



**Chevron Resources Company**  
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MAR 23 1977

*Geo Thamer*  
GL04926-8

March 18, 1977

Mr. H. D. Pilkington  
Amax Exploration Inc.  
4704 Harlan Street  
Denver, CO 80212

Dear Mr. Pilkington:

We enclose data from our 14 drilled temperature holes at Neals-Bully Creek Area. If there are any questions, please feel free to call me. Please sign and return the attached copy.

Sincerely,

E. H. Haynes

EHH:ab

Data received March 23, 1977

Date

*H. D. Pilkington*  
March 24, 1977

NEC #1  
Lithology

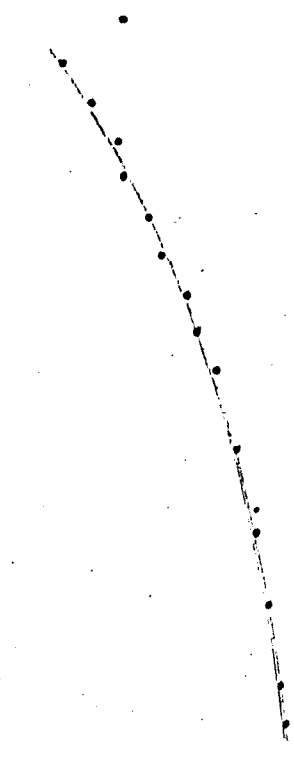
0-15' Clay - tan brown w/caliche  
15-30' Dark igneous (basalt?) soft w/SiO<sub>2</sub> incrustacions - weathered  
30-45' As above  
45-60' As above  
60-75' As above w/anhydrite - gypsum  
75-90' As above  
90-105' As above  
105-120' Claystone - soft - weathered - light tan  
120-135' Clay - tan brown  
135-150' As above  
150-165' Clay - w/numerous qtz frags and muscovite flakes  
165-180' As above  
180-195' Clay - light tan w frags of igneous material (weathered basalt?)

°F

50 60 70 80 90

50'  
100'  
150'  
200'  
250'  
300'  
350'  
400'  
450'

FEET



°F

50 60 70 80 90

50'

100'

150'

200'

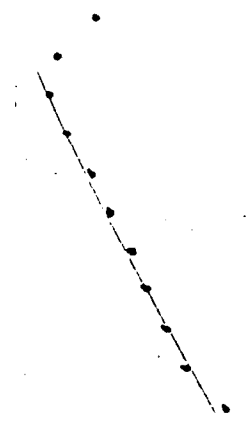
DEPTH  
250'

300'

350'

400'

450'



NBC #3

Lithology

0-15'	Clay - light tan and dark igneous material (basalt?) with frags of quartz
15-30'	As above w/chalcedony
30-45'	Clay - light tan - 100%
45-60'	Vesicular basalt (blk) - w/clay
60-75'	Clay - light tan - w/igneous frags
75-90'	Clay " " " " (basalt)
90-105'	Silicified clay stone (baked?) - hard 5 - or very fine grained tuff
105-120'	As above
120-135'	Igneous - dark (basalt?) w/qtz veining
135-150'	As above
150-165'	As above w/ minor white alt. prod.
165-180'	As above
180-190'	As above

°F

50 60 70 80 90

50'  
100'  
150'  
200'  
250'  
300'  
350'  
400'  
450'

FEET



NBC #7

Lithology

- 0-15' Clay light tan w/vol frags
- 15-30' As above
- 30-45' As above
- 45-60' Dark - fine grained igneous w qtz frags and clay/minor
- 60-75' Tuff - white w/vol frags
- 75-90' Buff colored clay or weathered tuff, w/vol frags
- 90-105' As above
- 105-120' Clay - buff or weathered tuff, vol (basalt) and traces of pyrite or chalcopyrite
- 120-135' Weathered vesicular basalt w/chalcedony and pyrite traces
- 135-150' Tuff - white, w/vol frags (basalt) & traces of quartz & occasional chards
- 150-168' Tuff weathered or claystone w/vesicular basaltic frags

°F

50

60

70

80

90

50'

100'

150'

200'

DEPTH

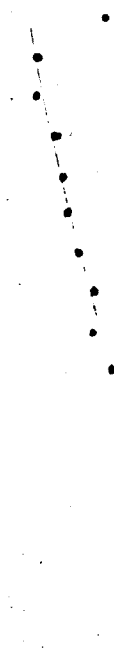
250'

300'

350'

400'

450'



Depth (feet)	Temperature (°F)
50'	58
60'	59
70'	60
80'	61
90'	62
100'	63
110'	64
120'	65
130'	66
140'	67
150'	68
160'	69
170'	70
180'	71
190'	72
200'	73
210'	74
220'	75
230'	76
240'	77
250'	78
260'	79
270'	80
280'	81
290'	82
300'	83
310'	84
320'	85
330'	86
340'	87
350'	88



N3C #8

Lithology

0-15'	Clay - buff w/rounded vol frags
15-30'	As above
30-45'	Clay, buff w silicified vol frags (light colored)
45-60'	As above w/pyrite traces on volcanics
60-75'	Clay - buff w/pyrite traces and trace tuff
75-90'	As above
90-105'	As above
105-120'	Aphanitic volcanics (basalt) w/qtz veining & incrustations
120-130'	As above

°F

50

60

70

80

90

50'

100'

150'

200'

FEET

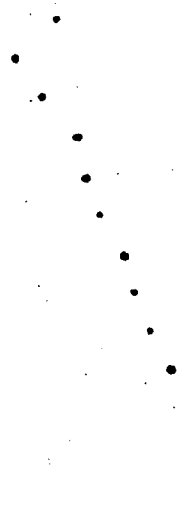
250'

300'

350'

400'

450'



NBC #10

Lithology

0-15'	Pea gravel - w/basalt? well rounded
15-30'	Basalt?
30-45'	Light tan clay - w rare chards
45-60'	Clay - as above
60-75'	Clay - with 10% chards
75-90'	Ashy vol siltstone or claystone - w/rare basalt frags
90-105'	As above
105-120'	As above no basalt
120-135'	As above no basalt
135-150'	As above no basalt

°F

50 60 70 80 90

50'

100'

150'

200'

250'

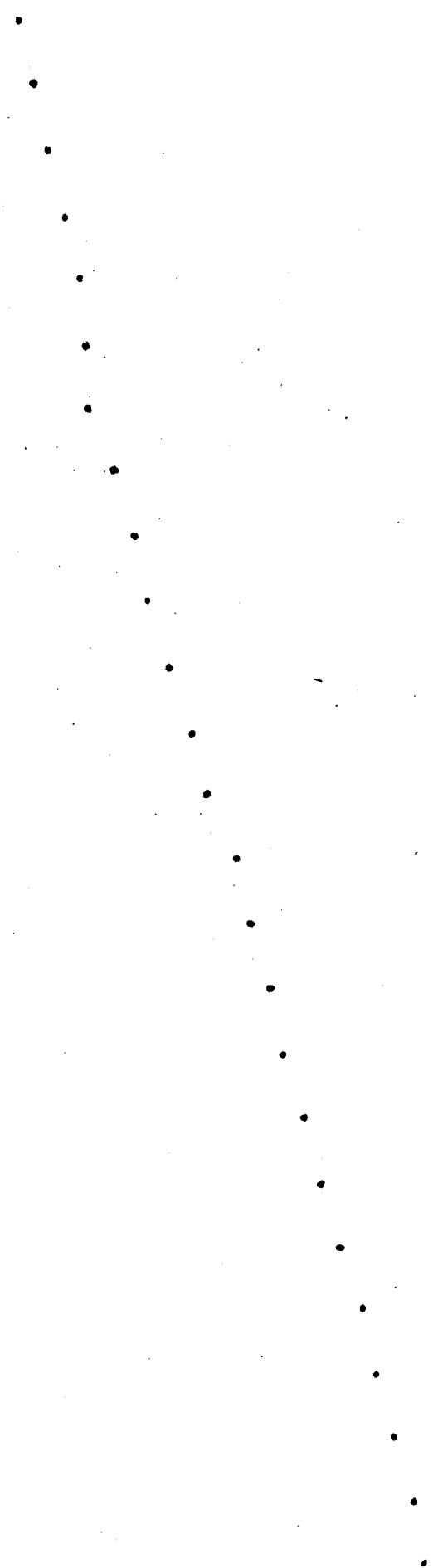
300'

350'

400'

450'

1-  
10  
11  
12



NBC #11  
Lithology

0-15	Basalt, well rounded w/clay
15-30	As above
30-45	Clay - Buff w/igneous frags
45-60	" " "
60-75	" " "
75-90	" " "
90-105	" " "
105-120	" " "
120-135	" " "
135-150	" " "

°F

50

60

70

80

90

50'

100'

150'

200'

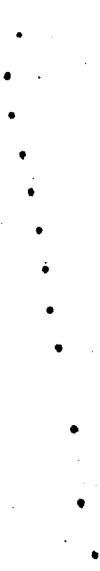
FEET  
250'

300'

350'

400'

450'



## NBC #20

## Lithology

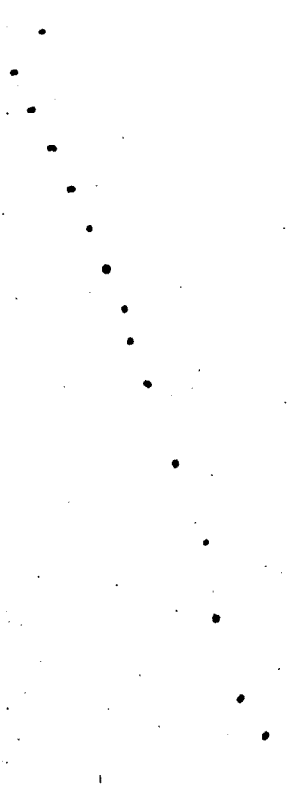
0-15'	Buff colored clay - consolidated - 100%
15-30'	Clay reddish brn w qtz frags w/minor caliche
30-45'	Dark aphanitic volcanic - w pyrite incrustacions
45-60'	" " " w/clay - minor amount
60-75'	As above
75-90'	" " w/no clay
90-105'	As above w silicified tuff - white
105-120'	Silicified basalt, minor clay & tuff - trace caliche w/qtz frags
120-135'	Silicified basalt w qtz frags
135-150'	As above
150-165'	As above w trace caliche
165-180'	As above w clay traces and inclusions of red volcanic (rhyolite ?)
180-195'	As above

°F

50 60 70 80 90

50'  
100'  
150'  
200'  
250'  
300'  
350'  
400'  
450'

F  
E  
E  
T





NBC #21  
Lithology

0-15'	Clay light tan w vesicular basalt
15-30'	Vesicular basalt w minor amount of clay
30-45'	Basalt, clay w/minor sulphur deposition
45-60'	Bi-modal - basalt w red oxidized volcanics (rhyolite?) w minor amounts of clay
60-75'	Silicified basalt - some vesicular (top of flow) - weathered
75-90'	Fine grained silicified igneous (?) - lighter than 60-75
90-105'	" " " " "
105-120'	As above
120-135'	As above
135-150'	As above, w/minor sulphur deposition
150-165'	As above w 50% clay - (transition - contact)
165-180'	Clay w vol frags
180-195'	" " "
195-210'	Clay (baked or silicified?)
210-225'	Clay - with basalt frags & traces of muscovite
225-240'	As above
240-255'	As above
255-270'	As above
270-280'	As above

°F

50 60 70 80 90

50'

100'

150'

200'

FEET  
250'

300'

350'

400'

450'



NBC #22

Lithology

0-15'	Weathered silicified basalt
15-30'	As above
30-45'	As above w/trace sulphur deposition
45-60'	As above w/qtz veining (minor)
60-75'	As above
75-90'	Clay 50% light tan with vol frags
90-105'	As above
105-120'	As above
120-135'	Fine grained igneous, silicified (basalt) w/minor alt prod. & minor sulphur dep.
135-150'	Vesicular basalt w clay & great % 40% milky qtz (qtz vein?)
150-165'	Silicified basalt - weathered
165-180'	As above
180 -	As above

°F

50

60

70

80

90

50'

100'

150'

200'

250'

300'

350'

400'

450'

FEET



NBC #23

Lithology

0-15'	Vesicular basalt weathered w/clay - tan & caliche
15-30'	Silicified basalt
30-45'	" " w/trace sulphur deposition
45-60'	As above
60-75'	As above
75-90'	As above
90-105'	As above
105-120'	As above
120-135'	As above
135-150'	As above
150-165'	As above
165-180'	As above

°F

50

60

70

80

90

50'

100'

150'

200'

FEET

250'

300'

350'

400'

450'



NEM #24

Lithology

0-15' Buff colored clay w/CaCO<sub>3</sub> (caliche)

15-30' Qtz sand, coarse, moderately rounded 95% - many grains  
possibly were subject hydrothermal dissolution - w/trace caliche

30-45' Clay, buff colored (or weathered tuff) w qtz frags (from up hole?)

45-60' As above w muscovite and biotite chips

60-75' As above

75-90' As above

90-105' As above

105-120' As above

120-135' Coarse grained qtz sand, moderately rounded - 100%

°F

50

60

70

80

90

50'

100'

150'

200'

FEET

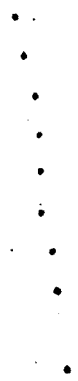
250'

300'

350'

400'

450'





NBC #33

Lithology

0-15'	Clay - buff, vol frags & qtz frags
15-30'	Clay - buff w pink weathered vol (rhyolite?)
30-45'	Tuff - white
45-60'	Tuff & clay mixed
60-75'	Weathered tuff w chards - light buff w rare muscovite flakes & clay
75-90'	As above
90-105'	As above
105-120'	As above
120-135'	As above w/greater amount of clay
135-150'	As above
150-165'	Clay w vol chards
165-180'	As above
180-190'	As above

°F

50

60

70

80

90

50'

100'

150'

200'

250'

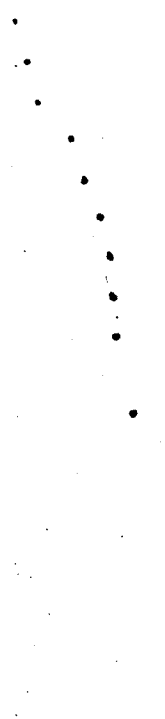
300'

350'

400'

450'

DEPTH



## NBC #35

## Lithology

- 0-15' Clay - light tan - possibly 5% v. fine grain sand.
- 15-30' V. fine light tan sand composed dominantly of SiO<sub>2</sub> volcanic chards? Chard size is fairly uniform, all angular - w/small amount of clay present.
- 30-45' As above - with more clay.
- 45-60' As above - 50% clay and v. fine sand.
- 60-75' As above - w/rare basalt? (dark igneous frags).
- 75-90' Grey-grn-clay - ~ 10% igneous chips - less amount of fine light sand ~ 20%.
- 90-105' Grey-grn clay - 70% - SiO<sub>2</sub> chips (chards?)
- 105-120' Light tan-grn-volcanic decop - clay - soft - white streak - 75% w/some basalt? 15% trace of pyrite - some in small qtz vein.
- 120-135' Tan-grn-clay 70% w/volcanic decop sand ash flow 20%.
- 135-150' Clay - as above 80% w/smaller % of chards.
- 150-165' Dark 90% aphanitic volcanic (basalt?) 10% - clay - trace chalcedony
- 165-180' As above (basalt?) pyrite frags xls w/ash
- 180-195' As above - w/qtz filling some depressions (rare)
- 195-210' Basalt (?) 95% covered with ash and clay
- 210-225' Basalt ? Gabbro? 99% - small amount chalcedony & pyrite
- 225-240' Dark igneous - ? - with small amount of trace mineral - malochite? dark green w/pyrite
- 240-255' As above
- 255-270' As above
- 270-285' As above ~ 5% pyrite
- 285-300' As above
- 300-315' As above with clay (grey-grn)
- 315-330' As above
- 330-345' Dark basalt 80% - with small amount chards

NBC #35 (continued)

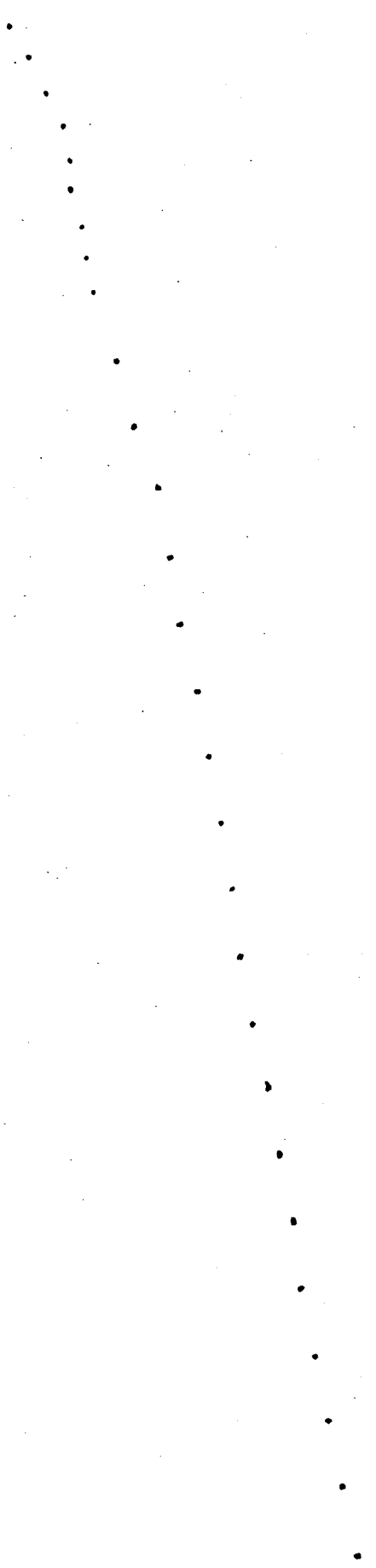
345-360' Basalt? 80% clay & chards  
360-375' Clay now missing sieved - 50% w/basalt? 40%  
with traces of pyrite & weathered andesite?  
375-390' As above  
390-405' Clay - 60% - chards & basalt? 10%  
clay - 80% - w/glass chards  
405-420' Trace of basalt?  
420-435' As above  
435-450' 90% clay & chards  
450-465' " "  
465-480' " "  
480-495 Clay - as above  
495-500 " "

°F

50 60 70 80 90

50'  
100'  
150'  
200'  
250'  
300'  
350'  
400'  
450'

FEET



NEALS-BULLY CREEK

TEMPERATURE LOGS

Hole #1 = 190=T.D.

6.1°F/100'

10'	=17.88 <sup>oC</sup>	-	64.18 <sup>oF</sup>
20	=20.16.08-		60.94
30	=17.14	-	62.85
40	=17.70	-	63.86
50	=18.04	-	64.47
60	=18.69	-	65.64
70	=19.23	-	66.61
80	=19.73	-	67.51
90	=20.20	-	68.36
100	=20.63	-	69.13
120	=21.26	-	70.27
140	=21.76	-	71.17
160	=22.24	-	72.03
180	=22.67	-	72.81
190	=22.78	-	73.00

Hole #2 = 110=TD

6.3°F/100'

10'	=17.70 <sup>oC</sup>	=	63.86 <sup>oF</sup>
20	=16.33	=	61.39
30	=16.27	=	61.29
40	=17.01	=	62.62
50	=17.60	=	63.68
60	=18.15	=	64.67
70	=18.69	=	65.64
80	=19.16	=	66.49
90	=19.63	=	67.33
100	=20.38	=	68.68
110	=21.12	=	70.12

Hole #3 = 189=TD

5.3°F/100'

10	=13.65	-	56.57
20	=12.31	-	54.16
30	=12.54	-	54.57
40	=12.86	-	55.15
50	=13.04	-	55.47
60	=13.36	-	56.05
70	=13.58	-	56.44
80	=13.77	-	56.79
90	=14.01	-	57.22
100	=14.32	-	57.78
120	=14.59	-	58.26
140	=14.95	-	58.91
160	=15.33	-	59.59
180	=16.66	-	61.99
189	=17.10	-	62.78

Hole #7 = 167'=TD

6.3°F/100'

10	=17.32 <sup>oC</sup>	-	63.18 <sup>oF</sup>
20	=14.65	-	58.37

-2-  
(cont'd)  
Hole #7 = 167' = TD

30=14.54	- 58.17
40=15.18	- 59.32
50=15.23	- 59.41
60=15.44	- 59.79
70=15.71	- 60.28
80=16.16	- 61.09
90=16.52	- 61.34
100=16.87	- 62.37
120=17.70	- 63.86
140=18.33	- 64.99
160=19.06	- 66.31
167=19.34	- 66.81

Hole #8 = 131' = TD GEONOMICS

10=14.08	- 57.34 <sup>°F</sup>	7.9 <sup>°F</sup> /100'
20=13.48	- 56.26 F	
30=14.30	- 57.74 F	
40=14.93	- 58.87	
50=15.33	- 59.59	
60=15.88	- 60.58	
70=16.39	- 61.50	
80=16.91	- 62.44	
90=17.33	- 63.19	
100=17.82	- 64.08	
120=18.44	- 65.19	
131=18.69	- 65.64	

Hole #10 - Redrill

20=16.70 <sup>°C</sup>	- 62.1	5.5 <sup>°F</sup> /100'
40=17.03	- 62.7	
60=17.80	- 64.0	
80=18.31	- 65.0	
100=18.90	- 66.0	
120=19.25	- 66.7	
140=19.46	- 67.0	
160=20.25	- 68.5	
180=20.78	- 69.4	
200=21.47	- 70.6	
220=22.26	- 72.1	
240=22.90	- 73.2	
260=23.60	- 74.5	
280=24.32	- 75.8	
300=24.95	- 76.9	
320=25.60	- 78.1	
340=26.21	- 79.2	
360=26.86	- 80.3	
380=27.56	- 81.6	
400=28.20	- 82.8	
420=28.84 <sup>°C</sup>	- 83.9	
440=29.45	85.0	
460=30.08	- 86.1	
480=30.67	- 87.2	
500=31.15	- 88.1	

Hole #11-148=TD

10=15.43 <sup>oc</sup>	- 59.77 <sup>oF</sup>	4.4 <sup>oF/100'</sup>
20=13.36	- 56.05 <sup>o</sup>	
30=13.12	- 55.62	
40=13.27	- 55.87	
50=13.50	- 56.30	
60=13.79	- 56.82	
70=14.06	- 57.31	
80=14.25	- 57.65	
90=14.46	- 58.03	
100=14.66	- 58.39	
120=15.14	- 59.25	
140=15.51	- 59.92	
148=15.73	- 60.31	

Hole #20=190=TD

10=15.00 <sup>oc</sup>	- 59.0 <sup>oF</sup>	7.6 <sup>oF/100'</sup>
20=14.08	- 57.34	
30=14.76	- 58.57	
40=15.36	- 59.65	
50=15.90	- 60.62	
60=16.47	- 61.65	
70=16.76	- 62.17	
80=17.24	- 63.03	
90=17.52	- 63.54	
100=18.16	- 64.69	
120=18.84	- 65.91	
140=19.70	- 67.46	
160=20.64	- 68.43	
180=21.29	- 70.32	
190=21.82	- 71.28	

Hole #21=271'=TD

10=14.24 <sup>oc</sup>	- 57.63 <sup>oF</sup>	2.8 <sup>oF/100'</sup>
20=12.56	- 54.61	
30=12.56	- 54.61	
40=12.66	- 54.79	
50=12.84	- 55.11	
60=12.96	- 55.33	
70=13.04	- 55.47	
80=13.12	- 55.62	
90=13.25	- 55.85	
100=13.54	- 56.37	
120=13.66	- 56.59	
140=13.77	- 56.79	
160=14.13	- 57.43	
180=14.41	- 57.94	
200=14.76	- 58.57	
220=15.68	- 60.22	
240=15.80	- 60.44	
260=16.06	- 60.91	
271=16.29	- 61.32	



Hole #22=190' = T.D.

10=14.49 <sup>oc</sup>	-	58.08 <sup>oF</sup>	2.5 <sup>oF</sup> /100'
20=12.50	-	54.50	
30=12.33	-	54.19	
40=12.56	-	54.61	
50=12.69	-	54.84	
60=12.83	-	55.09	
70=12.94	-	55.29	
80=13.04	-	55.47	
90=13.11	-	55.60	
100=13.21	-	55.78	
120=14.21	-	57.58	
140=14.04	-	57.27	
160=14.27	-	57.69	
180=14.41	-	57.94	
190=14.61	-	58.30	

Hole #23=185=T.D.

10=14.86 <sup>oc</sup>	-	58.75 <sup>oF</sup>	2.5 <sup>oF</sup> /100'
20=12.57	-	54.63	
30=12.60	-	54.68	
40=12.99	-	55.38	
50=13.10	-	55.58	
60=13.36	-	56.05	
70=13.46	-	56.23	
80=13.64	-	56.55	
90=13.73	-	56.71	
100=13.85	-	56.93	
120=14.06	-	57.31	
140=14.38	-	57.88	
160=14.61	-	58.30	
180=14.79	-	58.62	
185=14.86	-	58.75	

Hole #24=119 = T.D.

10=15.29 <sup>oc</sup>	-	59.52 <sup>oF</sup>	2.2 <sup>oF</sup> /100'
20=13.33	-	59.99	
30=13.35	-	56.03	
40=13.84	-	56.91	
50=14.03	-	57.25	
60=14.12	-	57.42	
70=14.22	-	57.60	
80=14.32	-	57.78	
90=14.59	-	58.26	
100=14.82	-	58.68	
119=15.00	-	59.00	

Hole #33=190 = T.D.

10=15.08 <sup>oc</sup>	-	59.14 <sup>oF</sup>	6.7 <sup>oF</sup> /100'
20=15.94	-	57.09	
30=14.31	-	57.56	
40=14.90	-	58.82	
50=15.68	-	60.22	
60=15.97	-	60.75	
70=16.37	-	61.47	
80=16.66	-	61.99	

Hole #33 = 190 - T.D. (cont'd)

90=	16.95	-	62.51
100=	17.08	-	62.74
120=	17.66	-	63.79
140=	18.76	-	65.77
160=	19.51	-	67.12
180=	20.55	-	89.99
190=	20.85	-	69.53

Hole #35 = 509' = T.D.

10=	air	14.85 <sup>oc</sup>	58.73 <sup>oF</sup>	4.2 <sup>oF/100'</sup>
20	"	13.84	56.91	
30	"	14.39	57.90	
40	"	15.21	59.38	
50	"	15.48	59.86	
60	water	15.90	60.62	
70		16.06	60.91	
80		16.34	61.41	
90		16.64	61.95	
100		16.94	62.49	
120		17.61	63.70	
140		18.22	64.80	
160		18.74	65.73	
180		19.40	66.92	
200		19.67	67.41	
220		20.09	68.16	
240		20.49	68.88	
260		20.92	69.66	
280		21.19	70.14	
300		21.58	70.84	
320		22.26	72.07	
340		22.52	72.54	
360		22.96	73.33	
380		23.33	73.99	
400		23.74	74.73	
420		24.24 <sup>oc</sup>	75.63 <sup>oF</sup>	
440		24.58	76.24	
460		25.13	77.23	
480		25.55	77.99	
500		26.00	78.80	
509		26.09	78.96	