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SUBSURFACE-TEMPERATURE DATA FOR SOME WELLS IN WESTERN UTAH

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ILLUSTRATION

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GENERAL STATEMENT

The data contained in this report were gathered as part of a hydrothermal reconnaissance of the State of Utah. These data, plus additional data and information, will form the basis for a future interpretive report. These data are being released separately from and prior to the interpretive report, to make them available to interested parties at the earliest possible time.

Table 1 contains temperature-profile data for 30 wells; their general locations are shown in figure 1. The well locations were estimated from aerial photographs and topographic maps; no effort was made to survey the sites and as a result some locations may be slightly in error.

Temperatures were measured using thermistor, 4-conductor cable, and a digital multimeter. Meter readings were in ohms, but were converted to temperature by a calibration graph. The electronic thermometer is capable of an accuracy to 0.01°C, and readings were so recorded. Because of variations in field conditions, the temperature data in many wells probably is accurate only to 0.1°C. Depths below land surface were measured using a sheave and attached counter. Depths are generally accurate to the nearest foot.

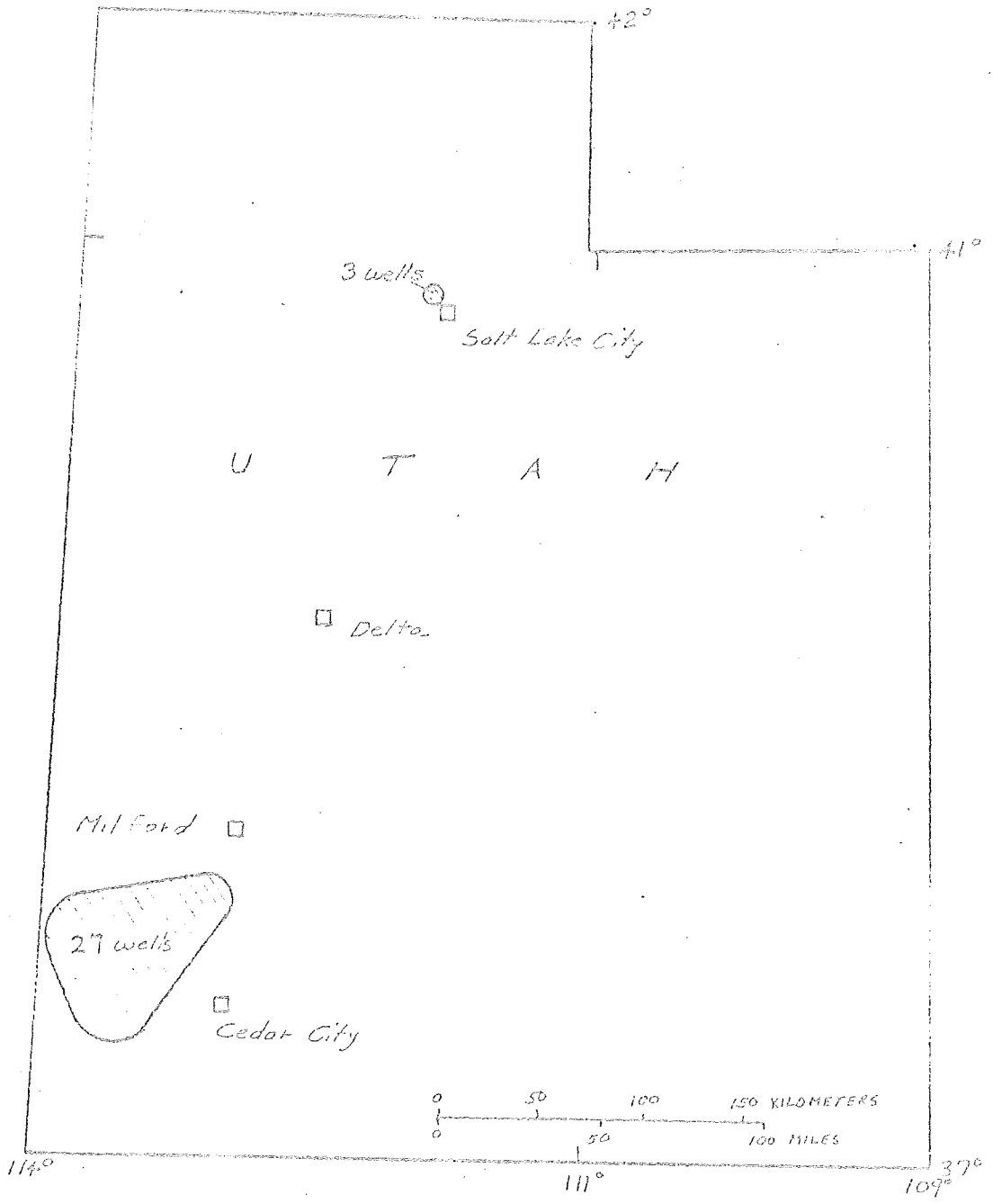

Figure 1.--Location of wells with temperature-profile data in this report.

Most of the wells were small-diameter geothermal-exploration wells. Some were stock, domestic, or irrigation wells.

CONVERSION FACTORS

The units used in this report are depth below land surface in feet and temperature in degrees Celsius (°C). To convert feet to meters, multiply feet by 0.3048; to convert degrees Celsius to degrees Fahrenheit, multiply by 1.8 and add 32 [°F = (1.8 °C) + 32].

Table 1.--Subsurface temperature-profile data for selected wells in western Utah

Well location: SE¼ sec. 31, T. 1 N., R. 1 W.

Depth (feet)	Temperature (°C)
0	15.70
20	14.70
40	15.60
60	16.74
80	17.38
100	18.04
20	18.57
40	19.12
60	18.77
80	19.16
200	19.63
20	20.16
40	20.58
60	20.96
80	21.38
300	21.79
20	22.25
40	22.50
60	23.53
80	23.97
400	24.20
20	24.55
40	25.14
60	25.36
80	25.74
500	26.26
20	26.86
40	27.50
60	27.98
80	28.29
600	28.40

Well location: SE¼ SE¼ sec. 28, T. I. N., R. 2 W.

Depth (feet)	Temperature (°C)
25	19.52
50	20.20
75	20.47
100	20.76
125	20.91
150	21.11
175	21.90
200	21.44
225	21.60
250	21.57
258	21.45

Well location: NE¼ NW¼ sec. 36, T. 1 N., R. 2 W.

Depth (feet)	Temperature (°C)	
0	20.83	(Well flowing less than
25	21.76	1 gal/min.)
50	22.10	
75	22.74	
100	23.44	
125	24.20	
150	24.85	
175	25.46	
200	26.10	
225	26.87	
250	27.70	
275	28.65	
300	29.75	
325	29.90	
350	30.09	
375	30.25	
400	30.30	
425	30.40	
446	30.40	

(1) Well location: SE¼SE¼, sec. 35, T. 22 S., R. 6 W.

Depth (feet)	Temperature (°C)
5	65.2
15	66.7
25	67.0
35	67.1
45	67.1
55	67.2
65	67.2
75	67.2
85	67.2
90	67.05

(2) Well location: NE¼NE¼, sec. 22, T. 30 S., R. 11 W.

Depth (feet)	Temperature (°C)
15	14.76
25	15.36
35	16.60
45	17.60
55	18.26
65	19.00
75	19.62
85	20.33
95	20.96
96.3	21.16

③ ✓ Well location: SE¼SW¼, sec. 26, T. 30 S., R. 11 W.

Depth (feet)	Temperature (°C)
15	14.95
25	14.98
35	15.67
45	16.30
55	16.84
65	17.17
75	17.58
85	18.03
95	18.48
105	18.90
115	19.23
118.1	19.34

④ ✓ Well location: NW¼SW¼, sec. 30, T. 30 S. R. 11 W.

Depth (feet)	Temperature (°C)
15	13.62
25	13.78
35	14.53
45	15.24
55	15.70
65	16.22
75	16.77
85	17.36
95	17.70
104.4	18.06

(5) Well location: NE¼NW¼, sec. 34, T. 30 S., R. 11 W.

Depth (feet)	Temperature (°C)
15	14.13
25	14.13
35	14.82
45	15.17
55	15.57
65	15.86
75	16.24
85	16.60
95	17.14
105	17.57
115	17.84
119.7	17.94

(6) Well location: SW¼SE¼, sec. 4, T. 30 S., R. 12 W.

Depth (feet)	Temperature (°C)
5	19.67
15	13.98
25	13.37
35	13.80
45	14.30
55	14.63
65	15.00
75	15.27
85	15.57
95	15.81
105	16.02
115	16.27
125	16.46
134.5	16.72

(7) ✓ Well location: SE¼SE¼, sec. 20, T. 30 S., R. 12 W.

Depth (feet)	Temperature (°C)
5	17.2
15	11.24
25	10.77
35	11.07
45	11.35
55	11.58
65	11.75
75	11.91
85	12.10
95	12.31
98.6	12.38

(8) ✓ Well location: NE¼SW¼, sec. 22, T. 30 S., R. 12 W.

Depth (feet)	Temperature (°C)
5	18.15
15	15.31
25	16.40
35	18.48
45	19.16
55	20.53
65	22.13
75	23.76
85	25.44
95	27.08
103.3	28.40

(9) ✓ Well location: NW¼SW¼, sec. 27, T. 30 S., R. 12 W.

Depth (feet)	Temperature (°C)
5	17.70
15	13.42
25	13.44
35	14.64
45	15.84
55	16.78
65	17.83
75	18.69
85	19.64
95	20.76
104.8	21.70

(10) ✓ Well location: SE¼NE¼, sec. 27, T. 30 S., R. 12 W.

Depth (feet)	Temperature (°C)
15	13.58
25	13.01
35	13.43
45	13.80
55	14.13
65	14.40
75	14.66
85	14.92
95	15.11
98.9	15.20

(11) Well location: SE¼SE¼, sec. 36, T. 30 S., R. 12 W.

Depth (feet)	Temperature (°C)
20	20.90
40	19.15
60	18.86
80	19.05
100	19.85
20	20.85
40	21.88
60	22.85
80	23.75
200	24.90
20	25.82
223	26.00

(12) Well location: SW¼SE¼, sec. 29, T. 30 S., R. 12 W.

Depth (feet)	Temperature (°C)
5	15.6
15	11.28
25	11.6
35	12.25
45	12.72
55	13.05
65	13.35
75	13.65
85	14.00
95	14.25
95.8	14.30

(13) Well location: NW¼NE¼, sec. 6, T. 31 S., R. 11 W.

Depth (feet)	Temperature (°C)
15	14.03
25	14.22
35	14.47
45	14.76
55	14.97
65	15.17
75	15.45
85	15.68
95	15.88
105	16.12
115	16.35
125	16.58
135	16.82
145	17.04
149.6	17.14

(14) Well location: NE¼NW¼, sec. 27, T. 31 S., R. 11 W.

Depth (feet)	Temperature (°C)
15	11.94
35	11.81
55	12.19
75	12.49
95	12.79
115	12.94
135	13.13
149.4	13.21

(15) Well location: SE¼NE¼, sec. 1, T. 31 S., R. 12 W.

Depth (feet)	Temperature (°C)
15	14.57
25	14.90
35	15.57
45	16.23
55	16.48
65	17.42
75	18.03
85	18.54
95	19.10
105	19.55
115	20.16
125	20.54
135	21.05
145	21.38
148.1	21.64

(16) Well location: NW¼NW¼, sec. 1, T. 31 S., R. 12 W.

Depth (feet)	Temperature (°C)
5	19.0
15	14.02
25	14.13
35	14.83
45	15.36
55	15.91
65	16.34
75	16.66
85	16.92
95	17.33
105	17.58
115	17.99
125	18.32
135	18.50
140.6	18.64

(17) Well location: SW¼NE¼, sec. 4, T. 31 S., R. 12 W.

Depth (feet)	Temperature (°C)
5	18.72
15	13.56
25	13.14
35	13.44
45	13.72
55	14.03
65	14.24
75	14.41
85	14.64
95	14.83
105	14.98
115	15.17
125	15.36
131.8	15.47

(18) Well location: SW¼SW¼, sec. 26, T. 32 S., R. 19 W. HV-1

Check logged 10/21/78
T32S, R19W, sec 26
SW¼SW¼SW¼

Depth (feet)	Temperature (°C)
5	17.65
10	-
15	12.08
20	-
25	10.62
30	-
35	10.73
39.8	10.86
50	11.11
59.5	11.26
70	11.40
80.2	11.53
90	11.64
100.1	11.77
110.3	11.92
120.1	12.05
129.8	12.22
140.2	12.36
150	12.53
160	12.67
170	12.84
180.1	13.01
189.9	13.16
198.6 60.5 m	13.30

(A) ✓ Well location: NW¼SW¼, sec. 16, T. 36 S., R. 15 W.

NEWCASTLE

Depth (feet)	Temperature (°C)
15	-
25	19.12
35	20.30
45	23.10
55	25.30
65	27.20
75	29.40
85	31.50
95	33.87
105	36.37
15	38.66
25	41.00
35	43.04
45	45.14
55	47.20
65	49.15
75	50.87
85	52.47
95	53.75
205	54.60
15	54.75
25	55.00
35	55.25
45	55.60
55	56.68
65	58.00
75	59.20
85	59.96
95	60.40
299.1	60.60

(20) Well location: SE¼SE¼, sec. 17, T. 36 S., R. 15 W.

NEWCASTLE

Depth (feet)	Temperature (°C)
15	20.11
25	22.13
35	25.87
45	-
55	32.20
65	-
75	37.88
85	-
95	44.28
105	-
115	50.76
125	-
135	57.10
145	-
155	63.41
165	66.57
175	69.80
185	73.15
195	76.20
205	78.7
215	81.5
225	83.9
235	85.7
245	87.1
255	88.0
256.9	88.4

(21) Well location: SE¼NE¼, sec. 19, T. 36 S., R. 15 W.

Depth (feet)	Temperature (°C)
20.0	20.70
50.1	32.24
80	45.25
90	49.50
100	53.20
10	57.00
25	62.2
50	72.0
75	77.5
200	83.7
25	87.3
50	89.5
75	91.1
300	92.5
25	93.9
50	93.9
75	91.9
400	89.6
25	88.2
50	87.1
75	85.8
500	84.9
07	

(22) ✓ Well location: NW¼NW¼, sec. 20, T. 36 S., R. 15 W. Christiansen Brothers well

Depth (feet)	Temperature (°C)
0	54.4
10	77.8
30	91.8
60	95.5
100	95.5
30	95.6
35	95.6
40	96.7
45	97.3
50	98.3
55	98.8
60	99.2
65	100.0
70	100.2
80	101.3
90	102.7
200	103.2
10	103.3
20	103.5
30	106.6
40	107.6
50	107.6
60	107.6
70	107.6
80	107.8
90	107.8
300	107.8
10	107.8
20	107.6
30	106.7
40	106.0
50	106.0
60	106.0
70	105.0
80	105.0 ✓

(22) Well location: NW¼NW¼ sec. 20, T. 36 S., R. 15 W. - Continued

90	105.0
400	105.0
410	105.0
20	104.9
30	104.9
40	104.9
50	104.8
60	104.5
70	103.9
80	103.7
90	103.7
500	103.7

(22) Well location: NE¼NE¼, sec. 20, T. 36 S., R. 15 W.

Depth (feet)	Temperature (°C)
15	
25	18.83
35	19.06
45	20.36
55	21.16
65	21.93
75	24.30
85	24.87
95	26.06
105	27.39
115	28.64
125	29.56
135	30.60
145	31.69
155	32.80
165	33.71
175	34.67
185	35.56
195	36.37
205	37.16
215	38.10
225	38.95
235	39.63
245	40.36
255	41.00
265	41.67
275	42.50
285	43.07
295	43.50
299.0	43.66

(24) Well location: NW¼NW¼, sec. 29, T. 36 S., R. 15 W.

Depth (feet)	Temperature (°C)
25	16.72
50	17.90
75	19.77
100	21.63
125	23.26
150	24.82
200	27.86
210	28.54
220	28.84
230	-
240	29.87
250	-
260	31.04
270	-
280	32.20
290	-
299.6	33.13

(25) Well location: SW¼SW¼, sec. 30, T. 36 S., R. 15 W.

Depth (feet)	Temperature (°C)
20	14.64
40	14.53
60	14.70
80	16.53
100	17.60
120	18.47
140	19.14
160	19.74
164.3	19.86

✓

(20) Well location: NW¼NW¼, sec. 9, T. 37 S., R. 16 W.

Depth (feet)	Temperature (°C)
20	13.37
40	13.90
60	14.58
70	-
80	14.45?
90	15.42
100	15.66
110	15.94
120	16.15
130	16.41
140	16.60
148.5	16.84