.87	106.84	107.09	0.00	5.80	FRACTURE
19	24.40	78.38	107.29	107.52	0.00	5.80	FRACTURE
20	37.42	348.23	109.87	110.23	0.00	6.00	SMALL FRACTURE
21	11.74	176.14	110.33	110.44	0.00	5.80	FRACTURE
22	22.10	182.31	110.59	110.80	0.00	5.80	SMALL FRACTURE
23	18.43	212.96	110.96	111.13	0.00	5.80	SMALL FRACTURE
24	28.72	214.23	111.45	111.72	0.00	5.80	SMALL FRACTURE
25	29.22	186.65	111.98	112.26	0.00	5.80	SMALL FRACTURE
26	19.70	215.11	112.74	112.92	0.00	5.80	SMALL FRACTURE
27	38.25	253.49	113.49	113.86	0.00	5.80	FRACTURE
28	38.86	267.23	113.71	114.09	0.00	5.80	FRACTURE
29	33.63	249.36	114.14	114.45	0.00	5.80	FRACTURE

30	30.06	254.10	114.48	114.75	0.00	5.80	FRACTURE
31	32.37	246.92	117.10	117.40	0.00	5.80	FRACTURE
32	35.93	254.67	117.71	118.05	0.00	5.80	TOP OF FRACTURE
33	28.87	111.31	119.05	119.33	0.00	5.80	FRACTURE BOTTOM
34	17.77	298.16	119.67	119.81	0.00	5.80	SMALL FRACTURE
35	16.81	100.18	120.49	120.65	0.00	5.80	SMALL FRACTURE
36	25.38	284.80	120.74	120.96	0.00	5.80	SMALL FRACTURE
37	15.96	297.51	121.17	121.30	0.00	5.80	SMALL FRACTURE
38	12.78	248.06	121.65	121.76	0.00	5.80	SMALL FRACTURE
39	13.33	264.32	123.17	123.28	0.00	5.80	FRACTURE
40	17.26	271.38	123.30	123.44	0.00	5.80	FRACTURE
41	31.22	83.32	127.44	127.73	0.00	5.80	FRACTURE
42	23.75	103.33	127.82	128.04	0.00	5.80	FRACTURE
43	13.96	57.08	128.48	128.60	0.00	5.80	FRACTURE
44	22.07	22.24	129.01	129.20	0.00	5.80	FRACTURE
45	24.66	248.02	130.11	130.33	0.00	5.75	SMALL FRACTURE
46	16.35	52.21	130.85	130.99	0.00	5.80	FRACTURE
47	17.75	67.14	131.22	131.38	0.00	5.80	FRACTURE
48	15.12	85.71	131.53	131.67	0.00	5.80	FRACTURE
49	19.97	66.67	133.40	133.58	0.00	5.80	FRACTURE
50	22.56	87.79	134.06	134.28	0.00	5.80	FRACTURE
51	6.52	127.22	138.23	138.29	0.00	5.80	SMALL FRACTURE
52	12.46	78.65	138.80	138.91	0.00	5.80	SMALL FRACTURE
53	19.32	69.91	139.43	139.60	0.00	5.80	SMALL FRACTURE
54	59.46	357.74	139.66	140.49	0.00	6.21	FRACTURE
55	18.80	90.00	140.16	140.33	0.00	5.80	TOP OF FRACTURE
56	25.20	106.40	142.99	143.23	0.00	5.80	FRACTURE BOTTOM
57	10.32	107.53	143.41	143.50	0.00	5.80	SMALL FRACTURE
58	9.76	110.52	143.59	143.69	0.00	5.80	SMALL FRACTURE
59	17.13	106.82	143.81	143.97	0.00	5.80	SMALL FRACTURE
60	20.26	111.94	144.01	144.20	0.00	5.80	TOP OF FRACTURE
61	24.20	102.11	144.72	144.96	0.00	5.80	FRACTURE BOTTOM
62	74.85	328.56	144.18	145.76	0.00	5.80	FRACTURE
63	24.30	149.15	145.73	145.98	0.00	5.80	FRACTURE
64	16.58	151.44	146.78	146.94	0.00	5.80	FRACTURE
65	32.56	128.62	147.79	148.11	0.00	5.80	SMALL FRACTURE
66	18.44	82.66	148.46	148.64	0.00	5.80	FRACTURE
67	15.36	105.59	149.49	149.63	0.00	5.80	FRACTURE
68	11.91	99.28	150.00	150.11	0.00	5.80	SMALL FRACTURE
69	12.83	343.81	150.54	150.63	0.00	5.80	SMALL FRACTURE
70	14.80	30.03	150.75	150.87	0.00	5.80	SMALL FRACTURE
71	14.70	72.01	151.00	151.13	0.00	5.88	SMALL FRACTURE
72	38.19	105.81	151.38	151.77	0.00	5.80	FRACTURE
73	26.19	73.14	151.96	152.20	0.00	5.80	TOP OF FRACTURE
74	13.49	48.41	152.79	152.91	0.00	5.80	FRACTURE BOTTOM
75	15.30	101.90	152.95	153.09	0.00	5.80	SMALL FRACTURE
76	14.66	84.90	153.22	153.35	0.00	5.80	SMALL FRACTURE
77	12.80	95.92	153.46	153.57	0.00	5.80	SMALL FRACTURE
78	9.92	99.06	153.63	153.73	0.00	5.80	SMALL FRACTURE
79	12.15	84.27	153.89	154.00	0.00	5.80	FRACTURE
80	20.83	83.10	154.23	154.42	0.00	5.80	FRACTURE
81	22.88	215.86	154.48	154.69	0.00	5.80	TOP OF FRACTURE
82	32.49	24.74	155.03	155.33	0.00	5.80	FRACTURE BOTTOM
83	7.47	291.23	155.67	155.72	0.00	5.80	SMALL FRACTURE
84	26.65	81.06	159.52	159.77	0.00	5.80	FRACTURE
85	17.02	97.89	160.94	161.10	0.00	5.80	TOP OF FRACTURE
86	33.85	98.62	161.84	162.17	0.00	5.80	FRACTURE BOTTOM
87	20.27	95.99	163.11	163.30	0.00	5.80	SMALL FRACTURE
88	19.82	189.50	164.84	165.03	0.00	5.80	FRACTURE
89	18.71	339.50	165.21	165.36	0.00	5.80	FRACTURE
90	18.87	332.64	165.50	165.65	0.00	5.80	FRACTURE
91	17.30	10.44	165.85	165.99	0.00	5.80	FRACTURE
92	22.45	9.25	166.26	166.45	0.00	5.80	FRACTURE
93	16.04	341.87	166.79	166.92	0.00	5.80	FRACTURE
94	2.51	196.65	167.16	167.19	0.00	5.80	SMALL FRACTURE
95	18.97	8.02	167.58	167.73	0.00	5.80	SMALL FRACTURE
96	37.79	65.71	169.52	169.90	0.00	5.80	SMALL FRACTURE
97	17.51	284.56	170.35	170.49	0.00	5.80	FRACTURE
98	22.39	279.84	170.67	170.86	0.00	5.80	FRACTURE
99	15.62	278.54	171.24	171.37	0.00	5.80	SMALL FRACTURE
100	36.52	99.51	171.46	171.83	0.00	5.80	SMALL FRACTURE

WELL SUMMARY FOR BORING 3

Depth:	0-101	Casing
	101-124	Poor Returns on ATV indicating poor consolidation zone perhaps shaley, caliper shows some enlargements.
	124-159	Many numerous small to medium sized fractures, aperture width less than 1 foot in most cases. General trend of fractures appears to the Northwest direction with some intersections to the Southeast.
	159-168	Large zone of hole incompetence or cave. No fractures are observed because of increased hole size to greater than 16 inches. Top of cave appears to dip at 44.5 degrees and dip direction of 315 degrees (WNW), similar to the general dip direction.
	168-179	Numerous small fractures, no general trend.
	179-183	Large fracture to 8 inches, about 4 feet in aperture, dip at 20 degrees, and direction of 245 degrees (WSW).
	183-187	Numerous small fractures, NW-SE trends.
	187-197	Fracture zone, maybe indicating a fault as two Intersecting highly dipping fractures (>70 degrees) can be seen from 188 and 192. General orientation of fractures below is to the NW.
	197-198	Open fracture or washout; hole size to 10 inches.
	198-207	Small fractures and bedding planes.
	207-212	Competent non-fractured rock.
	212-221	Small fractures and bedding planes.
	221-272	Competent non-fractured rock, some vary small Fractures and bedding planes indications.
	272-274	Formation change indicated with more visible bedding and lower resistivity.
	274-276	Competent non-fractured rock.
	276-281	Small bedding contacts indicated.

Century GEOPHYSICAL CORP.

BORING 3

COMPANY	: IT				
WELL	: BORING 3				
LOCATION/FIELD	: LANDFILL-3 FTMC				
COUNTY	: CALHOUN				
STATE	: AL				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 05/01/00	PERMANENT DATUM	: G.L.		
DEPTH DRILLER	: 282			KB	:
LOG BOTTOM	: 281.47	LOG MEASURED FROM	: G.L.	DF	:
LOG TOP	: 93.19	DRL MEASURED FROM	: G.L.	GL	:
CASING DIAMETER	: 3.5	LOGGING UNIT	: 9610		
CASING TYPE	: Steel	FIELD OFFICE	: CGC-TULSA		
CASING THICKNESS	: .15	RECORDED BY	: M. SUTTON		
BIT SIZE	: 4.8	BOREHOLE FLUID	: WATER	FILE	: PROCESSED
MAGNETIC DECL.	: 0	RM	: 0	TYPE	: 9801A
MATRIX DENSITY	: 2.71	RM TEMPERATURE	: 0		
NEUTRON MATRIX	: LIMESTONE	MATRIX DELTA T	: 49		
				THRESH	: 20000

OTHER SERVICES:
9041
9065
9801

CASED HOLE TO 101' 4" ID; 6" CASING TO 101
OPEN HOLE 6" TO 101'; 4.8" 101

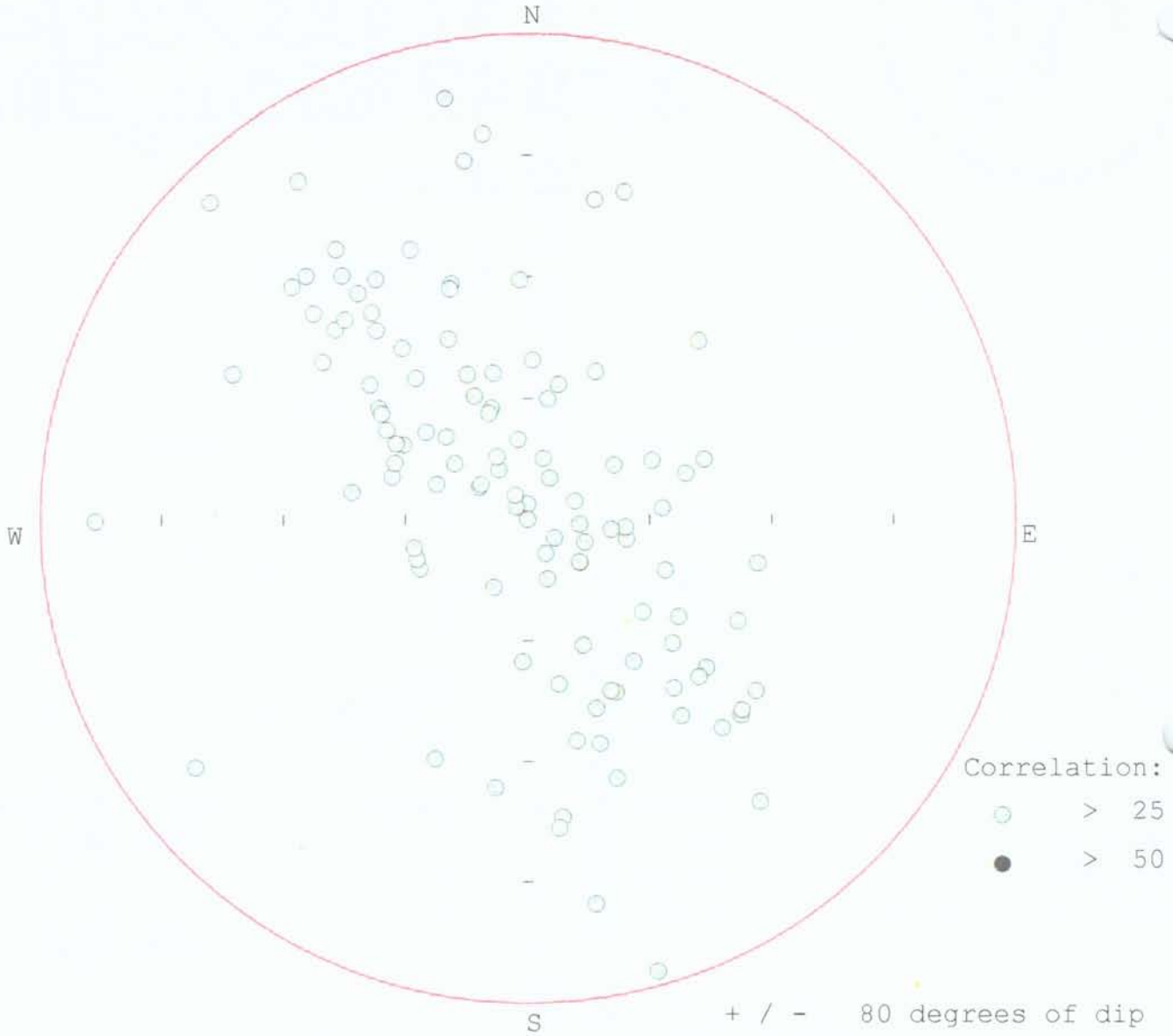
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

Polar_Dip Plot

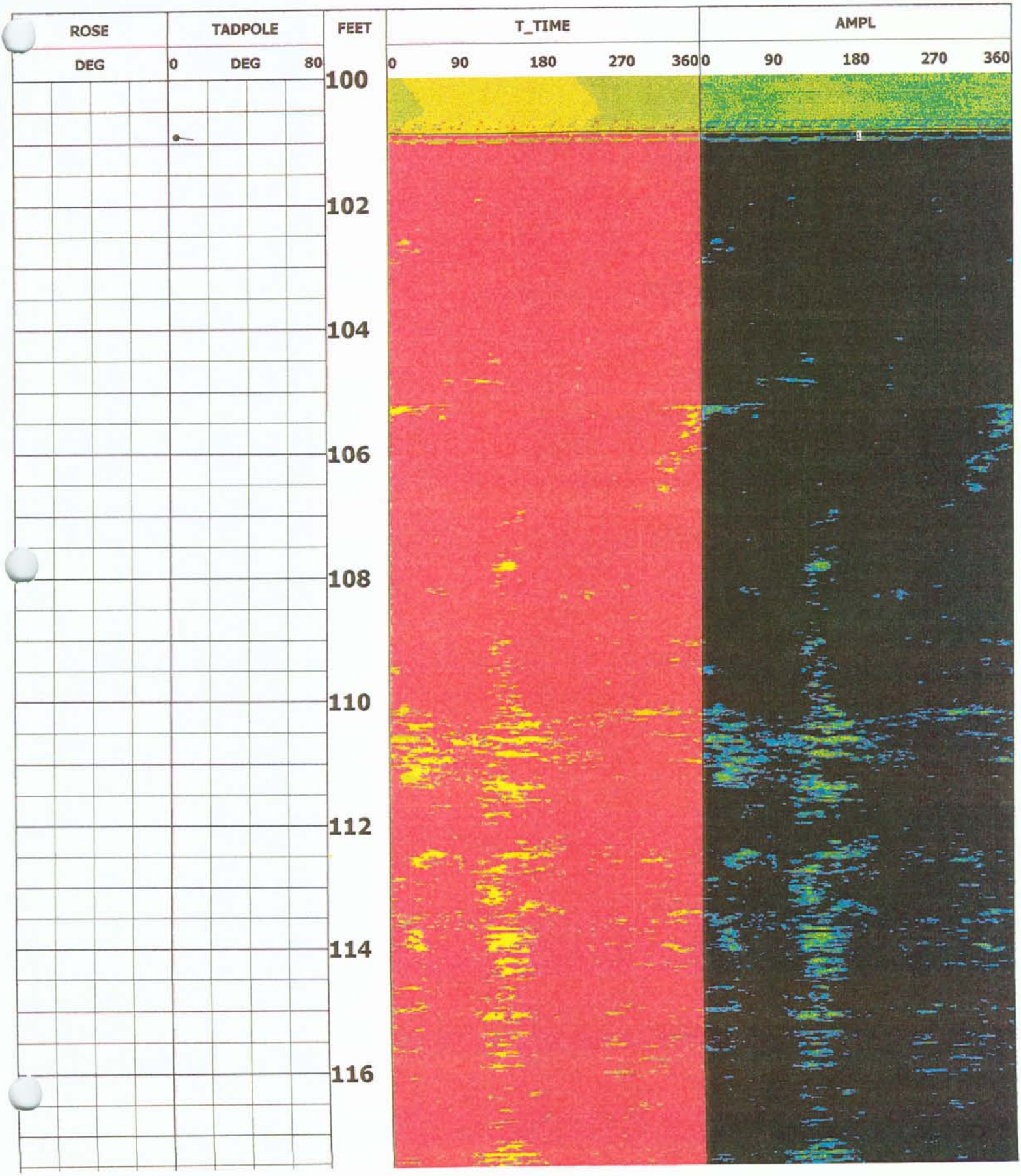
COMPU-LOG

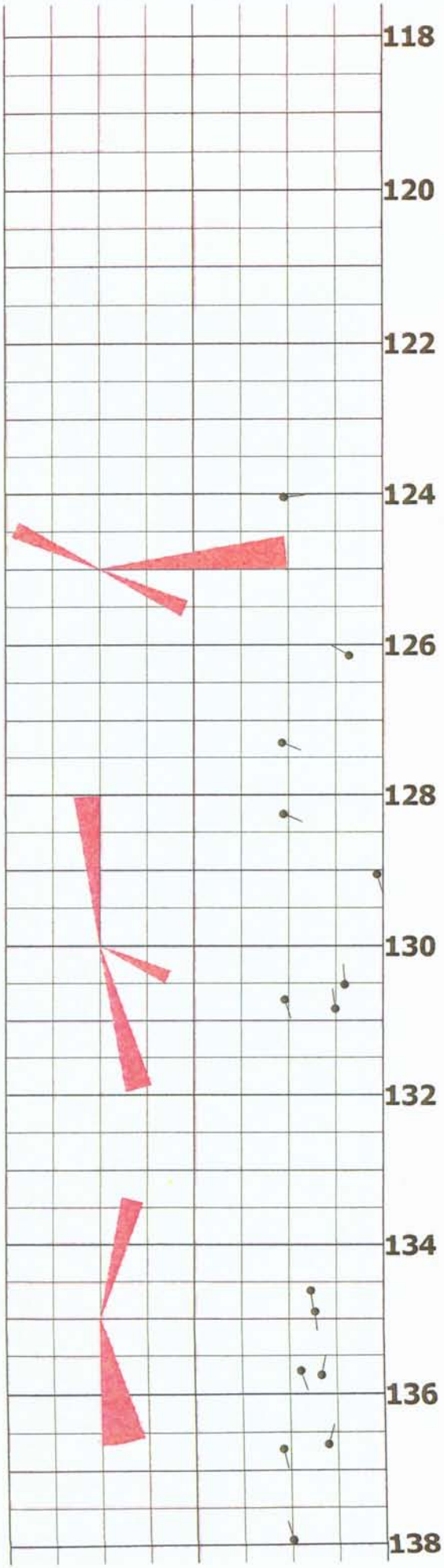
IT
LANDFILL-3 FTMC
Well BORING 3

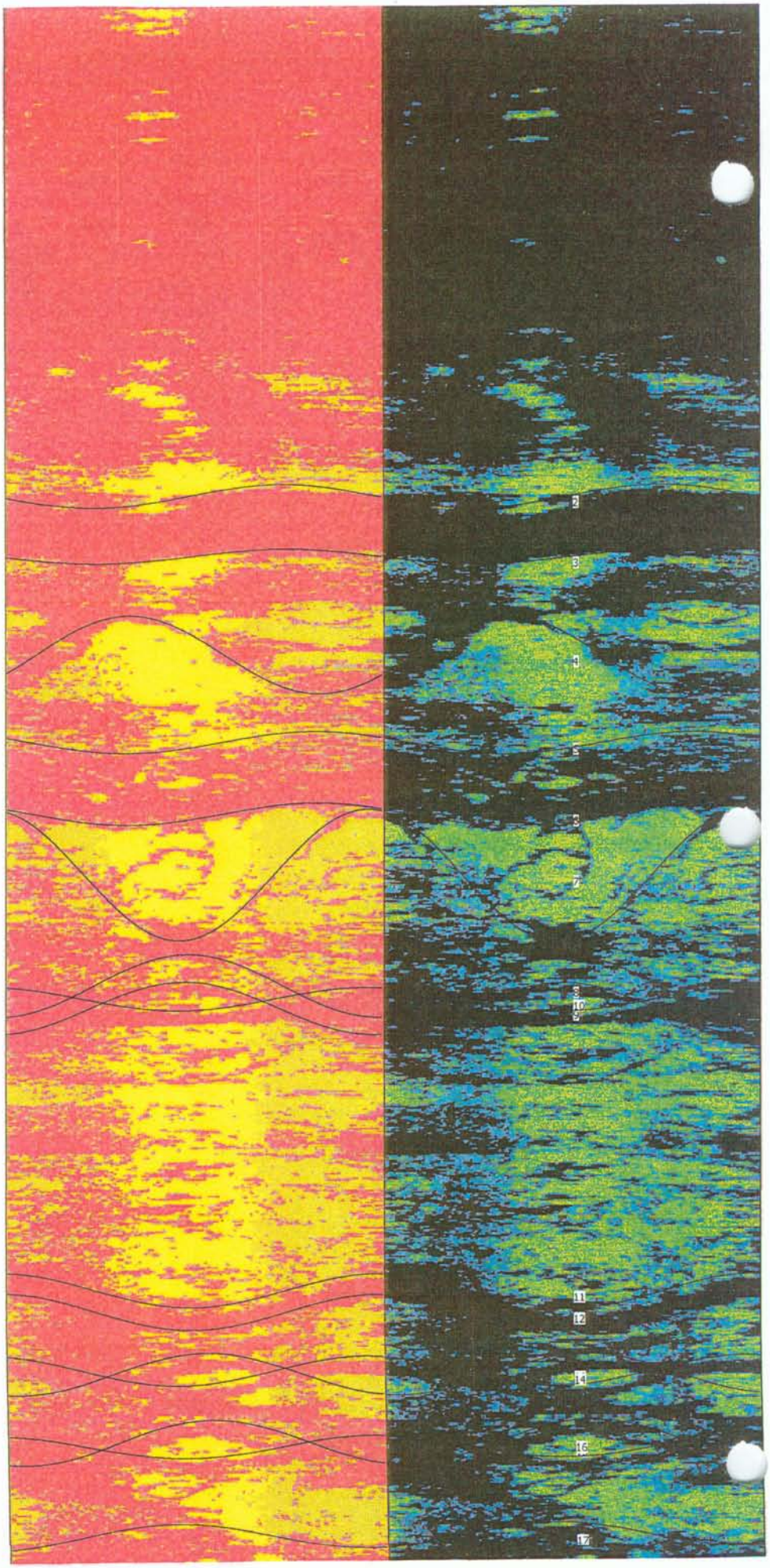
Date of Log: 05/01/00
Probe: 9801A , 1116
From 120 to 281.47 FT

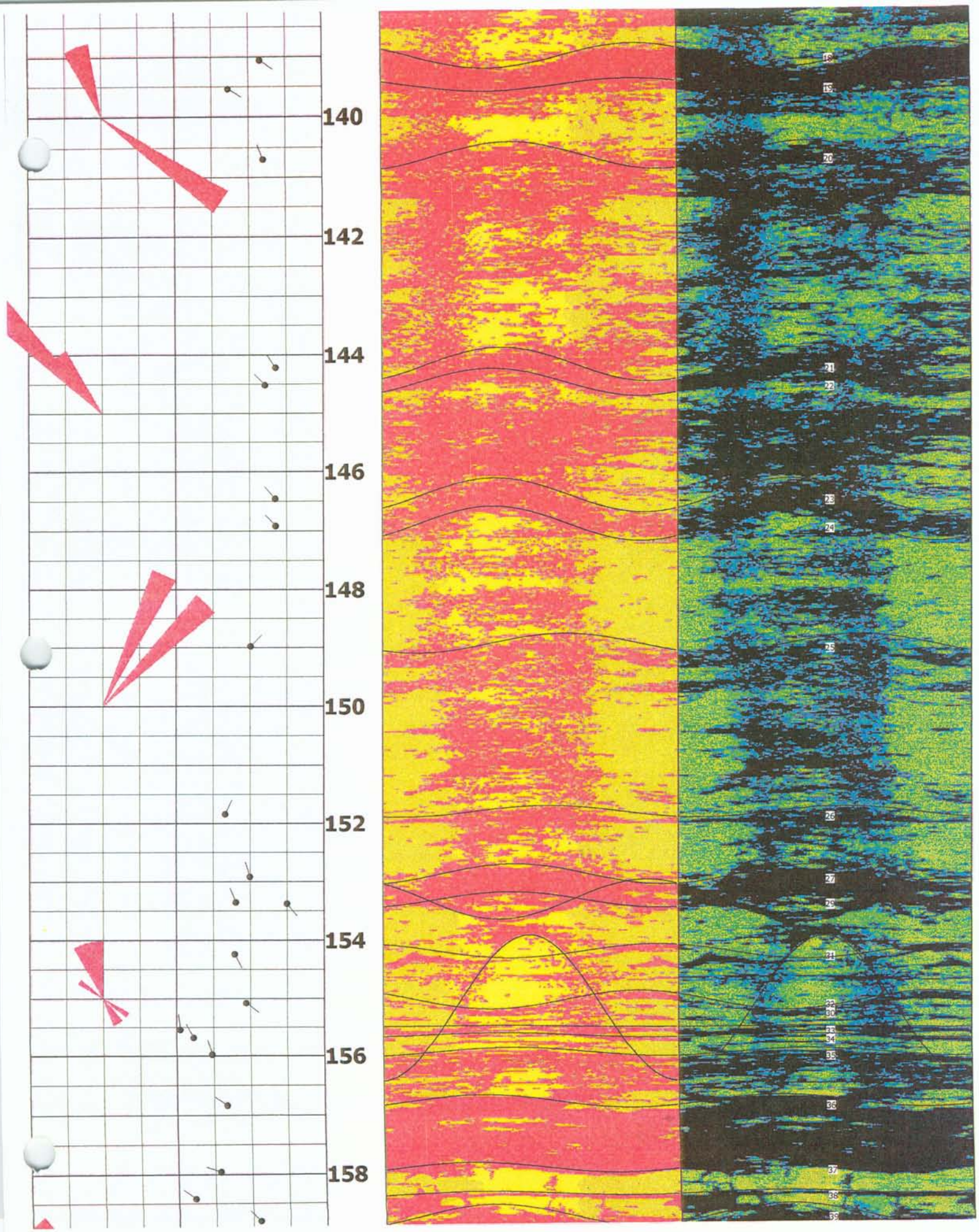


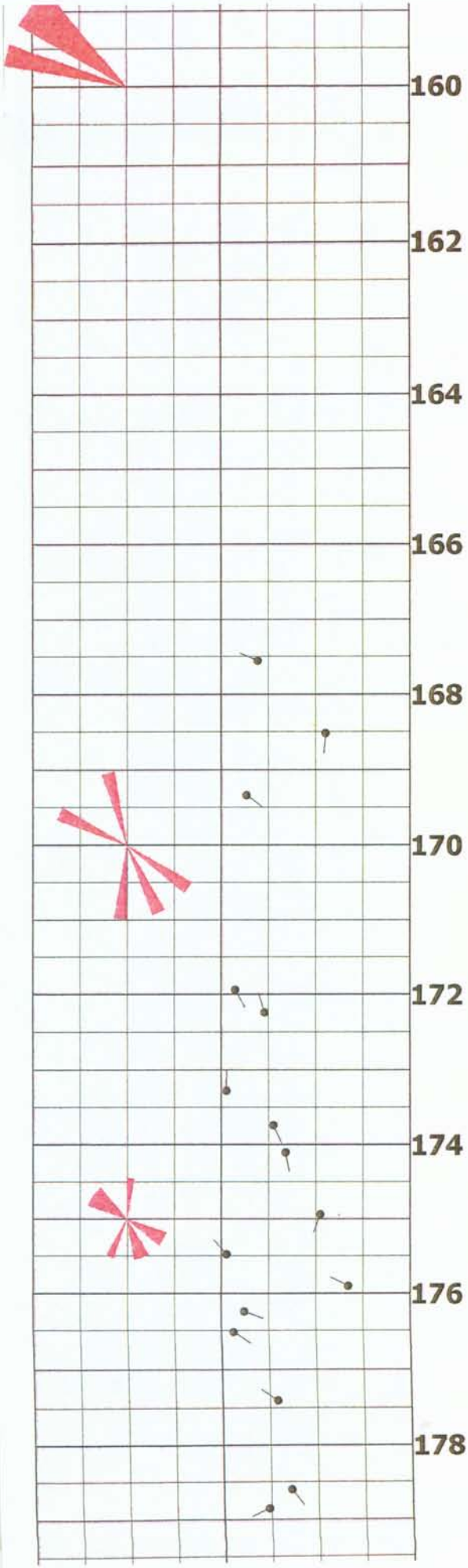
BORING 3 05/01/00 1116

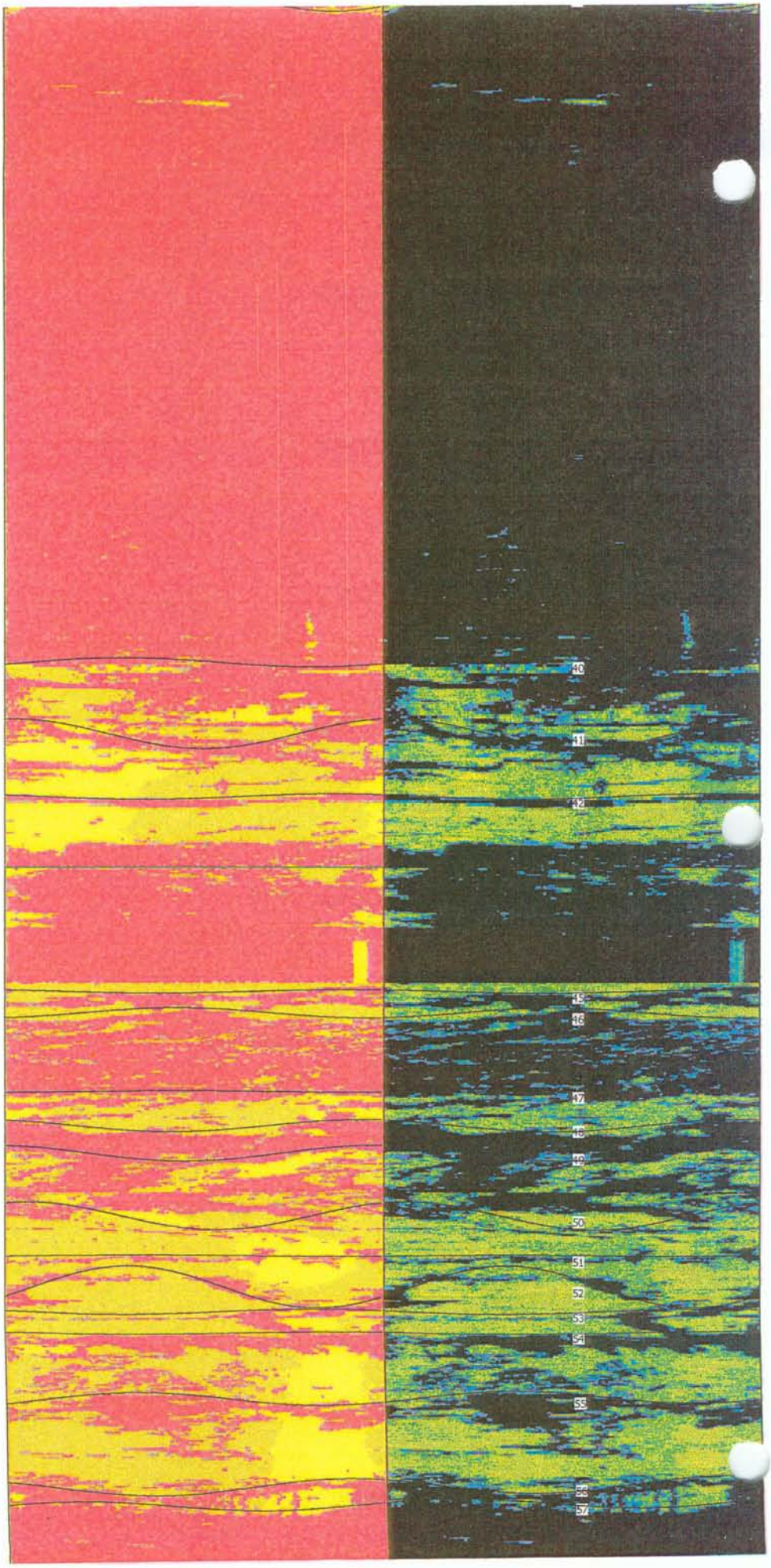


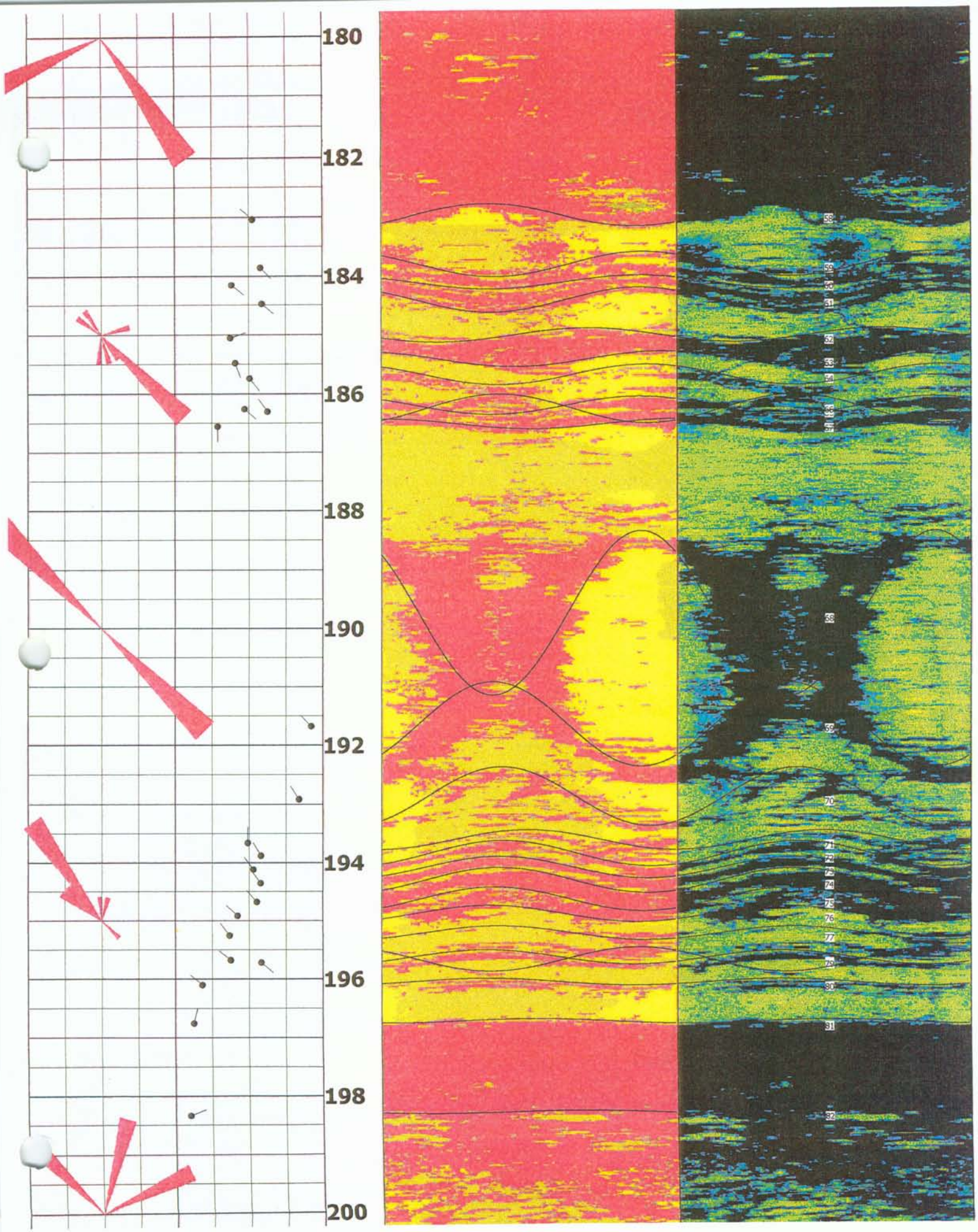

118
120
122
124
126
128
130
132
134
136
138

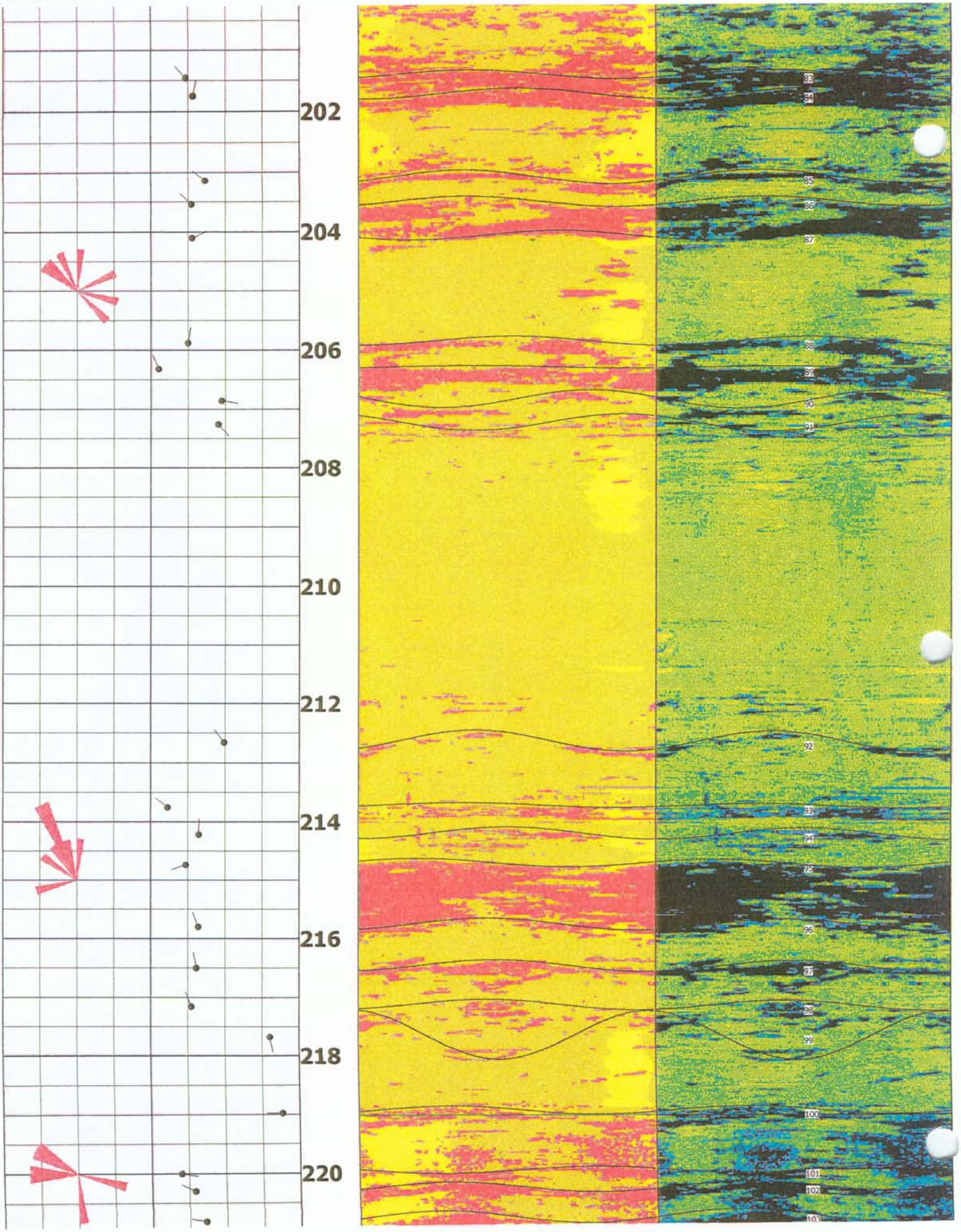


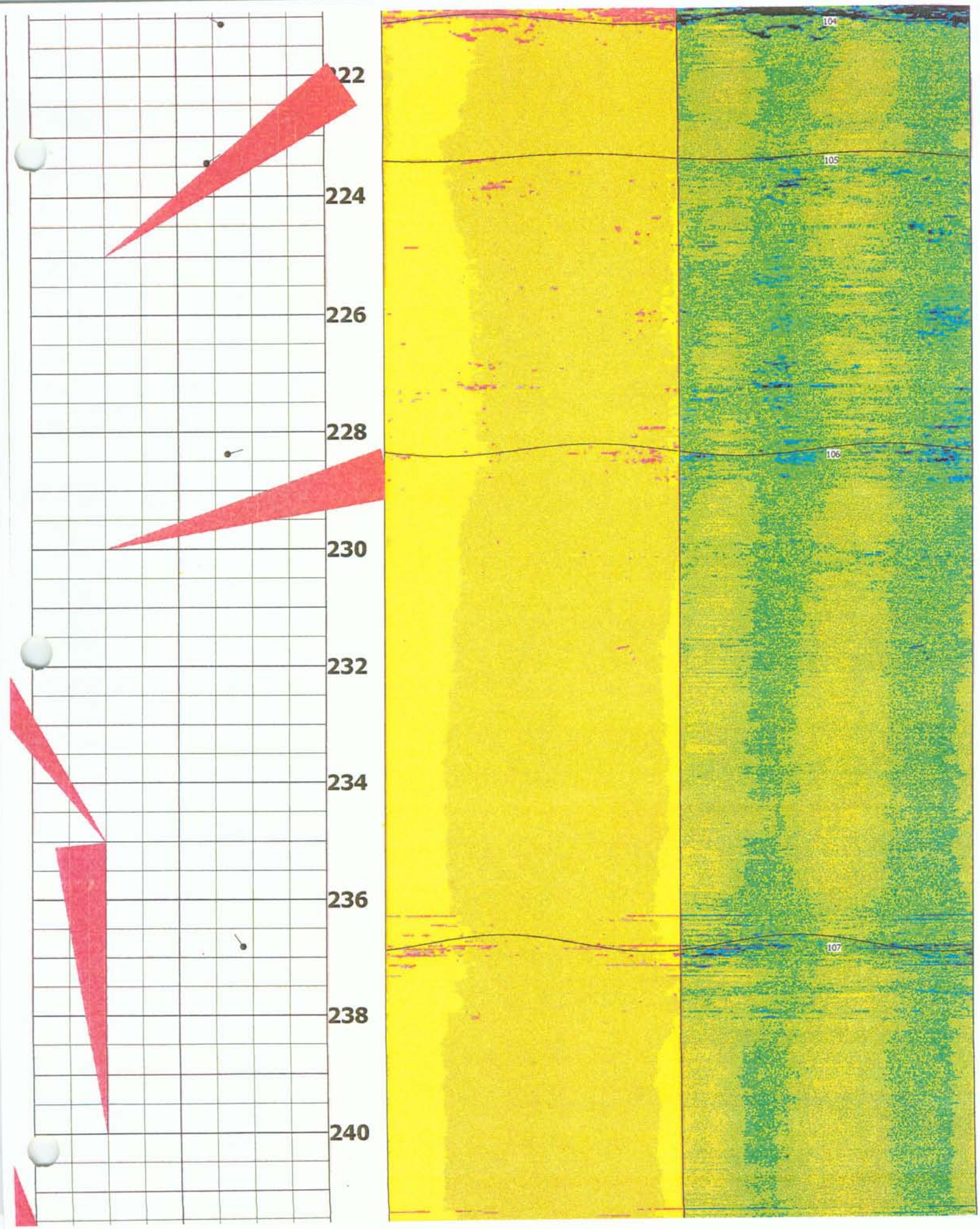

140
142
144
146
148
150
152
154
156
158
19
20
21
22
23
24
25
26
27
29
31
32
33
34
35
36
37
38
39

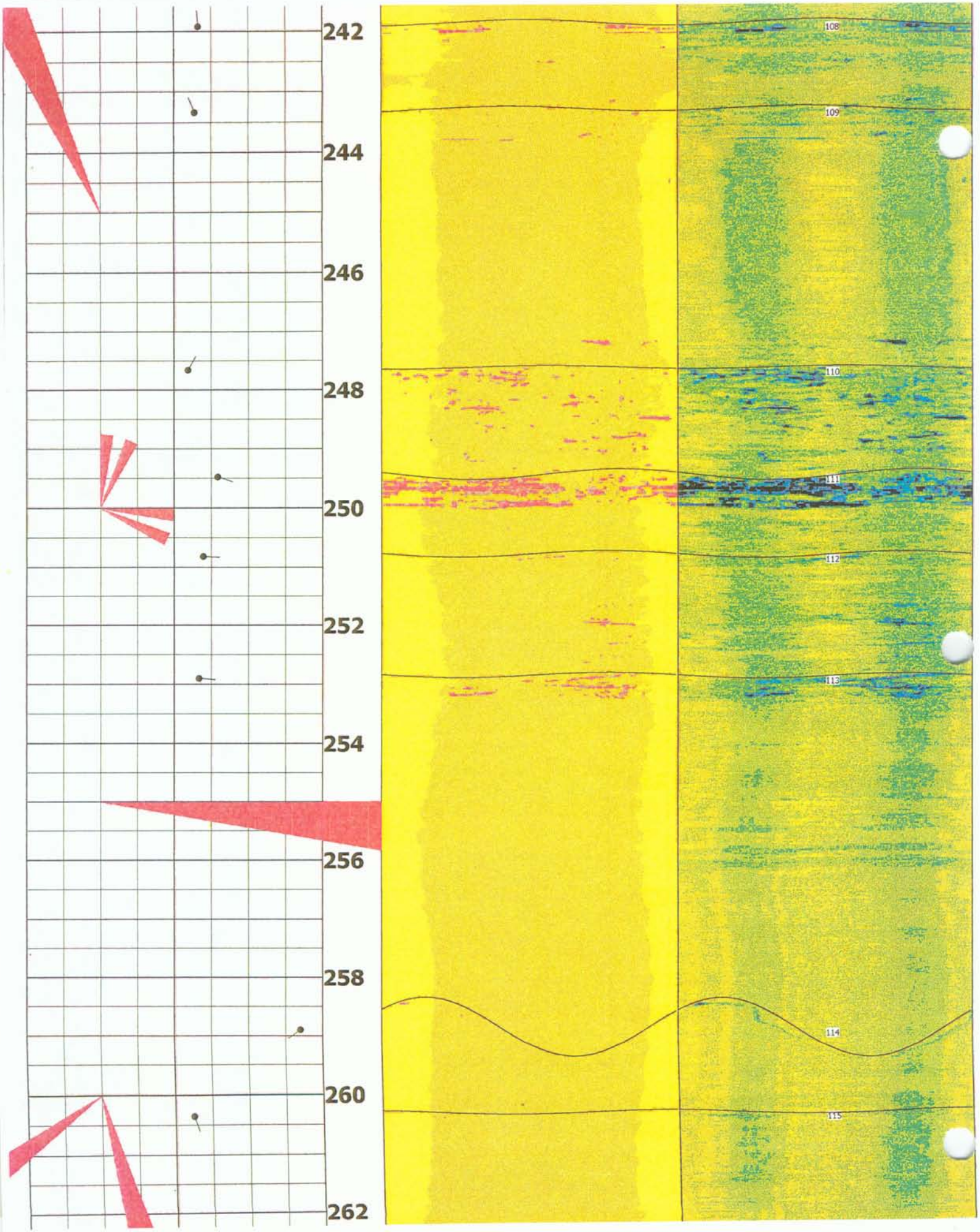

160
162
164
166
168
170
172
174
176
178

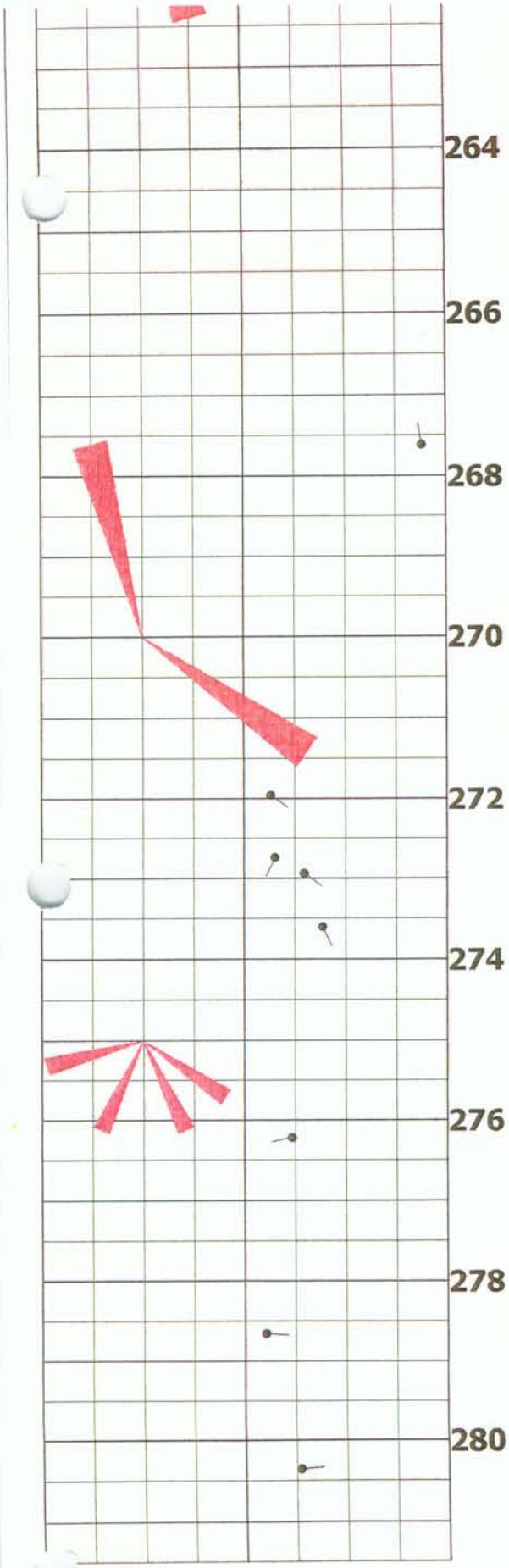

40
41
42
45
46
47
48
49
50
51
52
53
54
55
56
57

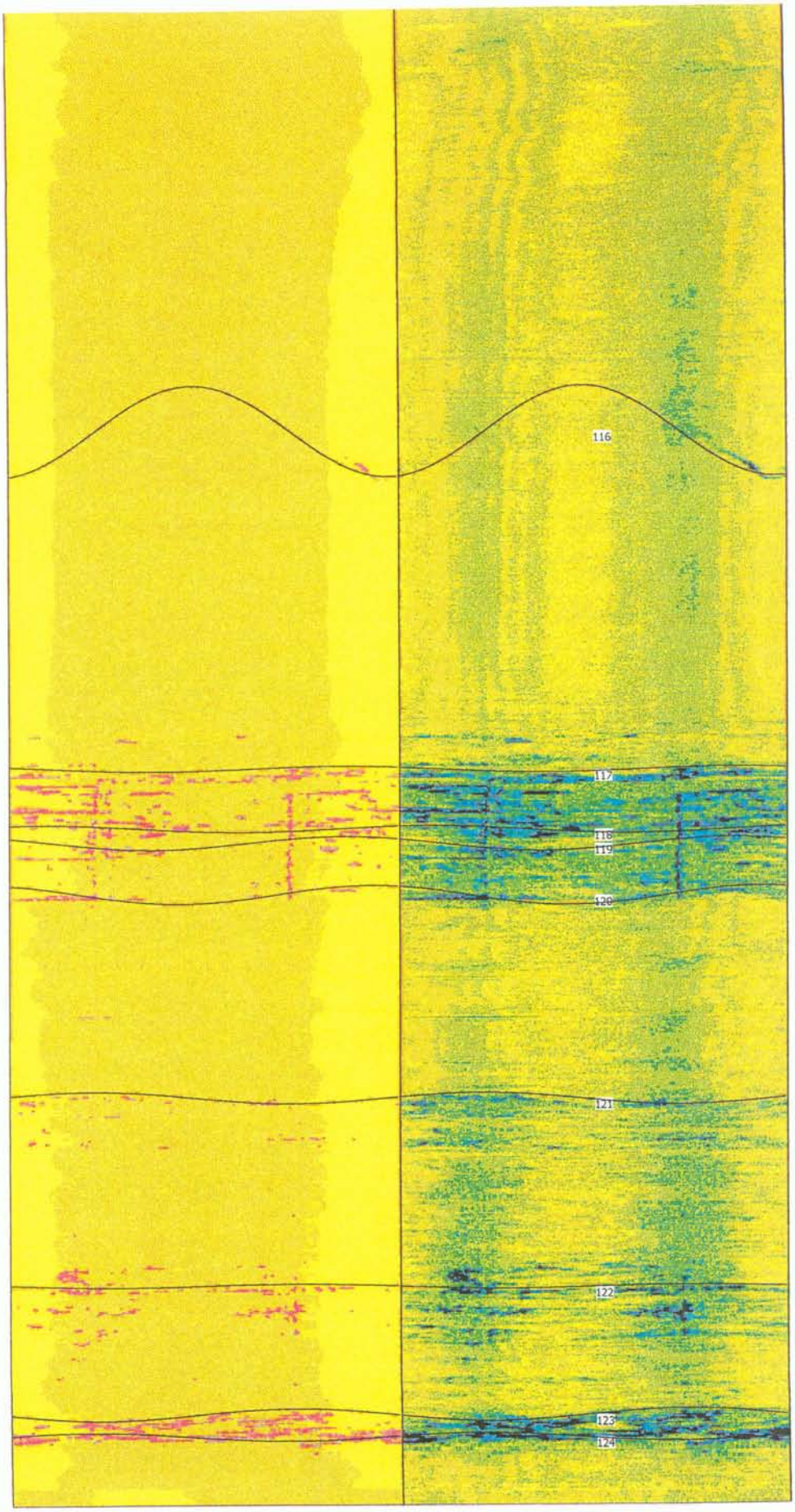

180
182
184
186
188
190
192
194
196
198
200


202
204
206
208
210
212
214
216
218
220
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103


222
224
226
228
230
232
234
236
238
240
104
105
106
107


242
244
246
248
250
252
254
256
258
260
262
108
109
110
111
112
113
114
115


264
266
268
270
272
274
276
278
280


116
117
118
119
120
121
122
123
124

COMPANY : IT
WELL : BORING 3
LOCATION/FIELD : LANDFILL-3 FTMC
COUNTY : LANDFILL-3 FTMC
STATE : AL
SECTOR :

OTHER SERVICES:
9041
9065
9801

TOWNSHIP :
RANGE:

DATE : 05/01/00
DEPTH DRILLER : G.L.
LOG BOTTOM : 281.47
LOG TOP : 93.19

PERMANENT DATUM : G.L.
ELEV.PERM.DATUM :
LOG MEASURED FROM: G.L.
DRL MEASURED FROM: G.L.

KB :
DF :
GL :

CASING DRILLER : None
CASING TYPE : Steel
CASING THICKNESS: .15

LOGGING UNIT : 9610
FIELD OFFICE : CGC-TULSA
RECORDED BY : M. SUTTON

BIT SIZE : 4.8
MAGNETIC DECL : 0
BIT SIZE : 4.8
MAGNETIC DECL : 0
MATRIX DENISTY : 2.71
FLUID DENSITY :
NEUTRON MATRIX : LIMESTONE

BOREHOLE FLUID : WATER
RM :
RM TEMPERATURE :
MATRIX DELTA T : 49
FLUID DELTAT T :

FILE : PROCESSED
TYPE : 9801A

THRESH: 2000

CASED HOLE TO 101' 4" ID; 6" CASING TO 101'
OPEN HOLE 6" TO 101'; 4.8" 101

FRACTURE NUMBER	DIP (DEG)	AZIMUTH (DEG)	TO (FT)	FROM (FT)	APERTURE (FT)	BORE (IN)	CATEGORY
1	4.16	98.79	100.85	100.88	0.00	4.80	CASING BOTTOM
2	38.50	84.21	123.84	124.15	0.86	4.80	TOP OF FRACTURE
3	26.97	87.84	124.70	124.90	0.00	4.80	FRACTURE BOTTOM
4	65.98	297.76	125.58	126.60	0.00	5.11	SMALL FRACTURE
5	37.76	114.24	127.10	127.40	0.00	4.80	BEDDING
6	38.15	115.81	128.06	128.36	0.00	4.80	BEDDING
7	77.59	164.09	128.15	129.89	0.00	4.80	SMALL FRACTURE
8	63.99	353.62	130.07	130.91	0.00	4.80	SMALL FRACTURE
9	60.07	350.26	130.44	131.15	0.00	4.80	SMALL FRACTURE
10	38.82	162.30	130.51	130.82	0.00	4.80	SMALL FRACTURE
11	49.62	173.40	134.34	134.80	0.28	4.80	TOP OF FRACTURE
12	51.31	174.21	134.62	135.11	0.00	4.80	FRACTURE BOTTOM
13	45.18	161.20	135.47	135.87	0.00	4.80	SMALL FRACTURE
14	53.91	11.88	135.43	135.99	0.00	4.80	SMALL FRACTURE
15	37.40	167.62	136.53	136.83	0.00	4.80	SMALL FRACTURE
16	56.36	16.42	136.31	136.91	0.00	4.80	SMALL FRACTURE
17	40.86	342.30	137.71	138.07	0.00	4.80	SMALL FRACTURE
18	46.74	127.08	138.81	139.22	0.58	4.80	TOP OF FRACTURE
19	29.34	122.86	139.39	139.61	0.00	4.80	FRACTURE BOTTOM
20	48.40	336.82	140.44	140.90	0.00	4.80	BEDDING
21	54.50	324.95	143.89	144.47	0.36	4.80	TOP OF FRACTURE
22	48.88	314.24	144.25	144.73	0.00	4.80	FRACTURE BOTTOM
23	54.12	317.99	146.13	146.70	0.47	4.80	TOP OF FRACTURE
24	54.39	314.93	146.60	147.18	0.00	4.80	FRACTURE BOTTOM
25	40.68	43.53	148.77	149.11	0.00	4.80	BEDDING
26	26.83	24.45	151.71	151.91	0.00	4.80	BEDDING
27	40.13	341.61	152.71	153.06	0.49	4.80	TOP OF FRACTURE
28	32.47	336.62	153.20	153.45	0.00	4.80	FRACTURE BOTTOM
29	60.19	140.84	152.98	153.66	0.00	4.80	SMALL FRACTURE
30	80.81	358.12	153.93	156.45	0.00	4.80	SMALL FRACTURE
31	31.81	153.01	154.08	154.32	0.00	4.80	SMALL FRACTURE
32	37.97	129.79	154.87	155.19	0.00	5.15	SMALL FRACTURE

101	9.38	62.44	175.65	175.73	0.00	5.80	SMALL FRACTURE
102	9.95	281.26	176.36	176.44	0.00	5.80	SMALL FRACTURE
103	30.29	69.78	176.97	177.25	0.00	5.80	FRACTURE
104	41.92	66.89	177.18	177.62	0.00	5.80	FRACTURE
105	16.08	81.99	177.73	177.88	0.00	5.80	SMALL FRACTURE
106	30.72	105.99	178.55	178.84	0.00	5.80	FRACTURE
107	22.35	117.59	179.59	179.80	0.00	5.80	FRACTURE
108	33.50	114.24	179.88	180.22	0.00	5.80	FRACTURE
109	40.31	172.65	181.08	181.51	0.00	5.80	FRACTURE
110	44.62	193.75	181.45	181.94	0.00	5.80	FRACTURE
111	30.31	23.09	181.48	181.75	0.00	5.80	FRACTURE
112	13.35	42.38	182.21	182.32	0.00	5.80	FRACTURE
113	16.92	62.56	182.53	182.67	0.00	5.80	FRACTURE
114	8.91	70.49	182.72	182.79	0.00	5.80	SMALL FRACTURE
115	4.13	40.10	182.87	182.90	0.00	5.80	FRACTURE
116	24.66	33.16	183.04	183.26	0.00	5.80	SMALL FRACTURE
117	25.65	103.28	194.45	194.69	0.00	5.80	FRACTURE
118	15.51	90.52	195.35	195.49	0.00	5.80	FRACTURE
119	54.90	88.00	196.31	197.02	0.00	5.80	FRACTURE
120	46.76	117.12	196.89	197.43	0.00	5.80	SMALL FRACTURE
121	22.07	26.00	198.58	198.77	0.00	5.80	TOP OF FRACTURE
122	22.36	90.96	203.34	203.55	0.00	5.80	FRACTURE BOTTOM
123	17.11	84.41	203.96	204.12	0.00	5.80	SMALL FRACTURE
124	11.00	84.44	205.27	205.37	0.00	5.80	SMALL FRACTURE
125	10.58	105.35	206.09	206.19	0.00	5.80	FRACTURE
126	14.86	62.81	207.36	207.49	0.00	5.80	FRACTURE
127	17.12	304.75	208.32	208.46	0.00	5.80	SMALL FRACTURE
128	31.58	311.83	208.91	209.19	0.00	5.80	SMALL FRACTURE
129	9.38	94.81	209.45	209.53	0.00	5.80	SMALL FRACTURE
130	29.06	143.36	210.04	210.32	0.00	5.80	FRACTURE
131	21.19	5.38	210.98	211.16	0.00	5.80	SMALL FRACTURE
132	60.72	177.29	211.23	212.14	0.00	5.80	SMALL FRACTURE
133	38.41	337.81	212.77	213.14	0.00	5.80	SMALL FRACTURE
134	25.50	119.54	213.31	213.55	0.00	5.80	SMALL FRACTURE
135	36.15	319.74	214.58	214.92	0.00	5.80	SMALL FRACTURE
136	1.46	332.76	215.07	215.07	0.00	5.80	SMALL FRACTURE
137	17.07	77.10	217.16	217.31	0.00	5.75	SMALL FRACTURE
138	42.39	130.12	217.89	218.35	0.00	5.80	SMALL FRACTURE
139	46.02	106.82	219.56	220.08	0.00	5.80	SMALL FRACTURE
140	29.42	288.51	220.26	220.52	0.00	5.80	SMALL FRACTURE
141	48.29	105.39	222.76	223.31	0.00	5.80	SMALL FRACTURE
142	10.60	82.23	223.78	223.87	0.00	5.80	SMALL FRACTURE
143	14.77	258.37	223.94	224.06	0.00	5.80	SMALL FRACTURE
144	49.56	177.31	224.53	225.12	0.00	5.80	SMALL FRACTURE
145	44.42	122.88	225.26	225.75	0.00	5.80	SMALL FRACTURE
146	42.91	117.91	225.99	226.46	0.00	5.80	SMALL FRACTURE
147	26.23	43.88	228.52	228.75	0.00	5.80	SMALL FRACTURE
148	10.45	302.57	229.88	229.96	0.00	5.80	SMALL FRACTURE
149	8.12	278.25	230.68	230.75	0.00	5.80	SMALL FRACTURE
150	15.24	58.75	232.33	232.46	0.00	5.80	SMALL FRACTURE
151	16.67	57.76	232.58	232.73	0.00	5.80	SMALL FRACTURE
152	2.00	38.12	233.47	233.49	0.00	5.80	SMALL FRACTURE
153	32.84	84.44	234.00	234.32	0.00	5.80	SMALL FRACTURE
154	28.99	81.18	234.50	234.77	0.00	5.80	SMALL FRACTURE
155	21.53	88.28	235.36	235.56	0.00	5.80	SMALL FRACTURE
156	9.46	269.47	236.23	236.31	0.00	5.80	SMALL FRACTURE
157	28.69	94.89	236.72	237.00	0.00	5.80	TOP OF FRACTURE
158	61.00	181.39	237.65	238.58	0.00	5.80	FRACTURE BOTTOM
159	22.26	92.83	239.16	239.36	0.00	5.80	SMALL FRACTURE
160	26.79	108.14	239.62	239.88	0.00	5.80	SMALL FRACTURE
161	23.16	67.57	241.37	241.58	0.00	5.80	SMALL FRACTURE
162	51.86	93.49	241.75	242.39	0.00	5.80	FRACTURE
163	42.01	91.39	242.38	242.83	0.00	5.80	FRACTURE
164	59.52	73.73	242.67	243.49	0.00	5.80	FRACTURE
165	39.76	65.80	243.59	243.99	0.00	5.80	FRACTURE
166	50.23	97.47	244.27	244.87	0.00	5.80	FRACTURE
167	11.05	335.45	245.85	245.93	0.00	5.80	FRACTURE
168	73.17	2.17	244.83	246.26	0.00	5.80	SMALL FRACTURE
169	56.15	123.46	246.13	246.90	0.00	5.80	SMALL FRACTURE
170	11.76	315.62	247.30	247.39	0.00	5.80	SMALL FRACTURE

33	2.16	351.83	155.48	155.50	0.00	4.80	SMALL FRACTURE
34	9.49	330.47	155.61	155.68	0.00	4.80	SMALL FRACTURE
35	19.38	342.36	155.88	156.02	0.00	4.80	SMALL FRACTURE
36	27.38	302.92	156.69	156.90	1.15	4.80	TOP OF FRACTURE
37	23.30	287.77	157.84	158.02	0.00	4.80	FRACTURE BOTTOM
38	9.51	303.96	158.34	158.41	0.00	4.80	SMALL FRACTURE
39	44.48	315.01	158.57	158.98	8.90	4.80	TOP OF CAVE
40	15.94	291.59	167.47	167.59	0.00	4.80	BOTTOM OF CAVE
41	44.68	186.75	168.28	168.67	0.00	4.80	SMALL FRACTURE
42	11.04	129.35	169.27	169.34	0.00	4.80	SMALL FRACTURE
45	6.30	152.15	171.88	171.93	0.00	4.80	SMALL FRACTURE
46	18.69	340.56	172.13	172.26	1.10	4.80	TOP OF FRACTURE
47	2.57	1.13	173.23	173.24	0.00	4.80	FRACTURE BOTTOM
48	22.47	156.38	173.61	173.78	0.00	4.80	SMALL FRACTURE
49	27.59	169.26	173.96	174.17	0.00	4.80	SMALL FRACTURE
50	42.35	201.03	174.72	175.10	0.00	4.98	SMALL FRACTURE
51	2.66	317.83	175.44	175.46	0.00	4.80	SMALL FRACTURE
52	53.95	296.56	175.58	176.14	0.00	4.80	SMALL FRACTURE
53	10.07	111.65	176.16	176.23	0.00	4.99	SMALL FRACTURE
54	5.34	124.76	176.46	176.50	0.00	4.80	SMALL FRACTURE
55	23.77	301.43	177.27	177.45	0.00	4.80	SMALL FRACTURE
56	28.99	143.57	178.46	178.68	0.00	4.80	SMALL FRACTURE
57	19.42	245.29	178.74	178.89	4.07	4.80	TOP OF FRACTURE
58	42.49	307.82	182.81	183.19	0.00	4.80	FRACTURE BOTTOM
59	46.76	137.16	183.61	184.03	0.00	4.80	BEDDING
60	31.19	130.69	184.01	184.25	0.00	4.80	BEDDING
61	47.40	132.68	184.22	184.65	0.00	4.80	BEDDING
62	30.47	71.01	184.91	185.15	0.00	4.80	SMALL FRACTURE
63	33.01	160.22	185.30	185.56	0.00	4.80	SMALL FRACTURE
64	40.91	142.16	185.52	185.86	0.00	4.80	BEDDING
65	50.40	323.02	186.02	186.51	0.00	4.80	SMALL FRACTURE
66	38.07	132.77	186.06	186.37	0.00	4.80	BEDDING
67	23.44	181.98	186.44	186.61	0.00	4.80	BEDDING
68	82.50	135.12	188.35	191.16	0.00	4.80	FRACTURE
69	73.84	315.32	190.92	192.36	0.00	4.80	FRACTURE
70	67.33	326.25	192.38	193.37	0.00	4.80	SMALL FRACTURE
71	39.57	358.37	193.45	193.78	0.00	4.80	BEDDING
72	46.77	327.98	193.63	194.06	0.00	4.80	BEDDING
73	42.65	323.37	193.90	194.28	0.00	4.80	BEDDING
74	46.51	323.42	194.10	194.53	0.00	4.80	BEDDING
75	44.54	317.88	194.43	194.84	0.00	4.80	BEDDING
76	34.14	311.05	194.75	195.03	0.00	4.80	BEDDING
77	29.68	322.06	195.10	195.34	0.00	4.80	BEDDING
78	30.51	307.22	195.51	195.76	0.00	4.80	BEDDING
79	46.93	131.85	195.46	195.88	0.00	4.80	SMALL FRACTURE
80	15.01	307.97	196.00	196.11	0.00	4.80	BEDDING
81	10.45	14.18	196.69	196.76	1.58	4.80	TOP OF FRACTURE
82	8.34	68.44	198.27	198.32	0.00	4.80	FRACTURE BOTTOM
83	19.10	316.03	201.34	201.49	0.00	4.80	BEDDING
84	22.99	12.90	201.64	201.82	0.00	4.80	BEDDING
85	29.61	306.29	202.98	203.21	0.00	4.80	BEDDING
86	22.00	311.13	203.43	203.59	0.00	4.80	BEDDING
87	22.59	64.28	203.98	204.15	0.00	4.80	SMALL FRACTURE
88	20.28	9.39	205.77	205.92	0.00	4.80	SMALL FRACTURE
89	4.52	334.15	206.27	206.30	0.00	4.80	SMALL FRACTURE
90	38.32	100.85	206.67	206.98	0.00	4.80	SMALL FRACTURE
91	36.56	139.31	207.08	207.37	0.00	4.80	SMALL FRACTURE
92	39.88	321.72	212.45	212.80	0.00	4.80	SMALL FRACTURE
93	9.51	307.38	213.68	213.75	0.00	4.80	SMALL FRACTURE
94	26.38	1.97	214.09	214.29	0.00	4.80	SMALL FRACTURE
95	19.22	250.18	214.63	214.77	1.02	4.80	TOP OF FRACTURE

96	25.93	337.80	215.65	215.85	0.00	4.80	FRACTURE BOTTOM
97	24.86	347.02	216.36	216.55	0.00	4.80	SMALL FRACTURE
98	22.22	337.11	217.03	217.20	0.00	4.80	SMALL FRACTURE
99	64.52	170.12	217.22	218.06	0.00	4.93	SMALL FRACTURE
100	70.91	269.84	218.87	219.02	0.00	4.80	SMALL FRACTURE
101	16.47	101.22	219.91	220.02	0.00	4.80	SMALL FRACTURE
102	23.67	293.50	220.18	220.35	0.00	4.80	SMALL FRACTURE
103	29.10	279.08	220.67	220.90	0.00	4.80	SMALL FRACTURE
104	24.87	300.34	220.99	221.18	0.00	4.80	SMALL FRACTURE
105	16.75	57.44	223.34	223.46	0.00	4.90	BEDDING
106	26.97	73.59	228.23	228.44	0.00	4.96	BEDDING
107	34.95	324.22	236.63	236.92	0.00	4.99	SMALL FRACTURE
108	13.32	353.71	241.82	241.92	0.00	4.96	SMALL FRACTURE
109	11.49	334.54	243.26	243.34	0.00	4.91	SMALL FRACTURE
110	7.82	27.82	247.60	247.65	0.00	4.93	BEDDING
111	23.94	110.34	249.35	249.53	0.00	4.95	BEDDING
112	16.09	94.58	250.72	250.84	0.00	4.90	BEDDING
113	13.77	96.90	252.81	252.90	0.00	4.80	BEDDING
114	68.16	233.10	258.35	259.38	0.00	4.87	SMALL FRACTURE
115	10.29	161.48	260.29	260.36	0.00	4.88	SMALL FRACTURE
116	70.66	349.15	267.00	268.17	0.00	4.87	SMALL FRACTURE
117	10.95	129.39	271.89	271.96	0.00	4.96	BEDDING
118	12.46	206.09	272.66	272.75	0.00	5.03	BEDDING
119	24.12	128.91	272.80	272.98	0.00	5.01	BEDDING
120	31.23	154.27	273.44	273.68	0.00	4.98	BEDDING
121	19.10	255.94	276.11	276.26	0.00	4.98	BEDDING
122	8.55	95.23	278.59	278.65	0.00	4.80	BEDDING
123	22.10	85.20	280.24	280.40	0.00	4.80	BEDDING
124	14.34	253.81	280.55	280.66	0.00	4.80	BEDDING