



SCANNED

Edwin W. Pauley - Bruce Sullivan
Carlos Sandoval #3

BIT RECORD

<u>Bit No.</u>	<u>Bit Size</u>	<u>From</u>	<u>To</u>	<u>Drilling Hours</u>	<u>Footage</u>	<u>Type</u>
1	7 7/8	0	1003'	37 1/4	1003'	OSC
2	12 1/4	0	140'	7	140'	OSC Retip
3	7 7/8	1003'	1348'	16	345'	OSC
4	7 7/8	1348'	1512'	5 3/5	163'	OSC
5	7 7/8	1512'	1804'	24 3/4	282'	OWW
6	7 7/8	1804'	2048'	27 3/4	244'	OSC
7	6 1/4	2174'	2175'	1/4	1'	OWS
8	6 1/4	2175'	2181'	2	6'	W7R
9	6 1/4	2181'	2186'	1 1/4	5'	W7R
10	6 1/4	2186'	2231'	5 1/2	45'	W7R
11	6 1/4	2231'	2267'	4 1/2	36'	OWS
12	6 1/4	2267'	2278'	3	11'	OWS
13	6 1/4	2278'	2305'	10	27'	W7R
14	6 1/4	2305'	2338'	9 3/4	33'	W7R
15	6 1/4	2338'	2377'	7 1/4	39'	OW7
16	6 1/4	2377'	2399'	8 3/4	22'	W7R
17	6 1/4	2399'	2405'	3 1/2	6'	W7R
18	6 1/4	2405'	2449'	12 1/4	44'	W7R
19	6 1/4	2449'	2468'	8 3/4	19'	OSC
20	6 1/4	2468'	2480'	7	12'	W7R
21	6 1/4	2480'	2492'	5 1/4	12'	OWS
22	6 1/4	2492'	2501'	3 3/4	9'	W7R
23	6 1/4	2501'	2505'	4 1/2	4'	OWS
24	6 1/4	2505'	2518'	4	13'	W7R
25	6 1/4	2518'	2569'	12 1/4	51'	W7R
26	6 1/4	2569'	2610'	8 1/4	41'	OWS
27	6 1/4	2610'	2623'	4	13'	OWS
28	6 1/4	2623'	2651'	8 1/2	28'	OWS
29	6 1/4	2651'	2736'	15 3/4	85'	OWS-J
30	6 1/4	2736'	2767'	6 3/4	31'	OWS-J
31	6 1/4	2767'	2792'	5 1/4	25'	OWS-J
32	6 1/4	2792'	2843'	9 1/2	51'	OWS
33	6 1/4	2843'	2902'	7 1/4	59'	OWS
34	6 1/4	2902'	2948'	5 1/4	46'	OWS
35	6 1/4	2948'	2973'	5	25'	OWS
36	6 1/4	2973'	3004'	8	31'	W7R
37	6 1/4	3004'	3031'	7 1/2	27'	W7R
38	6 1/4	3031'	3057'	7	26'	W7R

Bit Record Sandoval #3 (Continued)

<u>Bit No.</u>	<u>Bit Size</u>	<u>From</u>	<u>To</u>	<u>Drilling Hours</u>	<u>Footage</u>	<u>Type</u>
39	6 $\frac{1}{4}$	3057'	3079'	5	22'	W7R
40	6 $\frac{1}{4}$	3079'	3104'	7	25'	W7R
41	6 $\frac{1}{4}$	3104'	3133	6 $\frac{3}{4}$	29'	W7R
42	6 $\frac{1}{4}$	3133'	3168'	5 $\frac{1}{2}$	35'	W7R
43	6 $\frac{1}{4}$	3168'	3190'	5 $\frac{1}{4}$	22'	W7R
44	6 $\frac{1}{4}$	3190'	3225'	7	35'	W7R
45	6 $\frac{1}{4}$	3225'	3245'	6 $\frac{1}{2}$	20'	W7R
46	6 $\frac{1}{4}$	3245'	3257'	5	12'	W7R
47	6 $\frac{1}{4}$	3257'	3270'	6 $\frac{1}{2}$	13'	W7R
48	6 $\frac{1}{4}$	3270'	3280'	5 $\frac{1}{4}$	10'	W7R
49	6 $\frac{1}{4}$	3280'	3291'	5	11'	W7R
50	6 $\frac{1}{4}$	3291'	3307'	5	16'	W7R
51	6 $\frac{1}{4}$	3307'	3318'	5	11'	W7R
52	6 $\frac{1}{4}$	3318'	3329'	4 $\frac{1}{2}$	11'	OWS
53	6 $\frac{1}{4}$	3329'	3352'	5 $\frac{1}{2}$	23'	OWS
54	6 $\frac{1}{4}$	3352'	3363'	3 $\frac{1}{2}$	11'	OWS
55	6 $\frac{1}{4}$	3363'	3373'	4 $\frac{1}{4}$	10'	OWS
56	6 $\frac{1}{4}$	3373'	3396'	7	23'	OWS
57	6 $\frac{1}{4}$	3396'	3414'	5	18'	OWS-J
58	6 $\frac{1}{4}$	3414'	3427'	4 $\frac{1}{4}$	13'	OWS-J
59	6 $\frac{1}{4}$	3427'	3439'	5 $\frac{3}{4}$	12'	W7R
60	6 $\frac{1}{4}$	3439'	3447'	3	8'	OWS-J
61	6 $\frac{1}{4}$	3447'	3454'	4	7'	W7R
62	6 $\frac{1}{4}$	3454'	3462'	4	8'	W7R
63	6 $\frac{1}{4}$	3462'	3485'	8 $\frac{3}{4}$	23'	W7R
64	6 $\frac{1}{4}$	3485'	3507'	6 $\frac{1}{2}$	22'	W7R
65	6 $\frac{1}{4}$	3507'	3529'	6 $\frac{1}{2}$	22'	W7R
66	6 $\frac{1}{4}$	3529'	3560'	8	31'	W7R
67	6 $\frac{1}{4}$	3560'	3584'	8	24'	W7R
68	6 $\frac{1}{4}$	3584'	3600'	4 $\frac{3}{4}$	16'	W7R
69	6 $\frac{1}{4}$	3600'	3606'	3 $\frac{3}{4}$	6'	W7R
70	6 $\frac{1}{4}$	3606'	3611'	3 $\frac{3}{4}$	5'	W7R
71	6 $\frac{1}{4}$	3611'	3620'	7	9'	W7R
72	6 $\frac{1}{4}$	3620'	3630'	5 $\frac{1}{2}$	10'	W7R
73	6 $\frac{1}{4}$	3630'	3644'	4	14'	OWS
74	6 $\frac{1}{4}$	3644'	3651'	4 $\frac{3}{4}$	7'	OWS
75	6 $\frac{1}{4}$	3651'	3677'	2 $\frac{3}{4}$	16'	W7R
76	6 $\frac{1}{4}$	3677'	3701'	5 $\frac{1}{2}$	24'	W7R
77	6 $\frac{1}{4}$	3701'	3702'	3 $\frac{1}{2}$	1'	W7R
78	6 $\frac{1}{4}$	3702'	3703'	1	1'	W7R

Bit Record Sandoval #3 (Continued)

<u>Bit No.</u>	<u>Bit Size</u>	<u>From</u>	<u>To</u>	<u>Drilling Hours</u>	<u>Footage</u>	<u>Type</u>
79	6 1/8	3703'	3774'	5 1/2	72'	W7R
80	6 1/8	3774'	3879'	5 1/2	105' (Core hole reaming)	W7R
81	6 1/8	3879'	3966'	5	87' "	W7R
82	6 1/8	3966'	4027'	4 3/4	61' "	W7R
83	6 1/8	4027'	4090'	4 3/4	63' "	W7R
84	6 1/8	4090'	4180'	4 3/4	90' "	OWS
85	6 1/8	4180'	4279'	4 1/2	99' "	OWS
86	6 1/8	4279'	4392'	5	113' "	OWS
87	6 1/8	4392'	4495'	5	103' "	OWS
					Drilling	
88	6 1/8	4495'	4517'	4 1/4	22'	OWS
89	6 1/8	4517'	4580'	12	63' CP -	EM-1
90	6 1/8	4580'	4666'	15 3/4	86' CP -	EM-1
91	6 1/8	4666'	4719'	8 1/4	53'	EM-1
92	6 1/8	4719'	4757'	11 1/4	38'	EM-1
93	6 1/8	4757'	4851'	14	94'	EM-1
94	6 1/8	4851'	4891'	7 3/4	40'	EM-1
95	6 1/8	4891'	4900'	3 1/2	9' HTCO	W7R
96	6 1/8	4900'	4917'	7	17'	W7R
97	6 1/8	4917'	4939'	6 1/2	22'	W7R
98	6 1/8	4939'	4950'	4	11'	W7R
99	6 1/8	4950'	4964'	5 1/4	14'	W7R
100	6 1/8	4964'	4984'	6	20'	W7R
101	6 1/8	4984'	5015'	6	31'	W7R
102	6 1/8	5015'	5028'	5	13' CP -	EM-1

All drilling with Baroid mud. Drilling was accomplished without circulation through the intervals. 1266 ft. to 1512 ft.

DRILLING TIME LOG

EDWIN W. PAULEY-BRUCE SULLIVAN

#1 Carlos Sandoval
Las Animas County, Colorado

Min/1 foot

160-80	2,2,1,1,1,1,1,1,1,1	1,1,2,2,2,2,2,2,1,1
180-00	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
200-20	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
220-40	1,1,1,1,1,1,1,1,1,1	5,5,5,5,5,5,5,5,5,5
240-60	5,5,5,5,5,5,5,5,5,5	5,5,5,5,5,5,5,5,5,5
260-80	5,5,5,5,5,5,5,5,5,5	5,5,5,5,5,5,5,5,5,5
280-00	5,5,5,5,5,5,5,5,5,5	5,5,5,5,5,5,5,5,5,5
300-20	5,5,5,5,5,5,5,5,5,5	5,5,5,5,5,5,5,5,5,5
320-40	5,5,5,5,5,5,5,5,5,5	5,5,5,5,5,1,1,1,1,1
340-60	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
360-80	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
380-00	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
400-20	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
420-40	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
440-60	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
460-80	1,2,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
480-00	1.5,1.5,1.5,1.5,1.5,1.5 1.5,1.5,1.5,1.5	1,1,1,1,1,1,1,1,1,1
500-20	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
520-40	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5	2,2,2,1,1,1,1,1,2,2,
540-60	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5	1.5,1.5,1.5,1.5,1.5,1.5 1.5,1.5,1.5,1.5
560-80	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5	1.5,1.5,1.5,1.5,1.5,1.5 1.5,1.5,1.5,1.5

600-20	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5
620-40	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5
640-60	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5	2,2,2,2,2,2,2,2,2,2
660-80	2,2,2,2,2,2,2,2,2,2	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5
680-00	2,2,2,2,2,2,2,2,2,2	2,2,2,2,2,2,2,2,2,2
700-20	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,2,2,2	1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5, 2,2
720-40	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,2,2	2,2,1.5,1.5,1.5,2,1.5,2,2,2
740-60	2,2,2,1.5,1.5,2,1.5,1.5, 2,2	1.5,1.5,2,1.5,1.5,2,1.5,2,1.5,2
760-80	1.5,1.5,1.5,1.5,2,2,2,2, 2,2	2,1.5,1.5,2,2,1.5,2,1.5,2,2
780-00	1.5,2,2,1.5,2,1.5,2,2,1.5,2	2,2,1.5,1.5,1.5,1.5,2,2,1.5,1.5
800-20	2,2,2,2,2,2,2,2,2,2	1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5
820-40	1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5,1.5,1.5	2,1.5,1.5,1.5,1.5,1.5,1.5,2,2,2
840-60	1.5,1.5,1.5,1.5,1.5,2,1.5, 1.5,1.5,1.5	1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5, 1.5,1.5
860-80	2,2,2,1.5,1.5,1.5,1.5,1.5, 2,1.5	2,2,1.5,1.5,1.5,1.5,1.5,1.5,2,2
880-00	2,1.5,2,1.5,1.5,1.5,2,1.5, 2,1.5	1.5,2,1.5,1.5,1.5,1.5,1.5,1.5, 1.5,2
900-20	2,2,2,1.5,1.5,2,2,2,2,2	2,2,1.5,1.5,1.5,1.5,1.5,1.5,1.5, 1.5
920-40	1.5,1.5,2,2,2,2,2,2,2,2	2,2,2,2,2,2,2,2,2,2
940-60	2,2,1.5,1.5,1.5,1.5,2,1.5, 1.5,2	2,2,2,2,2,1.5,1.5,2,2,2
960-80	2,2,1.5,2,2,2,2,2,2,1.5	2.5,2.5,2.5,2,2.5,2.5,2.5,2.5,2.5, 2.5
980-00	3,3,3,3,3,3,3,3,3,3	2.5,2.5,2.5,2.5,2.5,2.5,2.5,2.5, 2.5,2.5

1000-20	3,3,3,3,3,3,3,3,3,3	3,3,3,3,2.5,3,3,3,2.5,x
1020-40	3,3,2.5,2.5,2,2,3,3,3,3	3,3,4,3,3,2,3,2.5,2.5,3
1040-60	3,4,4,4,4,4,2,2,2,2	2,2,2,2,1,2,2,2,2,1
1060-80	2,2,2,2,2,1,1,1,1,1	1.5,1.5,1.5,1,1,1,1,1.5,1.5,1.5
1080-00	2,2,2,2,2,2,2,2,2,2	2,2,2,2,1,2,2,2,2,1
1100-20	1,1,1,2,2,2,2,1,1,2	2,2,2,2,2,1,2,2,1,2
1120-40	2,2,2,2,1,2,1,1,1,1	1.5,2,2,2,2,2,2,2,2,2
1140-60	2,2,2,2,1,1,1,1,1,1	1.5,1,2.5,2.5,2.5,2.5,2.5,2.5,2.5,2.5
1160-80	2.5,2.5,2.5,2.5,2.5,3,3,3.5,3.5,3.5	2.5,2.5,2.5,2.5,2.5,2.5,2.5,2.5,2.5,2.5
1180-00	2.5,2.5,2.5,2,2,2,2,2,2,2	2.5,2.5,2.5,2.5,2,2,2,2,2,2
1200-20	2,2,2,2,2,2,2,2,2,2	2,2,2,2,2,2,2,2,2,2
1220-40	1.5,1,1.5,2,1.5,2,2,2,2,2	2,2,2,2,2,2,2,2,2,2
1240-60	2,2,2,2,2,1.5,2,2,1.5,2	2,2,1.5,2,2,2,2,2.5,2.5,2.5
1260-80	2,2,2,2,2,1,1.5,1.5,1.5,1.5	1.5,2.5,2.5,2,2,2,2.5,2.5,2.5,2.5
1280-00	2.5,2.5,2.5,3,3,3,3,1.5,1.5,1.5	1,1,1,1,1,1,1,1,1,1
1300-20	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1
1320-40	1.5,1,1,1,1,1,1,1,1,1	1.5,1,1,1,1.5,1.5,1,1,1,1
1340-60	1,1,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1	1,1,1,1,1,1,1,1,1,1
1360-80	1,1,1,1,1,1,1,1,1,1	1,1,1,1,1,1,1,1,1,1.5
1380-00	1,1.5,1,1,1,1.5,1,1,1,1.5	1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5
1400-20	1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5	1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5
1420-40	1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5	1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5,1.5
1440-60	1.5,1.5,1.5, geograph down	
1460-80		2,2,2,2,2,2,2,2,2,2
1480-00	2,2,2,2,2,2,2,2,2,2	2,2,2,2,2,2,2,2,2,2
1500-20	1.5,1.5,2,2,2.5,2,2,2,2,2	2,2,2.5,2.5,3,2.5,3,3,3,3

1520-40	3,3,3,4,3,4,2.5,3,3,3	3,3,3,3,3,3,3,3,3,3
1540-60	4,4,4,4,4,4,4,4,4,4	4,4,4,4,4,4,4,4,4,4
1560-80	4,4,4,4,4,4,4,4,4,4	4,4,4,4,4,4,4,4,4,4
1580-00	5,5,5,6,6,5,5,5,5,6	6,15,8,4,4,4,4,4,4,4
1600-20	4,4,5,5,4,5,5,3,3,5	5,5,5,5,5,4,5,5,4,4
1620-40	5,5,5,6,6,5,5,5,5,5	5,5,5,5,5,5,5,5,5,5
1640-60	5,5,5,5,5,5,5,5,5,5	5,4,4,5,5,4,4,5,4,4
1660-80	5,4,5,5,6,6,8,8,7,5	5,5,5,5,5,6,6,6,5,5
1680-00	6,5,5,5,5,5,6,7,5,4	5,4,4,4,3,3,3,3,3,3
1700-20	3,3,3,3,3,3,3,3,3,3	3,3,3,3,3,3,3,4,4,4
1720-40	3,3,4,3,4,5,4,4,3,4	4,4,3,4,3,3,4,4,3,4
1740-60	4,4,5,5,5,4,4,5,5,6	5,5,5,4,4,4,4,4,4,4
1760-80	5,5,5,5,5,6,6,6,6,6	6,6,6,6,6,7,7,7,7,7
1780-00	7,7,7,7,7,8,8,8,9,7	6,5,5,5,5,5,5,5,5,5
1800-20	5,5,5,5,5, geolograph down	1802-1835
1820-40		4,4,4,5,5
1840-60	5,5,5,6,6,6,6,7,5,6	5,4,5,6,5,5,5,5,4,4
1860-80	5,3,4,3,4,4,5,5,5,5	6,6,7,7,7,7,5,6,6,8
1880-00	8,8,9,8,8,8,10,10,9	12,15,15,11,15,19,17,10,13,9
1900-20	11,10,9,9,7,8,7,8,11,10	8,13,11,12,13,10,11,10,11,9
1920-40	10,10,9,8,17,18,18,9,10,9	13,9,12,12,11,11,13,11,11,11
1940-60	11,10,10,10,9,10,12,8,8,8	8,8,8,8,8,8,8,7,7,7
1960-80	7,10,5,6,6,6,5,5,5,5	5,5,4,6,5,5,5,5,6,5
1980-00	5,5,5,5,5,5,5,5,5,5	5,5,5,5,5,5,5,5,5,5
2000-20	5,5,4,5,4,4,5,7,5,5	4,5,6,5,5,4,4,5,5,4
2020-40	4,4,5,5,6,4,4,4,4,5	4,4,4,5,4,4,4,4,5,4
2040-60	4,4,4,4,4,8,8,47,28,x	5,26,74,26,33,38,25,18,31,32
2060-80	25,23,23,17,16,17,15,15, 25,27	25,21,26,14,25,23,20,23,21,29
2080-00	19,44,26,29,23,17,19,32, 18,25	26,25,23,21,18,26,41,20,21,26

2100-20	19,34,32,13,12,16,22,11, 18,33	16,29,33,20,20,29,49,13,20,21
2120-40	29,27,33,22,17,43,33,25, 62,26	48,34,26,24,25,x,22,25,35,31
2140-60	27,28,27,26,21,26,27,25, 55,31	28,25,22,23,25,24,25,23,20,33
2160-80	30,43,32,30,26,26,26,25, 28,24	24,33,47,x,x,x,x,15,x,15
2180-00	13,9,16,x,x,x,6,5,16,8	3,7,6,4,5,4,3,3,8,11
2200-20	3,3,8,10,7,7,7,8,8,9,8	9,10,10,11,10,11,10,8,11,6
2220-40	6,6,11,8,8,13,9,8,8,5	5,4,6,6,9,8,19,18,12,5
2240-60	6,5,6,7,7,5,5,5,5,5	5,4,5,4,4,6,8,4,7,7
2260-80	5,12,9,16,11,10,20,13,10,8	8,7,9,13,10,17,32,x,x,35
2280-00	25,27,25,22,28,23,24,24, 23,23	23,20,17,24,17,23,19,18,18,17
2300-20	18,25,27,x,x,10,10,12,12,10	13,13,13,10,11,11,17,19,18,19
2320-40	22,16,20,14,18,17,14,15, 12,x	20,16,31,16,11,20,23,22,26,5
2340-60	8,9,9,8,6,7,6,8,9,10	9,9,7,9,11,13,14,13,13,9
2360-80	12,10,9,9,9,12,13,8,9,13	10,10,13,13,12,14,19,17,14
2380-00	19,19,19,20,16,8,16,31,21,35	14,8,27,23,31,25,29,27,25,6
2400-20	14,32,24,21,38,10,14,13,14,x	x,8,12,9,18,16,14,14,15,15
2420-40	17,12,16,16,20,17,18,25, 18,20	18,20,17,15,15,18,17,17,16,17
2440-60	14,18,17,14,15,17,17,20, 30,10	14,15,16,16,11,32,29,15,21,22
2460-80	43,27,27,30,28,32,24,39,55	40,35,33,37,25,18,23,26,29,25
2480-00	35,44,10,15,13,55,28,32, 32,15	9,40,21,33,18,17,18,17,17,23
2500-20	30,20,31,24,10,6,8,9,11,13	19,19,11,17,15,17,30,41,14,17
2520-40	17,13,14,13,13,14,17,13,13, 14	13,17,10,10,18,17,22,14,16,15
2540-60	16,24,17,12,12,15,16,17,11, 14	11,13,13,13,14,13,13,11,10,11

2560-80	9, 11, 12, 11, 15, 13, 17, 16, 14, 9	9, 9, 9, 11, 9, 10, 8, 11, 10, 9
2580-00	9, 9, 9, 8, 8, 8, 8, 9, 9, 10	19, 16, 16, 10, 9, 10, 9, 9, 11, 16
2600-20	11, 13, 14, 18, 17, 16, 20, 13, 19, x	17, 18, 8, 14, 14, 13, 12, 16, 47, 29
2620-40	18, 13, 19, 24, 23, 13, 26, 12, 14, x	26, 31, 17, 15, 8, 14, 14, 12, 11, 12
2640-60	12, 14, 15, 19, 34, 25, 21, 15, 17, 16	14, 13, 7, 6, 5, 7, 10, 10, 11, 14
2660-80	10, 13, 14, 18, 18, 18, 24, 27, 21, 15	15, 7, 11, 9, 8, 8, 9, 12, 14, 10
2680-00	8, 8, 9, 8, 8, 8, 8, 9, 12, 8	8, 8, 9, 9, 10, 8, 8, 8, 8, 8
2700-20	7, 6, 7, 9, 6, 6, 8, 7, 9, 8	9, 6, 6, 13, 17, 17, 9, 10, 10, 10
2720-40	9, 12, 10, 14, 15, 11, 10, 9, 9, 9	10, 10, 11, 14, 20, 13, 7, 14, 11, 18
2740-60	13, 20, 23, 8, 11, 15, 11, 15, 17, 9	8, 9, 13, 9, 10, 9, 12, 18, 8, 8
2760-80	8, 8, 10, 17, 15, 20, 11, 16, 17, 17	13, 6, 7, 8, 9, 9, 9, 9, 10, 12
2780-00	11, 10, 10, 10, 10, 13, 17, 18, 15, x	15, 16, 14, 16, 16, 14, 11, 8, 11, 10
2800-20	11, 8, 9, 9, 10, 9, 13, 10, 8, 9	11, 10, 10, 10, 10, 11, 11, 13, 12, 10
2820-40	12, 10, 11, 11, 13, 9, 8, 8, 9, 9	11, 10, 10, 11, 10, 11, 11, 12, 10
2840-60	9, 9, 10, 11, 3, 4, 4, 4, 3, 4	5, 3, 5, 4, 5, 5, 6, 5, 5, 5
2860-80	5, 4, 4, 4, 4, 5, 4, 4, 6, 6	6, 6, 6, 6, 7, 7, 6, 5, 5, 5
2880-00	6, 7, 7, 6, 8, 13, 9, 11, 16, 8	15, 12, 10, 11, 11, 13, 13, 18, 10, 10
2900-20	10, 16, 7, 5, 5, 5, 5, 5, 4, 5	5, 5, 4, 4, 8, 4, 4, 4, 4, 4
2920-40	5, 5, 4, 4, 5, 5, 5, 5, 5, 6	6, 8, 7, 6, 5, 6, 5, 5, 7, 6,
2940-60	7, 13, 22, 14, 11, 15, 33, 18, 22, 17	23, 11, 10, 9, 9, 8, 9, 9, 8, 11
2960-80	10, 9, 9, 9, 9, 8, 10, 18, 15, x	9, 15, 12, 14, 12, 12, 12, 12, 14, 11
2980-00	8, 9, 9, 11, 13, 14, 12, 14, 19, 23	19, 26, 18, 14, 16, 15, 10, 10, 12, 11
3000-20	12, 22, 18, 17, 15, 10, 12, 13, 20, 23	7, 5, 11, 10, 12, 18, 14, 11, 18, 18
3020-40	24, 18, 22, 18, 24, 22, 23, 15, 17, 17	17, 15, 13, 11, 15, 12, 17, 21, 16, 21

3040-60	19, 14, 23, 14, 30, 15, 19, 15 16, 17	11, 8, 8, 9, 15, 15, 16, 9, 9, 10
3060-80	9, 10, 10, 9, 11, 10, 12, 11, 14, 13	15, 9, 9, 18, 18, 23, 32, 20, 15, 13
3080-00	15, 19, 19, 22, 24, 16, 11, 17, 18, 13	14, 14, 11, 13, 12, 15, 15, 17, 17, 10
3100-20	13, 27, 23, 10, 14, 17, 13, 14, 11, 15	13, 11, 13, 15, 9, 12, 13, 11, 11, 21
3120-40	18, 12, 11, 9, 19, 23, 17, x, x, x	17, 18, 17, 13, 7, 7, 6, 6, 6, 5
3140-60	7, 6, 7, 5, 8, 8, 8, 10, 10, 12	11, 11, 9, 9, 8, 7, 7, 7, 7, 8
3160-80	7, 9, 10, 13, 13, 14, 14, 14, x, 10	9, 7, 7, 10, 12, 14, 15, 14, 17, 12
3180-00	12, 14, 16, 15, 14, 13, 18, 17, 18, 19	19, 10, 13, 10, 13, 12, 11, 15, 17, 15
3200-20	15, 15, 14, 15, 8, 10, 11, 8, 8, 9	12, 12, 13, 9, 11, 11, 12, 12, 13, 17
3220-40	17, 16, 15, 11, 16, 15, 15, 20, 25, 24	21, 16, 20, 24, 16, 16, 12, 18, 19, 15
3240-60	18, 23, 26, 75, 13, 17, 20, 20, 21, 19	24, 21, 22, 28, 40, 19, 24, 18, 21, 24
3260-80	19, 17, 23, 23, 26, 30, 45, 35, 25, 18	31, 26, 31, 34, 32, 33, x, 30, 33, 32
3280-00	21, 24, 23, 25, 24, 29, 33, 26, 33, 35	32, 13, 14, 20, 12, 20, 13, 16, 8, 18
3300-20	16, 19, 18, 21, 21, 18, 27, 15, 17, 22	27, 22, 35, x, 42, 38, 16, 27, 17, 19
3320-40	16, 8, 22, 21, 31, 30, 45, x, x, 14	13, 11, 13, 9, 12, 14, 12, 14, 12, 10
3340-60	13, 11, 11, 10, 10, 12, 9, 10, 8, 7	11, 15, x, 10, 10, 10, 10, 17, 14, 22
3360-80	30, 15, 17, 23, 15, 27, 25, 24, 20, 23	27, 27, 36, 20, 18, 23, 28, 22, 18, 22
3400-20	25, 23, 8, 7, 6, 12, 17, 8, 10, 15	16, 17, 26, 20, 24, 15, 13, 19, 21, 15
3420-40	7, 8, 7, 7, 9, 11, 17, 10, 16, 14	14, 12, 26, 16, 20, 11, 7, 8, 10, 21
3460-80	15, 19, 20, 17, 30, 25, 19, 13, 24	21, 26, 40, 38, 19, 34, 24, 26, 50, x
3480-00	13, 13, 12, 20, 40, 40, 16, 16, 45, 45	28, 42, x, x, 17, 25, 22, 20, x, 17
3500-20	31, 26, 19, 12, 10, 9, 10, 16, 24, 25	21, 18, 23, 21, 20, 24, 24, 19, 18, 17

3520-40	17,24,20,26,25,18,14,19, 17,19	15,12,19,16,16,x,x,20,16,11
3540-60	17,25,18,24,34,31,22,25,20, 22	24,23,11,8,8,7,7,x,x,8
3560-80	16,15,15,21,22,21,30,31, 27,15	19,12,10,9,10,10,14,11,10,21
3580-00	8,12,10,11,10,11,20,24, 26,12	16,14,10,16,11,12,11,13,21,26
3600-20	30,33,28,42,65,45,60,27, 45,x	x,22,34,42,60,52,56,47,52,x
3620-40	20,14,16,21,33,37,36,44, 47,x	x,16,13,11,10,19,14,11,12,11
3640- 3651	16,16,22,41,51,34,26,27, 49,x	x
3651-60		-,26,32,24,27,26,31,29,30,27
3660-80	43,19,30,15,18,23,20,21, 20,24	25,19,16,25,28,21,24,16,16,13
3680-00	14,14,17,13,39,12,15,19, 35,43	34,31,29,26,25,20,33,x,x,x
3700-20	x,x,x,40,44,42,46,41,40,35	26,27,25,31,27,26,27,25,22,26
3720-40	26,16,21,25,20,16,33,22, 28,28	19,16,22,33,2,5,4,6,15,10
3740-60	10,10,40,20,18,34,33,16, 29,22	18,19,10,10,22,19,35,6,5,8
3760-80	13,13,9,12,25,34,26,24, 23,24	16,22,22,27,22,17,20,23,17,18
3780-00	18,17,11,17,14,14,14,17, 13,15	12,9,25,43,39,45,4,9,8,8
3800-20	14,15,22,25,27,26,25,7,6,5	3,4,5,4,7,4,3,8,9,8
3820-40	8,6,7,4,6,4,3,4,3,3	5,7,12,10,10,17,16,17,18,14
3840-60	12,13,14,13,13,15,15,14, 14,14	13,13,13,12,12,12,18,22,20,18
3860-80	29,25,24,21,17,29,22,25, 25,20	24,25,22,23,15,22,20,24,24,21
3880-00	21,20,18,17,13,12,15,15, 14,14	15,14,14,17,16,13,13,14,12,13
3900-20	13,14,15,11,11,12,15,13, 13,14	13,12,15,15,16,21,16,15,14,13

3920-40	14,14,17,18,14,12,15,22, 21,16	20,28,15,18,15,16,19,24,20,17
3940-60	20,20,20,18,20,21,24,24, 18,19	15,18,16,18,15,12,13,17,11,14
3960-80	15,15,15,12,13,11,11,13, 15,14	17,6,21,13,15,16,16,15,14,13
3980-00	14,14,15,15,14,15,13,10, 13,16	12,15,16,22,18,14,15,15,18,23
4000-20	22,23,18,15,10,14,18,12, 15,18	16,12,14,15,16,18,13,12,12,33
4020-40	14,19,20,13,19,16,20,11, 11,9	6,8,7,5,7,5,5,9,15,19
4040-60	22,18,x,20,21,23,17,20, 26,33	x,15,19,20,20,19,18,20,21,17
4060-80	19,19,17,17,16,17,20,21,20	22,23,21,18,18,18,18,16,17,19
4080-00	16,18,15,15,18,7,14,20,21, 20	23,19,16,25,17,18,17,27,16,32
4100-20	26,7,15,14,19,19,17,20,34,25	20,24,16,13,15,17,22,19,17,16
4120-40	12,14,15,9,19,14,11,17,18,22	16,18,19,17,19,15,16,18,14,16
4140-60	16,15,18,16,15,15,17,21, 13,20	19,16,16,14,20,14,15,17,15,18
4160-80	16,16,15,17,16,13,17,15, 21,17	22,25,21,20,25,20,15,22,26,15
4180-00	22,21,21,20,24,19,23,22, 17,18	20,18,18,18,19,20,20,16,6,6
4200-20	6,5,5,5,5,6,5,10,21,19	27,31,21,11,11,13,7,4,5,5
4220-40	5,8,62,14,12,12,12,13, 11,12	6,10,12,14,13,12,12,15,12,15
4240-60	14,18,15,17,16,16,19, 17,27,-	24,18,16,17,15,18,12,16,15,17
4260-80	15,14,17,20,14,x,5,18, 16,15	16,11,9,12,13,17,19,22,20,16
4280-00	20,19,14,14,15,16,15,18, 16,12	9,12,10,14,14,19,14,12,15,11
4300-20	16,23,18,19,20,5,17,20, 17,17	13,15,12,13,14,16,24,21,19,21
4320-40	20,23,16,20,26,23,29,20 22,30	22,15,7,8,8,8,11,23,24,22

4340-60	19, 19, 15, 14, 16, 18, 16, 14, 13, 12	10, 8, 9, 13, 10, 12, 22, 24, 27, 38
4360-80	x, 27, x, 20, 23, 22, 17, 14, 14, 16	17, 19, 27, 14, 17, 16, 17, 16, 18, 22
4380-00	22, 22, 18, 18, 19, 21, 18, 21, 21, 22	18, 26, 20, 20, 19, 21, 21, 23, 28, 24
4400-20	-, 23, 24, 15, 19, 20, 20, 24, 21, 23	17, 20, 18, 17, 16, 17, 17, 20, 19, 18
4420-40	-, 13, 15, 19, 17, 21, 22, 17, 22, 20	15, 17, 14, 9, 12, 11, 13, 15, 15, 14
4440-60	14, 17, 17, 13, 13, 13, 14, 14, 15, 14	14, 25, 15, 16, 16, 17, 16, 16, 17, 19
4460-80	15, 16, 12, 14, 13, 12, 13, 12, 14, 18	17, 16, 16, 18, 17, 17, 18, 17, 17, 18
4480-00	19, 17, 17, 17, 18, 18, 15, 17, 16, 8	7, 10, 11, 11, 11, 11, 12, 11, 11, 10
4500-20	10, 10, 11, 10, 10, 9, 10, 9, 9, 9	8, 7, 9, 9, 9, 10, 10, 12, 9, 12
4520-40	14, 13, 12, 10, 10, 10, 12, 10, 10	9, 10, 10, 9, 9, 9, 10, 8, 9, 8
4540-60	10, 7, 9, 9, 7, 11, 12, 11, 12, 12	14, 10, 10, 8, 12, 10, 10, 12, 9, 10
4560-80	11, 14, 12, 12, 13, 11, 12, 10, 10, 13	15, 15, 15, 13, 12, 16, 12, 12, 8, 8
4580-00	10, 9, 10, 8, 7, 9, 8, 9, 10, 9	8, 10, 10, 10, 10, 9, 9, 9, 10, 8
4600-20	9, 9, 8, 8, 9, 9, 9, 9, 9, 9	8, 9, 8, 7, 11, 10, 10, 10, 10, 12
4620-40	11, 13, 13, 14, 11, 12, 10, 11, 12, 10	8, 10, x, 11, 12, 13, 10, 10, 11, 11
4640-60	12, 12, 13, 11, 12, 10, 11, 12, 11, 13	13, 12, 10, 10, 10, 11, 11, 11, 11, 10
4660-80	10, 13, 9, 9, 9, 13, 4, 7, 7, 7	7, 7, 7, 7, 7, 7, 6, 6, 7, 7
4680-00	7, 7, 8, 8, 5, 9, 8, 10, 10, x	10, 10, 11, 11, 10, 7, 8, 9, 8, 9
4700-20	8, 8, 9, 10, 11, 10, 10, 12, 9, 13	11, 10, 13, 12, 12, 12, 11, 11, 11, 18
4720-40	12, 12, 19, 15, 13, 15, 15, 13, 15, 14	x, x, 13, 14, 15, 13, 15, 15, 16, 16
4740-60	17, 16, 18, 20, 21, 11, 12, 13, 16, 18	28, 28, 29, 32, 30, x, x, 16, 23, 16
4760-80	20, 20, 20, 21, 21, 20, 18, 17, 15, 14	15, 16, 16, 15, 16, 19, 19, 18, 16, 18

4780-00	18, 21, 20, 20, 18, 20, 22, 22, 22, 16	11, 9, 7, 7, 7, 16, 16, 17, 23, 23
4800-20	23, 18, 19, 15, 12, 13, 7, 7, 8, 9	10, 10, 12, 10, 10, 11, 12, 12, 10, 11
4820-40	9, 9, 9, 9, 8, 7, 9, 9, 11, 10	11, 10, 10, 13, 9, 11, 8, 9, 10, 9
4840-60	12, 12, 12, 14, 13, 16, 14, 13, 14, 10	13, 12, 9, 9, 26, 13, 10, 8, 10, 9
4860-80	14, 12, 10, 13, 10, 9, 14, 10, 12, 13	11, 9, 10, 10, 11, 9, 8, 11, 12, 11
4880-00	11, 12, 10, 10, 12, 8, 10, 10, 9, 8	9, 11, 12, 15, 14, 14, 13, 25, 28, 14
4900-20	15, 14, 13, 19, 21, 23, 45, 19, 23, 29	24, 15, 26, 32, 41, 30, 12, 22, 13, 15
4920-40	13, 14, 13, 15, 12, 13, 18, 17, 17, 14	15, 15, 17, 18, 14, 17, 17, 17, 18, 24
4940-60	13, 16, 20, 22, 19, 20, 20, 16, 37, 24	21, 14, 11, 24, 23, 14, 32, 37, 22, 17
4960-80	19, 23, 34, 14, 19, 13, 14, 14, 11, 11	8, 8, 10, 14, 16, 17, 15, 17, 22, 21
4980-00	14, 21, 18, 13, 15, 14, 13, 13, 13, 12	9, 9, 12, 13, 11, 8, 9, 9, 9, 10
5000-20	9, 9, 8, 9, 9, 8, 9, 11, 12, 14	14, 12, 13, 15, 15, 16, 33, 18, 24, 23
5020-30	26, 28, 25, 24, 26, 25, 25, 23, 41, 44	

NOTE: Following intervals cored with a diamond corehead -
2048 ft. to 2174.5 ft; 3651 ft. to 4489 ft; 4757 ft.
to 4769 ft; 5028 ft. to 5030 ft.