

TEMPERATURE SURVEYS
OF
PRE-EXISTING WELLS

TEMPERATURE LOG

C. Klein

Artesian Well, flowing c. 10 gpm from 6" (?) dia hole in ground. About 83 ft of gray plastic pipe, 1" dia, capped at one end, lies on ground adjacent. Appears that this hole was drilled for temp. gradient measurements

Loc: NW 1/4 SW 1/4 Sec. 23, T23N, R35E, c. 1200 ft. NE of Dow, DIXIE No. 8.

Date: 10/15/76

Time: 0800

Air temp: 11.0°C

Depth

T°C down

0

21.06

9 ft

21.26 — bottom, ?

Probe with drawn - plastic pipe lowered into hole - block at 9 ft penetrated by ramming. Second block at c. 77 ft passed by ramming. Pipe goes in full length w/out bottom^(83ft). With drawn, as have no way to secure pipe, prevent sinking if filled w/ water: will return + attempt log through open hole

Finish: 0850 hrs.

Date: 10/13/76

Time: 0845

Depth

T°C down

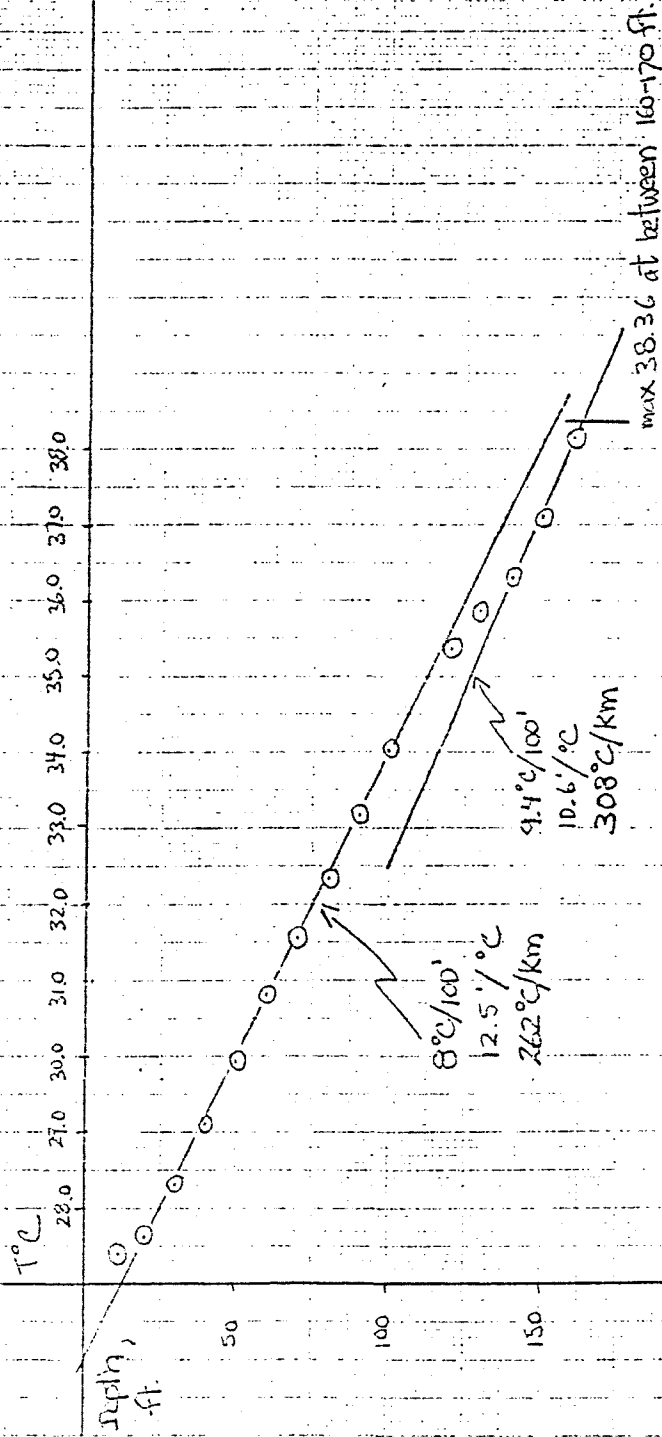
0

20.78

10

21.13

Unable to lower probe beyond 11 ft.



Well at prospect
NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 14, T. 23 N., R. 35 E.

10/21/76

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Well at prospect.

Loc. 15 ft. N of abandoned shaft, ^{center} NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 14, T22N, R35E. 8" casing (iron).

This site is 1000 ft. west of Dow, DIXIE No. 9.

Date: 10/21/76

Time: 1115 hrs.

Depth	T°C, down	T°C, up
12 ft	27.40	Water level
20	27.60	
30	28.31	← fact bottom at c. 23 ft → no temp. increasing
40	29.11	
50	29.92	
60	30.81	
70	31.57	
80	32.35	
90	33.17	
100	34.03	
120 40	35.38	— 35.44
130 20	35.86	
140 35	36.30	— 36.34
150 40	37.10	
160 50	38.15	← Bottom between 160-170 ft. (inferred from top of isotherm)
170	38.36	
180	38.36	
190	38.36	

Finish: 1215 hrs

Gradient: $\frac{34.0 - 26.0}{100'} = 8^\circ\text{C}/100' \approx 12.5^\circ\text{C}$
in 20'-100'

$\frac{37.2 - 32.5}{50'} = 9.4^\circ\text{C}/100' \approx 10.6^\circ\text{C}$

Note: Well is 20 ft east of a 10-15 ft. high fault scarp (east-facing) in alluvial fan.

Well at Prospect

Loc: 1000 ft E of DOW, DIXIE No. 9

Water at 9 ft
10 ft - 16.8
c. 15 ft bottom

TEMPERATURE LOG

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Abandoned irrigation well

Loc: NW corner SW $\frac{1}{4}$, Sec. 12, T23N, R35E, 1 mi S. of Bar A-3 ranch (Lamberti ranch, abandoned)

Date : 10/22/76

Time 0845 hrs

Depth	T°C, down
4 ft.	18.80°C. Water level
20 ft	19.15
30	19.21
40	19.26
50	19.26 ← presume bottom at c. 40-50 ft.

12" iron casing

(outside)
Abandoned irrigation well, SW corner Bar A-3 ranch

Loc: NW corner, Sec. 12, T23N, R35E

Date: 10/22/76

Time: 0915 hrs

Depth	T°C, down
40 ft	17.80 water level.
50	17.82
60	17.86
70	17.88 ← infer approx bottom.
80	17.88
90	17.88

16" iron casing

TEMPERATURE LOG

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Lambert Ranch (old Bar A-3) #1 Well, 1968

Loc: center, SW $\frac{1}{4}$ Sec. 1, T23N, R35E; along fence next to old road, 1000 ft ENE of ranch house.

Date: 10/20/76

Time: 1050

Depth	T°C, down
35 ft	water level
40 ft.	20.17
50	20.20
60	20.22
70	20.22
80	20.19
90	20.15
100	20.09
110	20.00
120	19.92
130	19.90 ← Bottom?*
140	19.90
150	19.90
160	19.90
170	19.90
180	19.90
190	"
210	"
230	"
250	"
290	19.90
340	19.90
370	"
400	"
450	"
500	"

Well has 12" casing, 4x4 ft concrete slab at surface. 10ft to S is similar well-head, with pump.

limit of calibration on cable, lowered an additional c. 100 ft w/out feeling bottom

* As cable retrieved encountered break at 250 + 100 ft. This failed to feel bottom, which probably lies at c 130 ft. (top of isotherm)

TEMPERATURE LOG

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Lombardi Ranch (formerly Bar A-3), windmill well

Loc:

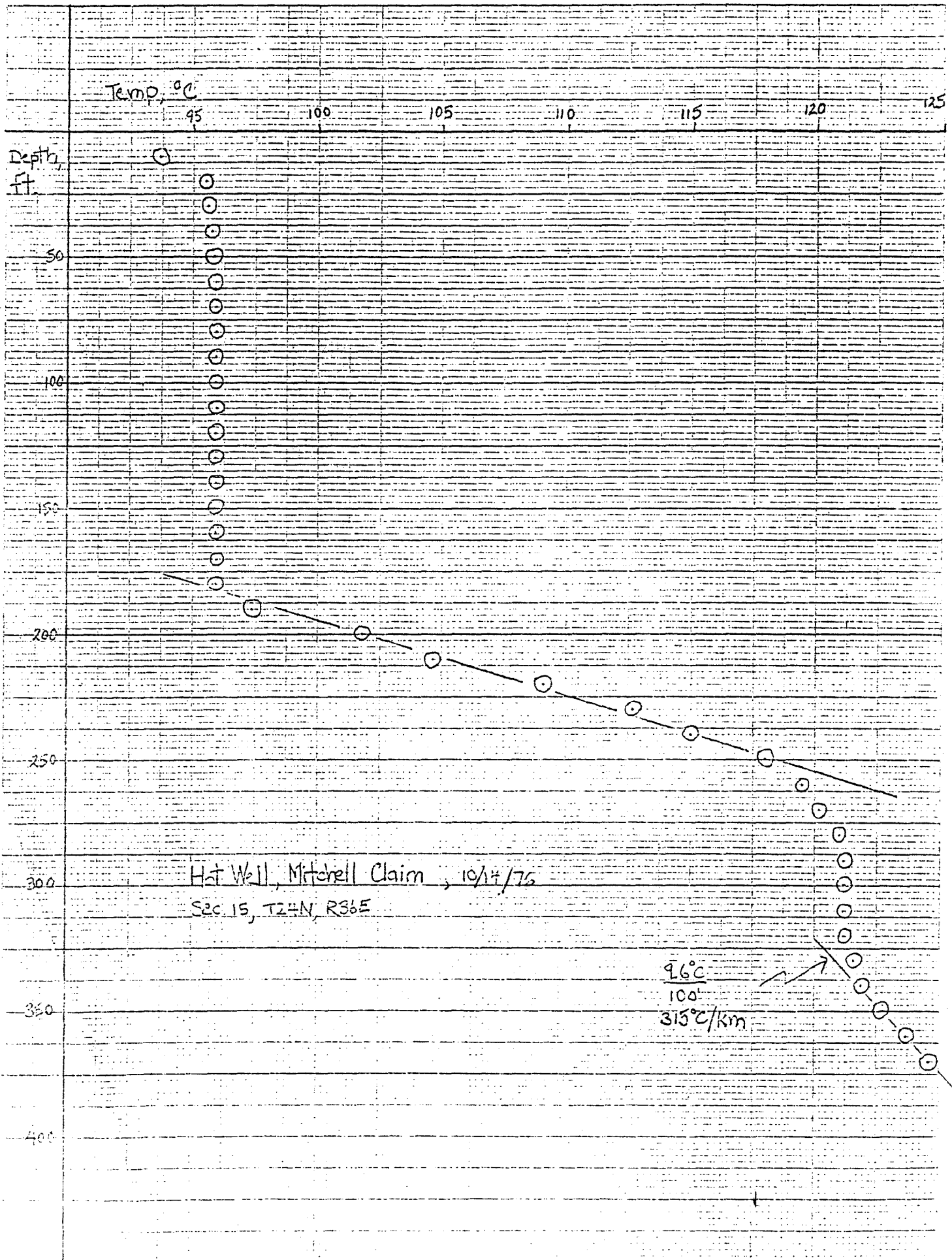
Date: 10/21/76

Time: 1720 hrs

Depth	T°C, down
55 ft	water level
70 ft.	17.40 °C
80 ft.	17.42
90	17.42

} inter bottom, not felt, lies at 55-70 ft.

46 1470



Hot well, at Kenneth Mitchell Claim

TEMPERATURE LOG

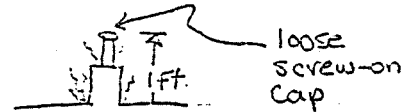
C. Klein
10/14/76

Well loc: Sec 15 (unsurveyed), T24N, R36E, 25' W of cabin,
level site,

DATE: 10/14/76

Time: 0930 hrs

Air temp: 23.1 °C



Depth	T°C down	T°C up
0*	86.4**	
10	93.7**	
20	95.5**	
30	95.60	
40	95.75	
50	95.80	
60	95.84	
70	95.84	
80	95.86	
90	95.86	
100	95.86	
110	95.86	
120	"	
130	"	
140	"	
150	"	
160	"	
170	"	
180	"	
190	97.4**	
200	101.8**	
210	104.7**	
220	109.1**	
230	112.7**	
240	115.0**	
250	118.0**	
260	119.5**	
270	120.2**	
280	121.0**	
290	121.2**	
300	121.18	
310	121.18	
320	121.22	
330	121.56	
340	121.85	
350	122.70	
360	123.68	
370	124.53	
380	>125	

Note: logged inside 1 1/4" ID iron pipe which sits w/in 3" ID iron casing. Hot gases arise from both 1 1/4" pipe & pipe-casing interspace (annulus), ^{4 out} ^{cas} ^{fr} ^{an}
* 1 ft inside 1 1/4" pipe - dry, vapor temp rec.

** estimated to nearest .1 °C prior to total equilibration (after 5-10 min). At 240' + below plot of readings at 1 min. int used to est. equil. temp by asymptote. ^{greatest gas discharge is from ground at casing surface. Varies from barely visible to producing an audible hiss.}

← max. range of thermometer

Hole clear to 400' - not tested below. Probe dry on retrieval. Felt no clear indication of water anywhere in hole. Cabin at site contains pieces of NX drill core, all gabbros. Sample taken from a box labeled "Mt. Grant", 533-543 ft

Finish 1345 hrs.

Note: this is Corral Canyon District of Williams mt & Speed, 1974, p. 64-66.

1974 C. Kittle reports that Mitchell no longer owns claim. Mitchell is pers. friend, lives in Sec. 6

TEMPERATURE LOG

C. Klein

Fumarole

44177/27

Loc. E edge of prospect, near intersection Sec. 31 and 32, T25N, R37E.

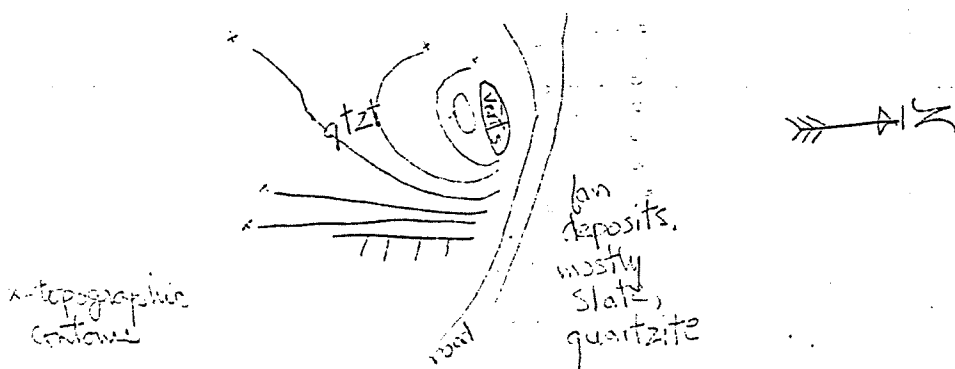
Date: 10/18/76

Time: 1115 hrs.

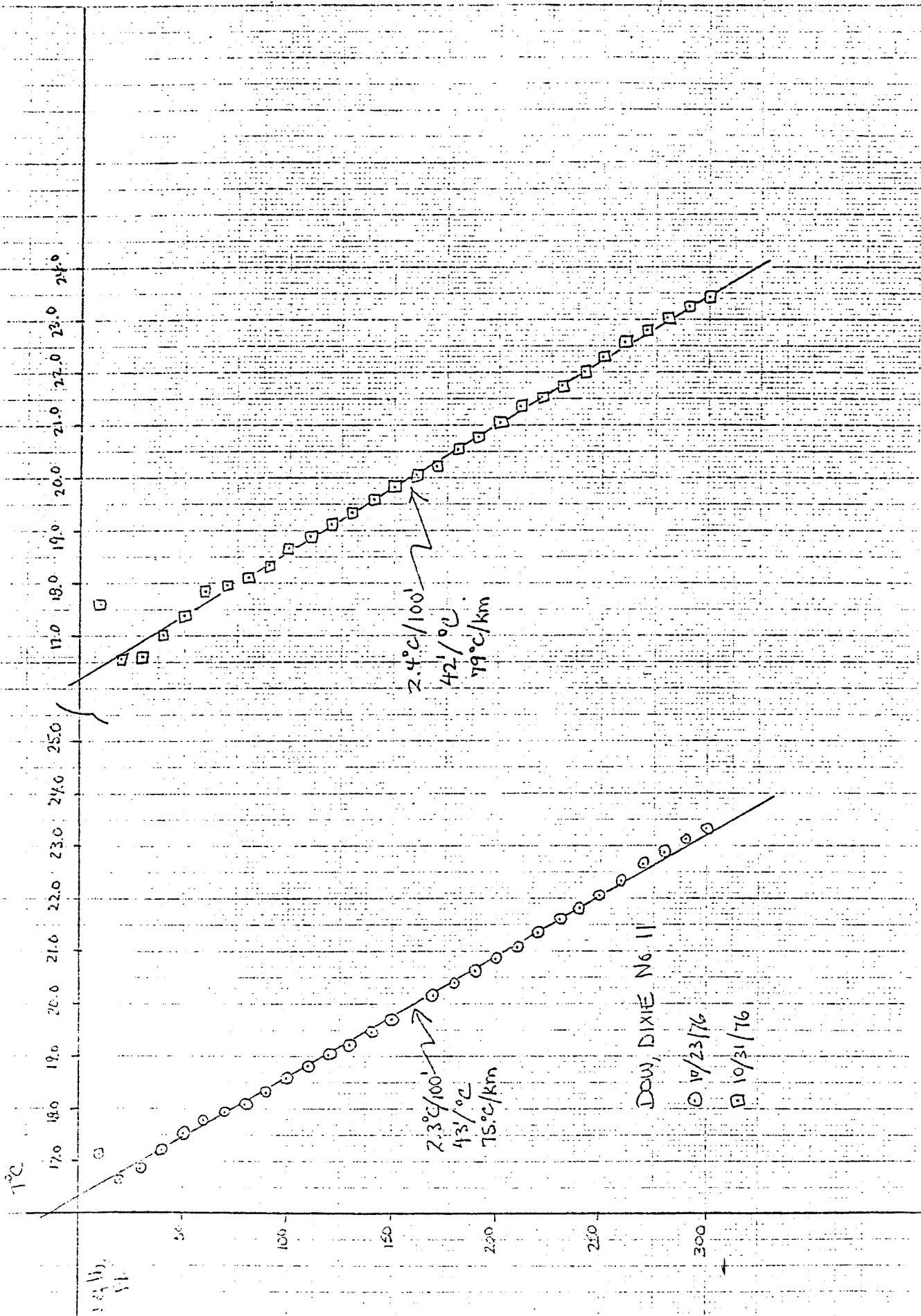
Temp: 95.7°C (major vent)

Geologic Setting: One large and several small vents in a bulldozer cut facing N at entrance of workings. Gases issue from between blocks of white "quartzite". This is Jurassic quartz arenite unit of Willden + Speed (1974, p. 14, Pl. 1). Rock is very hard, appears structureless though weathers to a rough, veined-looking surface which resembles a limestone (no reaction with HCl). May have been hornfelsed by nearby Jurassic gabbro (younger?) or silicified by hydrothermal activity. Dark gray 'quartzite' is also exposed nearby. Ground around fumaroles is mantled with mine dump and angular fanglomerate debris, but possible bedrock exposure of the 'quartzite' appears on low hill south of the bulldozer cut. Steep E side of this hill could be an old fault scarp.

↑ main prospect uphill ↑



Zones between the quartzite blocks: at the fumaroles are powdery, punky, friable. The gas has a sulfurous smell, and deposits colorless, white, yellow (sulfur?) and various green minerals around the vents. Main prospect uphill is in the 'quartzite', which is mostly white, locally stained cinnamon red, and locally extensively punky and friable in zones with bright yellow sulfur deposits. Occasional carbonate nodules. powdery surface deposits are found. Punky, friable zones in the



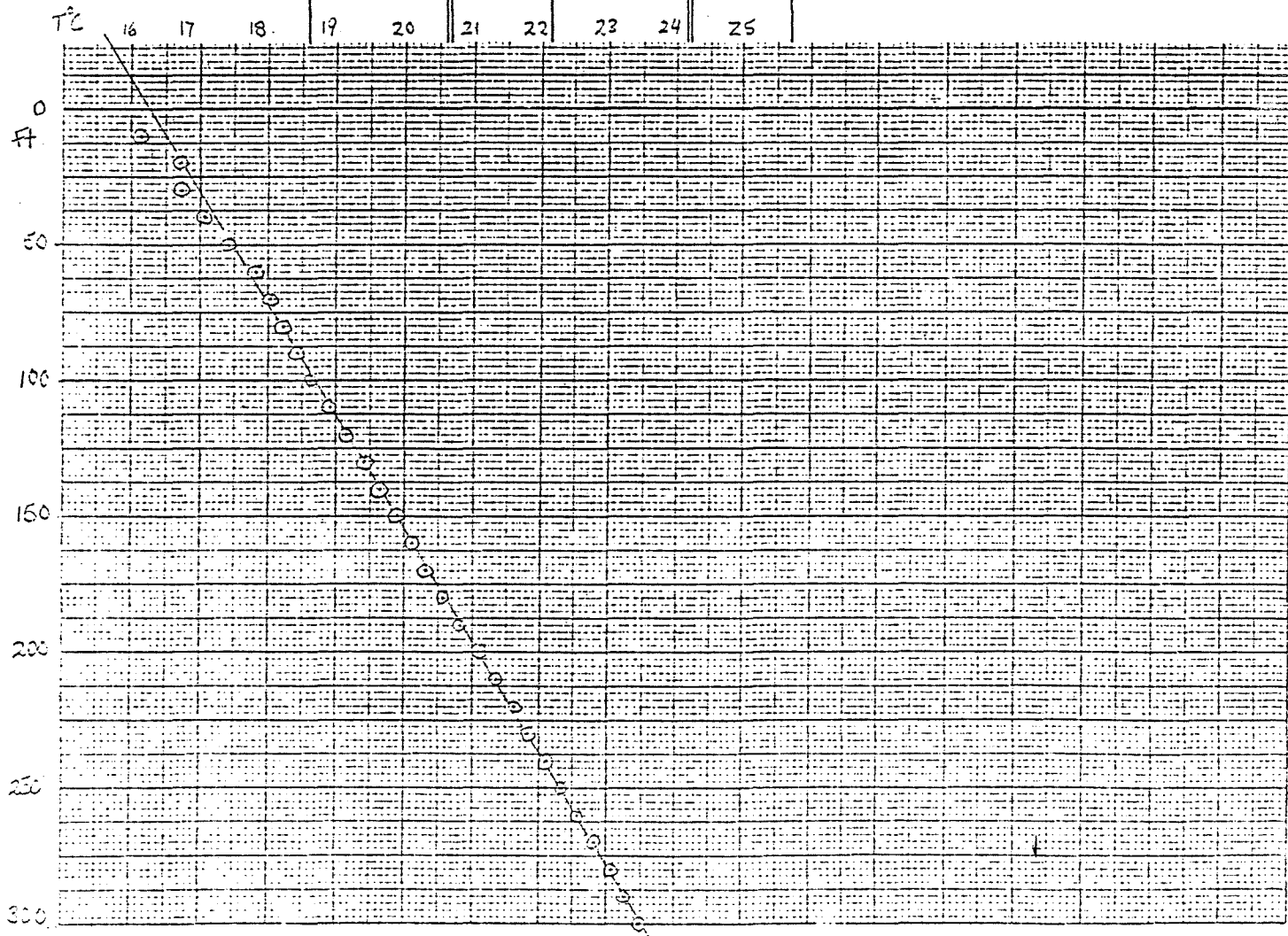
TEMPERATURE LOG

GeothermEx

Project: _____
 Hole No.: DOW-DIXIE No. 11
 Loc.: _____

Date: 12/2/76
 Time: 1200 hrs
 by: CWK

Depth	T°C.(down)	Depth	T°C.	Depth	T°C.	Comments:
ft- 10	16.16	160	20.11			Slope 2.6°C/100'
20	16.73	170	20.33			
30	16.73	180	20.59			
40	17.09	190	20.34			
50	17.41	200	21.10			
60	17.93	210	21.36			
70	18.04	220	21.62			
80	18.22	230	21.83			
90	18.45	240	22.10			
100	18.63	250	22.33			
110	18.94	260	22.58			
120	19.18	270	22.82			
130	19.40	280	23.08			
140	19.65	290	23.27			
150	19.90	300	23.48			



DOW, F1XIE No. 11

TEMPERATURE LOG

C. Klein

Loc: Intersection, NE $\frac{1}{4}$, Sec. 11, T23N, R35E

Date: 10/31/76

Time: 1600 hrs

Depth T°C, down

10	17.61
20	16.57
30	16.61
40	17.02
50	17.39
60	17.85
70	17.96
80	18.12
90	18.36
100	18.66
110	18.90
120	19.13
130	19.35
140	19.60
150	19.82
160	20.06
170	20.22
180	20.52
190	20.78
200	21.04
210	21.34
220	21.51
230	21.74
240	22.02
250	22.28
260	22.58
270	22.80
280	23.02
290	23.25
300	23.41 TD

Finish: 1645 hrs