

GeothermEx, Inc.

SUITE 201
5221 CENTRAL AVENUE
RICHMOND, CALIFORNIA 94804

(415) 527-9876
CABLE ADDRESS: GEOTHERMEX

RESULTS OF
TEMPERATURE GRADIENT
AND HEAT FLOW
IN
SANTIAM PASS AREA,
OREGON

VOLUME II: APPENDIX A & B

for
SUN ENERGY DEVELOPMENT CO.
Dallas, Texas

SMU
COPY 2

by
GeothermEx, Inc.
Berkeley, California

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OSTI-57b

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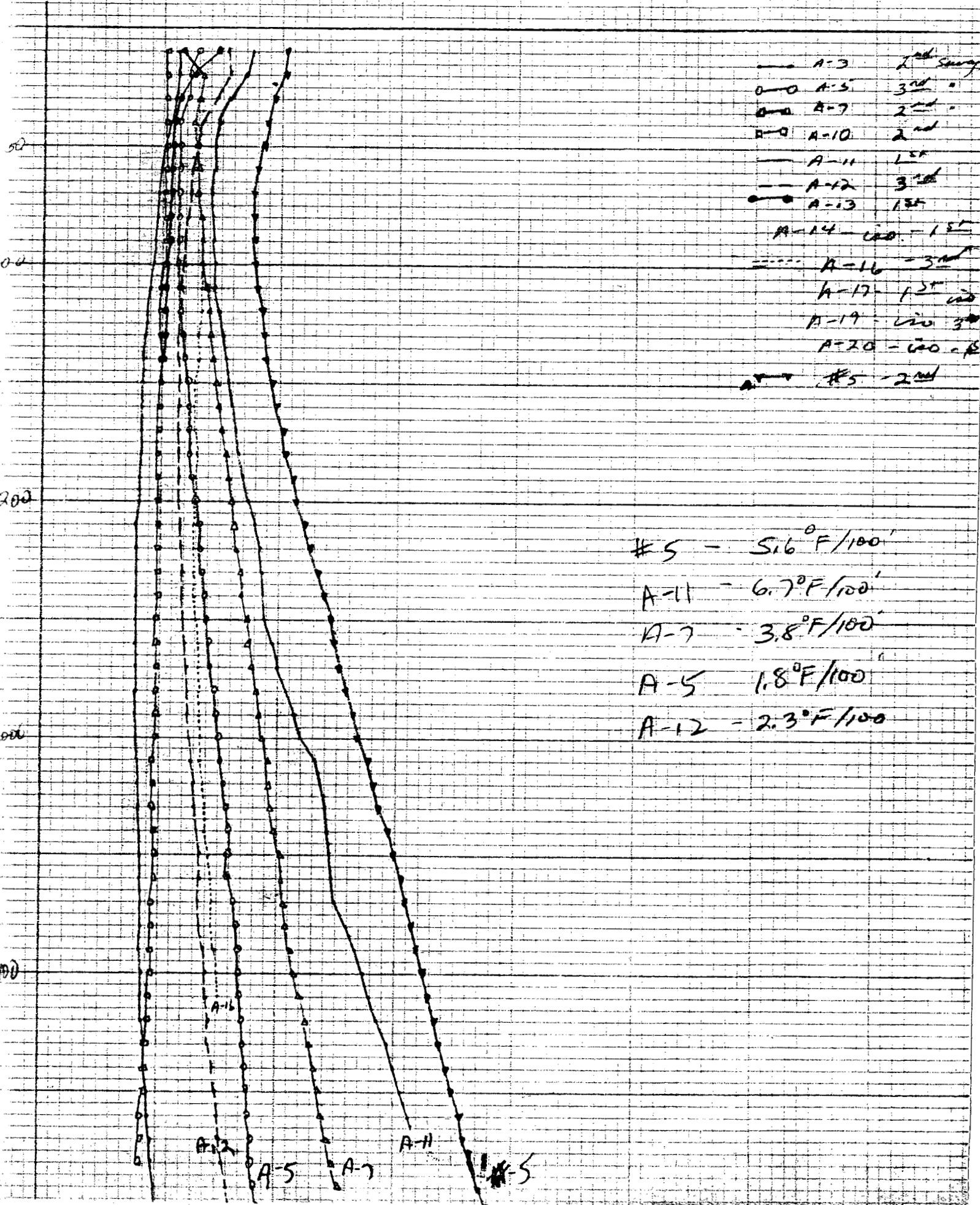
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SOW - SAN TIA

30 40 50 60 70 80



- A-3 2nd Survey
- A-5 3rd
- A-7 2nd
- A-10 2nd
- A-11 1st
- A-12 3rd
- A-13 1st
- A-14 - 1st - 1st
- A-16 - 3rd
- A-17 - 1st - 1st
- A-19 - 1st - 3rd
- A-20 - 1st - 1st
- ▲—▲ #5 - 2nd

#5 - 5.6 °F/100'

A-11 - 6.7 °F/100'

A-7 - 3.8 °F/100'

A-5 1.8 °F/100'

A-12 - 2.3 °F/100'

A-12 A-5 A-7 A-11 #5

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APPENDIX A

LITHOLOGIC LOGS OF TEMPERATURE-GRADIENT HOLES

LITHOLOGIC LOG

SUN-S-80-A1

Depth
Interval,
feet

Completion
Date:
9/11/80

0-40	100% OLIVINE BASALT, phenocrysts of pale yellow-green olivine and colorless plagioclase within a gray slightly vesicular aphanitic groundmass.
40-50	No Sample.
50-70	100% OLIVINE BASALT, as above. Trace CLAY.

LITHOLOGIC LOG

SUN-S-80-A1A

Depth
Interval,
feet

Completion
Date:
9/15/80

0-40

100% OLIVINE BASALT, Phenocrysts of pale yellow-green olivine and colorless plagioclase within a gray, slightly vesicular aphanitic groundmass.

LITHOLOGIC LOG

EWEB-1

<u>Depth Interval, feet</u>		Logged by the U.S.G.S.
0-80	100%	BASALT, Black, vesicular, containing phenocrysts of olivine, orthopyroxene, and plagioclase.
80-160	100%	GRAVEL, composed of andesitic volcanic debris.
160-300	100%	ANDESITE, containing scarce hydrothermal minerals.
300-330	100%	TUFF, partially zeolitized.
330-340	100%	ANDESITE.
340-490	100%	GRAVEL, or interflow rubble zone, containing volcanic debris.
490-560	100%	ANDESITE, with scarce alteration minerals.
560-820	100%	GRAVEL, or interflow rubble zone, containing basalt or andesite; zeolitized throughout.
820-830	100%	ANDESITE.
830-1,370	60%	(?) GRAVEL, or interflow rubble zone, containing volcanic debris, zeolites, and montmorillonite.
	40%	(?) BASALT or ANDESITE, flows are interlayered with interflow rubble zones.
1,370-TD	60%	(?) GRAVEL, or interflow rubble zone, as above.
	40%	(?) ANDESITE, interlayered with rubble zone, as above, but less altered.

LITHOLOGIC LOG

EWEB-2

<u>Depth Interval, feet</u>		Logged by the U.S.G.S.
0-60	100%	GRAVEL and SILT, composed of glacial debris containing large boulders.
60-120	100%	BASALT, containing olivine.
120-410	100%	ANDESITE.
410-550	100%	BASALT, containing three textures: crystalline, vesicular, and glassy. Lowermost 40 feet dominated by glassy layers.
550-640	100%	GRAVEL, containing volcanoclastic debris.
640-770	100%	GRAVEL, containing volcanic debris composed of olivine andesite.
770-830	100%	GRAVEL, containing volcanic debris of andesitic composition, with some volcanoclastics at base.
830-840	100%	ANDESITE, with olivine phenocrysts and some hydrothermal alteration.
840-890	100%	ANDESITE, as above, with no alteration.
890-1,020	100%	SAND and SILT, composed of volcanic debris.
1,020-1,180	100%	ANDESITE, containing olivine.
1,180-1,220	100%	PUMICE ASH, white.
1,220-1,260	100%	ANDESITE, containing olivine.
1,260-1,360	100%	SAND and SILT, containing volcanic debris.
1,360-1,430	100%	ANDESITE.
1,430-1,460	100%	PUMICE TUFF, white.
1,460-1,520	100%	SAND and SILT, containing volcanic debris.
1,520-1,580	50%	(?) SAND and SILT, as above.
	50%	(?) ANDESITE.

LITHOLOGIC LOG

EWEB-2 (continued)

1,580-1,670	100%	ANDESITE.
1,670-1,700	100%	SAND and SILT, rubble zone continuing volcanic debris.
1,700-1,740	100%	ANDESITE.
1,740-1,750	100%	GLASS FLOW, andesitic or basaltic, with olivine phenocrysts.
1,750-1,840	100%	GRAVEL, composed of volcanic debris, with hydrothermal alteration.
1,840-TD	100%	GRAVEL, as above, not altered.

LITHOLOGIC LOG

SUN-S-80-A3

Depth
Interval,
feet

Completion
Date:
11/11/80

0-10	No Sample.
10-20	100% GRAVEL, 2-5 mm, subangular to subround; composed of tuffaceous sediments and tuff.
20-30	100% TUFF (water laid?), abundant phenocrysts of anhedral, milky feldspar(?) within a fine light brown groundmass. Trace CLAY.
30-40	100% BASALT PORPHYRY, abundant phenocrysts of subhedral plagioclase within a gray, aphanitic matrix.
40-50	100% TUFF, as above. Trace CLAY.
50-60	50% TUFF, as above. 50% CLAY, brown.
60-70	100% CLAY, brown.
70-110	75% TUFF, as above. 25% CLAY, brown.
110-120	100% BASALT PORPHYRY, abundant phenocrysts of plagioclase and trace amounts of olivine phenocrysts within a dark gray aphanitic groundmass.
120-130	100% CLAY.
130-140	100% BASALT PORPHYRY, as above.
140-150	100% CLAY.
150-160	100% BASALT PORPHYRY, as above.
160-180	100% TUFF, as above.
180-190	50% TUFF, as above. 50% CLAY.
190-210	75% BASALT PORPHYRY. 25% CLAY.

LITHOLOGIC LOG

SUN-S-80-A3 (continued)

- 210-230 50% BASALT PORPHYRY.
50% CLAY.
- 230-270 100% BASALT PORPHYRY, abundant plagioclase phenocrysts and scattered pale yellow-green olivine phenocrysts within a gray to brown aphanitic groundmass.
- 270-280 No sample.
- 280-300 100% BASALT PORPHYRY, as above.
Trace CLAY, white to brown.
- 300-310 100% CLAY, brown.
- 310-320 50% BASALT PORPHYRY.
50% CLAY.
- 320-360 100% CLAY, brown.
- 360-370 No sample.
- 370-390 100% CLAY, brown.
- 390-400 50% BASALT PORPHYRY, as above.
50% CLAY.
- 400-410 50% BASALT PORPHYRY
50% TUFFACEOUS SANDSTONE, brown; composed of volcanic rock fragments and plagioclase within a fine brown matrix.
- 410-500 100% CLAY, brown, sandy.

LITHOLOGIC LOG

SUN-S-80-A5

<u>Depth Interval, feet</u>		Completion Date: 11/1/80
0-20	90% GRAVEL, 2-10 mm, subround-round; composed of olivine basalt. 10% CLAY, brown.	
20-30	100% CLAY, brown.	
30-70	100% BASALT PORPHYRY, a fine holocrystalline porphyry composed of abundant plagioclase phenocrysts with intergranular olivine, pyroxene and iron ore.	
70-80	100% GRAVEL, 2-10 mm, subround to subangular; composed of olivine basalt.	
80-110	100% CLAY, brown.	
110-120	100% SAND, 1-2 mm, round to subround; composed of olivine basalt.	
120-140	100% CLAY, brown.	
140-160	100% BASALT, brown and gray, mottled aphyric aphanitic rock.	
160-170	100% CLAY, brown.	
170-230	50% SAND, 1-2 mm, subround-subangular; composed of olivine basalt. 50% CLAY, brown.	
230-240	100% CLAY, brown.	
240-250	50% SAND, as above. 50% CLAY, brown.	
250-270	100% CLAY, brown.	
270-310	50% SAND, as above. 50% CLAY, brown	
310-320	100% CLAY, brown.	
320-330	50% SAND, as above. 50% CLAY, brown.	
330-350	100% CLAY, brown.	

LITHOLOGIC LOG

SUN-S-80-A5 (continued)

350-360 100% SAND, pebbly; composed of basalt.

360-500 100% CLAY, brown, sandy.

LITHOLOGIC LOG

SUN-S-80-A7

<u>Depth Interval, feet</u>		<u>Completion Date:</u> 11/26/80
0-20	100% GRAVEL, 2-8 mm, round to subround, composed of volcanic rock.	
20-40	100% BASALT, variable, scattered to abundant tabular phenocrysts of plagioclase and scattered phenocrysts of yellow-green olivine within a brown to dark gray aphanitic groundmass.	
40-120	100% BASALT, as above with some pink and yellow-brown amorphous material coating fracture surfaces.	
120-130	90% BASALT, as above. 10% Tuffaceous SANDSTONE, brown.	
130-160	100% BASALT, Oxidized mafic phenocrysts and groundmass minerals give the rock a mottled gray-green and red color.	
160-170	100% BASALT PORPHYRY, abundant plagioclase phenocrysts and scattered, altered mafic phenocrysts within a gray-green aphanitic groundmass.	
170-180	100% BASALT PORPHYRY, abundant plagioclase phenocrysts and scattered mafic phenocrysts within a nonvesicular to vesicular aphanitic groundmass. Nonvesicular groundmasses are gray, brown or gray-green. Vesicular groundmasses are mottled gray and red. Vesicles are commonly filled with soft yellow-brown material.	
180-190	100% BASALT PORPHYRY, abundant plagioclase and scattered olivine phenocrysts within a nonvesicular gray-green aphanitic groundmass.	
190-200	90% BASALT PORPHYRY, as above. 10% CLAY	
200-210	50% BASALT PORPHYRY, slightly vesicular and fractured. Vesicles are filled with a soft yellow material. 50% CLAY, brown.	
210-220	100% BASALT PORPHYRY, some clasts oxidized to a red color.	
220-300	50% BASALT PORPHYRY, fractured. Fractures are coated with soft orange-brown material. 50% CLAY.	

LITHOLOGIC LOG

SUN-S-80-A7 (continued)

- 300-320 100% BASALT, scattered phenocrysts of yellow-brown olivine within a green aphanitic groundmass.
- 320-350 100% BASALT, as above with some orange iron-oxide stains and traces of soft buff to gray amorphous material in voids.
- 350-370 100% BASALT, as above. 20% of all clasts are brick red.
- 370-390 100% BASALT, scattered phenocrysts of olivine and plagioclase within a gray-green groundmass.
Traces of soft resinous brown material.
- 390-400 50% BASALT, as above.
50% CLAY, brown.
- 400-410 100% BASALT, as above. 30% of all clasts are brick red.
- 410-420 100% BASALT, as above. 75% of all clasts are red-brown.
- 420-440 100% BASALT, widely scattered phenocrysts of yellow-green olivine within a slightly vesicular green-brown groundmass.
Traces of soft resinous brown material filling voids.
- 440-450 100% BASALT, as above.
Traces of soft resinous brown or white material filling voids and traces of fine opal.
- 450-470 100% BASALT, scattered phenocrysts of olivine and plagioclase within a slightly vesicular, gray-green groundmass.
Traces of soft white, blue or resinous brown material filling voids.
- 470-490 100% CLAY, brown.
- 490-500 No Sample.

LITHOLOGIC LOG

SUN-S-80-A10

<u>Depth Interval, feet</u>		Completion Date: 12/22/80
0-10	100% CLAY, brown, sandy. Sand-sized clasts are altered volcanic rock.	
10-20	100% GRAVEL, 2-6 mm, subangular to angular. Clasts are gray basalt with phenocrysts of feldspars, dark resinous brown mafics.	
20-30	50% CLAY, brown, 50% GRAVEL, as above.	
30-40	100% CLAY, brown, sandy.	
40-60	100% GRAVEL, 2-5 mm, subangular to angular. Clasts are gray and brown basalt with phenocrysts of white feldspar and dark brown to black mafic minerals.	
60-70	100% CLAY, brown.	
70-80	50% GRAVEL, 2-4 mm, subangular to angular. 50% CLAY, brown.	
80-100	100% CLAY, brown.	
100-140	50% GRAVEL, as above. 50% CLAY, brown.	
140-150	80% GRAVEL, as above. 20% CLAY, brown.	
150-160	90% GRAVEL, 2-10 mm, subround to angular. Clasts are of gray to brown basalt with abundant phenocrysts of feldspar and black mafics and of volcanic breccia. 10% CLAY, brown.	
160-240	100% GRAVEL, as above.	
240-260	Lost Circulation Material.	
260-270	100% BASALT, light brown to gray aphanitic rock with phenocrysts of feldspar and dark mafics.	
270-280	100% BASALT, dark green to black aphanitic rock.	

LITHOLOGIC LOG

SUN-S-80-A10 (continued)

- 280-290 90% BASALT, as above.
10% BRECCIA, brick red volcanic breccia.
- 290-300 No Sample.
- 300-310 50% BASALT, as above.
50% CLAY, brown.
- 310-320 100% BASALT, as above.
- 320-330 100% BRECCIA, brown, subhedral phenocrysts of feldspar and lithic fragments within a welded matrix. Some alteration to white clay.
- 330-340 50% BRECCIA, as above.
50% BASALT, as above.
- 340-430 100% BRECCIA, brown to brick red. Abundant phenocrysts of feldspar and lithic fragments within a welded matrix. Variable alteration to white clay.
- 430-480 100% BASALT, gray to brown aphanitic rock with abundant phenocrysts of feldspar and minor pyroxene.

LITHOLOGIC LOG

SUN-S-80-A11

<u>Depth, Interval, feet</u>		Completion Date: 12/8/80
0-10	100% GRAVEL, 2-5 mm, subround to subangular. Clasts are black aphanitic volcanic rock. Trace CLAY.	
10-20	100% GRAVEL, 2-7 mm, subround to subangular. Clasts are composed of black to red, non-vesicular to vesicular, aphanitic volcanic rock. Trace CLAY, brown, coats clasts.	
20-40	100% GRAVEL, as above. Red clasts are scoriaceous. Black clasts are nonvesicular. Trace CLAY, brown coating clasts and white filling vesicles or fractures.	
40-50	100% GRAVEL, 2-20 mm, round to subround. Clasts are black, aphanitic volcanic rock.	
50-120	80% SILT, brown, sandy (based on driller's report). 20% GRAVEL, as above.	
120-140	100% BASALT, brick red flow composed of rare phenocrysts of feldspar, olivine and black mafics within a matrix of trachytic feldspar laths, intersertal material. Some scoriaceous material. Trace VITROPHYRE.	
140-150	100% BASALT, pink and green aphanitic rock with rare phenocrysts of feldspar and black mafics.	
150-180	100% PYROXENE ANDESITE, green aphanitic rock with abundant crystals of dark green mafic minerals.	
180-250	100% PYROXENE ANDESITE, green to brown aphanitic rock with abundant dark green crystals.	
250-290	100% BASALT, brick red rock with anhedral feldspar phenocrysts and dark mafics within a matrix of trachytic feldspar laths and oxidized intersertal material.	
290-300	100% BRECCIA, pale brown brecciated volcanic rock altering to clay.	
300-340	100% TUFF(?), pale green and brown crystal-lithic rock with red-brown opal.	

LITHOLOGIC LOG

SUN-S-80-A11 (continued)

- 340-370 100% PYROXENE ANDESITE, dark green aphanitic rock with dark green mafic phenocrysts.
- 370-380 100% CLAY, red.
- 380-410 100% BASALT, gray-green and brown mottled aphanitic rock.
- 410-450 100% CLAY, gray-green.
- 450-470 100% BASALT, dark green aphanitic rock with abundant subhedral feldspar phenocrysts.
- 470-480 No sample.

LITHOLOGIC LOG

SUN-S-80-A12

<u>Depth Interval, feet</u>		Completion Date: 10/7/80
0-20	100% OLIVINE BASALT, scattered phenocrysts of pale yellow-green olivine (< .5 mm) and colorless to frosty plagioclase (< .5 mm) within slightly vesicular fine gray matrix of feldspar and pyroxene.	
20-30	100% PYROXENE ANDESITE, scattered dark green phenocrysts of pyroxene within a vesicular, green aphanitic matrix. Some vesicles are filled with pale brown or white clay.	
30-60	100% PYROXENE ANDESITE, scattered dark green phenocrysts of pyroxene, colorless to frosted plagioclase and pale green olivine within a vesicular mottled green and brown aphanitic groundmass.	
60-210	100% OLIVINE BASALT, scattered phenocrysts of pale green olivine of colorless to frosted plagioclase and dark green pyroxene within a slightly vesicular mottled green and brown aphanitic groundmass.	
210-220	100% CLAY.	
220-240	100% OLIVINE (?) BASALT, scattered phenocrysts of dark brown olivine and plagioclase within a highly vesicular brown and green aphanitic matrix.	
240-270	100% OLIVINE (?) BASALT, abundant dark green and brown phenocrysts of olivine and colorless to frosty plagioclase within a vesicular mottled brown and green, aphanitic matrix.	
270-290	100% OLIVINE (?) BASALT, abundant dark green and brown phenocrysts of olivine and colorless plagioclase within a mottled red and black, aphanitic matrix. Trace CLAY.	
290-320	100% OLIVINE BASALT, variable, scattered to abundant phenocrysts of olivine and minor plagioclase within a mottled brown and green vesicular matrix.	
320-340	95% OLIVINE BASALT, as above. 5% CLAY.	

LITHOLOGIC LOG

SUN-S-80-A12 (continued)

340-350	100% CLAY.
350-370	100% OLIVINE BASALT, as above.
370-390	100% OLIVINE BASALT, as above. Trace CHALCEDONY, orange; OPAL.
390-430	100% OLIVINE BASALT, as above. Trace CLAY, orange, white, green.
430-500	100% CLAY.

LITHOLOGIC LOG

SUN-S-80-A13

<u>Depth Interval, feet</u>		<u>Completion Date:</u> 1/26/81
0-20	100% GRAVEL, 2-15 mm, round to subangular; composed of gray-black, aphanitic basalt.	
20-30	80% SILT, brown, clayey. 20% GRAVEL, 2-10 mm, subangular to subround, composed of gray, andesitic rock.	
30-40	100% BASALT, dark gray to black, aphanitic rock.	
40-60	100% BASALT, vesicular to nonvesicular rock with scattered phenocrysts of plagioclase within a brown, gray or black aphanitic groundmass.	
60-70	80% BASALT, as above. 20% CLAY, gray.	
70-80	100% BASALT, some brecciation of aphanitic material is highlighted by mottled red and black colors.	
80-100	100% VITRIC TUFF, patches of fresh dark brown resinous glass and volcanic rock fragments are embedded in a fine gray-brown sugary matrix.	
100-110	100% BASALT, scattered phenocrysts of yellow-green olivine and patches of brown, resinous material are in a mottled brown and black aphanitic groundmass.	
110-130	100% BASALT BRECCIA, vesicular, red-brown breccia of basaltic rock.	
130-150	100% BASALT, scattered phenocrysts of yellow-green olivine and white plagioclase are in a gray to green-black, aphanitic groundmass.	
150-160	100% BASALT, scattered phenocrysts of green olivine, resinous brown iddingsite or pyroxene and plagioclase are in a slightly vesicular, green aphanitic groundmass.	

LITHOLOGIC LOG

SUN-S-80-A13 (continued)

- 160-190 100% BASALT, phenocrysts of green olivine, resinous brown mineral and plagioclase are in a vesicular, black, gray-green or red-brown aphanitic groundmass. Some vesicles are filled with a soft buff or pale green material.
- 190-200 100% BASALT, as above, but oxidized to a red color.
- 200-210 100% BASALT, scattered phenocrysts of a resinous brown mafic mineral in a slightly vesicular, red to black groundmass. There is some brecciation.
- 210-220 100% BASALT, scattered phenocrysts of yellow-green olivine and translucent plagioclase are within a gray-green aphanitic groundmass.
- 220-230 100% BASALT, rare phenocrysts of yellow-green olivine and a resinous brown mafic mineral are in a gray-brown aphanitic groundmass.
- 230-260 100% BASALT, as above, but highly vesicular.
- 260-280 100% BASALT, scattered phenocrysts of yellow-green olivine and white plagioclase are in a slightly vesicular to nonvesicular gray-green aphanitic groundmass.
- 280-290 Lost circulation material.

LITHOLOGIC LOG

SUN-S-80-A14

Depth
Interval,
feet

Completion
Date:
10/18/80

0-60	OLIVINE BASALT, phenocrysts of red and green olivine within a vesicular mottled green and brown aphanitic matrix.
60-100	OLIVINE BASALT, as above, but highly vesicular.
100-120	OLIVINE BASALT, abundant phenocrysts of red and green olivine within a slightly vesicular green aphanitic groundmass.
120-160	OLIVINE BASALT, highly vesicular, oxidized red and green.
160-180	OLIVINE BASALT, slightly vesicular, green and brown.
180-220	OLIVINE BASALT, highly vesicular, oxidized red.
220-340	OLIVINE BASALT, phenocrysts of red, altered olivine within a slightly vesicular brown groundmass. Clasts are platy.
340-350	No sample.

LITHOLOGIC LOG

SUN-S-80-A16

<u>Depth Interval, feet</u>	Completion Date: 10/28/80
0-10	100% SAND, 1-2 mm, round to angular; composed of olivine basalt and tuffaceous sandstone.
10-30	100% OLIVINE BASALT, abundant green to brown phenocrysts of olivine within a gray aphanitic groundmass.
30-50	100% OLIVINE BASALT, variable, scattered to abundant resinous brown phenocrysts of altered olivine (?) with either a gray-green aphanitic groundmass or an oxidized red to brown aphanitic groundmass.
50-60	100% OLIVINE BASALT, variable, scattered to abundant resinous brown to dark green phenocrysts of olivine (?) within a slightly vesicular, oxidized red to brown, aphanitic groundmass.
60-80	100% BASALT, vesicular, mottled red and black aphyric, aphanitic rock.
80-200	100% OLIVINE BASALT, abundant phenocrysts of pale green olivine, typically intergrown with iron ore, mafics, phenocrysts, and translucent plagioclase within a gray or mottled gray and brown groundmass.
200-220	100% OLIVINE BASALT, scattered phenocrysts of yellow-green olivine and translucent plagioclase within a mottled gray-brown or red-brown aphanitic groundmass. Trace CLAY.
220-270	100% OLIVINE BASALT, variable, scattered to abundant phenocrysts of yellow-green olivine and translucent plagioclase within a mottled gray and brown aphanitic groundmass. Trace CLAY.
270-280	No sample.
280-290	100% OLIVINE BASALT, as above. Trace clay.

LITHOLOGIC LOG

SUN-S-80-A16 (continued)

- 290-300 100% OLIVINE BASALT, phenocrysts of pale-green resinous olivine and translucent plagioclase within a gray, slightly vesicular aphanitic groundmass.
- 300-310 50% OLIVINE BASALT, as above.
50% CLAY, brown.
- 310-330 100% OLIVINE BASALT, as above.
- 330-370 100% OLIVINE BASALT, phenocrysts of olivine and plagioclase within a mottled gray and red aphanitic groundmass.
- 370-400 100% OLIVINE BASALT, phenocrysts of pale yellow and green olivine with an accessory black or dark green mafic mineral and phenocrysts of translucent plagioclase within a gray, aphanitic groundmass.
Trace CLAY.
- 400-410 No sample.
- 410-420 100% OLIVINE BASALT, phenocrysts of olivine, an accessory black or dark green mafic mineral and phenocrysts of plagioclase within a red-brown and gray aphanitic groundmass.

LITHOLOGIC LOG

SUN-S-80-A17

Depth Interval, feet		Completion Date: 2/6/81
0-20	100% BASALT, abundant phenocrysts of resinous iddingsite (?) are in a mottled red-brown and blue-gray aphanitic groundmass.	
20-30	100% BASALT, as above, but vesicular.	
30-40	95% BASALT, abundant phenocrysts of resinous iddingsite(?) are in a slightly vesicular, mottled brown and gray aphanitic groundmass. 5% CLAY, brown.	
40-50	100% GRAVEL, 2-10 mm, subround to subangular; composed of red-brown basalt.	
50-60	100% BASALT, abundant phenocrysts of yellow-green olivine and a dark brown to black mafic mineral are in a slightly vesicular, mottled gray and brown aphanitic groundmass.	
60-70	50% BASALT, as above. 50% CLAY, gray-brown.	
70-100	90% BASALT, as above. 10% CLAY, white to gray-brown.	
100-110	100% BASALT, as above.	
110-130	100% BASALT, phenocrysts of yellow-green olivine are in a glassy, black to gray-green, vesicular groundmass.	
130-140	100% BASALT, phenocrysts of yellow-green olivine are in a gray-green, aphanitic groundmass.	
140-150	100% BASALT, rare phenocrysts of olivine are in a highly vesicular black, brown or gray-green groundmass.	

LITHOLOGIC LOG

SUN-S-80-A17 (continued)

- 150-170 100% BASALT, scattered olivine phenocrysts are in a non-vesicular gray-green aphanitic groundmass.
- 170-180 100% BASALT, scattered olivine phenocrysts are in a vesicular black to gray-green groundmass.
- 180-190 100% BASALT, abundant olivine phenocrysts are in a slightly vesicular, gray-green aphanitic groundmass.
- 190-200 100% BASALT, abundant olivine and plagioclase phenocrysts are in a vesicular gray-green aphanitic groundmass.
- 200-220 100% BASALT, as above, but nonvesicular.
- 220-250 100% BASALT, scattered phenocrysts of olivine and plagioclase are in a glassy, vesicular, red to black aphanitic groundmass.
- 250-270 100% BASALT, scattered phenocrysts of olivine and plagioclase are in a slightly vesicular, gray-green to black groundmass. Traces of breccia and black to brown glass.
- 270-310 100% BASALT, scattered phenocrysts of olivine and plagioclase are in a vesicular, gray-green or black and brown, glassy, aphanitic groundmass.

LITHOLOGIC LOG

SUN-A-80-A19

Depth
Interval,
feet

Completion
Date:
10/1/80

0-70	100% GRAVEL, 2-64 mm, subround to angular; composed of gray olivine basalt.
70-90	100% GRAVEL, subround to angular; composed of mottled red and black, vesicular olivine basalt.
90-110	100% BASALT, mottled off-white and dark gray aphanitic rock.
110-200	100% OLIVINE BASALT, abundant phenocrysts of fresh pale yellow or altered, red-brown olivine and phenocrysts of colorless plagioclase within a slightly vesicular gray aphanitic groundmass. Trace OLIVINE BASALT VITROPHYRE, oxidized.
200-270	90% OLIVINE BASALT, as above. 10% OLIVINE BASALT, oxidized to a red-brown color. Trace OLIVINE BASALT VITROPHYRE.

LITHOLOGIC LOG

SUN-S-80-A20

<u>Depth Interval, feet</u>		Completion Date: 1/15/81
0-20	100% GRAVEL, 5-15 mm, angular to subround; composed of dark gray to red-brown aphanitic basalt and light brown tuffaceous mudstone.	
20-30	100% GRAVEL, sandy 1-10 mm, angular to subround; composed of dark gray, vesicular basalt, red oxidized basalt and traces of glass.	
30-50	100% GRAVEL, sandy 1-10 mm, angular to round; composed of gray basalt and brown tuffaceous mudstone.	
50-70	100% GRAVEL, 5-15 mm, angular to subangular; composed of gray, red and brown, vesicular to nonvesicular olivine basalt.	
70-80	100% GRAVEL, sandy 1-4 mm, subangular to subround; composition as above.	
80-90	100% CLAY, brown.	
90-100	100% GRAVEL, 3-10 mm, subangular; composition as above.	
100-130	100% CLAY, brown, pebbly.	
130-140	100% GRAVEL, 2-5 mm, subangular to angular; composition as above.	
140-150	100% GRAVEL, 5-10 mm, angular to round; composed of gray basalt and brown tuffaceous mudstone.	
150-160	100% CLAY, brown, pebbly.	
160-170	100% GRAVEL, sandy .5-3 mm, subangular to subround; composition as above.	
170-200	50% GRAVEL, as above. 50% CLAY, brown.	
200-210	100% BASALT, glassy, slightly vesicular, red and black aphanitic rock.	

LITHOLOGIC LOG

SUN-S-80-A20 (continued)

- 210-240 100% BASALT, glassy slightly vesicular rock with scattered, yellow-green olivine phenocrysts in a green-gray to red-brown aphanitic groundmass.
- 240-260 100% BASALT, as above, mixed with lost circulation material.
- 260-270 100% BASALT, extremely glassy rock with some apparent autobrecciation. Scattered phenocrysts of olivine are embedded in sugary, mottled gray to red-brown aphanitic matrix.
- 270-300 50% BASALT, as above.
50% SILT, gray-brown, clayey.
- 300-320 100% BASALT, as above.
- 320-330 25% BASALT, as above.
75% SILT, gray-brown, clayey.
- 330-340 100% BASALT, as above.
- 340-370 100% SILT, gray-brown, clayey, sandy.
- 370-390 80% BASALT-BRECCIA, glassy, mottled red and black, autobrecciated rock.
20% CLAY, brown.
- 390-400 100% ANDESITE, trace amounts of yellow-green olivine phenocrysts in a gray-green aphanitic matrix with abundant iron ore disseminations.
- 400-420 100% SILT, red, sandy, clayey.
- 420-440 100% ANDESITE-BRECCIA, glassy, mottled gray, green and brown, aphanitic rock.
- 440-460 100% ANDESITE, scattered phenocrysts of yellow-green olivine and translucent plagioclase with a mottled gray-green and white, aphanitic groundmass.

LITHOLOGIC LOG

SUN-S-80-5

<u>Depth Interval, feet</u>		<u>Completion Date:</u> 1/6/81
0-10	100% GRAVEL, 2-7 mm, subangular to angular; composed of vesicular to nonvesicular volcanic rocks. Vesicles are filled with green chloritic material.	
10-70	100% GRAVEL, 5-15 mm, subround to subangular; composed of slightly vesicular, red-brown and olive-brown volcanic rocks.	
70-90	100% GRAVEL, 5-10 mm, round to subangular; composed of red-brown and olive-brown aphanitic volcanic rocks and white to pale gray volcanic rocks with abundant black pyroxene phenocrysts.	
90-110	100% GRAVEL, 2-12 mm, subangular; composed of red-brown oxidized volcanic rock. Some clasts are breccias with cement of milky chalcedony.	
110-150	100% GRAVEL, 2-20 mm, subangular to subround; composed of red-brown and olive-green volcanic rocks with scattered pyroxene and plagioclase phenocrysts. Some clasts are silicified breccias composed of both red-brown and olive-green clasts with a green mineral filling voids.	
150-170	100% GRAVEL, 2-20 mm, angular to subangular; composed of silicified volcanic breccias with green mineralization and milky chalcedony.	
170-250	100% CLAY, brown.	
250-270	100% BASALT, abundant plagioclase phenocrysts (<1 mm) and scattered black pyroxene phenocrysts (<1 mm) within a green to black aphanitic matrix. The rock is fractured or brecciated, silicified, and plagioclase phenocrysts are altered to a blue-green mineral.	
270-280	100% CLAY, gray-green.	
280-290	100% BASALT, abundant plagioclase phenocrysts, scattered black pyroxene phenocrysts and traces of yellow-brown olivine within a gray non-vesicular aphanitic groundmass.	
290-320	100% CLAY, gray.	
320-330	100% BASALT, as above, but oxidized to a red-brown color.	
330-380	100% CLAY, brown or gray.	

LITHOLOGIC LOG

SUN-S-80-5 (continued)

- 380-400 100% BASALT, abundant plagioclase and pyroxene phenocrysts in a dark green or red-brown aphanitic groundmass. Abundant pyrite disseminations within the groundmass. Some alteration of mafic(?) phenocrysts to an orange-red color.
- 400-410 100% CLAY, gray-green.
- 410-450 100% BASALT, abundant phenocrysts of plagioclase and pyroxene within a gray aphanitic groundmass. Some red-brown oxidation.
- 450-500 100% CLAY, red-brown or gray.

GeothermEx, Inc.

SUITE 201
5221 CENTRAL AVENUE
RICHMOND, CALIFORNIA 94804

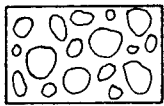
(415) 527-9876

CABLE ADDRESS: GEOTHERMEX

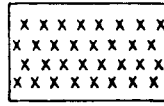
APPENDIX B

TEMPERATURE LOGS OF TEMPERATURE-GRADIENT HOLES

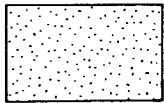
EXPLANATION OF SYMBOLS USED ON LITHOLOGIC LOGS



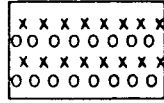
Gravel



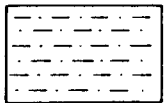
Basalt



Sand, Sandstone



Olivine Basalt



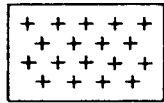
Silt



Basalt Porphyry



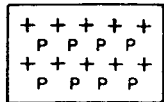
Clay



Andesite



Breccia



Pyroxene Andesite



Tuff



Glass Flow

F = Fractures
 L.C. = Lost Circulation
 P.L.C. = Partial Lost Circulation
 N. S. = No Sample

TEMPERATURE LOG

SUN-S-80-A3

T. 13 S., R. 6 E., SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 2

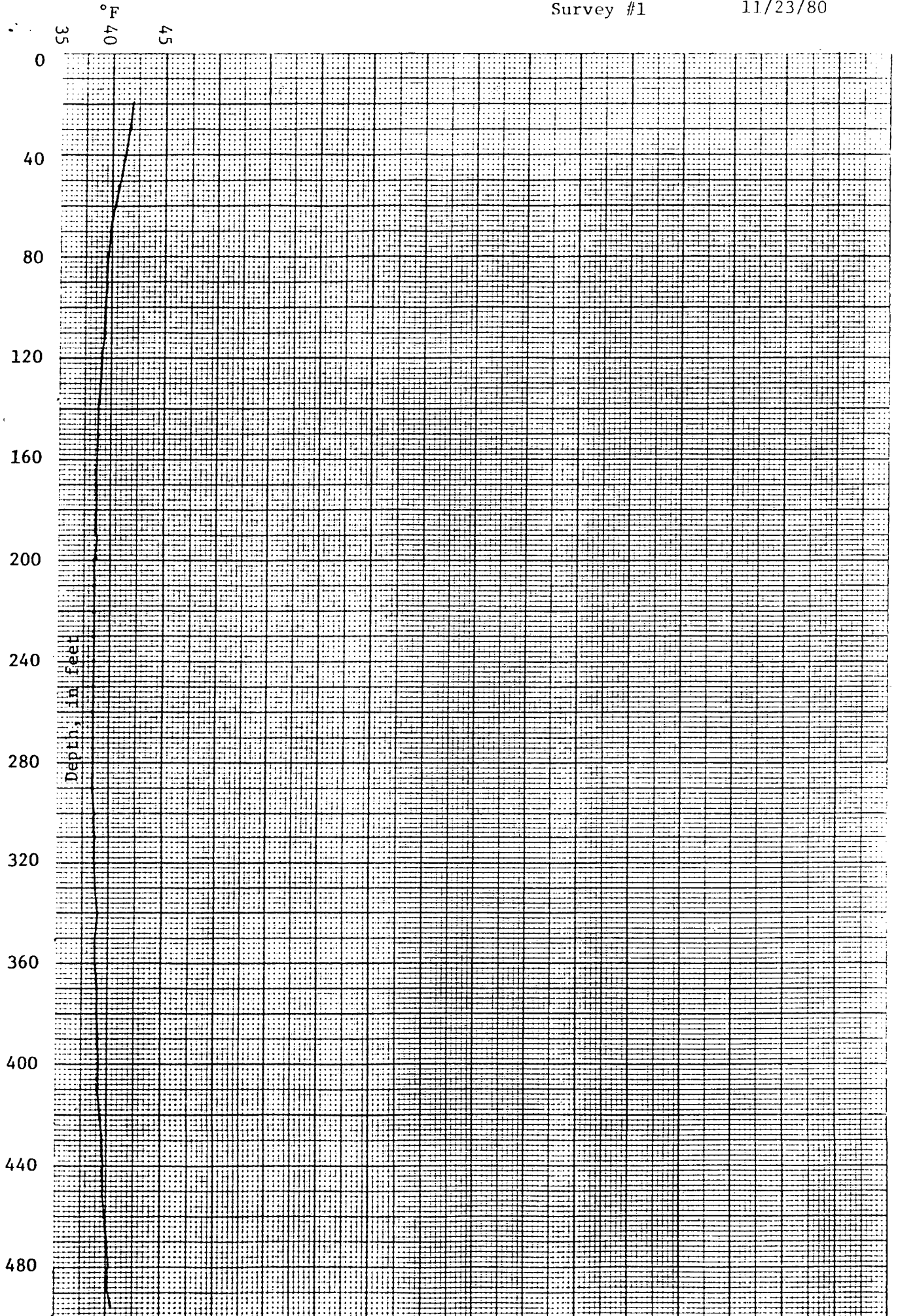
Hole completed 11/11/80

Survey #1 11/23/80

Elevation 4,560 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
20	5.5	41.9	270	3.6	38.5
30	5.4	41.7	280	3.6	38.5
40	5.1	41.2	290	3.6	38.5
50	4.9	40.8	300	3.7	38.7
60	4.6	40.3	310	3.7	38.7
70	4.4	39.9	320	3.7	38.7
80	4.3	39.7	330	3.8	38.8
90	4.2	39.6	340	3.9	39.0
100	4.1	39.4	350	3.8	38.8
110	4.1	39.4	360	3.8	38.8
120	4.0	39.2	370	3.9	39.0
130	3.9	39.0	380	3.9	39.0
140	3.8	38.8	390	4.0	39.2
150	3.8	38.8	400	4.0	39.2
160	3.7	38.7	410	4.0	39.2
170	3.7	38.7	420	4.1	39.4
180	3.7	38.7	430	4.2	39.6
190	3.7	38.7	440	4.3	39.7
200	3.6	38.5	450	4.3	39.7
210	3.6	38.5	460	4.4	39.9
220	3.6	38.5	470	4.5	40.1
230	3.6	38.5	480	4.6	40.3
240	3.6	38.5	490	4.6	40.3
250	3.6	38.5	495	4.7	40.5
260	3.6	38.5			



TEMPERATURE LOG

SUN-S-80-A3

T. 13 S., R. 6 E., SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 2

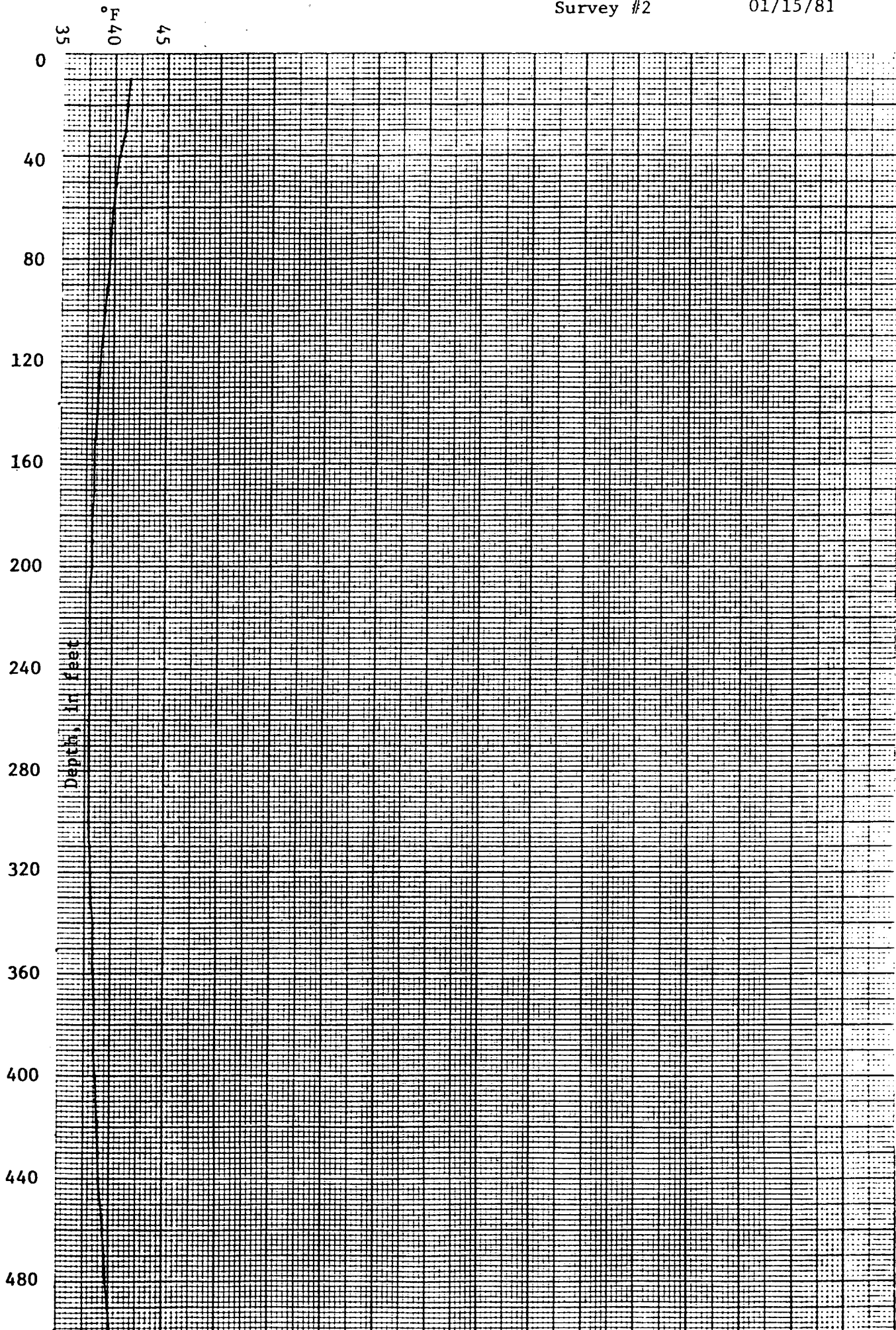
Hole completed 11/11/80

Survey #2 01/15/81

Elevation 4,560 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	5.2	41.4	260	3.3	37.9
20	5.1	41.2	270	3.3	37.9
30	5.0	41.0	280	3.3	37.9
40	4.7	40.5	290	3.3	37.9
50	4.5	40.1	300	3.3	37.9
60	4.4	39.9	310	3.4	38.1
70	4.3	39.7	320	3.4	38.1
80	4.2	39.6	330	3.4	38.1
90	4.1	39.4	340	3.5	38.3
100	4.0	39.2	350	3.5	38.3
110	3.9	39.0	360	3.5	38.3
120	3.8	38.8	370	3.6	38.5
130	3.7	38.7	380	3.6	38.5
140	3.6	38.5	390	3.6	38.5
150	3.5	38.3	400	3.7	38.7
160	3.5	38.3	410	3.7	38.7
170	3.5	38.3	420	3.8	38.8
180	3.4	38.1	430	3.9	39.0
190	3.4	38.1	440	3.9	39.0
200	3.4	38.1	450	4.0	39.2
210	3.3	37.9	460	4.1	39.4
220	3.3	37.9	470	4.2	39.6
230	3.3	37.9	480	4.3	39.7
240	3.3	37.9	490	4.4	39.9
250	3.3	37.9	500	4.5	40.1



TEMPERATURE LOG

SUN-S-80-A3

T. 13 S., R. 6 E., SW ¼ of SE ¼, Sec. 2

Hole completed 11/11/80

Survey #3 06/27/81

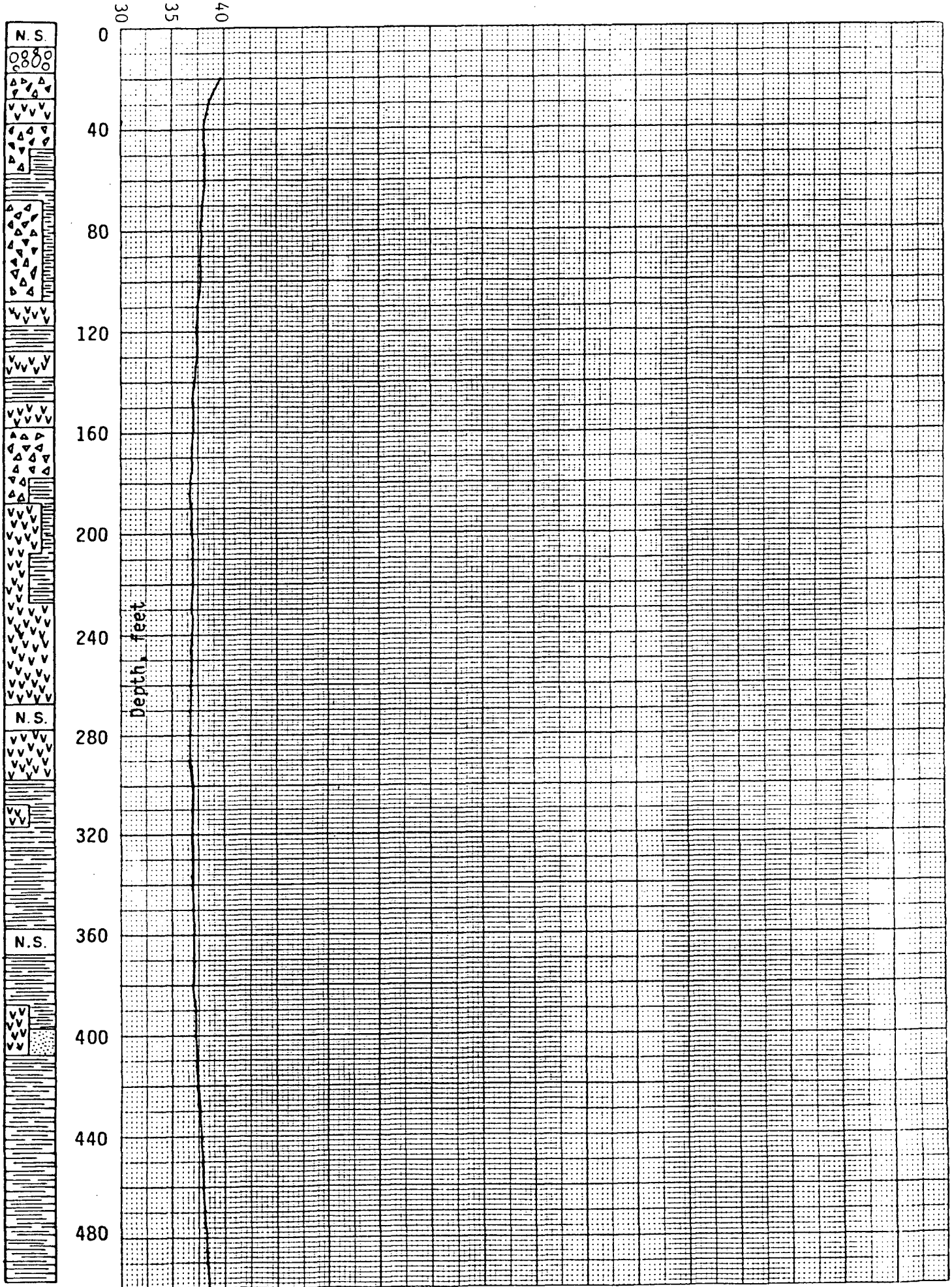
Elevation 4,560 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	--	--	260	2.7	36.9
20	4.3	39.7	270	2.6	36.8
30	3.6	38.5	280	2.6	36.7
40	3.4	38.1	290	2.6	36.7
50	3.4	38.1	300	2.7	36.9
60	3.4	38.1	310	2.7	36.9
70	3.3	37.9	320	2.7	36.9
80	3.2	37.8	330	2.7	36.9
90	3.1	37.6	340	2.7	36.9
100	3.1	37.6	350	2.8	37.0
110	3.0	37.4	360	2.8	37.0
120	3.0	37.4	370	2.8	37.0
130	3.0	37.4	380	2.8	37.0
140	2.9	37.2	390	2.9	37.2
150	2.8	37.0	400	2.9	37.2
160	2.8	37.0	410	3.0	37.4
170	2.7	36.9	420	3.0	37.4
180	2.7	36.9	430	3.1	37.6
190	2.7	36.9	440	3.2	37.8
200	2.7	36.9	450	3.3	37.9
210	2.7	36.9	460	3.3	37.9
220	2.7	36.9	470	3.4	38.1
230	2.7	36.9	480	3.5	38.3
240	2.7	36.9	490	3.5	38.3
250	2.7	36.9	500	3.6	38.5

TEMPERATURE LOG -- SUN SANTIAM
OF

SUN-S-80-A3
Survey #3 6/27/81



TEMPERATURE LOG

SUN-S-80-A5

T. 13 S., R. 7 E., SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 18

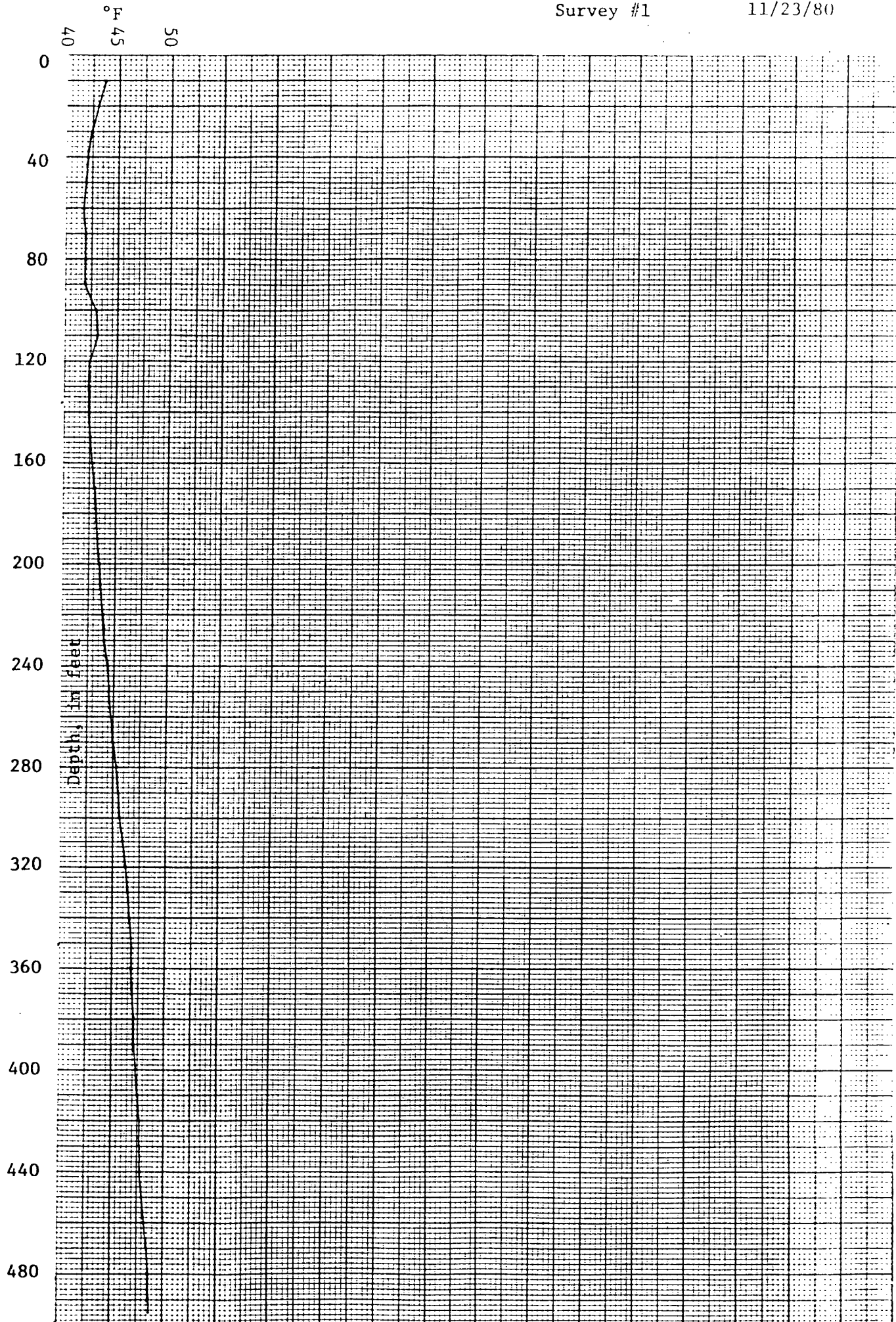
Hole completed 11/01/80

Survey #1 11/23/80

Elevation 3,440 feet

Logged by GeothermEx, Inc.

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
10	6.5	43.7	260	7.1	44.8
20	6.1	43.0	270	7.2	45.0
30	5.8	42.4	280	7.4	45.3
40	5.6	42.1	290	7.5	45.5
50	5.5	41.9	300	7.6	45.7
60	5.4	41.7	310	7.7	45.9
70	5.5	41.9	320	7.9	46.2
80	5.5	41.9	330	8.0	46.4
90	5.5	41.9	340	8.1	46.6
100	6.1	43.0	350	8.2	46.8
110	6.2	43.2	360	8.2	46.8
120	5.8	42.4	370	8.3	46.9
130	5.8	42.4	380	8.4	47.1
140	5.8	42.4	390	8.4	47.1
150	5.9	42.6	400	8.5	47.3
160	6.0	42.8	410	8.6	47.5
170	6.1	43.0	420	8.7	47.7
180	6.2	43.2	430	8.7	47.7
190	6.3	43.3	440	8.8	47.8
200	6.4	43.5	450	8.9	48.0
210	6.5	43.7	460	9.0	48.2
220	6.6	43.9	470	9.1	48.4
230	6.7	44.1	480	9.2	48.6
240	6.9	44.4	490	9.2	48.6
250	7.0	44.6	495	9.3	48.7



TEMPERATURE LOG

SUN-S-80-A5

T. 13 S., R. 7 E., SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 18

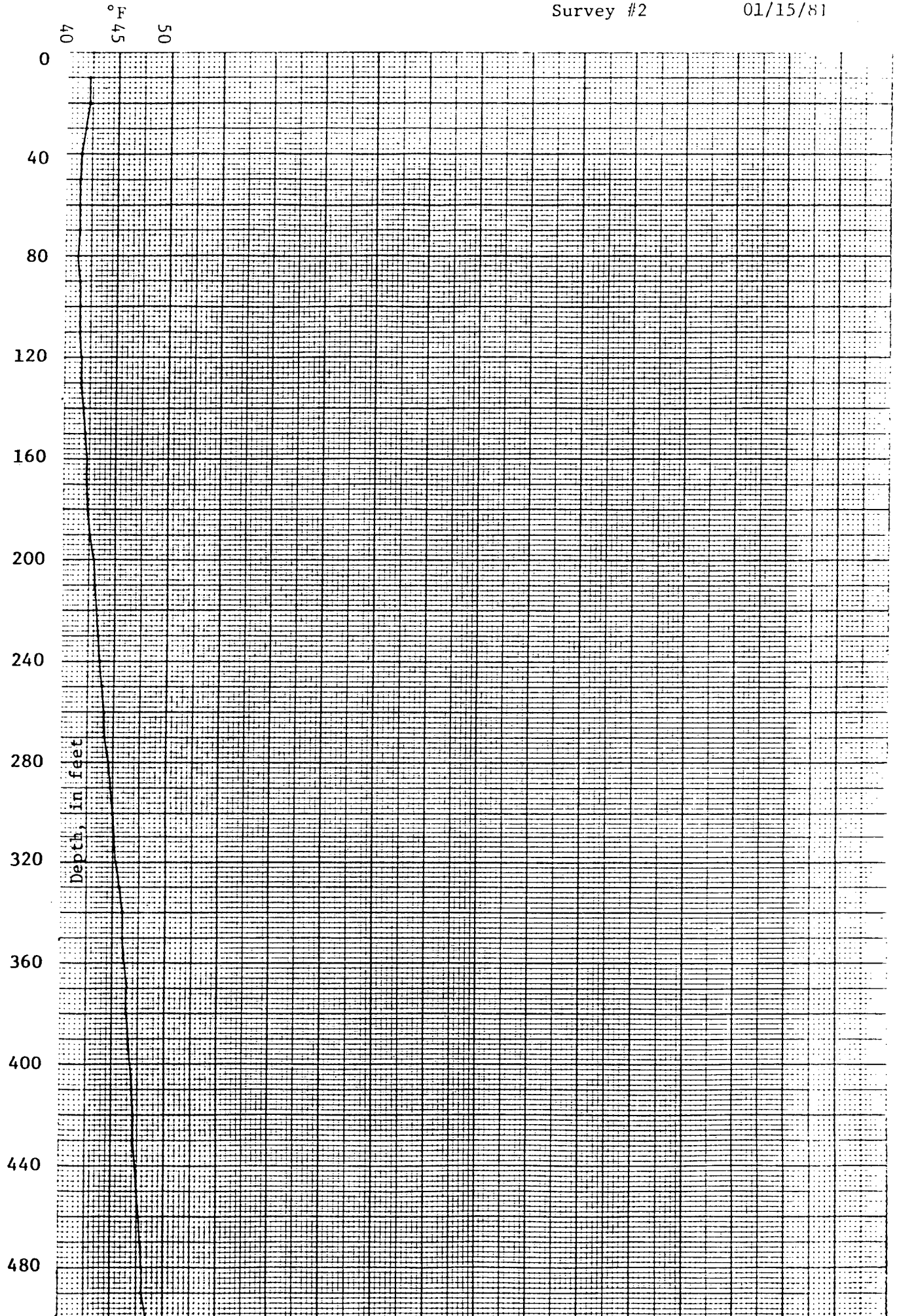
Hole completed 11/01/80

Survey #2 01/15/81

Elevation 3,440 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	5.7	42.3	260	6.7	44.1
20	5.7	42.3	270	6.8	44.2
30	5.5	41.9	280	7.0	44.6
40	5.3	41.5	290	7.1	44.8
50	5.2	41.4	300	7.2	45.0
60	5.2	41.4	310	7.3	45.1
70	5.2	41.4	320	7.4	45.3
80	5.1	41.2	330	7.6	45.7
90	5.2	41.4	340	7.7	45.9
100	5.3	41.5	350	7.8	46.0
110	5.3	41.5	360	7.9	46.2
120	5.4	41.7	370	8.0	46.4
130	5.4	41.7	380	8.0	46.4
140	5.5	41.9	390	8.1	46.6
150	5.6	42.1	400	8.2	46.8
160	5.7	42.3	410	8.3	46.9
170	5.7	42.3	420	8.4	47.1
180	5.8	42.4	430	8.4	47.1
190	5.9	42.6	440	8.5	47.3
200	6.1	43.0	450	8.6	47.5
210	6.2	43.2	460	8.7	47.7
220	6.3	43.3	470	8.8	47.8
230	6.4	43.5	480	8.9	48.0
240	6.5	43.7	490	8.9	48.0
250	6.6	43.9	500	9.1	48.4



TEMPERATURE LOG

SUN-S-80-A5

T. 13 S., R. 7 E., SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 18

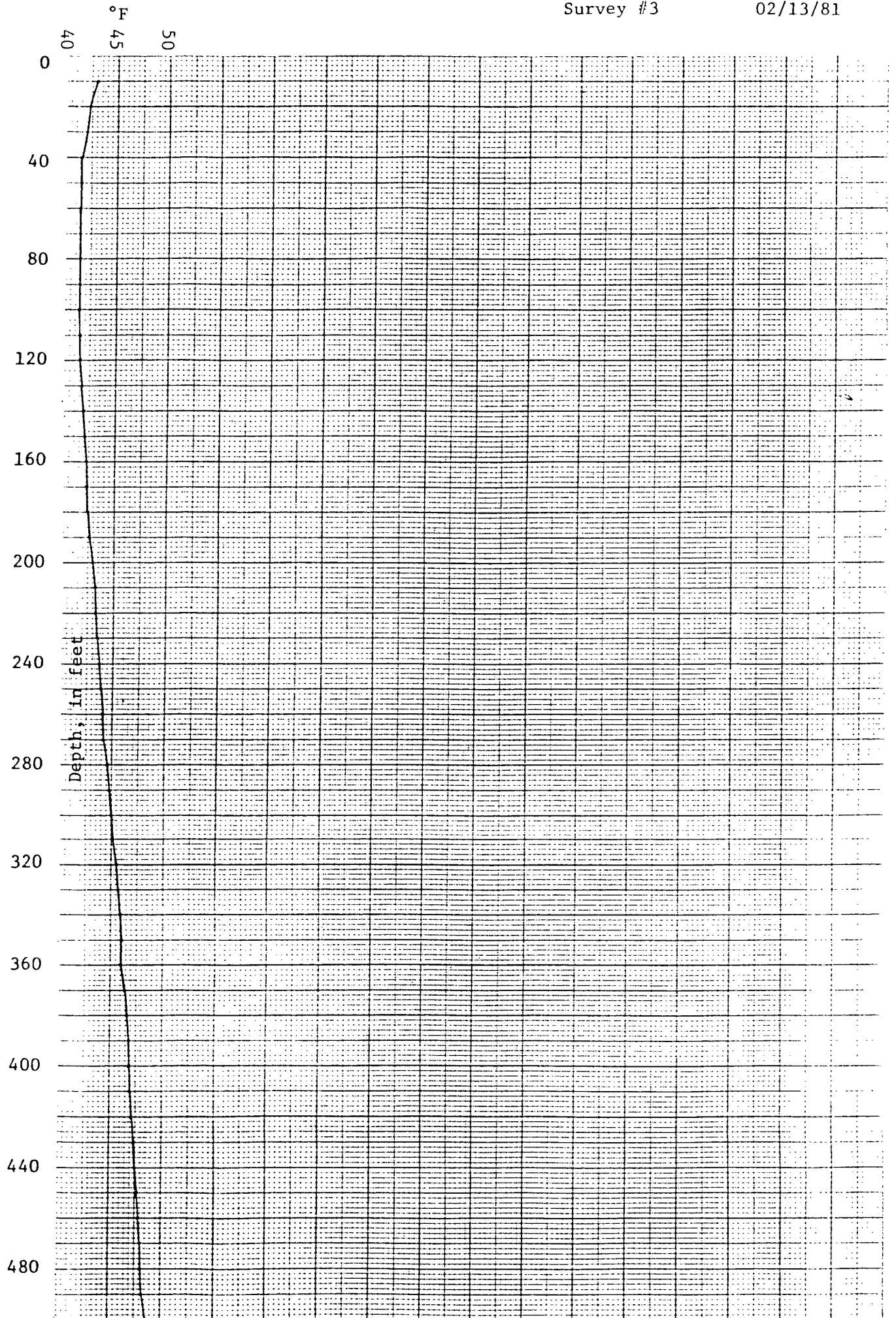
Hole completed 11/01/80

Survey #3 02/13/81

Elevation 3,440 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	6.1	43.0	260	6.7	44.1
20	5.7	42.3	270	6.8	44.2
30	5.6	42.1	280	7.0	44.6
40	5.3	41.5	290	7.1	44.8
50	5.3	41.5	300	7.2	45.0
60	5.2	41.4	310	7.3	45.1
70	5.2	41.4	320	7.5	45.5
80	5.2	41.4	330	7.6	45.7
90	5.2	41.4	340	7.7	45.9
100	5.2	41.4	350	7.8	46.0
110	5.3	41.5	360	7.8	46.0
120	5.3	41.5	370	8.0	46.4
130	5.4	41.7	380	8.1	46.6
140	5.5	41.9	390	8.2	46.8
150	5.6	42.1	400	8.2	46.8
160	5.7	42.3	410	8.3	46.9
170	5.7	42.3	420	8.4	47.1
180	5.8	42.4	430	8.5	47.3
190	5.9	42.6	440	8.6	47.5
200	6.1	43.0	450	8.7	47.7
210	6.2	43.2	460	8.8	47.8
220	6.3	43.3	470	8.9	48.0
230	6.4	43.5	480	8.9	48.0
240	6.5	43.7	490	9.0	48.2
250	6.6	43.9	500	9.2	48.6



TEMPERATURE LOG

SUN-S-80-A5

T. 13 S., R. 7 E., SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 18

Hole Completed 11/01/80

Survey #4 06/27/81

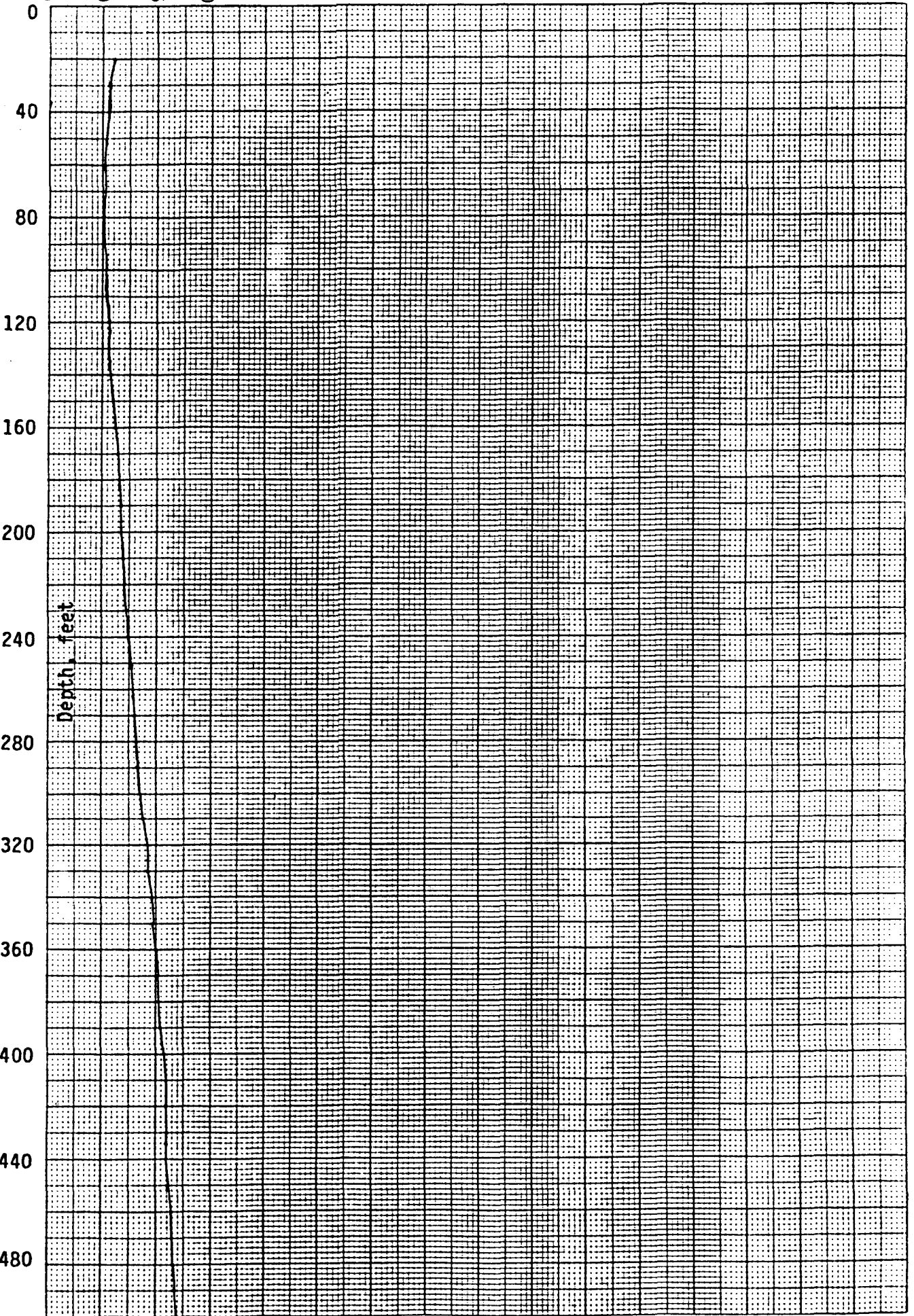
Elevation 3,440 feet

Logged by GeothermEx, Inc.

<u>Depth in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth in feet</u>	<u>°C</u>	<u>°F</u>
10	--	--	260	6.0	42.8
20	5.0	41.0	270	6.1	43.0
30	4.7	40.5	280	6.2	43.2
40	4.7	40.5	290	6.3	43.3
50	4.6	40.3	300	6.4	43.5
60	4.5	40.1	310	6.5	43.7
70	4.5	40.1	320	6.7	44.1
80	4.5	40.1	330	6.8	44.2
90	4.5	40.1	340	7.0	44.6
100	4.6	40.3	350	7.1	44.8
110	4.7	40.5	360	7.2	45.0
120	4.8	40.6	370	7.3	45.1
130	4.8	40.6	380	7.4	45.3
140	4.9	40.8	390	7.5	45.5
150	5.0	41.0	400	7.6	45.7
160	5.1	41.2	410	7.7	45.9
170	5.2	41.4	420	7.7	45.9
180	5.3	41.5	430	7.8	46.0
190	5.4	41.7	440	7.8	46.0
200	5.4	41.7	450	7.9	46.2
210	5.5	41.9	460	8.0	46.4
220	5.6	42.1	470	8.0	46.4
230	5.7	42.3	480	8.1	46.6
240	5.8	42.4	490	8.2	46.8
250	5.9	42.6	500	8.3	46.9

°F

35 40 45 50



TEMPERATURE LOG

SUN-S-80-A7

T. 13 S., R. 6 E., NE $\frac{1}{4}$ of NW $\frac{1}{4}$, Sec. 26

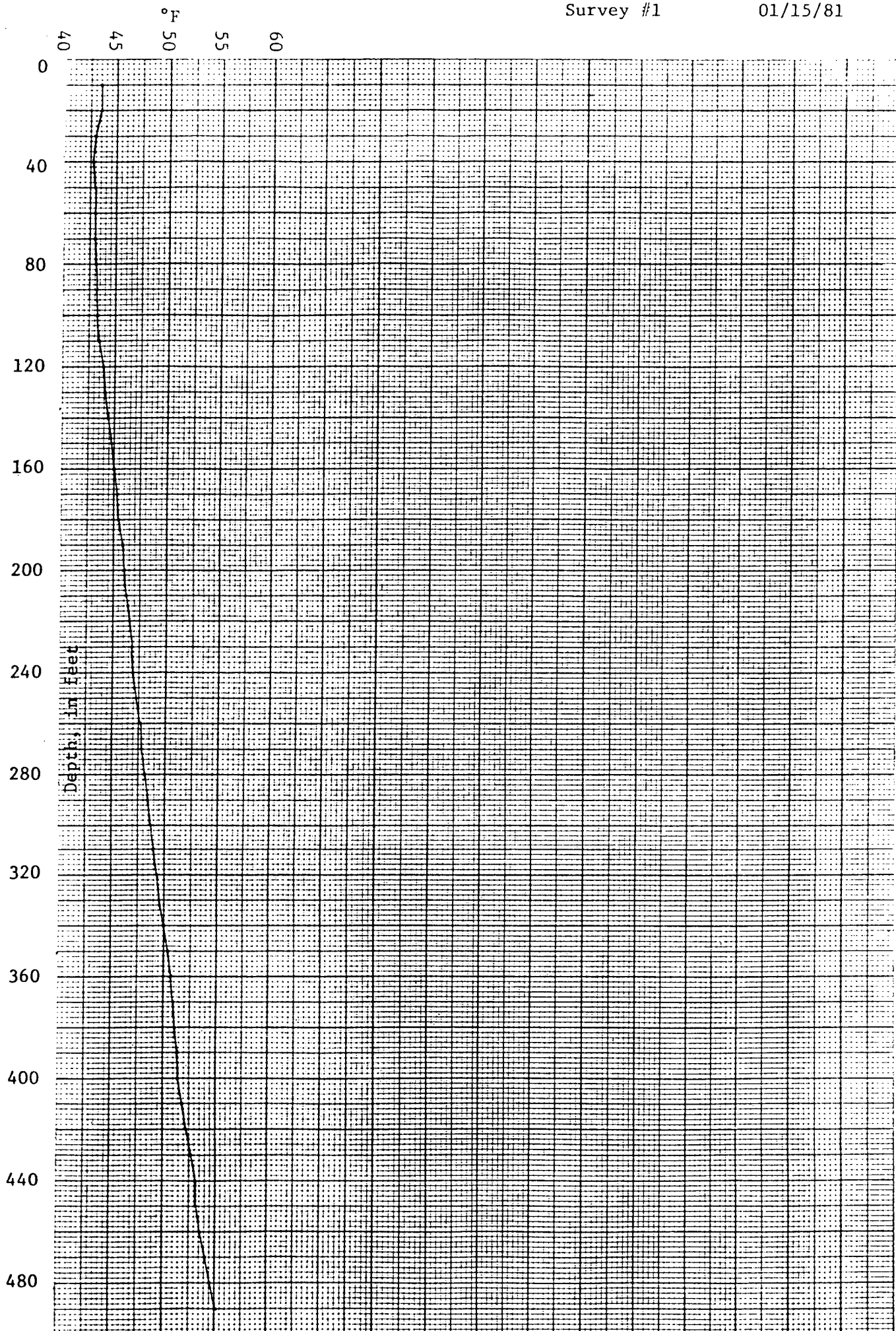
Hole completed 11/26/80

Survey #1 01/15/81

Elevation 3,680 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	6.4	43.5	260	8.7	47.7
20	6.4	43.5	270	8.8	47.8
30	6.1	43.0	280	9.0	48.2
40	6.0	42.8	290	9.1	48.4
50	6.1	43.0	300	9.3	48.7
60	6.1	43.0	310	9.4	48.9
70	6.1	43.0	320	9.6	49.3
80	6.2	43.2	330	9.8	49.6
90	6.2	43.2	340	10.0	50.0
100	6.3	43.3	350	10.2	50.4
110	6.4	43.5	360	10.4	50.7
120	6.6	43.9	370	10.5	50.9
130	6.7	44.1	380	10.6	51.1
140	6.9	44.4	390	10.7	51.3
150	7.1	44.8	400	10.8	51.4
160	7.2	45.0	410	11.0	51.8
170	7.4	45.3	420	11.2	52.2
180	7.5	45.5	430	11.5	52.7
190	7.7	45.9	440	11.7	53.1
200	7.8	46.0	450	11.8	53.2
210	7.9	46.2	460	12.0	53.6
220	8.1	46.6	470	12.3	54.1
230	8.2	46.8	480	12.5	54.5
240	8.3	46.9	490	12.9	55.2
250	8.5	47.3			



TEMPERATURE LOG

SUN-S-80-A7

T. 13 S., R. 6 E., NE ¼ of NW ¼, Sec. 26

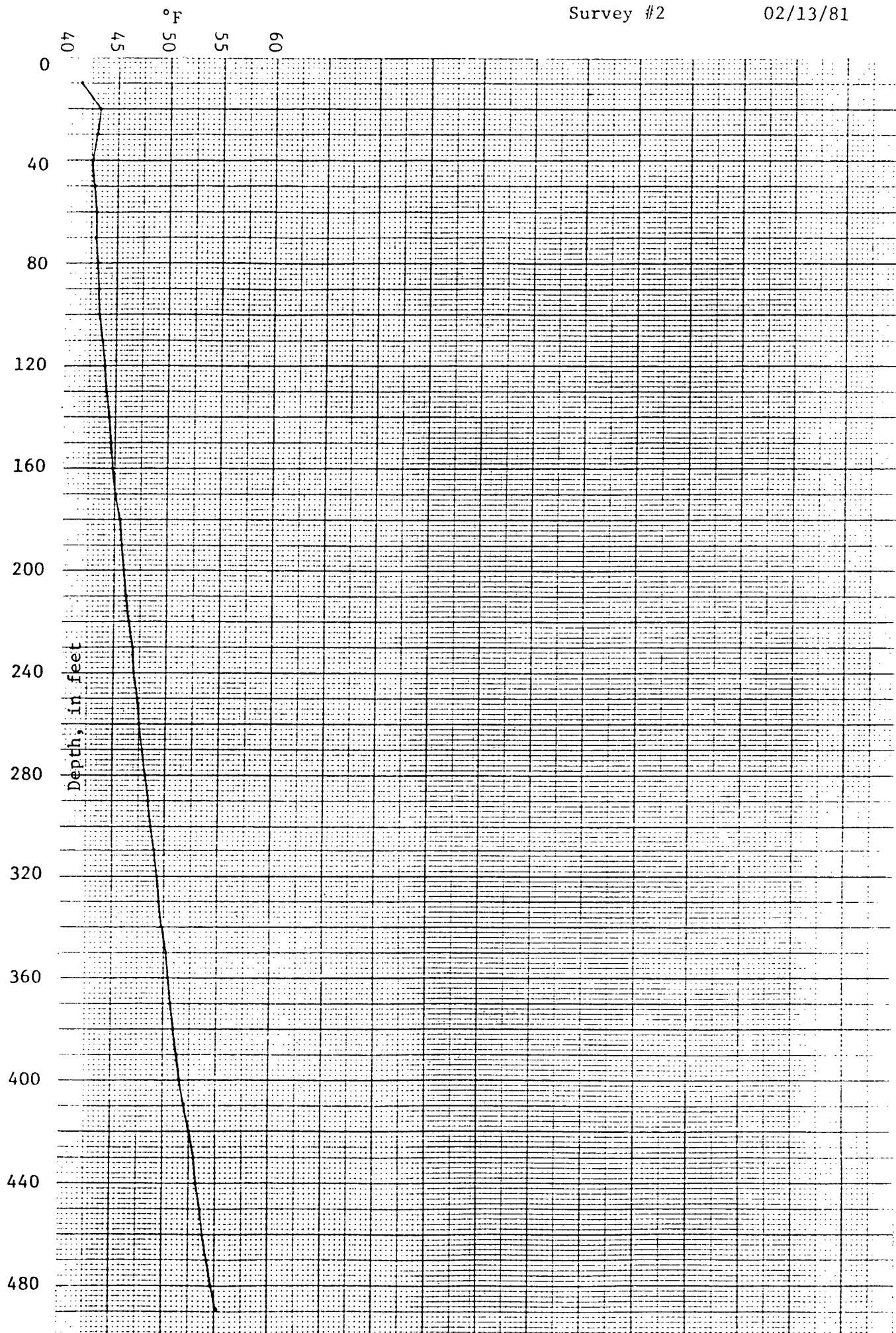
Hole completed 11/26/80

Survey #2 02/13/81

Elevation 3,680 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	5.3	41.5	250	8.5	47.3
20	6.3	43.3	260	8.6	47.5
30	6.1	43.0	270	8.8	47.8
40	5.9	42.6	280	9.0	48.2
50	6.0	42.8	290	9.1	48.4
60	6.1	43.0	300	9.3	48.7
70	6.1	43.0	310	9.5	49.1
80	6.2	43.2	320	9.6	49.3
90	6.3	43.3	330	9.7	49.5
100	6.3	43.3	340	9.9	49.8
110	6.5	43.7	350	10.1	50.2
120	6.6	43.9	360	10.2	50.4
130	6.7	44.1	370	10.4	50.7
140	6.9	44.4	380	10.5	50.9
150	7.0	44.6	390	10.7	51.3
160	7.1	44.8	400	10.9	51.6
170	7.3	45.1	410	11.1	52.0
180	7.5	45.5	420	11.4	52.5
190	7.6	45.7	430	11.6	52.9
200	7.7	45.9	440	11.8	53.2
210	7.9	46.2	450	12.0	53.6
220	8.0	46.4	460	12.1	53.8
230	8.2	46.8	470	12.4	54.3
240	8.3	46.9	480	12.6	54.7
			489	12.9	55.2



TEMPERATURE LOG

SUN-S-80-A7

T. 13 S., R. 6 E., NE ¼ of NW ¼, Sec. 26

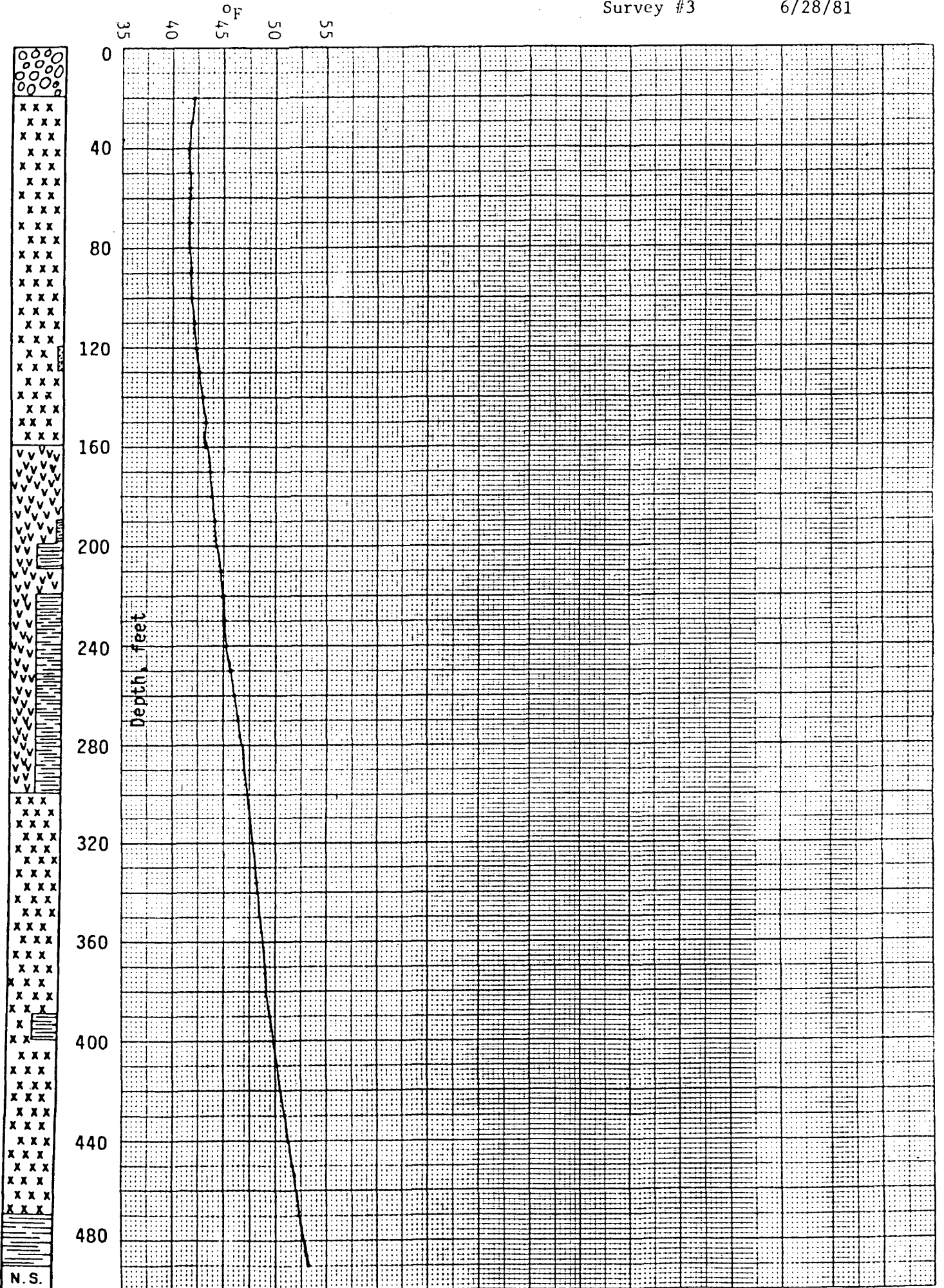
Hole completed 11/26/80

Survey #3 06/28/81

Elevation 3,680

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	--	--	260	7.8	46.0
20	5.6	42.1	270	8.0	46.4
30	5.5	41.9	280	8.2	46.8
40	5.4	41.7	290	8.3	46.9
50	5.4	41.7	300	8.5	47.3
60	5.4	41.7	310	8.6	47.5
70	5.4	41.7	320	8.7	47.7
80	5.4	41.7	330	8.9	48.0
90	5.5	41.9	340	9.0	48.2
100	5.5	41.9	350	9.1	48.4
110	5.6	42.1	360	9.3	48.7
120	5.8	42.4	370	9.4	48.9
130	5.9	42.6	380	9.5	49.1
140	6.1	43.0	390	9.7	49.5
150	6.2	43.2	400	9.9	49.8
160	6.3	43.3	410	10.1	50.2
170	6.5	43.7	420	10.3	50.5
180	6.6	43.9	430	10.5	50.9
190	6.7	44.1	440	10.7	51.3
200	6.9	44.4	450	10.9	51.6
210	7.1	44.8	460	11.1	52.0
220	7.2	45.0	470	11.3	52.3
230	7.3	45.1	480	11.5	52.7
240	7.4	45.3	489	11.8	53.2
250	7.6	45.7			



N. S.

TEMPERATURE LOG

SUN-S-80-A10

T. 14 S., R. 6 E., SE $\frac{1}{4}$ of NE $\frac{1}{4}$, Sec. 12

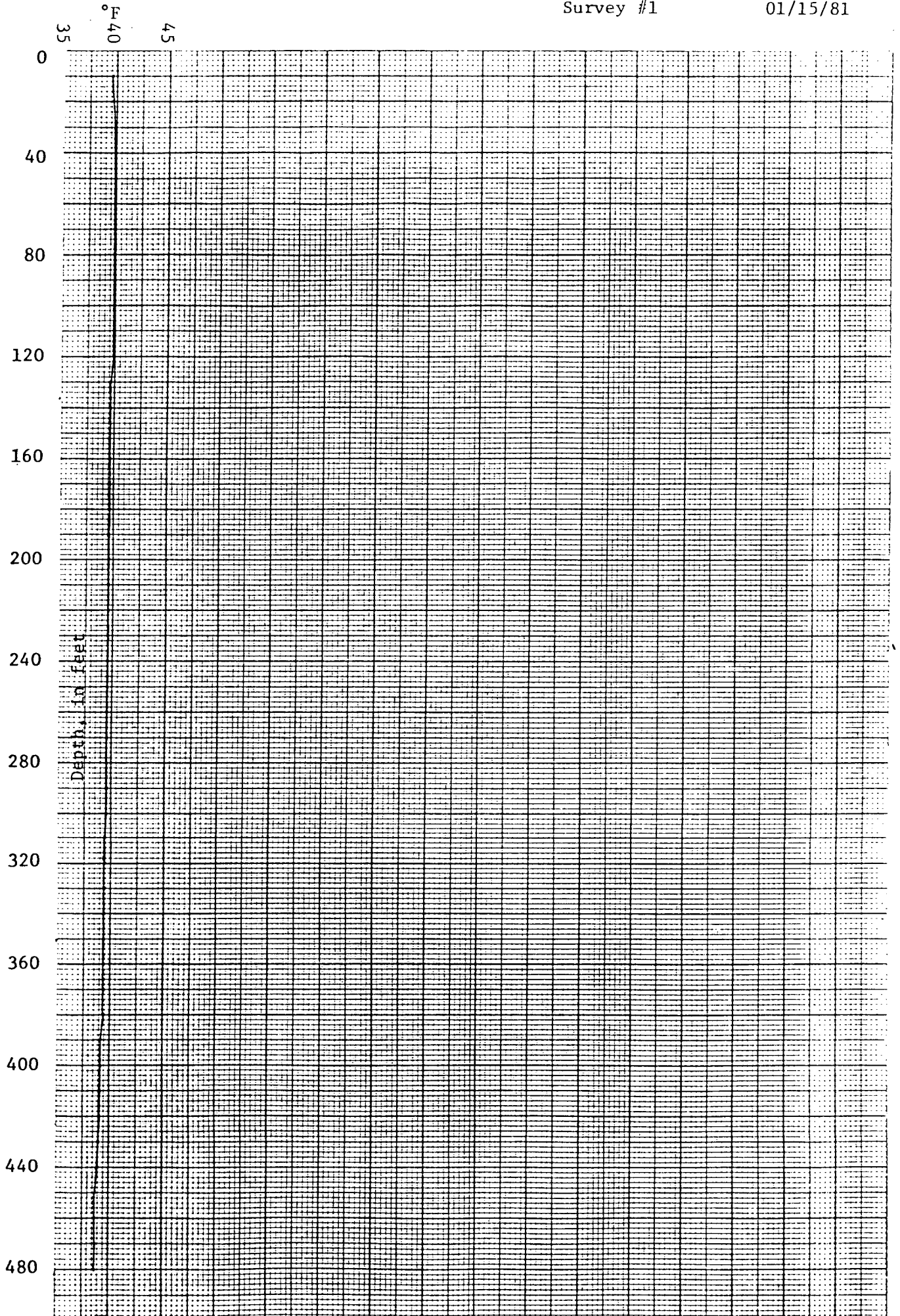
Hole completed 12/22/80

Survey #1 01/15/81

Elevation 3,360 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	4.2	39.6	250	4.2	39.6
20	4.3	39.7	260	4.2	39.6
30	4.4	39.9	270	4.2	39.6
40	4.4	39.9	280	4.2	39.6
50	4.4	39.9	290	4.2	39.6
60	4.4	39.9	300	4.2	39.6
70	4.4	39.9	310	4.1	39.4
80	4.4	39.9	320	4.1	39.4
90	4.4	39.9	330	4.1	39.4
100	4.4	39.9	340	4.1	39.4
110	4.4	39.9	350	4.1	39.4
120	4.4	39.9	360	4.1	39.4
130	4.3	39.7	370	4.1	39.4
140	4.3	39.7	380	4.1	39.4
150	4.3	39.7	390	4.0	39.2
160	4.3	39.7	400	4.0	39.2
170	4.3	39.7	410	4.0	39.2
180	4.3	39.7	420	4.0	39.2
190	4.2	39.6	430	3.9	39.0
200	4.2	39.6	440	3.9	39.0
210	4.2	39.6	450	3.8	38.8
220	4.2	39.6	460	3.8	38.8
230	4.2	39.6	470	3.8	38.8
240	4.2	39.6	480	3.7	38.7



TEMPERATURE LOG

SUN-S-80-A10

T. 14 S., R. 6 E., SE $\frac{1}{4}$ of NE $\frac{1}{4}$, Sec. 12

Hole completed 12/22/80

Survey #2 02/13/81

Elevation 3,360 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	4.6	40.3	250	4.2	39.6
20	4.6	40.3	260	4.2	39.6
30	4.6	40.3	270	4.2	39.6
40	4.6	40.3	280	4.2	39.6
50	4.6	40.3	290	4.2	39.6
60	4.6	40.3	300	4.2	39.6
70	4.5	40.1	310	4.1	39.4
80	4.5	40.1	320	4.1	39.4
90	4.5	40.1	330	4.2	39.6
100	4.5	40.1	340	4.2	39.6
110	4.4	39.9	350	4.2	39.6
120	4.4	39.9	360	4.2	39.6
130	4.4	39.9	370	4.1	39.4
140	4.5	40.1	380	4.1	39.4
150	4.4	39.9	390	4.1	39.4
160	4.4	39.9	400	4.0	39.2
170	4.4	39.9	410	4.0	39.2
180	4.3	39.7	420	4.0	39.2
190	4.3	39.7	430	3.9	39.0
200	4.3	39.7	440	3.9	39.0
210	4.3	39.7	450	3.9	39.0
220	4.3	39.7	460	3.8	38.8
230	4.3	39.7	470	3.8	38.8
240	4.3	39.7	480	3.7	38.7

TEMPERATURE LOG

SUN-S-80-A11

T. 14 S., R. 6 E., SE $\frac{1}{4}$ of NE $\frac{1}{4}$, Sec. 15

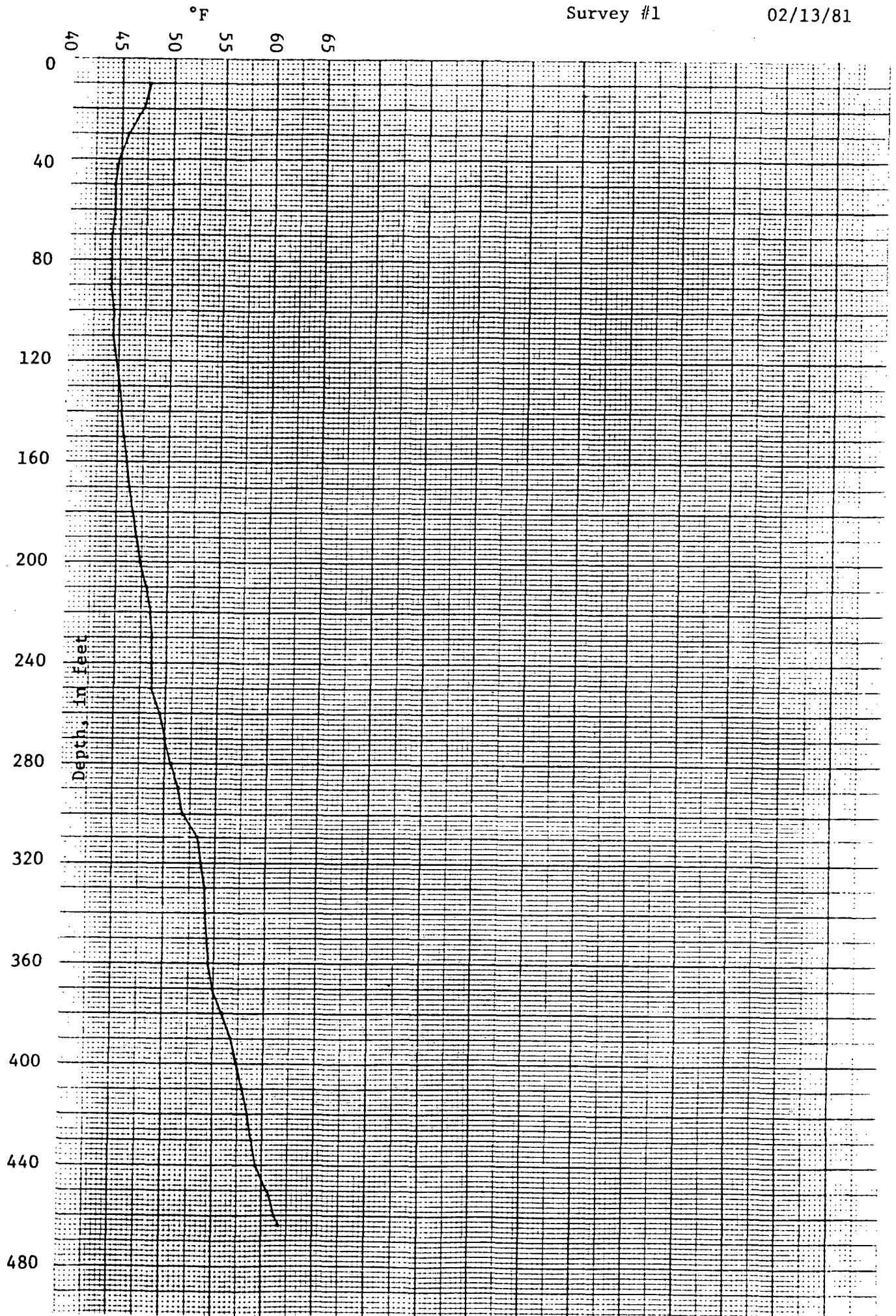
Hole completed 12/08/80

Survey #1 02/13/81

Elevation 3,840 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	8.7	47.7	250	9.3	48.7
20	8.4	47.1	260	9.7	49.5
30	7.6	45.7	270	10.0	50.0
40	7.1	44.8	280	10.4	50.7
50	6.9	44.4	290	10.7	51.3
60	6.9	44.4	300	11.0	51.8
70	6.8	44.2	310	11.8	53.2
80	6.8	44.2	320	12.0	53.6
90	6.8	44.2	330	12.2	54.0
100	6.9	44.4	340	12.3	54.1
110	6.9	44.4	350	12.4	54.3
120	7.1	44.8	360	12.5	54.5
130	7.3	45.1	370	12.7	54.9
140	7.4	45.3	380	13.3	55.9
150	7.6	45.7	390	13.7	56.7
160	7.7	45.9	400	14.1	57.4
170	7.9	46.2	410	14.4	57.9
180	8.1	46.6	420	14.7	58.5
190	8.3	46.9	430	15.2	59.4
200	8.5	47.3	440	15.5	59.9
210	8.9	48.0	450	15.9	60.6
220	9.1	48.4	460	16.2	61.2
230	9.2	48.6	464	16.5	61.7
240	9.2	48.6			



TEMPERATURE LOG

SUN-S-80-A11

T. 14 S., R. 6 E., SE ¼ of NE ¼, Sec. 12

Hole completed 12/08/80

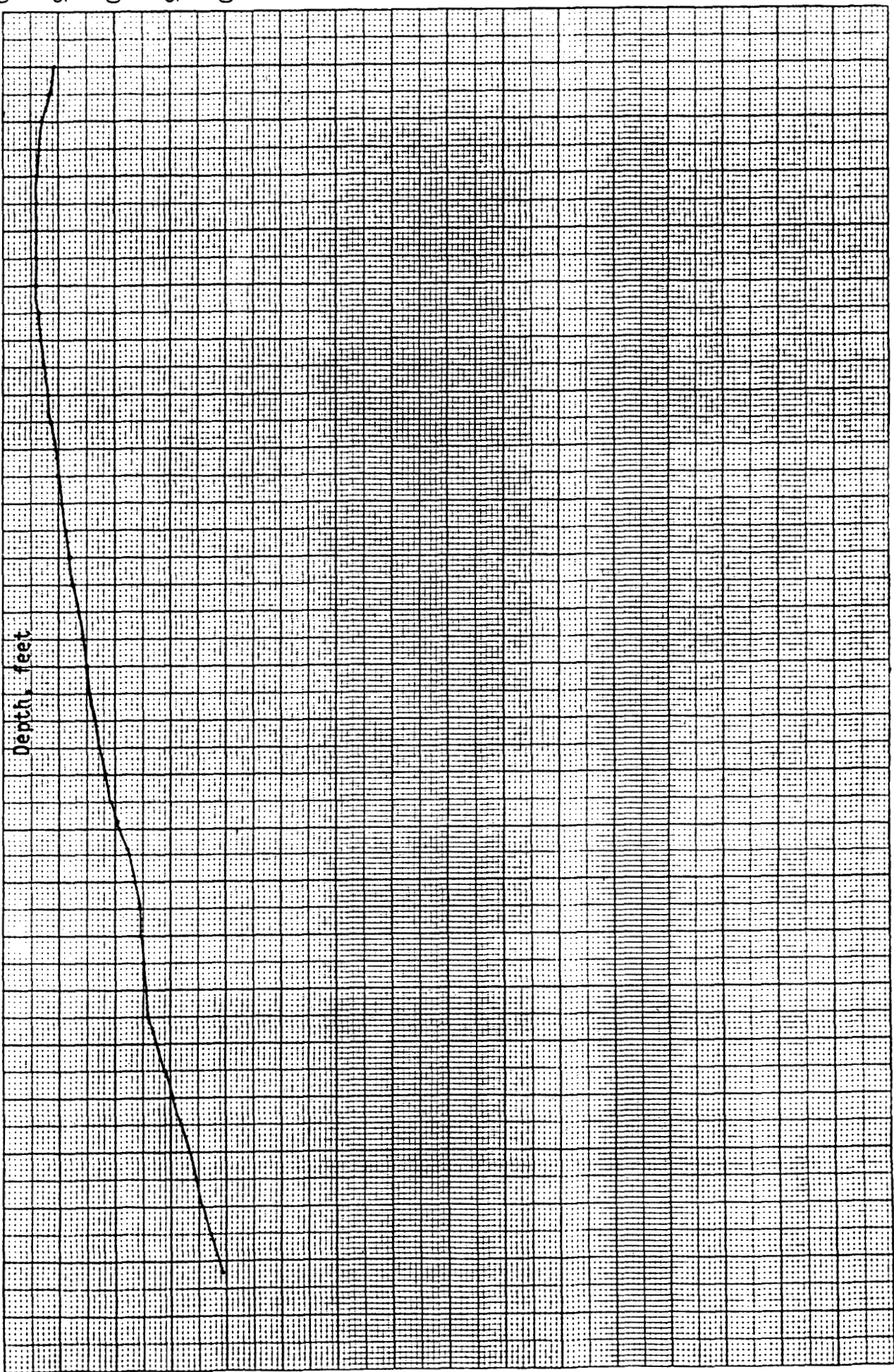
Survey #2 06/28/81

Elevation 3,840 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	--	--	250	8.7	47.7
20	7.0	44.1	260	9.0	48.2
30	6.7	44.1	270	9.2	48.6
40	6.4	43.5	280	9.5	49.1
50	6.2	43.2	290	9.8	49.6
60	6.1	43.0	300	10.2	50.4
70	6.1	43.0	310	10.7	51.3
80	6.1	43.0	320	11.0	51.8
90	6.1	43.0	330	11.2	52.2
100	6.1	43.0	340	11.3	52.3
110	6.2	43.2	350	11.4	52.5
120	6.3	43.3	360	11.5	52.7
130	6.5	43.7	370	11.6	52.9
140	6.7	44.1	380	12.1	53.8
150	6.9	44.4	390	12.5	54.5
160	7.1	44.8	400	12.9	55.2
170	7.2	45.0	410	13.3	55.9
180	7.4	45.3	420	13.7	56.7
190	7.6	45.7	430	14.0	57.2
200	7.8	46.0	440	14.4	57.9
210	8.0	46.4	450	14.8	58.6
220	8.2	46.8	460	15.2	59.4
230	8.4	47.1	464	15.4	59.7
240	8.6	47.5			

60
55
50
45
40



Vertical column of symbols and patterns used for stratigraphic correlation:

- 0 to 120 feet: Various circular and dotted patterns.
- 120 to 135 feet: Four rows of 'x x x x'.
- 135 to 150 feet: Four rows of 'x x x x'.
- 150 to 165 feet: Four rows of '+++'.
- 165 to 180 feet: Four rows of 'p p'.
- 180 to 195 feet: Four rows of '+++'.
- 195 to 210 feet: Four rows of 'p p'.
- 210 to 225 feet: Four rows of '+++'.
- 225 to 240 feet: Four rows of 'p p'.
- 240 to 255 feet: Four rows of '+++'.
- 255 to 270 feet: Four rows of 'p p'.
- 270 to 285 feet: Four rows of 'x x x x'.
- 285 to 300 feet: Four rows of 'x x x x'.
- 300 to 315 feet: Four rows of 'x x x x'.
- 315 to 330 feet: Four rows of 'x x x x'.
- 330 to 345 feet: Four rows of 'x x x x'.
- 345 to 360 feet: Four rows of 'x x x x'.
- 360 to 375 feet: Four rows of '+++'.
- 375 to 390 feet: Four rows of 'p p'.
- 390 to 405 feet: Four rows of '+++'.
- 405 to 420 feet: Four rows of 'p p'.
- 420 to 435 feet: Four rows of 'x x x x'.
- 435 to 450 feet: Four rows of 'x x x x'.
- 450 to 465 feet: Four rows of 'x x x x'.
- 465 to 480 feet: Four rows of 'x x x x'.
- Bottom: 'N. S.'

LC.

TEMPERATURE LOG

SUN-S-80-A12

T. 14 S., R. 7 E., SE $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 31

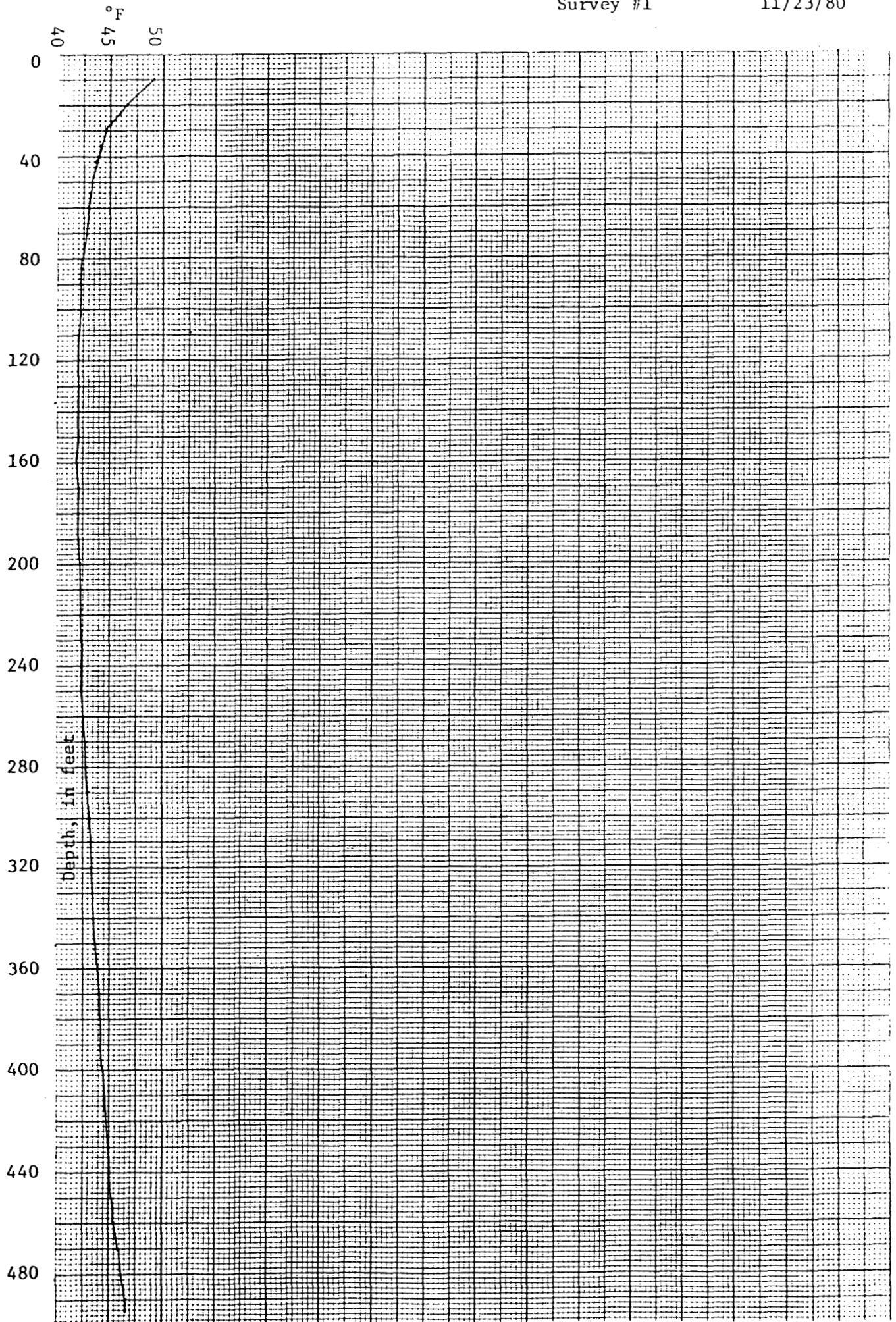
Hole completed 10/07/80

Survey #1 11/23/80

Elevation 2,880 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	9.5	49.1	260	5.9	42.6
20	8.1	46.6	270	6.0	42.8
30	7.0	44.6	280	6.0	42.8
40	6.6	43.9	290	6.1	43.0
50	6.3	43.3	300	6.2	43.2
60	6.1	43.0	310	6.3	43.3
70	6.0	42.8	320	6.3	43.3
80	5.8	42.4	330	6.4	43.5
90	5.7	42.3	340	6.4	43.5
100	5.7	42.3	350	6.5	43.7
110	5.6	42.1	360	6.6	43.9
120	5.6	42.1	370	6.7	44.1
130	5.6	42.1	380	6.8	44.2
140	5.6	42.1	390	6.8	44.2
150	5.6	42.1	400	6.9	44.4
160	5.5	41.9	410	7.0	44.6
170	5.6	42.1	420	7.1	44.8
180	5.6	42.1	430	7.2	45.0
190	5.6	42.1	440	7.3	45.1
200	5.7	42.3	450	7.4	45.3
210	5.7	42.3	460	7.5	45.5
220	5.7	42.3	470	7.7	45.9
230	5.8	42.4	480	7.9	46.2
240	5.8	42.4	490	8.1	46.6
250	5.8	42.4	494	8.1	46.6



TEMPERATURE LOG

SUN-S-80-A12

T. 14 S., R. 7 E., SE ¼ of SE ¼, Sec. 31

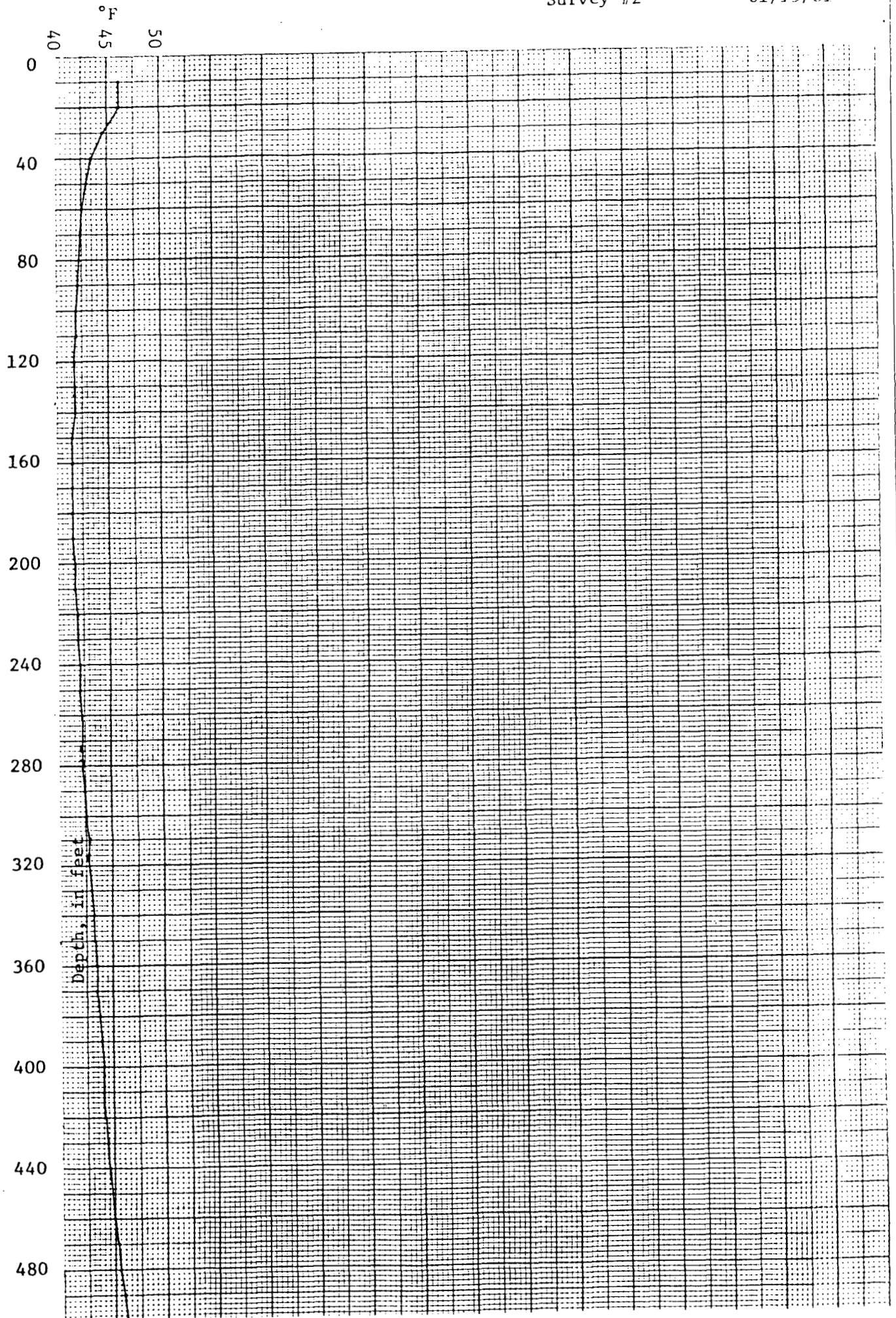
Hole completed 10/07/80

Survey #2 01/15/81

Elevation 2,880 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	7.9	46.2	260	5.7	42.3
20	7.9	46.2	270	5.7	42.3
30	7.0	44.6	280	5.7	42.3
40	6.4	43.5	290	5.8	42.4
50	6.1	43.0	300	5.9	42.6
60	5.9	42.6	310	6.0	42.8
70	5.8	42.4	320	6.0	42.8
80	5.7	42.3	330	6.1	43.0
90	5.6	42.1	340	6.2	43.2
100	5.5	41.9	350	6.3	43.3
110	5.5	41.9	360	6.4	43.5
120	5.4	41.7	370	6.4	43.5
130	5.4	41.7	380	6.5	43.7
140	5.4	41.7	390	6.6	43.9
150	5.3	41.5	400	6.7	44.1
160	5.3	41.5	410	6.7	44.1
170	5.3	41.5	420	6.8	44.2
180	5.3	41.5	430	6.9	44.4
190	5.3	41.5	440	7.0	44.6
200	5.4	41.7	450	7.1	44.8
210	5.4	41.7	460	7.2	45.0
220	5.5	41.9	470	7.4	45.3
230	5.5	41.9	480	7.5	45.5
240	5.6	42.1	490	7.7	45.9
250	5.6	42.1	500	7.9	46.2



TEMPERATURE LOG

SUN-S-80-A12

T. 14 S., R. 7 E., SE $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 31

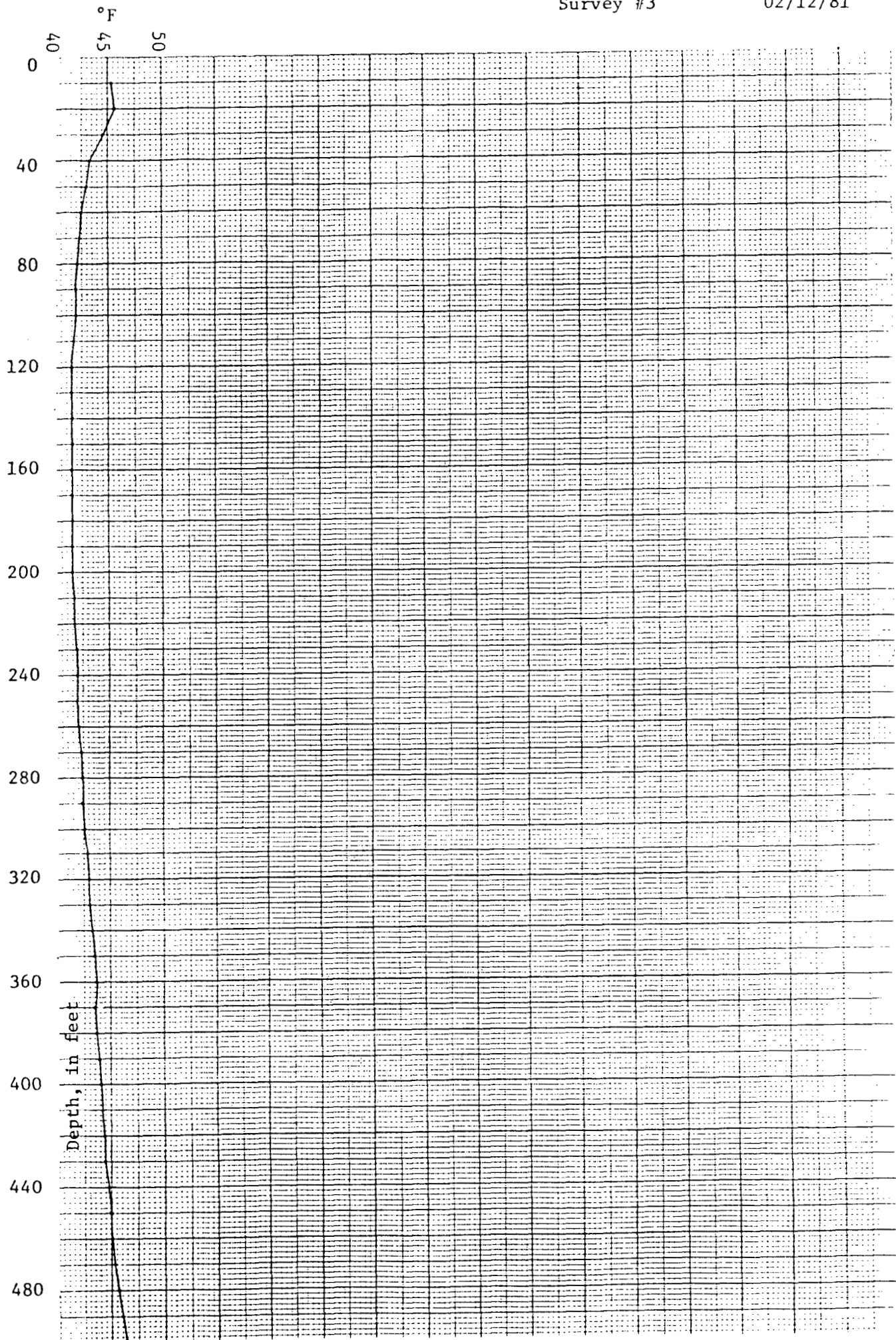
Hole completed 10/07/80

Survey #3 02/12/81

Elevation 2,880 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	7.4	45.3	260	5.6	42.1
20	7.6	45.7	270	5.7	42.3
30	7.0	44.6	280	5.8	42.4
40	6.3	43.3	290	5.8	42.4
50	6.1	43.0	300	5.9	42.6
60	5.8	42.4	310	6.0	42.8
70	5.7	42.3	320	6.1	43.0
80	5.6	42.1	330	6.1	43.0
90	5.5	41.9	340	6.3	43.3
100	5.5	41.9	350	6.4	43.5
110	5.4	41.7	360	6.5	43.7
120	5.3	41.5	370	6.4	43.5
130	5.3	41.5	380	6.5	43.7
140	5.3	41.5	390	6.6	43.9
150	5.3	41.5	400	6.7	44.1
160	5.3	41.5	410	6.8	44.2
170	5.3	41.5	420	6.9	44.4
180	5.3	41.5	430	6.9	44.4
190	5.3	41.5	440	7.1	44.8
200	5.3	41.5	450	7.2	45.0
210	5.4	41.7	460	7.3	45.1
220	5.4	41.7	470	7.4	45.3
230	5.5	41.9	480	7.6	45.7
240	5.5	41.9	490	7.8	46.0
250	5.5	41.9	500	8.0	46.4



TEMPERATURE LOG

SUN-S-80-A12

T. 14 S., R. 7 E., SE ¼ of SE ¼, Sec. 31

Hole completed 10/07/80

Survey #4 06/27/81

Elevation 2,880

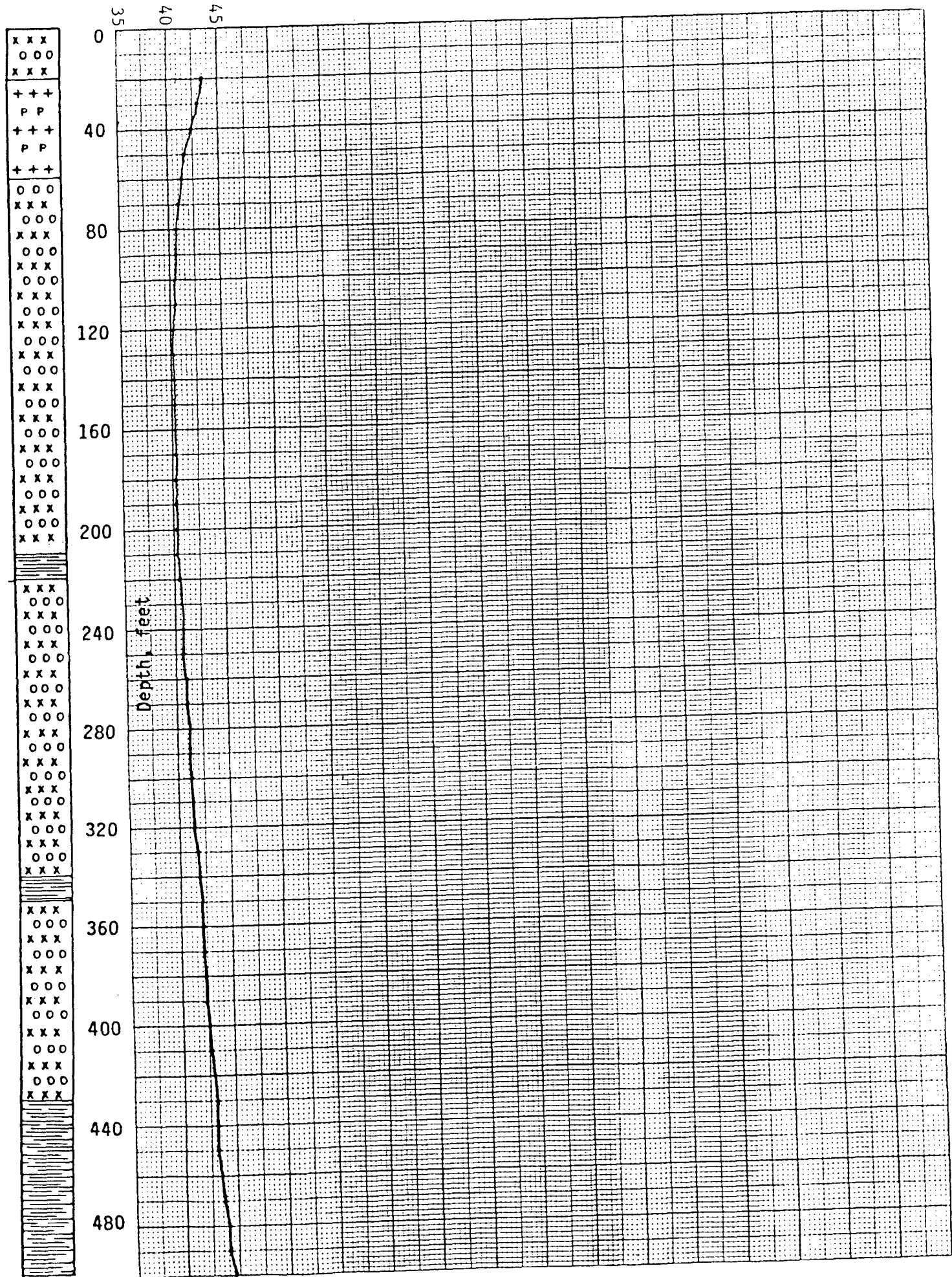
Logged by GeothermEx, Inc.

Depth, in feet	°C	°F	Depth, in feet	°C	°F
10	--	--	260	5.0	41.0
20	6.4	43.5	270	5.0	41.0
30	6.1	43.0	280	5.1	41.2
40	5.8	42.4	290	5.1	41.2
50	5.4	41.7	300	5.1	41.2
60	5.2	41.4	310	5.2	41.4
70	5.0	41.0	320	5.3	41.5
80	4.9	40.8	330	5.4	41.7
90	4.8	40.6	340	5.5	41.9
100	4.7	40.5	350	5.6	42.1
110	4.7	40.5	360	5.7	42.3
120	4.6	40.3	370	5.8	42.4
130	4.6	40.3	380	5.9	42.6
140	4.6	40.3	390	5.8	42.4
150	4.6	40.3	400	5.9	42.6
160	4.6	40.3	410	6.0	42.8
170	4.6	40.3	420	6.1	43.0
180	4.6	40.3	430	6.2	43.2
190	4.6	40.3	440	6.2	43.2
200	4.6	40.3	450	6.3	43.3
210	4.6	40.3	460	6.4	43.5
220	4.7	40.5	470	6.5	43.7
230	4.8	40.6	480	6.7	44.1
240	4.9	40.8	490	6.8	44.2
250	4.9	40.8	500	7.0	44.6

TEMPERATURE LOG -- SUN-SANTIAM

SUN-S-80-A12
Survey #4 6/27/81

L.C.



TEMPERATURE LOG

SUN-S-80-A13

T. 15 S., R. 7 E., SW $\frac{1}{4}$ of SW $\frac{1}{4}$, Sec. 4

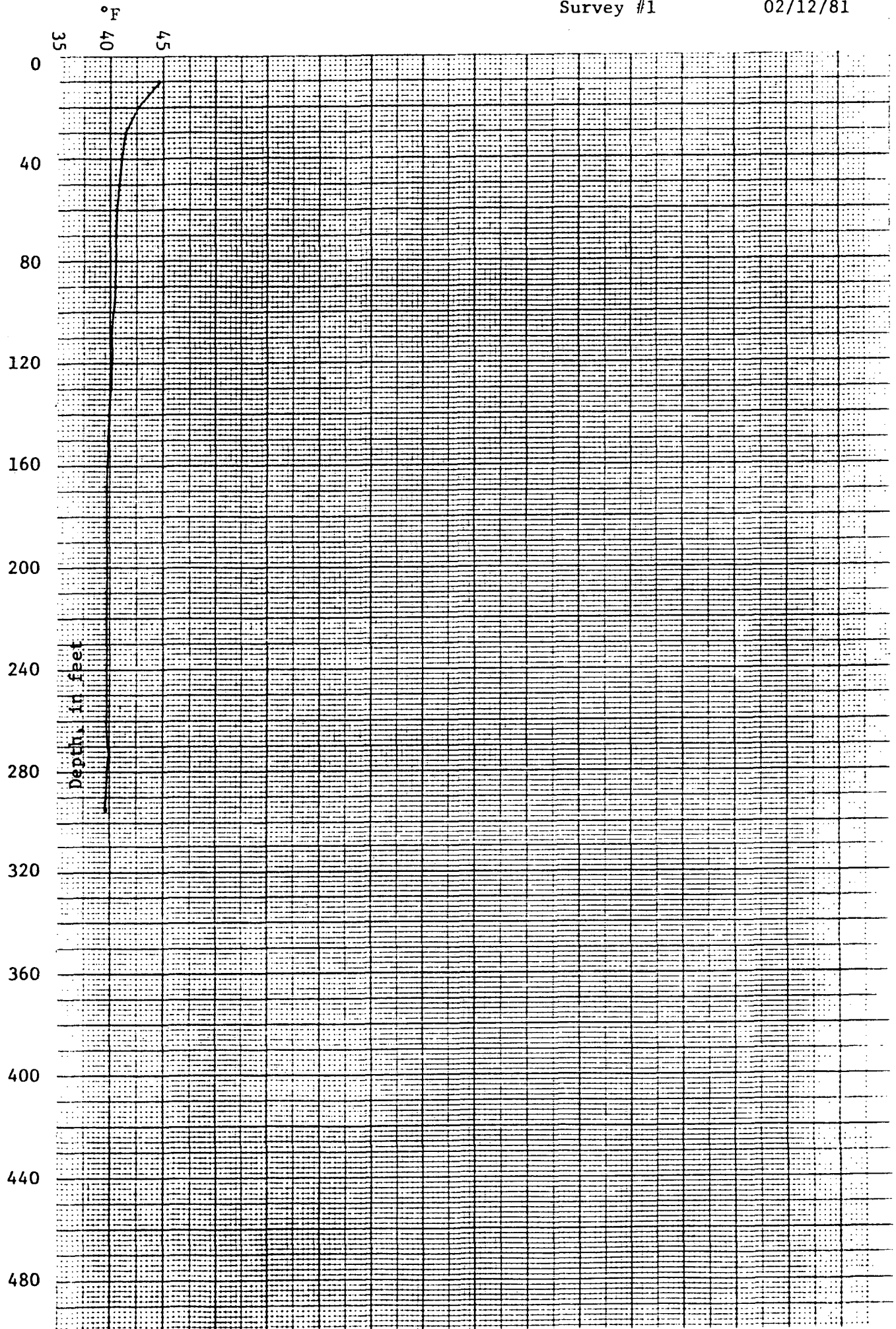
Hole completed 01/26/81

Survey #1 02/12/81

Elevation 3,560 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	7.0	44.6	160	4.3	39.7
20	5.9	42.6	170	4.3	39.7
30	5.2	41.4	180	4.3	39.7
40	5.0	41.0	190	4.3	39.7
50	4.9	40.8	200	4.3	39.7
60	4.8	40.6	210	4.3	39.7
70	4.8	40.6	220	4.3	29.7
80	4.7	40.5	230	4.3	39.7
90	4.7	40.5	240	4.3	39.7
100	4.6	40.3	250	4.3	39.7
110	4.5	40.1	260	4.3	39.7
120	4.5	40.1	270	4.4	39.9
130	4.5	40.1	280	4.3	39.7
140	4.4	39.9	290	4.3	39.7
150	4.4	39.9	295	4.2	39.6



TEMPERATURE LOG

SUN-S-80-A13

T. 15 S., R. 7 E., SW $\frac{1}{4}$ of SW $\frac{1}{4}$, Sec. 4

Hole completed 01/26/81

Survey #2 06/27/81

Elevation 3,560 feet

Logged by GeothermEx, Inc.

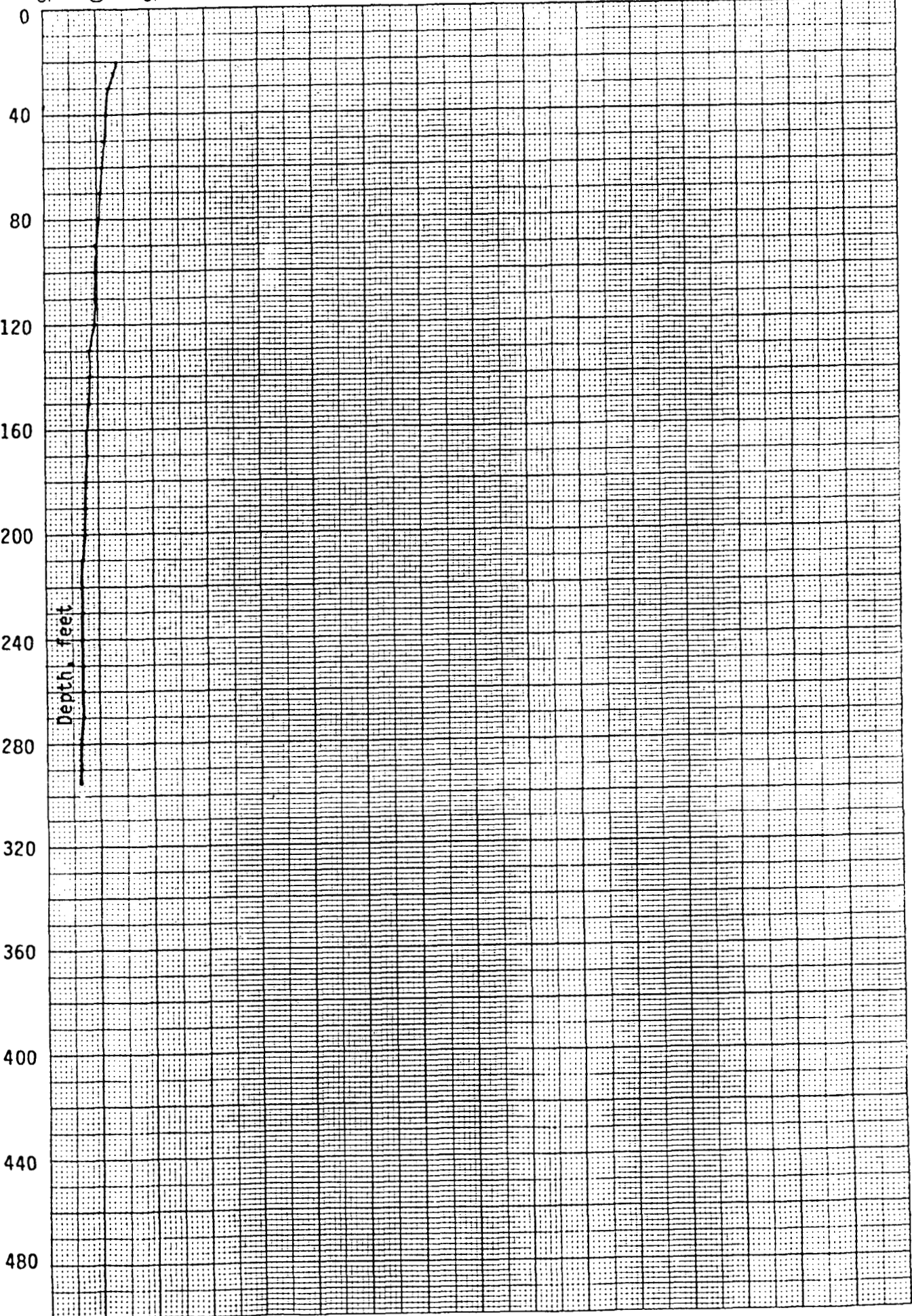
<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	--	--	160	3.9	39.0
20	5.5	41.9	170	3.9	39.0
30	5.1	41.2	180	3.8	38.8
40	5.0	41.0	190	3.8	38.8
50	4.8	40.6	200	3.7	38.7
60	4.7	40.5	210	3.6	38.5
70	4.6	40.3	220	3.6	38.5
80	4.5	40.1	230	3.6	38.5
90	4.4	39.9	240	3.6	38.5
100	4.4	39.9	250	3.6	38.5
110	4.4	39.9	260	3.6	38.5
120	4.3	39.7	270	3.6	38.5
130	4.0	39.2	280	3.5	38.3
140	4.0	39.2	290	3.5	38.3
150	4.0	39.2	295	3.5	38.3

35
40
45

0
40
80
120
160
200
240
280

LC
LC

L.C.M.



TEMPERATURE LOG

SUN-S-80-A14

T. 15 S., R. 7 E., SW $\frac{1}{4}$ of NW $\frac{1}{4}$, Sec. 15

Hole completed 10/18/80

Survey #1 11/23/80

Elevation 3,800 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	7.8	46.0	180	4.8	40.6
20	6.5	43.7	190	4.8	40.6
30	5.7	42.3	200	4.8	40.6
40	5.3	41.5	210	4.8	40.6
50	5.0	41.0	220	4.7	40.5
60	4.8	40.6	230	4.6	40.3
70	4.8	40.6	240	4.5	40.1
80	4.8	40.6	250	4.3	39.7
90	4.8	40.6	260	4.0	39.2
100	4.8	40.6	270	3.8	38.8
110	4.8	40.6	280	3.7	38.7
120	4.8	40.6	290	3.7	38.7
130	4.8	40.6	300	3.7	38.7
140	4.8	40.6	310	3.7	38.7
150	4.8	40.6	320	3.7	38.7
160	4.8	40.6	330	3.7	38.7
170	4.8	40.6	340	3.8	38.8
			348	4.0	39.2

TEMPERATURE LOG

SUN-S-80-A16

T. 15 S., R. 6 E., NE $\frac{1}{4}$ of SW $\frac{1}{4}$, Sec. 25

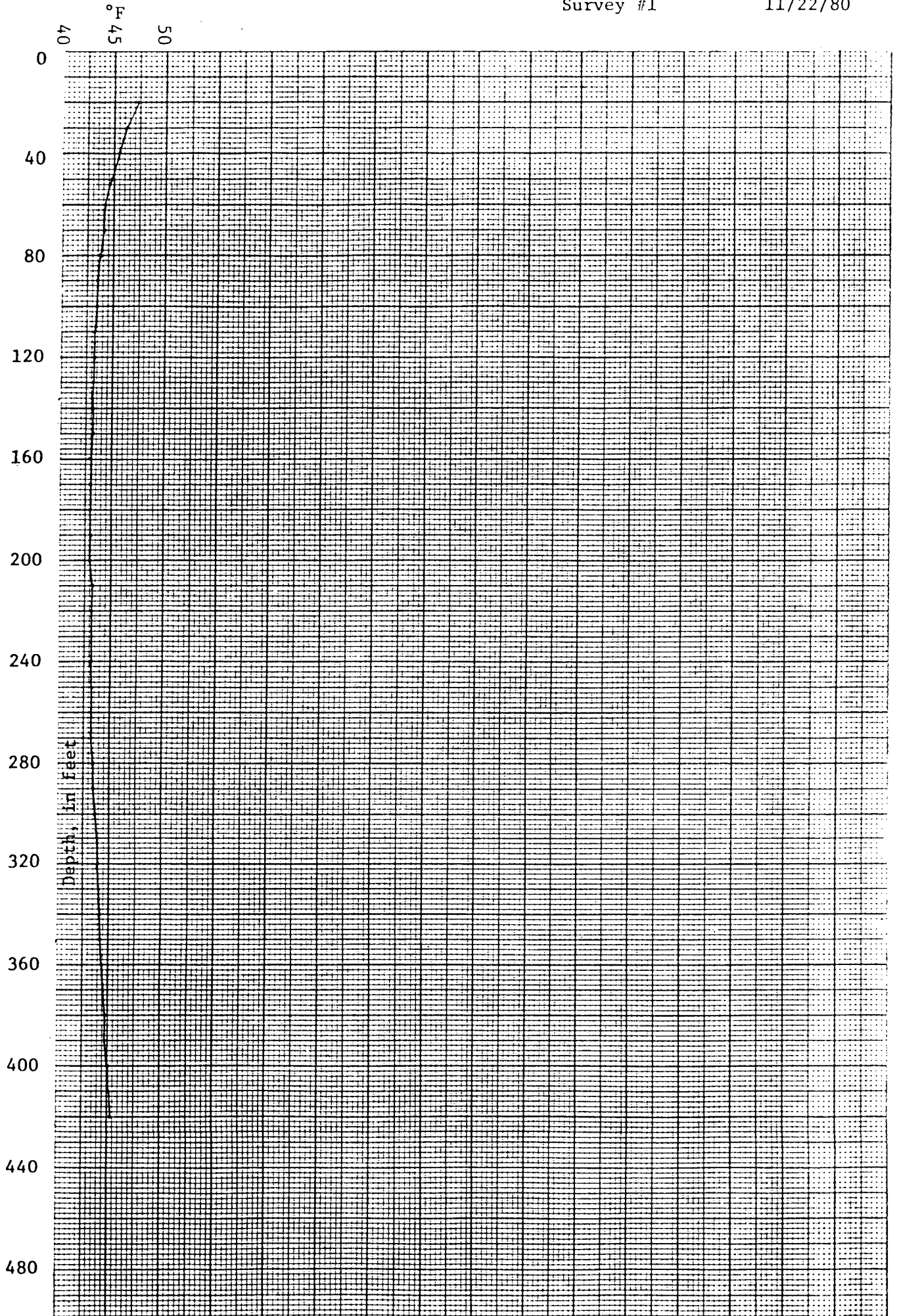
Hole completed 10/28/80

Survey #1 11/22/80

Elevation 2,640 feet

Logged by GeothermEx, Inc.

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
20	8.5	47.3	220	6.2	43.2
30	7.9	46.2	230	6.2	43.2
40	7.5	45.5	240	6.2	43.2
50	7.1	44.8	250	6.3	43.3
60	6.8	44.2	260	6.3	43.3
70	6.7	44.1	270	6.3	43.3
80	6.5	43.7	280	6.4	43.5
90	6.4	43.5	290	6.4	43.5
100	6.4	43.5	300	6.5	43.7
110	6.3	43.3	310	6.6	43.9
120	6.3	43.3	320	6.6	43.9
130	6.2	43.2	330	6.7	44.1
140	6.2	43.2	340	6.8	44.2
150	6.2	43.2	350	6.8	44.2
160	6.1	43.0	360	6.9	44.4
170	6.1	43.0	370	7.0	44.6
180	6.1	43.0	380	7.1	44.8
190	6.1	43.0	390	7.1	44.8
200	6.1	43.0	400	7.2	45.0
210	6.2	43.2	410	7.3	45.1
			415	7.4	45.3



TEMPERATURE LOG

SUN-S-80-A16

T. 15 S., R. 6 E., NE $\frac{1}{4}$ of SW $\frac{1}{4}$, Sec. 25

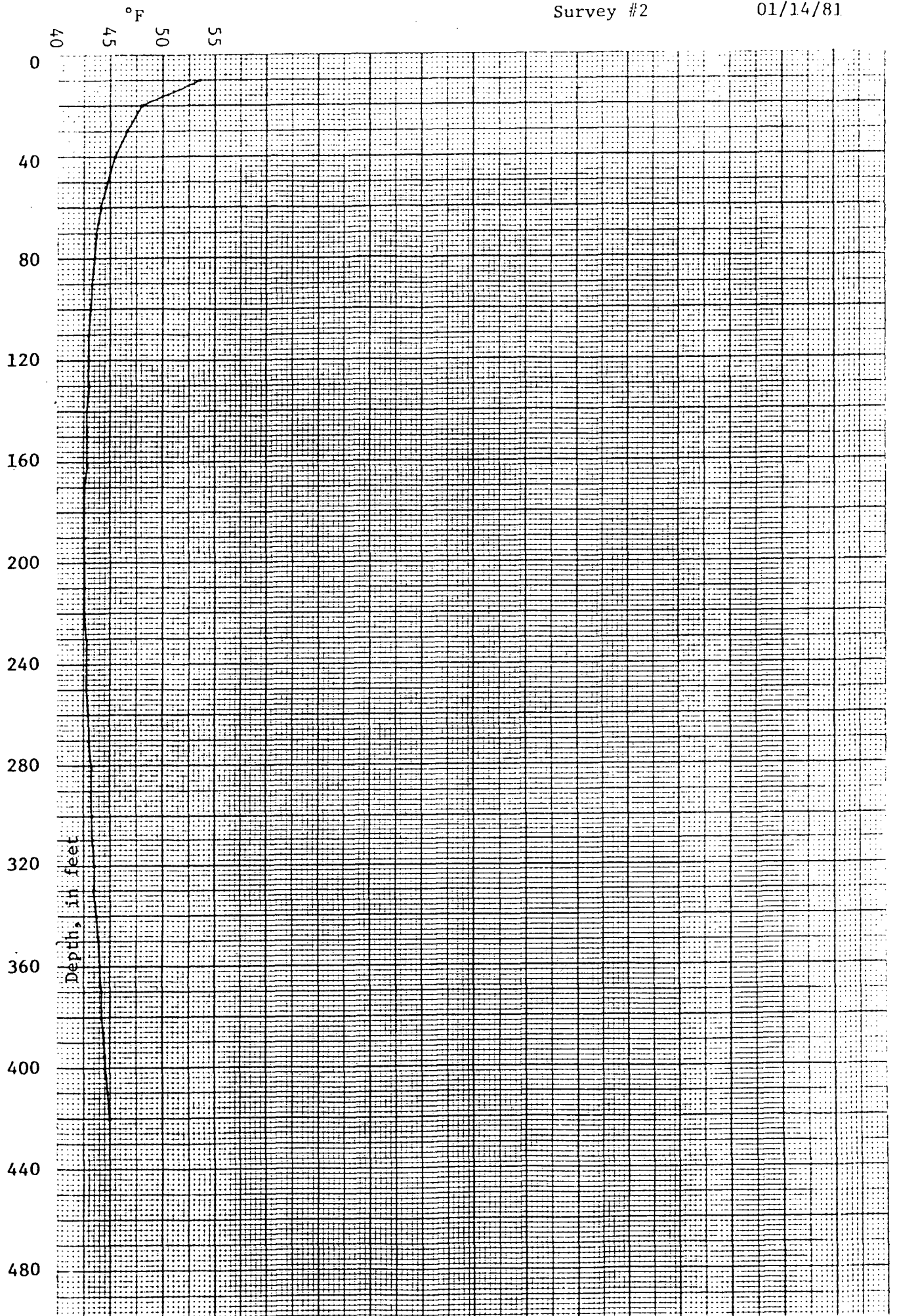
Hole completed 10/28/80

Survey #2 01/14/81

Elevation 2,640 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	12.0	53.6	220	5.9	42.6
20	8.9	48.0	230	6.0	42.8
30	8.1	46.6	240	6.0	42.8
40	7.5	45.5	250	6.0	42.8
50	7.1	44.8	260	6.1	43.0
60	6.8	44.2	270	6.1	43.0
70	6.5	43.7	280	6.2	43.2
80	6.4	43.5	290	6.2	43.2
90	6.3	43.3	300	6.3	43.3
100	6.2	43.2	310	6.3	43.3
110	6.1	43.0	320	6.4	43.5
120	6.1	43.0	330	6.4	43.5
130	6.1	43.0	340	6.5	43.7
140	6.0	42.8	350	6.6	43.9
150	6.0	42.8	360	6.7	44.1
160	6.0	42.8	370	6.8	44.2
170	5.9	42.6	380	6.8	44.2
180	5.9	42.6	390	6.9	44.4
190	5.9	42.6	400	7.0	44.6
200	5.9	42.6	410	7.1	44.8
210	5.9	42.6	420	7.2	45.0



TEMPERATURE LOG

SUN-S-80-A16

T. 15 S., R. 6 E., NE $\frac{1}{4}$ of SW $\frac{1}{4}$, Sec. 25

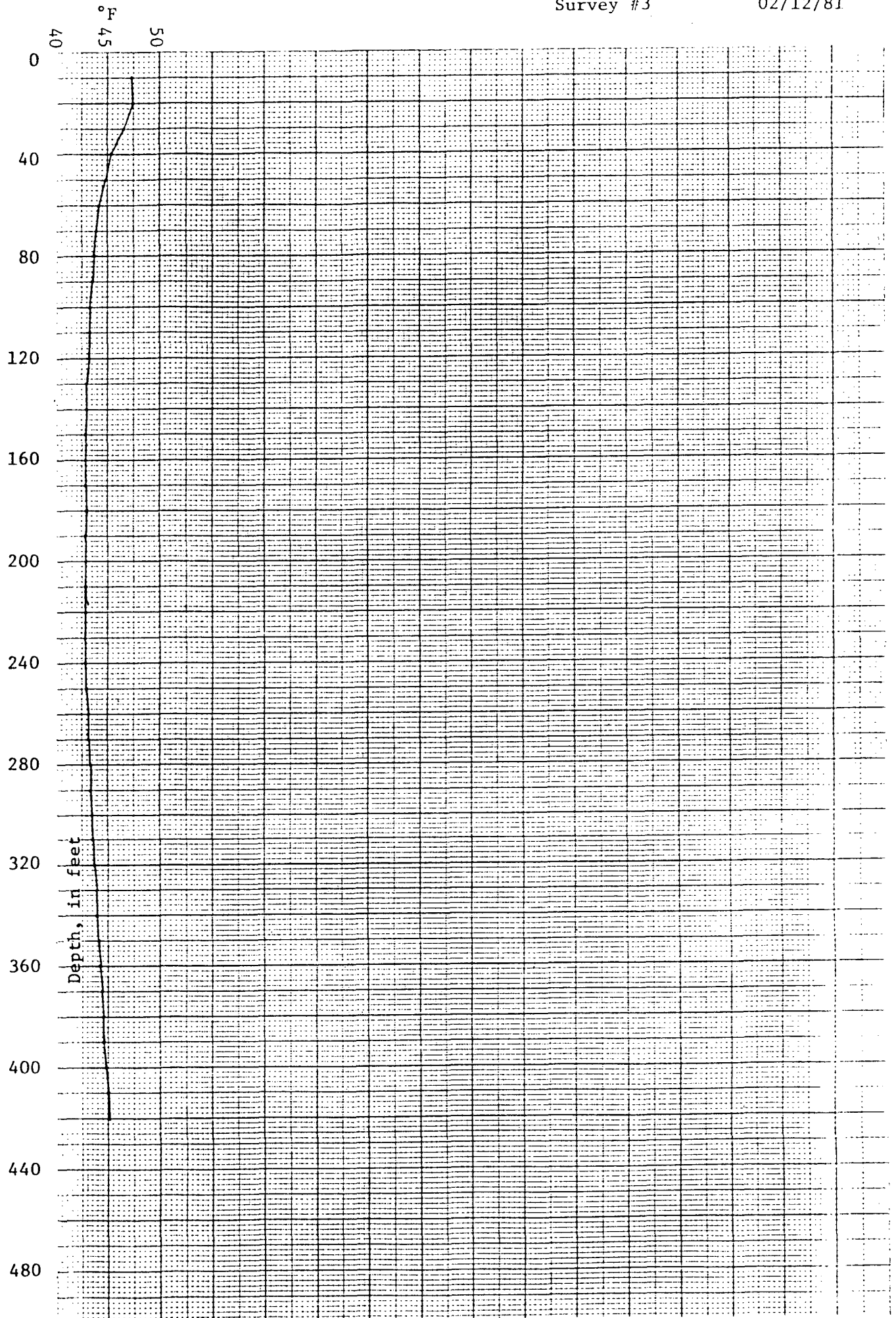
Hole completed 10/28/80

Survey #3 02/12/81

Elevation 2,640 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	8.5	47.3	220	6.0	42.8
20	8.6	47.5	230	6.0	42.8
30	8.1	46.6	240	6.0	42.8
40	7.4	45.3	250	6.1	43.0
50	7.1	44.8	260	6.2	43.2
60	6.8	44.2	270	6.2	43.2
70	6.6	43.9	280	6.3	43.3
80	6.5	43.7	290	6.3	43.3
90	6.4	43.5	300	6.4	43.5
100	6.3	43.3	310	6.4	43.5
110	6.3	43.3	320	6.5	43.7
120	6.2	43.2	330	6.6	43.9
130	6.1	43.0	340	6.6	43.9
140	6.1	43.0	350	6.7	44.1
150	6.0	42.8	360	6.8	44.2
160	6.0	42.8	370	6.9	44.4
170	6.0	42.8	380	7.0	44.6
180	6.1	43.0	390	7.0	44.6
190	6.0	42.8	400	7.1	44.8
200	6.0	42.8	410	7.2	45.0
210	6.0	42.8	420	7.3	45.1



TEMPERATURE LOG

SUN-S-80-A16

T. 15 S., R. 6 E., NE $\frac{1}{4}$ of SW $\frac{1}{4}$, Sec. 25

Hole completed 10/28/80

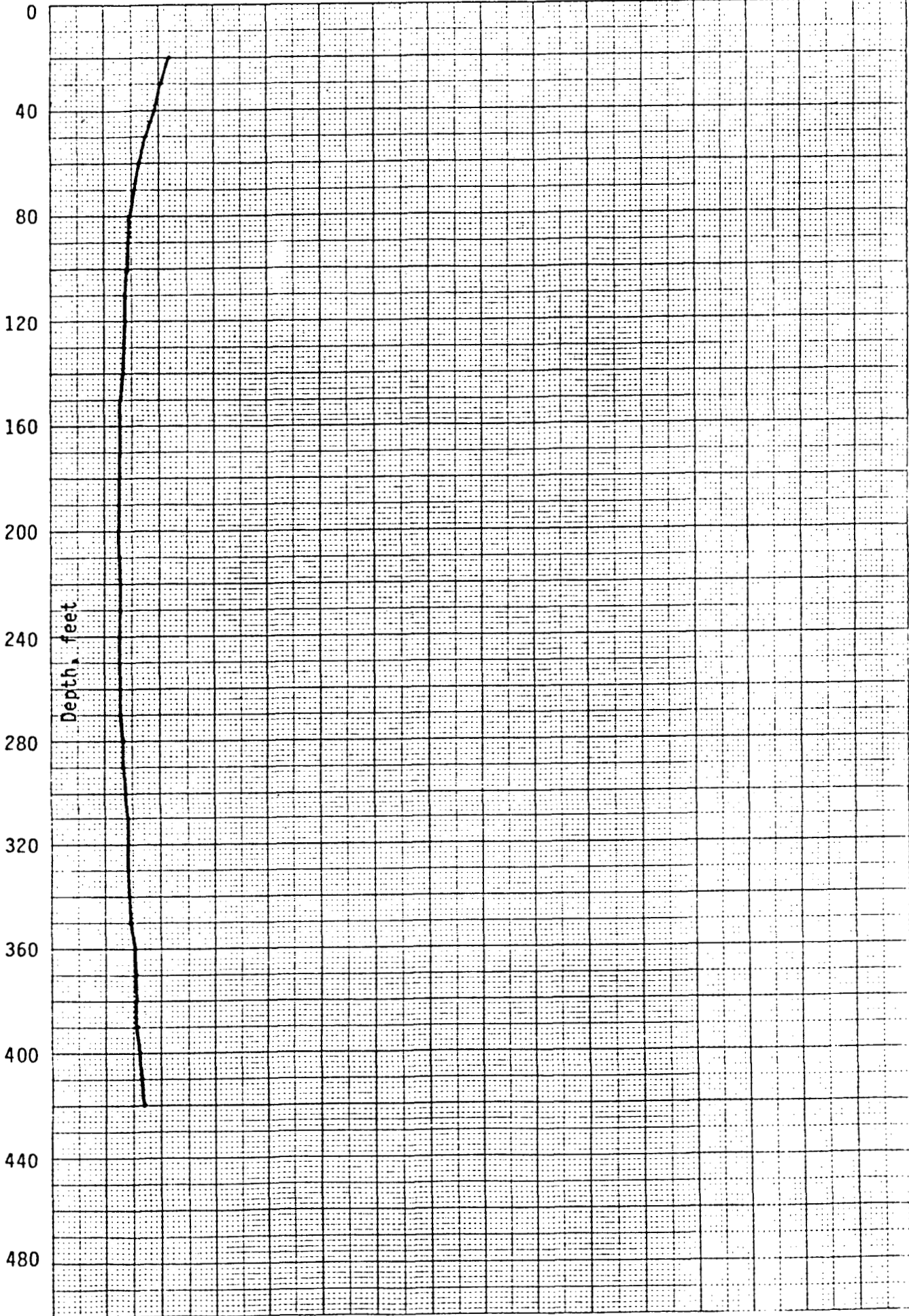
Survey # 4 06/26/81

Elevation 2,640 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	--	--	220	5.3	41.5
20	7.8	46.0	230	5.3	41.5
30	7.3	45.1	240	5.3	41.5
40	7.0	44.6	250	5.3	41.5
50	6.6	43.9	260	5.3	41.5
60	6.2	43.9	270	5.3	41.5
70	6.0	42.8	280	5.4	41.7
80	5.8	42.4	290	5.4	41.7
90	5.7	42.3	300	5.5	41.9
100	5.6	42.1	310	5.6	42.1
110	5.5	41.9	320	5.6	42.1
120	5.5	41.9	330	5.6	42.1
130	5.4	41.7	340	5.7	42.3
140	5.4	41.7	350	5.8	42.4
150	5.3	41.5	360	5.9	42.6
160	5.3	41.5	370	6.0	42.8
170	5.3	41.5	380	6.0	42.8
180	5.2	41.4	390	6.1	43.0
190	5.2	41.4	400	6.2	43.2
200	5.2	41.4	410	6.3	43.3
210	5.2	41.4	420	6.4	43.5

35 40 45 50



LC.

N.S.

8 LC.

N.S.

TEMPERATURE LOG

SUN-S-80-A17

T. 16 S., R. 7 E., NE ¼ of SW ¼, Sec. 2

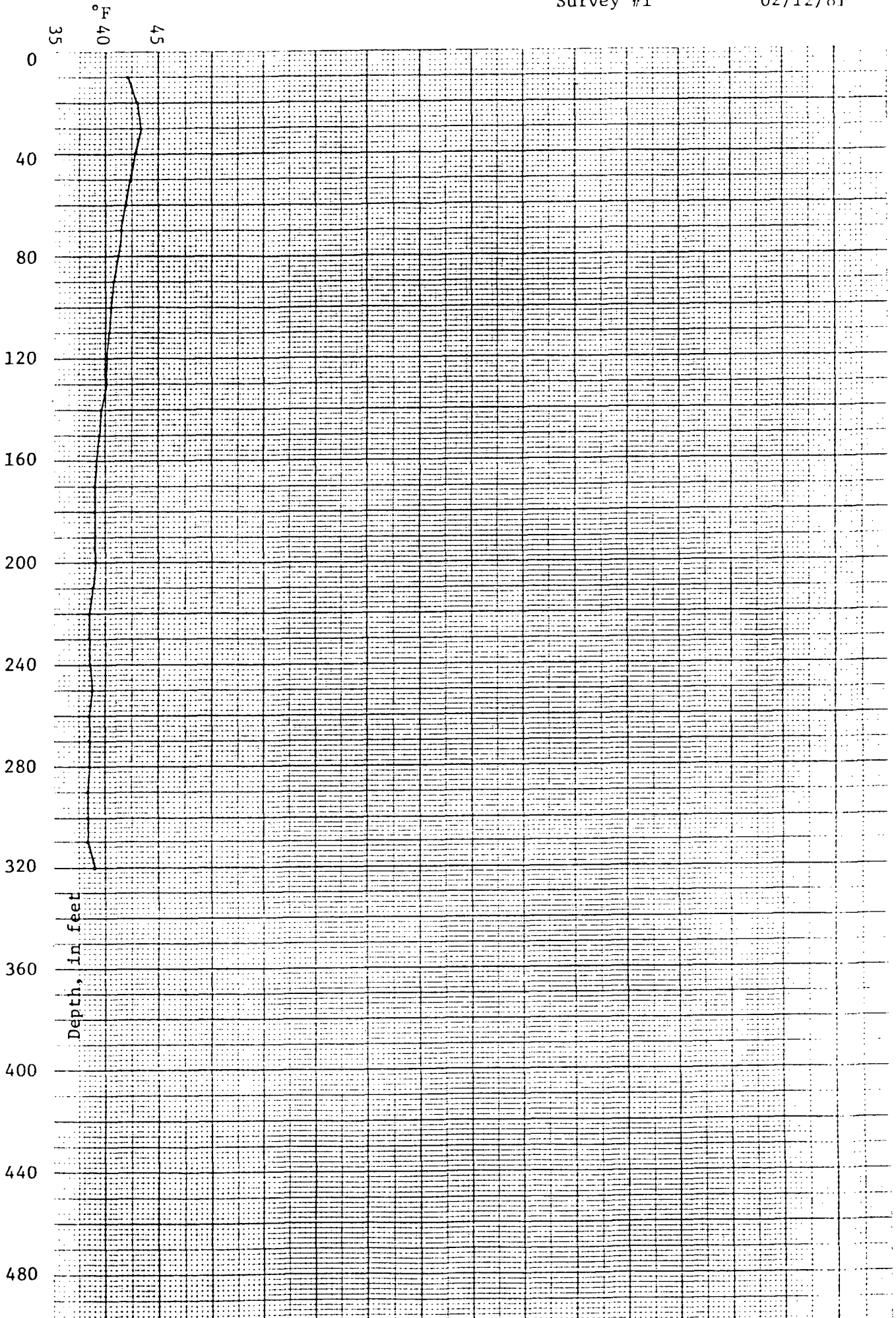
Hole completed 02/06/81

Survey #1 02/12/81

Elevation 4,480 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	5.6	42.1	170	3.9	39.0
20	6.1	43.0	180	3.9	39.0
30	6.3	43.3	190	3.9	39.0
40	6.0	42.8	200	3.9	39.0
50	5.8	42.4	210	3.8	38.8
60	5.5	41.9	220	3.6	38.5
70	5.3	41.5	230	3.6	38.5
80	5.1	41.2	240	3.6	38.5
90	4.9	40.8	250	3.7	38.7
100	4.7	40.5	260	3.6	38.5
110	4.6	40.3	270	3.6	38.5
120	4.5	40.1	280	3.6	38.5
130	4.5	40.1	290	3.5	38.3
140	4.2	39.6	300	3.5	38.3
150	4.1	39.4	310	3.5	38.3
160	4.0	39.2	320	3.9	39.0



TEMPERATURE LOG

SUN-S-80-A17

T. 16 S., R. 7 E., NE $\frac{1}{4}$ of SW $\frac{1}{4}$, Sec. 2

Hole completed 02/06/81

Survey #2 06/25/81

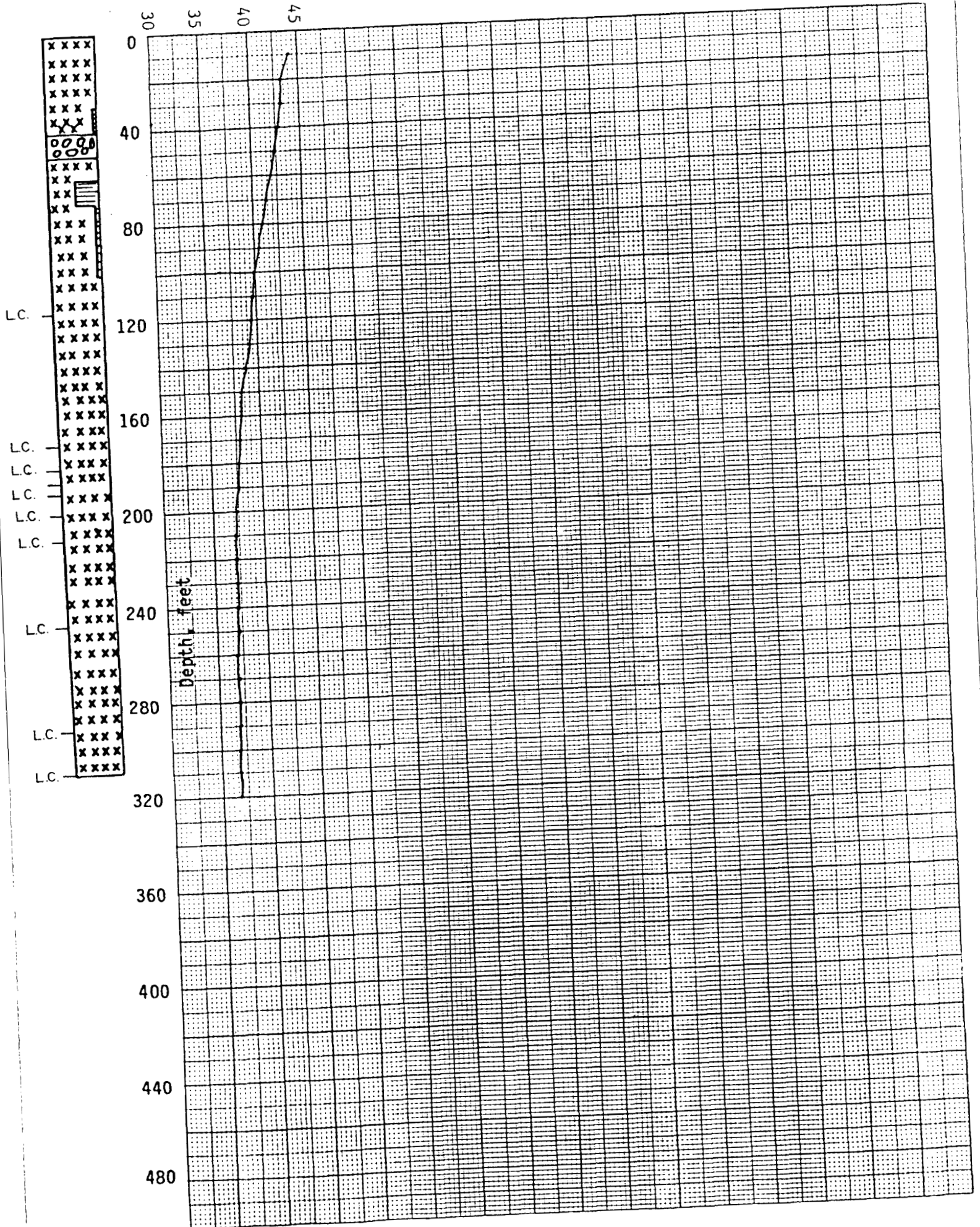
Elevation 4,480 feet

Logged by GeothermEx, Inc.

<u>Depth in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth in feet</u>	<u>°C</u>	<u>°F</u>
10	6.8	44.2	170	3.3	37.9
20	6.3	43.3	180	3.1	37.6
30	6.2	43.2	190	3.1	37.6
40	6.0	42.8	200	3.0	37.4
50	5.8	42.4	210	2.9	37.2
60	5.5	41.9	220	2.9	37.2
70	5.2	41.4	230	2.9	37.2
80	5.0	41.0	240	2.9	37.2
90	4.7	40.5	250	2.9	37.2
100	4.4	39.9	260	2.8	37.0
110	4.2	39.6	270	2.8	37.0
120	4.1	39.4	280	2.8	37.0
130	4.0	39.2	290	2.8	37.0
140	3.7	38.7	300	2.7	36.9
150	3.5	38.3	310	2.7	36.9
160	3.4	38.1	320	2.7	36.9

TEMPERATURE LOG -- SUN SANTIAM
°F

SUN-S-80-A17
Survey #2 6/25/81



TEMPERATURE LOG

SUN-S-80-A19

T. 16 S., R. 7 E., NE $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 19

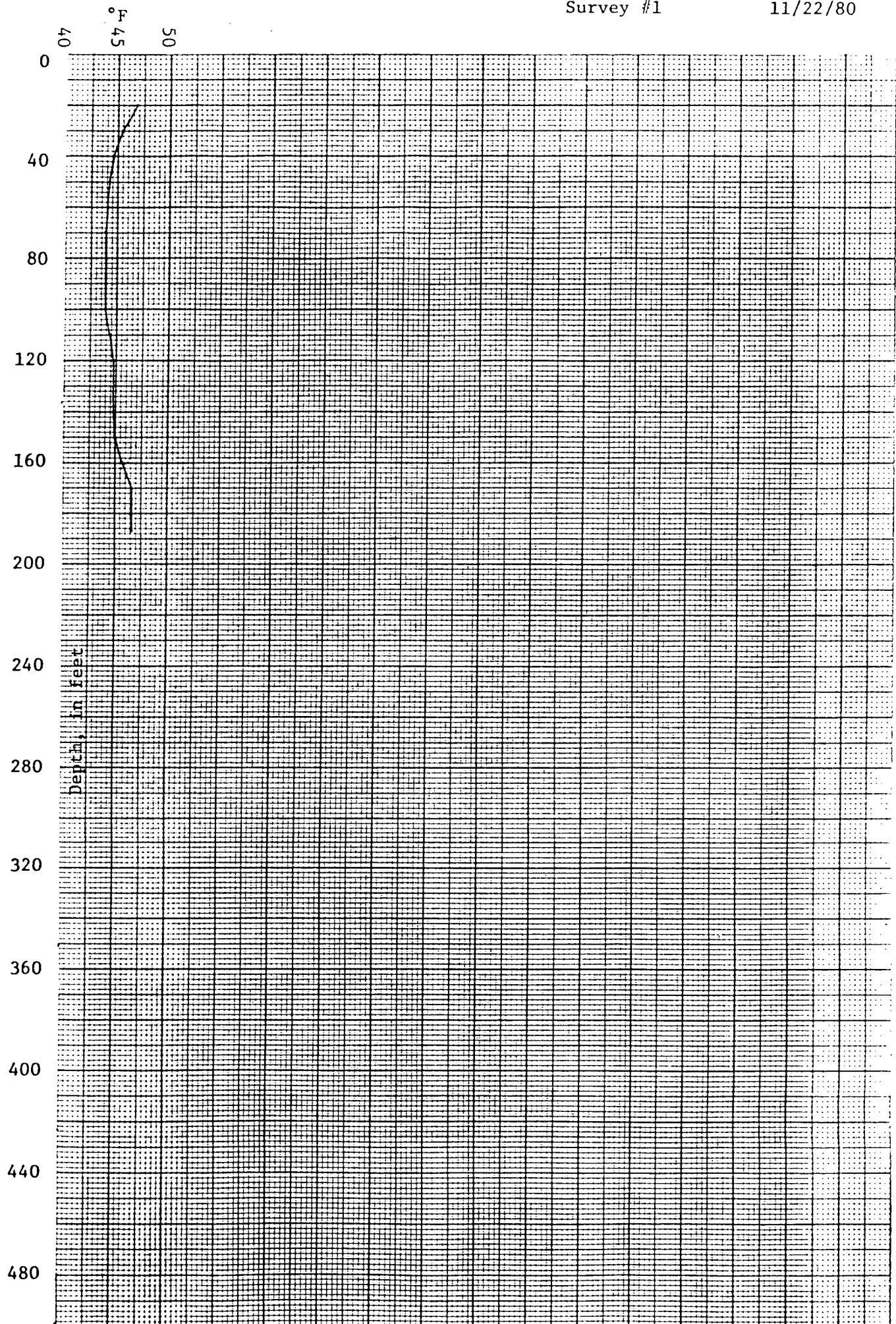
Hole completed 10/01/80

Survey #1 11/22/80

Elevation 2,080 feet

Logged by GeothermEx, Inc.

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
20	8.2	46.8
30	7.5	45.5
40	7.0	44.6
50	6.8	44.2
60	6.7	44.1
70	6.6	43.9
80	6.6	43.9
90	6.6	43.9
100	6.6	43.9
110	6.9	44.4
120	7.1	44.8
130	7.1	44.8
140	7.1	44.8
150	7.2	45.0
160	7.6	45.7
170	8.1	46.6
180	8.1	46.6
187	8.1	46.6



TEMPERATURE LOG

SUN-S-80-A19

T. 16 S., R. 7 E., NE $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 19

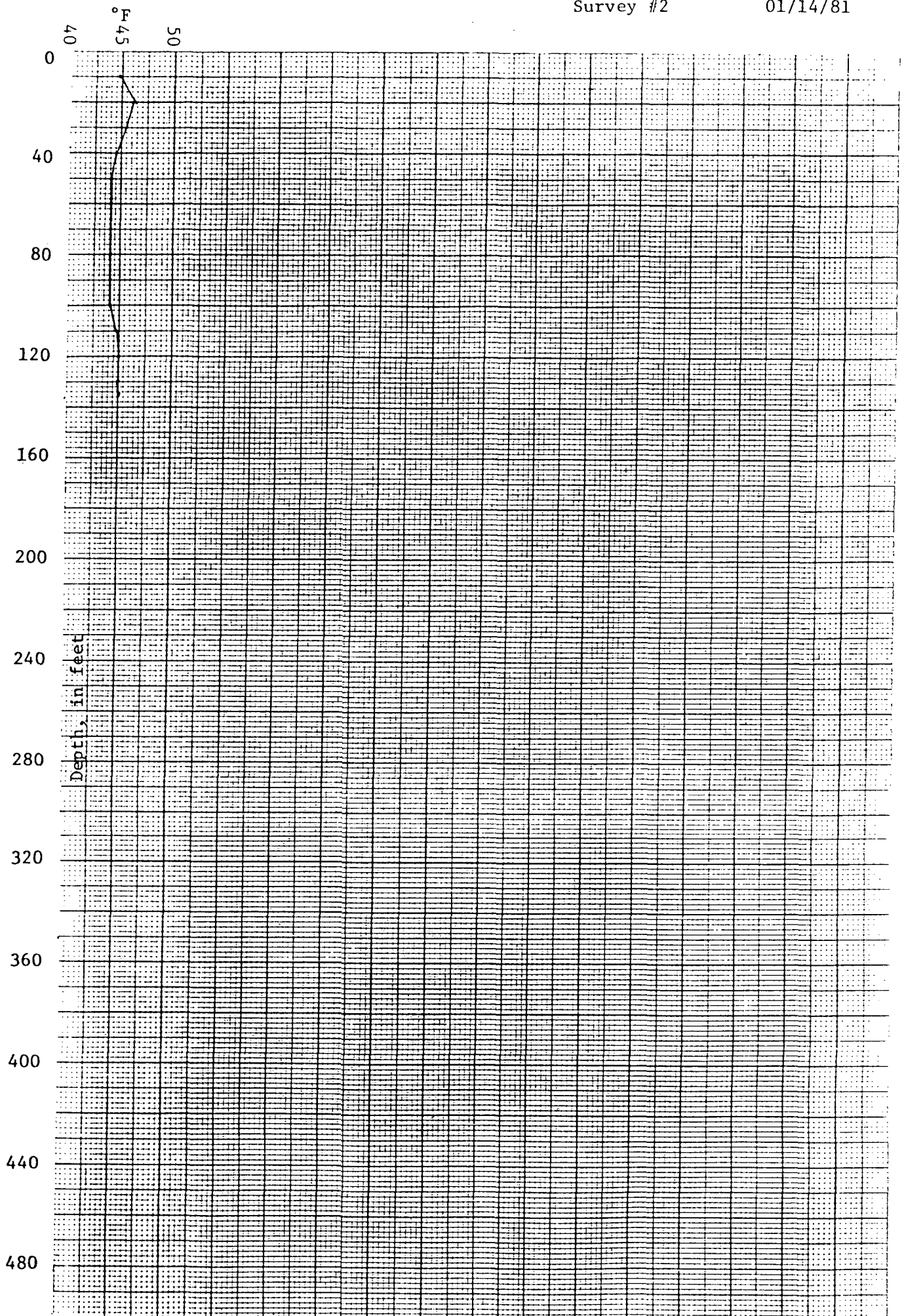
Hole completed 10/01/80

Survey #2 01/14/81

Elevation 2,080 feet

Logged by GeothermEx, Inc.

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
10	7.1	44.8
20	7.9	46.2
30	7.5	45.5
40	7.0	44.6
50	6.7	44.1
60	6.7	44.1
70	6.7	44.1
80	6.7	44.1
90	6.7	44.1
100	6.7	44.1
110	7.1	44.8
120	7.2	45.0
130	7.2	45.0
135	7.3	45.1



TEMPERATURE LOG

SUN-S-80-A19

T. 16 S., R. 7 E., NE $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 19

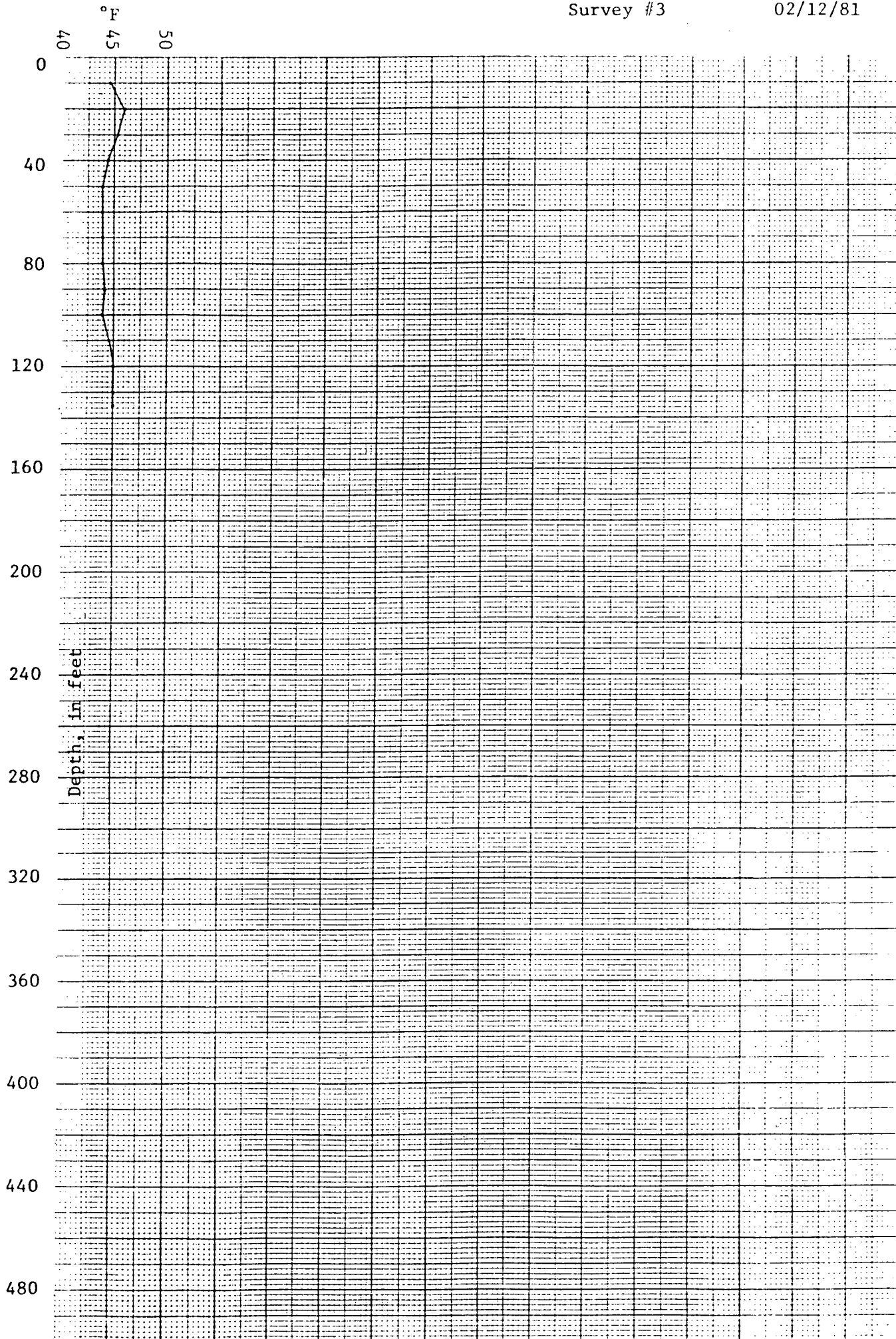
Hole completed 10/01/80

Survey #3 02/12/81

Elevation 2,080 feet

Logged by Geothermex, Inc.

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
10	7.0	44.6
20	7.8	46.0
30	7.4	45.3
40	6.9	44.4
50	6.6	43.9
60	6.6	43.9
70	6.6	43.9
80	6.6	43.9
90	6.7	44.1
100	6.6	43.9
110	7.0	44.6
120	7.2	45.0
130	7.2	45.0
135	7.2	45.0



TEMPERATURE LOG

SUN-S-80-A19

T. 16 S., R. 7 E., NE ¼ of SE ¼, Sec. 19

Hole completed 10/01/80

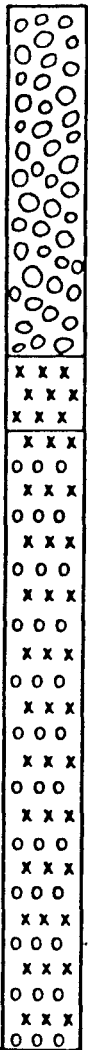
Survey #4 06/26/81

Elevation 2,080 feet

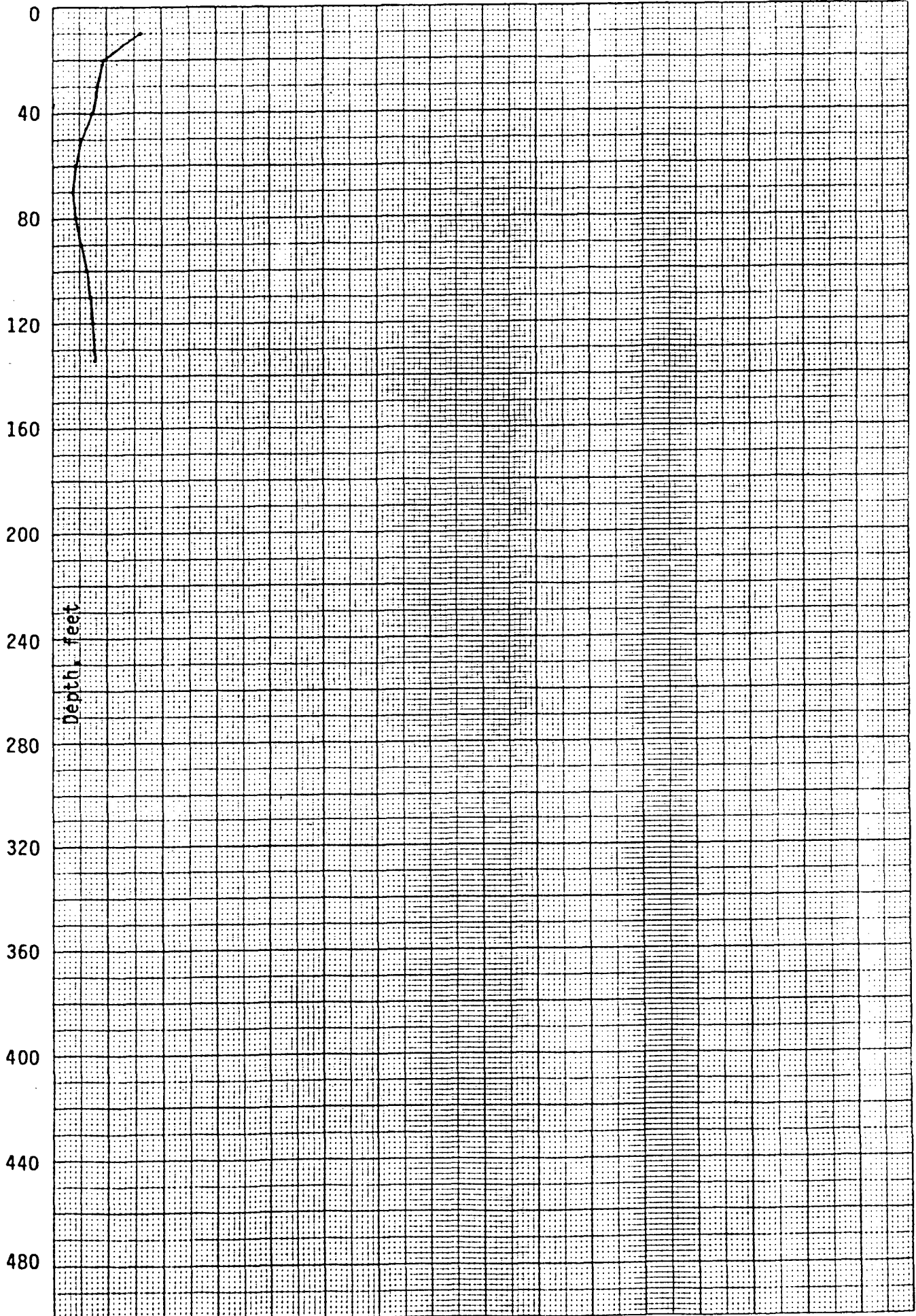
Logged by GeothermEx, Inc.

<u>Depth in feet</u>	<u>°C</u>	<u>°F</u>
10	8.9	48.0
20	7.1	44.8
30	6.8	44.2
40	6.5	43.7
50	5.9	42.6
60	5.6	42.1
70	5.5	41.9
80	5.6	42.1
90	5.9	42.6
100	6.2	43.2
110	6.4	43.5
120	6.5	43.7
130	6.6	43.9
134	6.6	43.9

40
57°F
50



L.C.



TEMPERATURE LOG

SUN-S-80-A20

T. 16 S., R. 7 E., SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 21

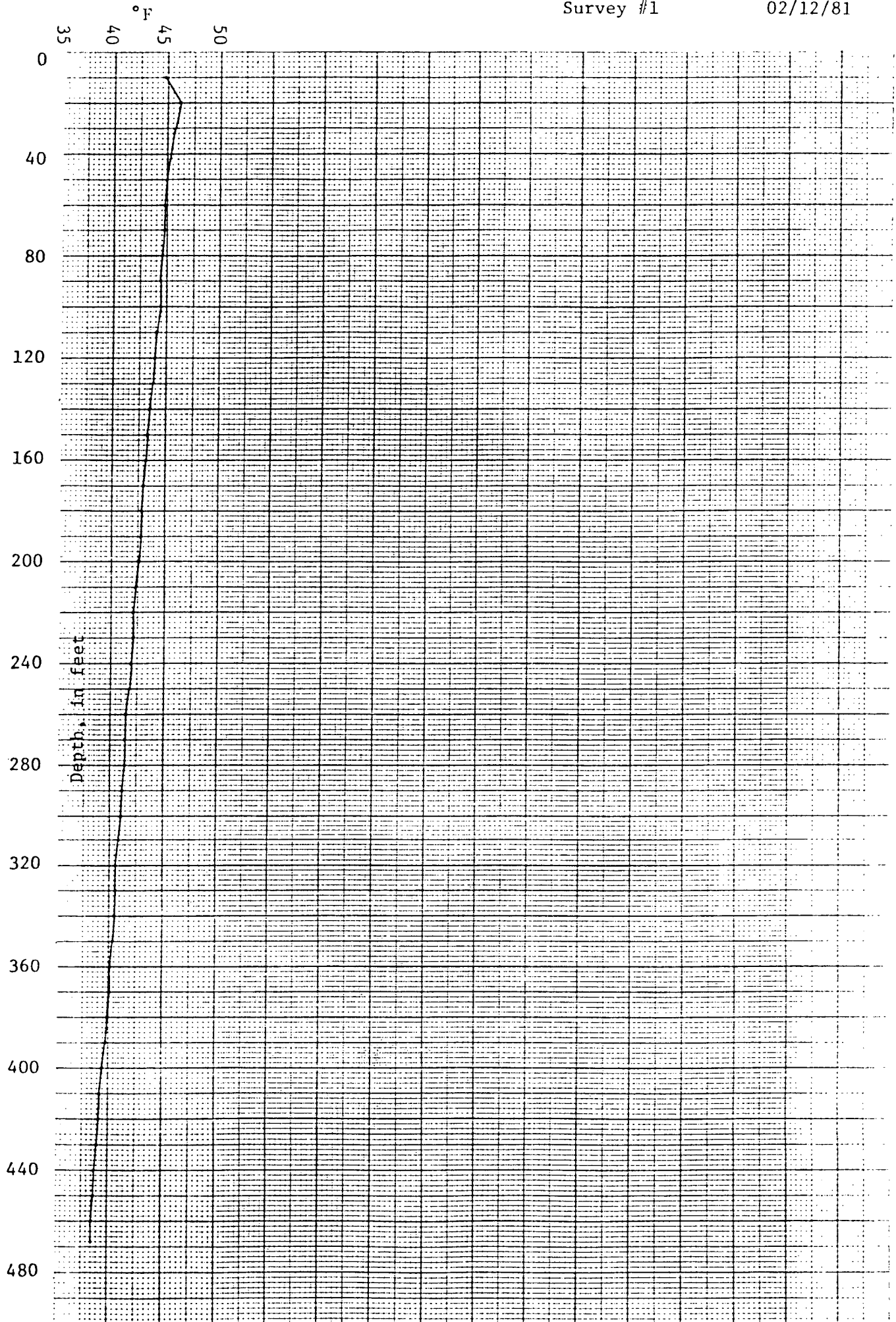
Hole completed 01/15/81

Survey #1 02/12/81

Elevation 3,920 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	7.1	44.8	250	5.4	41.7
20	7.9	46.2	260	5.3	41.5
30	7.6	45.7	270	5.2	41.4
40	7.4	45.3	280	5.2	41.4
50	7.2	45.0	290	5.1	41.2
60	7.1	44.8	300	5.0	41.0
70	7.1	44.8	310	4.9	40.8
80	7.0	44.6	320	4.8	40.6
90	6.9	44.4	330	4.8	40.6
100	6.9	44.4	340	4.7	40.5
110	6.7	44.1	350	4.6	40.3
120	6.6	43.9	360	4.5	40.1
130	6.5	43.7	370	4.5	40.1
140	6.4	43.5	380	4.4	39.9
150	6.3	43.3	390	4.3	39.7
160	6.2	43.2	400	4.1	39.4
170	6.1	43.0	410	4.0	39.2
180	6.0	42.8	420	4.0	39.2
190	6.0	42.8	430	3.9	39.0
200	5.9	42.6	440	3.7	38.7
210	5.7	42.3	450	3.7	38.7
220	5.6	42.1	460	3.6	38.5
230	5.6	42.1	468	3.6	38.5
240	5.5	41.9			



TEMPERATURE LOG

SUN-S-80-A20

T. 16 S., R. 7 E., SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 21

Hole completed 01/15/81

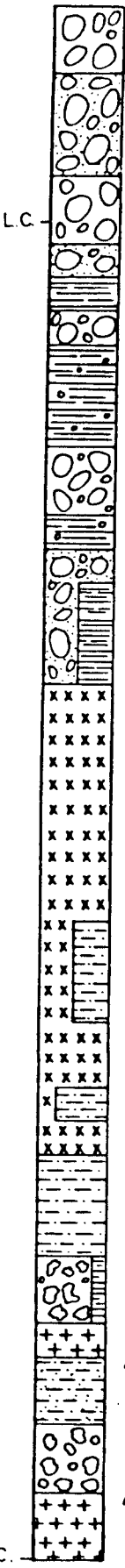
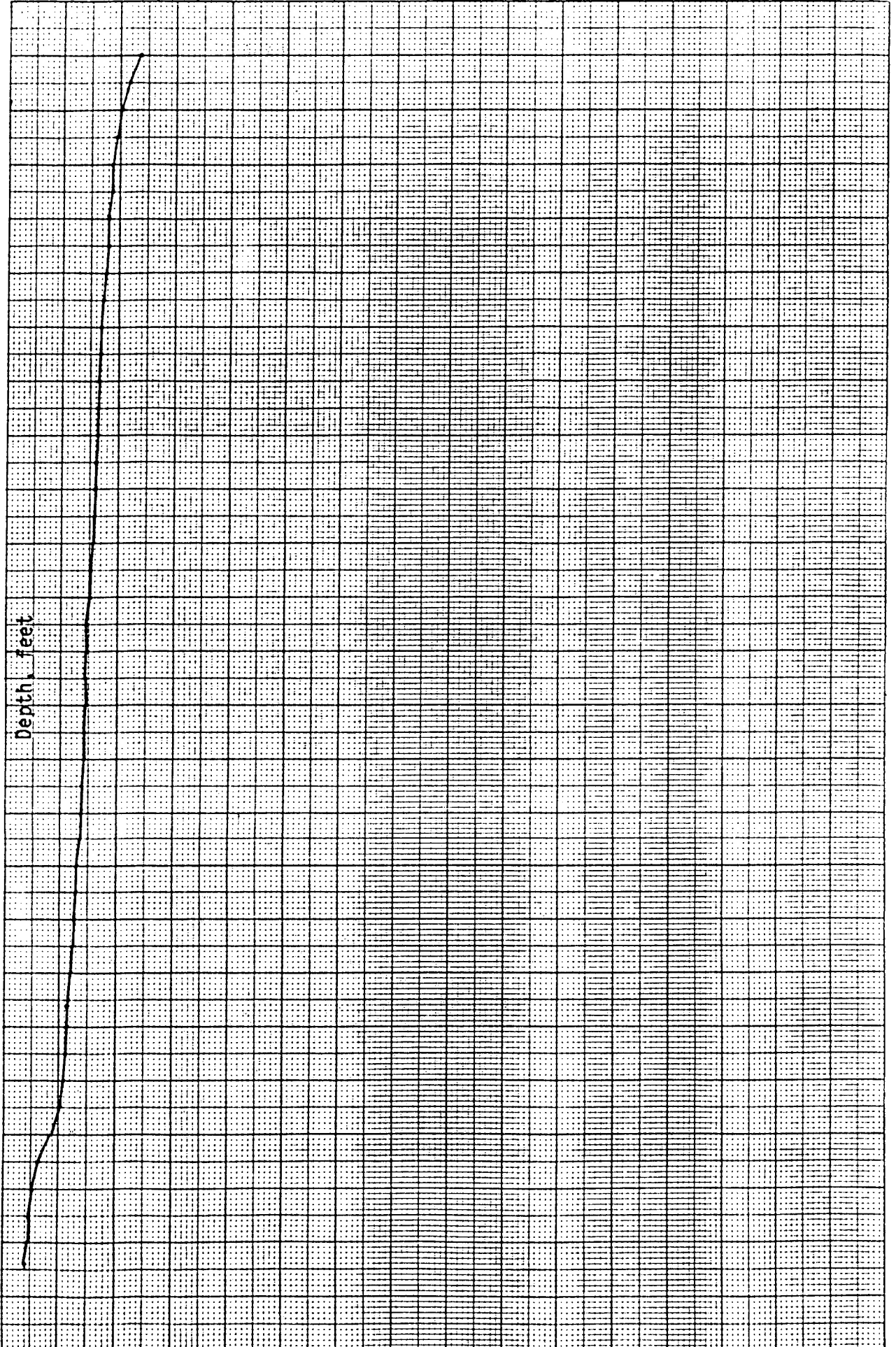
Survey #2 06/26/81

Elevation 3,920 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	--	--	250	5.7	42.3
20	8.2	46.8	260	5.7	42.3
30	7.7	45.9	270	5.6	42.1
40	7.3	45.1	280	5.6	42.1
50	7.1	44.8	290	5.5	41.9
60	6.9	44.4	300	5.5	41.9
70	6.9	44.4	310	5.4	41.7
80	6.7	44.1	320	5.3	41.5
90	6.7	44.1	330	5.3	41.5
100	6.6	43.9	340	5.2	41.4
110	6.5	43.7	350	5.1	41.2
120	6.4	43.5	360	5.0	41.0
130	6.4	43.5	370	4.9	40.8
140	6.3	43.3	380	4.9	40.8
150	6.2	43.2	390	4.8	40.6
160	6.2	43.2	400	4.7	40.5
170	6.1	43.0	410	4.5	40.1
180	6.1	43.0	420	4.1	39.4
190	6.1	43.0	430	3.5	38.3
200	6.0	42.8	440	3.1	37.6
210	5.9	42.6	450	3.0	37.4
220	5.9	42.6	460	2.9	37.2
230	5.8	42.4	468	2.8	37.0
240	5.8	42.4			

35
40
45
50



TEMPERATURE LOG

SUN-S-80-5

T. 16 S., R. 6 E., SE ¼ of NE ¼, Sec. 30

Hole completed 01/06/81

Survey #1 01/14/81

Elevation 2,000 feet

Logged by GeothermEx, Inc.

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
10	9.6	49.3	260	12.7	54.9
20	10.0	50.0	270	12.9	55.2
30	9.7	49.5	280	13.2	55.8
40	9.5	49.1	290	13.5	56.3
50	9.4	48.9	300	13.8	56.8
60	9.2	48.6	310	14.0	57.2
70	9.0	48.2	320	14.3	57.7
80	9.0	48.2	330	14.6	58.3
90	9.0	48.2	340	14.9	58.8
100	9.0	48.2	350	15.2	59.4
110	9.1	48.4	360	15.5	59.9
120	9.2	48.6	370	15.8	60.4
130	9.4	48.9	380	16.1	61.0
140	9.6	49.3	390	16.4	61.5
150	9.8	49.6	400	16.7	62.1
160	10.0	50.0	410	16.9	62.4
170	10.2	50.4	420	17.2	63.0
180	10.5	50.9	430	17.5	63.5
190	10.8	51.4	440	17.7	63.9
200	11.1	52.0	450	18.0	64.4
210	11.4	52.5	460	18.3	64.9
220	11.6	52.9	470	18.6	65.5
230	11.9	53.4	480	19.0	66.2
240	12.1	53.8	490	19.3	66.7
250	12.4	54.3	500	19.7	67.5

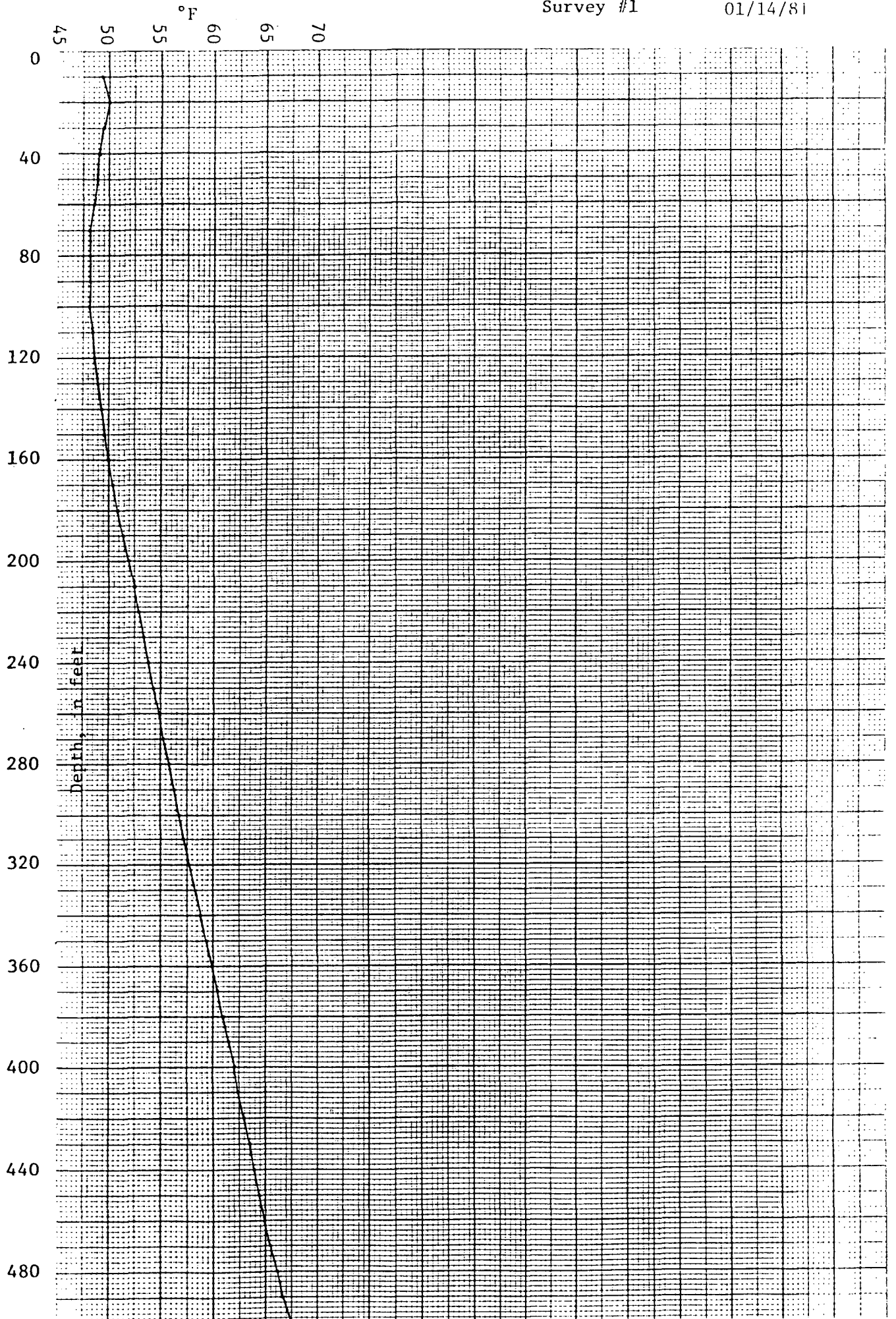
Maximum reading thermometer: 68°F

TEMPERATURE LOG -- SUN-SANTIAM

SUN-S-80-5

Survey #1

01/14/81



TEMPERATURE LOG

SUN-S-80-5

T. 16 S., R. 6 E., SE $\frac{1}{4}$ of NE $\frac{1}{4}$, Sec. 30

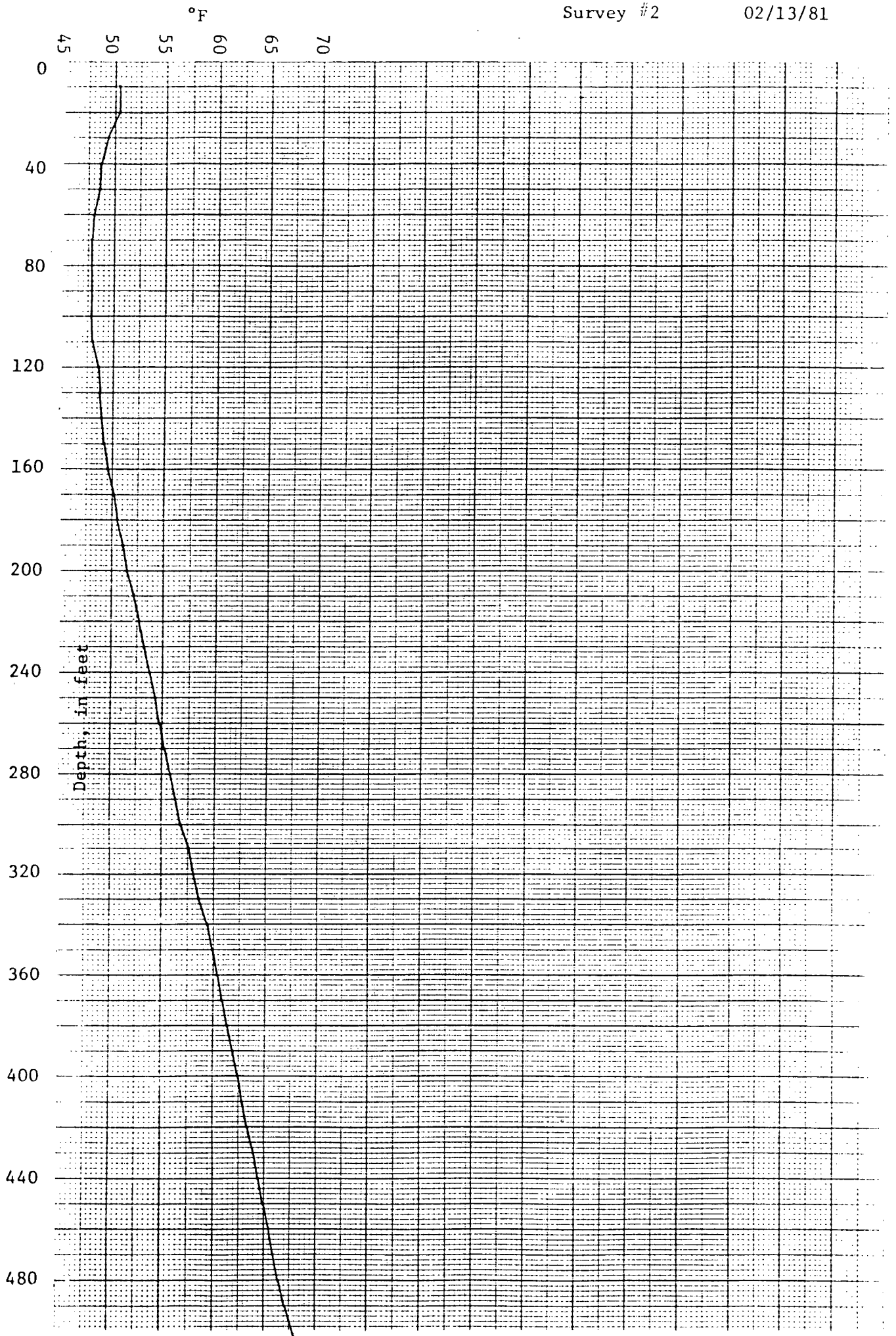
Hole completed 01/06/81

Survey #2 02/13/81

Elevation 2,000 feet

Logged by GeothermEx, Inc.

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
10	10.2	50.4	260	12.6	54.7
20	10.2	50.4	270	12.9	55.2
30	9.6	50.4	280	13.2	55.8
40	9.3	48.7	290	13.5	56.3
50	9.2	48.6	300	13.8	56.8
60	8.9	49.0	310	14.2	57.6
70	8.8	47.8	320	14.5	58.1
80	8.8	47.8	330	14.8	58.6
90	8.8	47.8	340	15.2	59.4
100	8.8	47.8	350	15.5	59.9
110	8.9	48.0	360	15.7	60.3
120	9.2	48.6	370	16.0	60.8
130	9.3	48.7	380	16.3	61.3
140	9.4	48.9	390	16.6	61.9
150	9.6	49.3	400	16.9	62.4
160	9.8	49.6	410	17.1	62.8
170	10.1	50.2	420	17.4	63.3
180	10.3	50.5	430	17.7	63.9
190	10.6	51.1	440	18.0	64.4
200	10.8	51.4	450	18.3	64.9
210	11.2	52.2	460	18.6	65.5
220	11.5	52.7	470	18.8	65.8
230	11.8	53.2	480	19.1	66.4
240	12.1	53.8	490	19.5	67.1
250	12.4	54.3	502	20.0	68.0



TEMPERATURE LOG

SUN-S-80-5

T. 16 S., R. 6 E., SE ¼ of NE ¼, Sec. 30

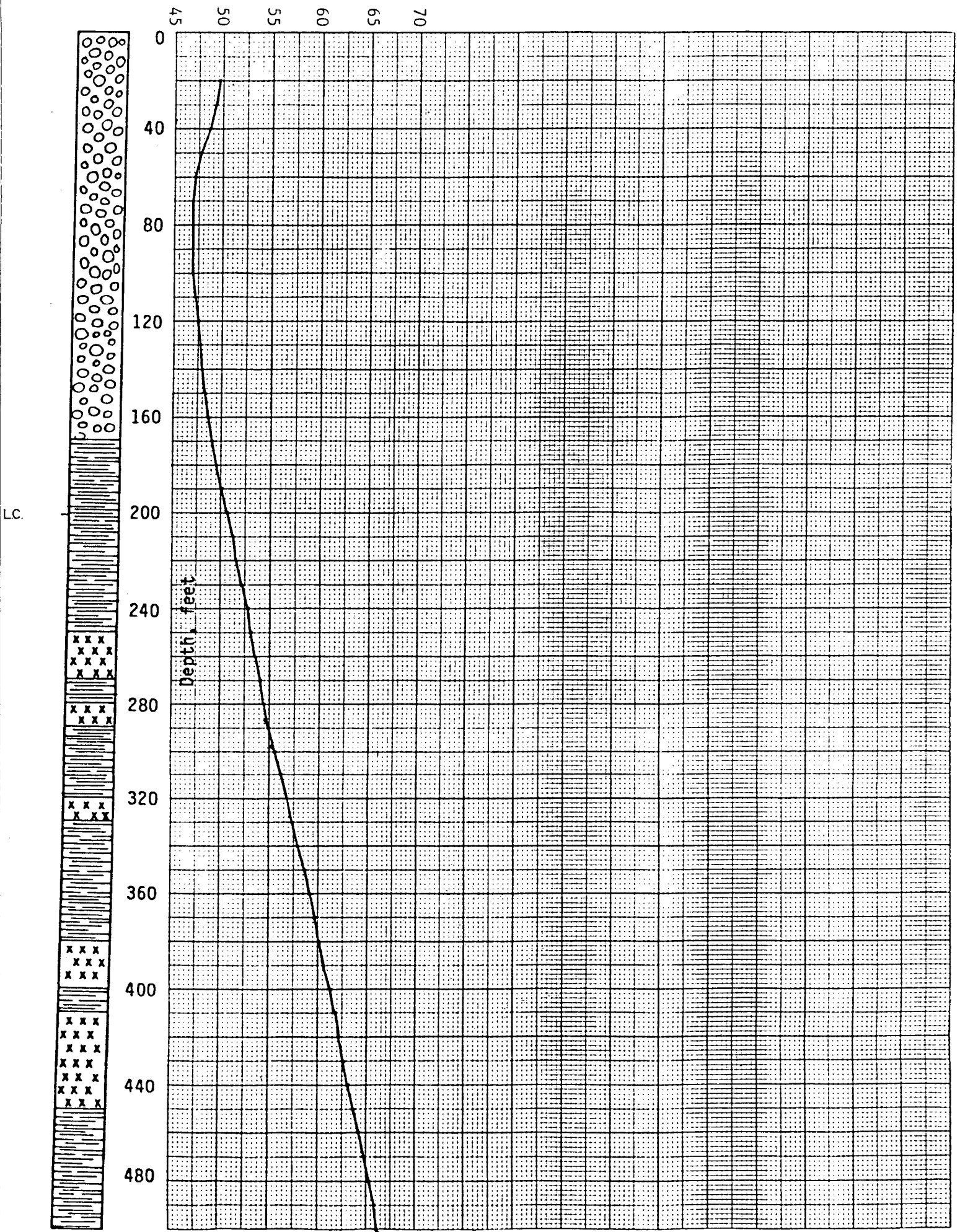
Hole completed 11/01/80

Survey #3 06/26/81

Elevation 3,440 feet

Logged by GeothermEx, Inc.

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
10	--	--	260	12.0	53.6
20	9.8	49.6	270	12.3	54.1
30	9.6	49.3	280	12.5	54.5
40	9.3	48.7	290	12.8	55.0
50	8.8	47.8	300	13.1	55.6
60	8.4	47.1	310	13.4	56.1
70	8.3	46.9	320	13.7	56.7
80	8.3	46.9	330	14.1	57.4
90	8.3	46.9	340	14.4	57.9
100	8.3	46.9	350	14.8	58.6
110	8.5	47.3	360	15.1	59.2
120	8.6	47.5	370	15.4	59.7
130	8.7	47.7	380	15.6	60.1
140	8.9	48.0	390	15.9	60.6
150	9.1	48.4	400	16.3	61.3
160	9.3	48.7	410	16.5	61.7
170	9.5	49.1	420	16.8	62.2
180	9.8	49.6	430	17.0	62.6
190	10.1	50.2	440	17.3	63.1
200	10.4	50.7	450	17.6	63.7
210	10.7	51.3	460	17.9	64.2
220	10.9	51.6	470	18.2	64.8
230	11.2	52.2	480	18.5	65.3
240	11.5	52.7	490	18.7	65.7
250	11.7	53.1	501	19.0	66.2



TEMPERATURE LOG

EWEB-1

T. 13 S., R. 7 E., SW $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 32

04/24/80

Elevation 3,120 feet

Logged by Oregon Department of Geology

and Mineral Industries

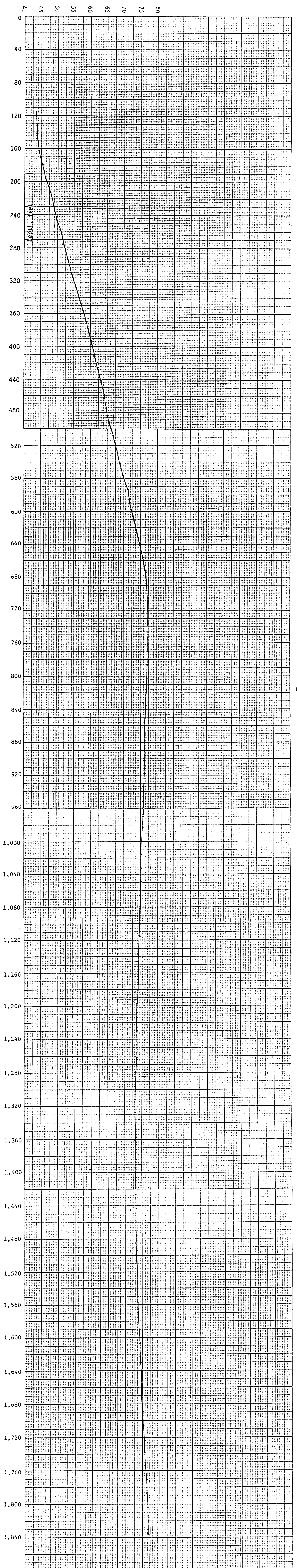
<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
114.8	6.3	43.4	639.6	23.8	74.9
131.2	6.5	43.6	656.0	24.3	75.8
147.6	6.6	43.8	672.4	24.8	76.6
164.0	6.9	44.4	688.8	25.0	76.9
180.4	7.5	45.6	705.2	25.1	77.1
196.8	8.0	46.5	721.6	25.1	77.2
213.2	8.8	47.9	738.0	25.1	77.2
229.6	9.3	48.7	754.4	25.2	77.3
246.0	9.9	49.8	770.0	25.1	77.3
262.4	10.6	51.1	787.2	25.1	77.1
278.8	11.1	52.0	803.6	25.0	77.0
295.2	11.8	53.2	820.0	24.9	76.8
311.6	12.4	54.4	836.4	24.8	76.6
328.0	13.1	55.6	852.8	24.7	76.4
344.4	13.8	56.8	869.2	24.6	76.4
360.8	14.5	58.1	885.6	24.6	76.2
377.2	15.1	59.2	902.0	24.5	76.1
393.6	15.7	60.3	918.4	24.5	76.0
410.0	16.2	61.2	934.8	24.4	75.9
426.4	16.8	62.2	951.2	24.4	75.8
442.8	17.3	63.2	967.6	24.3	75.7
459.2	17.9	64.2	984.0	24.2	75.6
475.6	18.3	65.0	1000.4	24.2	75.5
492.0	18.8	65.9	1016.8	24.1	75.3
508.4	19.4	66.9	1033.2	24.0	75.2
524.8	19.9	67.9	1049.6	24.0	75.1
541.2	20.5	68.9	1066.0	23.9	75.0
557.6	21.1	70.0	1082.4	23.8	74.8
574.0	21.7	71.1	1090.8	23.7	74.7
590.4	22.1	71.8	1115.2	23.6	74.6
606.8	22.7	72.8	1131.6	23.6	74.4
623.2	23.2	73.7	1148.0	23.5	74.3
			1164.4	23.4	74.2

TEMPERATURE LOG

135 EWEB-1 *sw of SE* *prob wrong location*
 T. 12 S., R. 7 E., NE 1/4 of SE 1/4, Sec. 9³²

Page 2

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
1180.8	23.4	74.0	1525.2	23.1	73.5
1197.2	23.3	73.9	1541.6	23.2	73.7
1213.6	23.2	73.8	1558.0	23.2	73.8
1230.0	23.2	73.7	1574.4	23.3	74.0
1246.4	23.1	73.6	1590.8	23.4	74.1
1262.8	23.1	73.5	1607.2	23.5	74.3
1279.2	23.0	73.4	1623.6	23.6	74.4
1295.6	23.0	73.4	1640.0	23.7	74.6
1312.0	22.9	73.3	1656.4	23.8	74.8
1328.4	22.9	73.2	1672.8	23.9	74.9
1344.8	22.9	73.2	1689.2	24.0	75.1
1361.2	22.8	73.1	1705.6	24.1	75.3
1377.6	22.8	73.1	1722.0	24.2	75.5
1394.0	22.8	73.1	1738.4	24.3	76.0
1410.4	22.8	73.1	1754.8	24.4	76.0
1426.8	22.8	73.1	1771.2	24.5	76.1
1443.2	22.8	73.1	1787.6	24.6	76.3
1459.6	22.9	73.2	1804.0	24.7	76.5
1476.0	22.9	73.3	1820.4	24.9	76.7
1492.4	23.0	73.4	1836.8	24.9	76.8
1508.8	23.0	73.5			



TEMPERATURE LOG

EWEB-2

T. 12 S., R. 7 E., NE ¼ of SE ¼, Sec. 9

05/29/80

Elevation 3,760 feet

Logged by Oregon Department of Geology
and Mineral Industries

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
65.6	4.2	39.5	606.8	4.3	39.7
82.0	4.2	39.5	623.2	4.4	39.8
98.4	4.1	39.3	639.6	4.4	39.9
114.8	4.0	39.3	656.0	4.5	40.2
131.2	3.9	39.1	672.4	4.6	40.3
147.6	3.8	38.9	688.8	4.7	40.4
164.0	3.7	38.7	705.2	4.8	40.6
180.4	3.7	38.6	721.6	4.8	40.8
196.8	3.6	38.6	738.0	5.0	41.0
213.2	3.6	38.5	754.4	5.4	41.7
229.6	3.6	38.5	770.8	5.5	41.9
246.0	3.6	38.4	787.2	5.9	42.6
262.4	3.6	38.4	803.6	6.2	43.1
278.8	3.6	38.4	820.0	6.3	43.3
295.2	3.6	38.4	836.4	6.5	43.8
311.6	3.6	38.4	852.8	7.0	44.6
328.0	3.6	38.4	869.2	7.1	44.9
344.4	3.6	38.4	885.6	7.6	45.6
360.8	3.6	38.4	902.0	8.0	46.3
377.2	3.6	38.5	918.4	8.4	47.1
393.6	3.6	38.5	934.8	8.7	47.6
410.0	3.6	38.5	951.2	9.1	48.4
426.4	3.6	38.5	967.6	9.4	48.9
442.8	3.6	38.6	984.0	9.8	49.6
459.2	3.7	38.6	1000.4	10.2	50.4
475.6	3.7	38.7	1016.8	10.6	51.6
492.0	3.7	38.7	1033.2	11.0	51.8
508.4	3.8	38.8	1049.6	11.3	52.5
524.8	3.8	38.9	1066.0	11.7	53.1
541.2	3.9	39.0	1082.4	12.0	53.7
557.6	3.4	39.1	1098.8	12.4	54.3
574.0	4.1	39.3	1115.2	12.7	54.8
590.4	4.2	39.5			

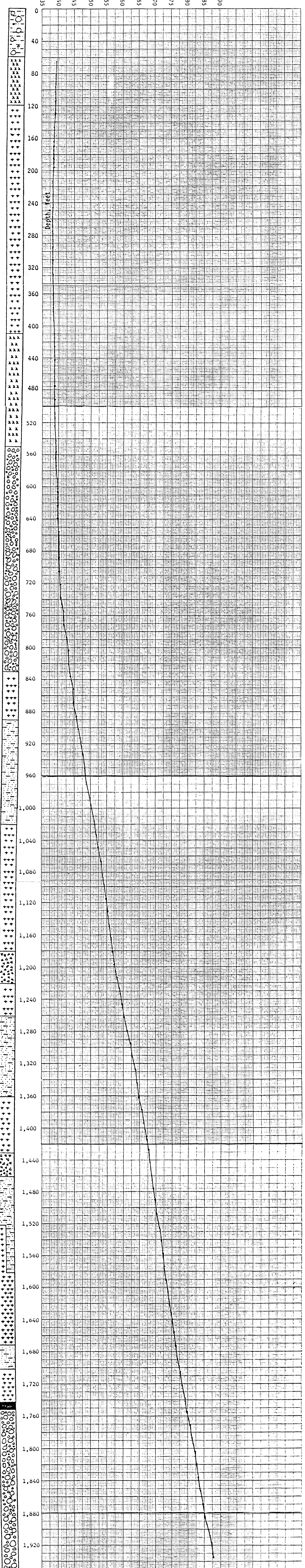
TEMPERATURE LOG

EWEB-2

T. 12 S., R. 7 E., NE $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 9

Page 2

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
1131.6	12.8	55.1	1541.6	22.0	71.6
1148.0	13.1	55.7	1558.0	22.4	72.3
1164.4	13.4	56.2	1574.4	22.6	72.6
1180.8	13.7	56.7	1590.8	23.0	73.4
1197.2	14.1	57.4	1607.2	23.3	73.9
1213.6	14.5	58.1	1623.6	23.6	74.5
1230.0	15.0	59.0	1640.0	24.0	75.1
1246.4	15.4	59.7	1656.4	24.4	75.9
1262.8	15.8	60.5	1672.8	24.7	76.4
1279.2	16.3	61.3	1689.2	25.0	77.0
1295.6	16.8	62.3	1705.6	25.4	77.7
1312.0	17.0	62.7	1722.0	25.8	78.4
1328.4	17.7	63.9	1738.4	26.2	79.1
1344.8	18.0	64.3	1754.8	26.6	79.9
1361.2	18.3	65.0	1771.2	27.1	80.7
1377.6	18.7	65.7	1787.6	27.5	81.4
1394.0	19.2	66.5	1804.0	27.8	82.0
1410.4	19.5	67.0	1820.4	28.1	82.7
1426.8	19.8	67.6	1836.8	28.5	83.3
1443.2	20.1	68.1	1853.2	28.9	84.0
1459.6	20.4	68.8	1869.6	29.3	84.7
1476.0	20.7	69.3	1886.0	29.6	85.4
1492.4	21.1	70.0	1902.4	30.3	86.5
1508.8	21.4	70.5	1918.8	30.8	87.4
1525.2	21.7	71.1	1935.2	31.0	87.9



TEMPERATURE LOG

0-1

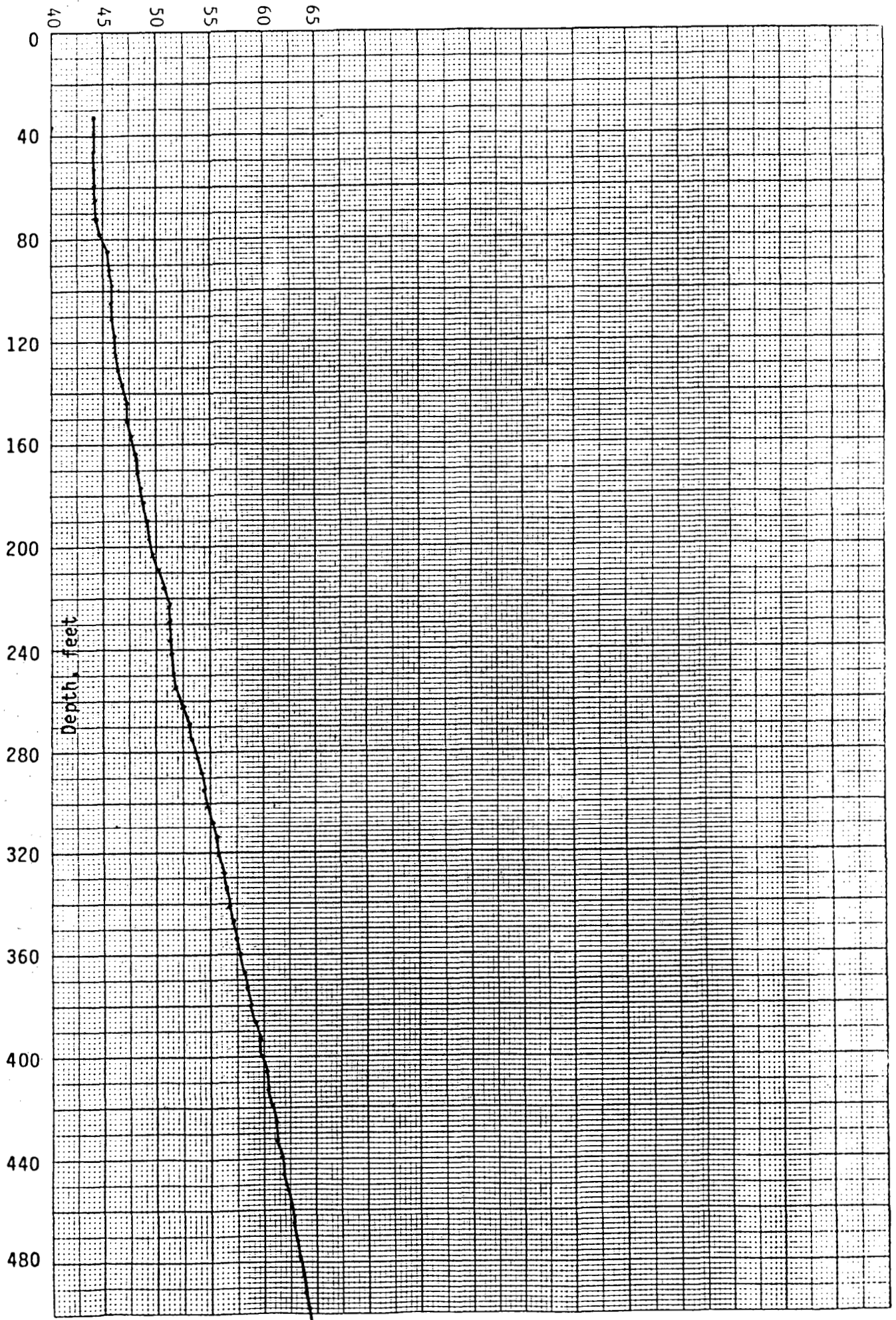
T. 14 S., R. 6 E., SW ¼ of SE ¼, Sec. 32

Elevation 3,440 feet

Logged by Oregon Department of Geology
and Mineral Industries

09/25/80

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
32.8	6.7	44.1	288.6	12.3	54.2
39.4	6.7	44.1	295.2	12.5	54.5
45.9	6.7	44.1	301.8	12.7	54.8
52.5	6.7	44.1	308.3	12.9	55.2
59.0	6.8	44.2	314.9	13.1	55.5
65.6	6.8	44.3	321.4	13.3	55.8
72.2	6.9	44.5	328.0	13.4	56.2
78.7	7.1	44.8	334.6	13.6	56.5
85.3	7.5	45.5	341.1	13.8	54.8
91.8	7.6	45.6	347.7	14.0	57.2
98.4	7.6	45.6	354.2	14.2	57.5
105.0	7.6	45.8	360.8	14.4	57.9
111.5	7.7	46.0	367.4	14.6	58.2
118.1	7.8	46.1	373.9	14.8	58.6
124.6	8.0	46.4	380.5	14.9	58.9
131.2	8.1	46.5	387.0	15.1	59.2
137.8	8.2	46.8	393.6	15.3	59.5
144.3	8.4	47.1	400.2	15.5	59.9
150.9	8.6	47.5	406.7	15.7	60.2
157.4	8.8	47.8	413.3	15.8	60.5
164.0	8.9	48.0	419.8	16.0	60.8
170.6	9.1	48.3	426.4	16.2	61.1
177.1	9.3	48.7	433.0	16.3	61.4
183.7	9.4	48.9	439.5	16.5	61.7
190.2	9.5	49.1	446.1	16.7	62.0
196.8	9.6	49.4	452.6	16.8	62.3
203.4	9.8	49.6	459.2	17.0	62.6
209.9	10.3	50.5	465.8	17.1	62.8
216.5	10.6	51.0	472.3	17.3	62.8
223.0	10.7	51.2	478.9	17.5	63.4
229.6	10.7	51.3	485.4	17.6	63.7
236.2	10.8	51.5	492.0	17.8	64.0
242.7	10.9	51.6	498.6	17.9	64.2
249.3	10.9	51.7	505.1	18.0	64.5
255.8	11.1	52.0			
262.4	11.5	52.6			
269.0	11.7	53.1			
275.5	11.9	53.5			
282.1	12.1	53.8			



TEMPERATURE LOG

0-2

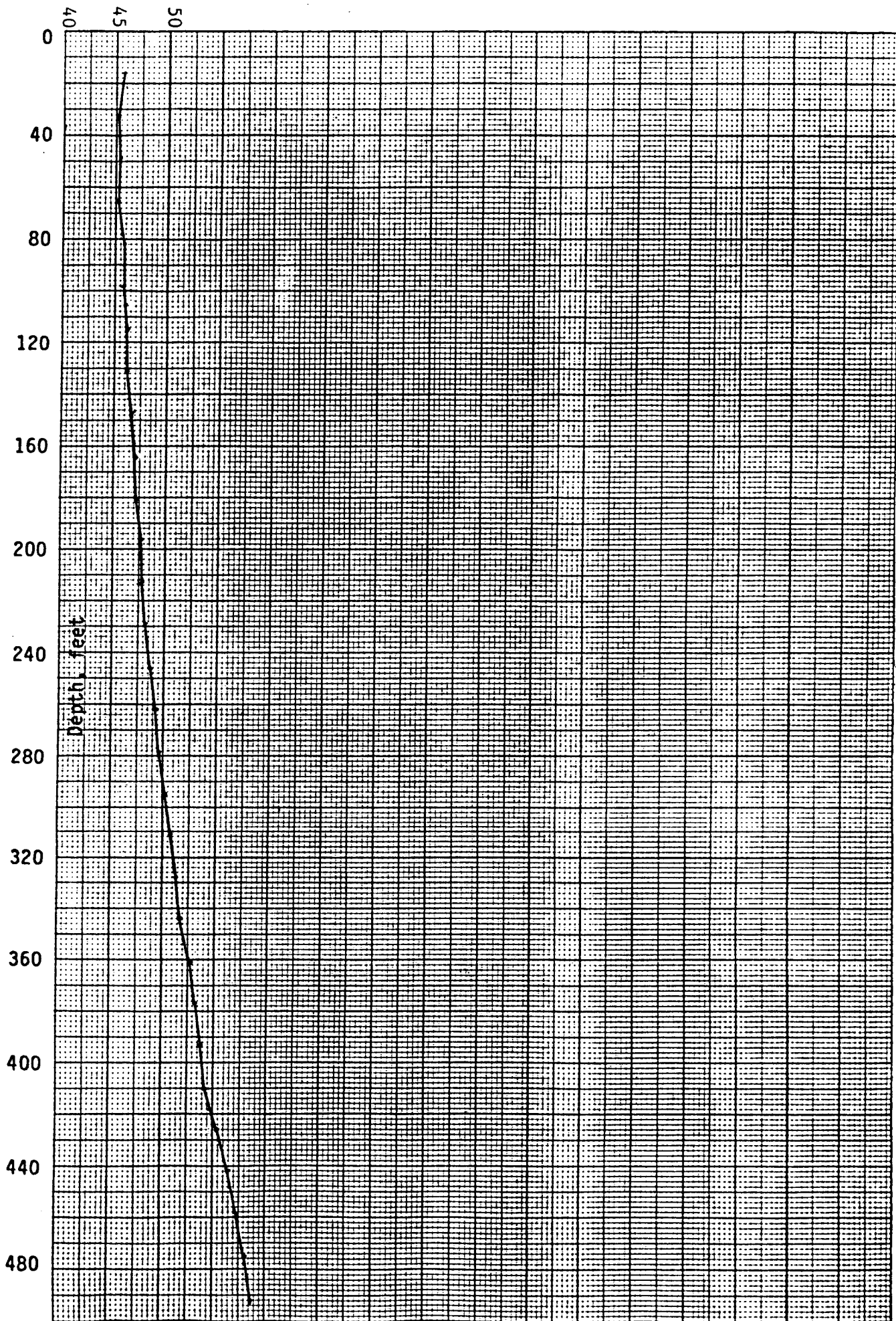
T. 16 S., R 6 E., NE $\frac{1}{4}$ of SW $\frac{1}{4}$, Sec. 2

09/29/76

Elevation 2,320 feet

Logged by Oregon Department of Geology
and Mineral Industries

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
16.4	7.6	45.7
32.8	7.3	45.1
49.2	7.5	45.5
65.6	7.4	45.4
82.0	7.6	45.6
98.4	7.7	45.8
114.8	7.9	46.2
131.2	8.0	46.4
147.6	8.2	46.7
164.0	8.3	46.9
180.4	8.4	47.2
196.8	8.7	47.6
213.2	8.8	47.9
229.6	9.1	48.3
246.0	9.3	48.7
262.4	9.5	49.2
278.8	9.7	49.5
295.2	10.2	50.4
311.6	10.5	50.9
328.0	10.8	51.5
344.4	11.1	51.9
360.8	11.5	52.6
377.2	11.8	53.3
393.6	12.1	53.8
410.0	12.6	54.7
426.4	13.0	55.5
442.8	13.6	56.5
459.2	14.1	57.4
475.6	14.5	58.1
492.0	14.8	58.7



TEMPERATURE LOG

0-3

16S/5E-30AAB

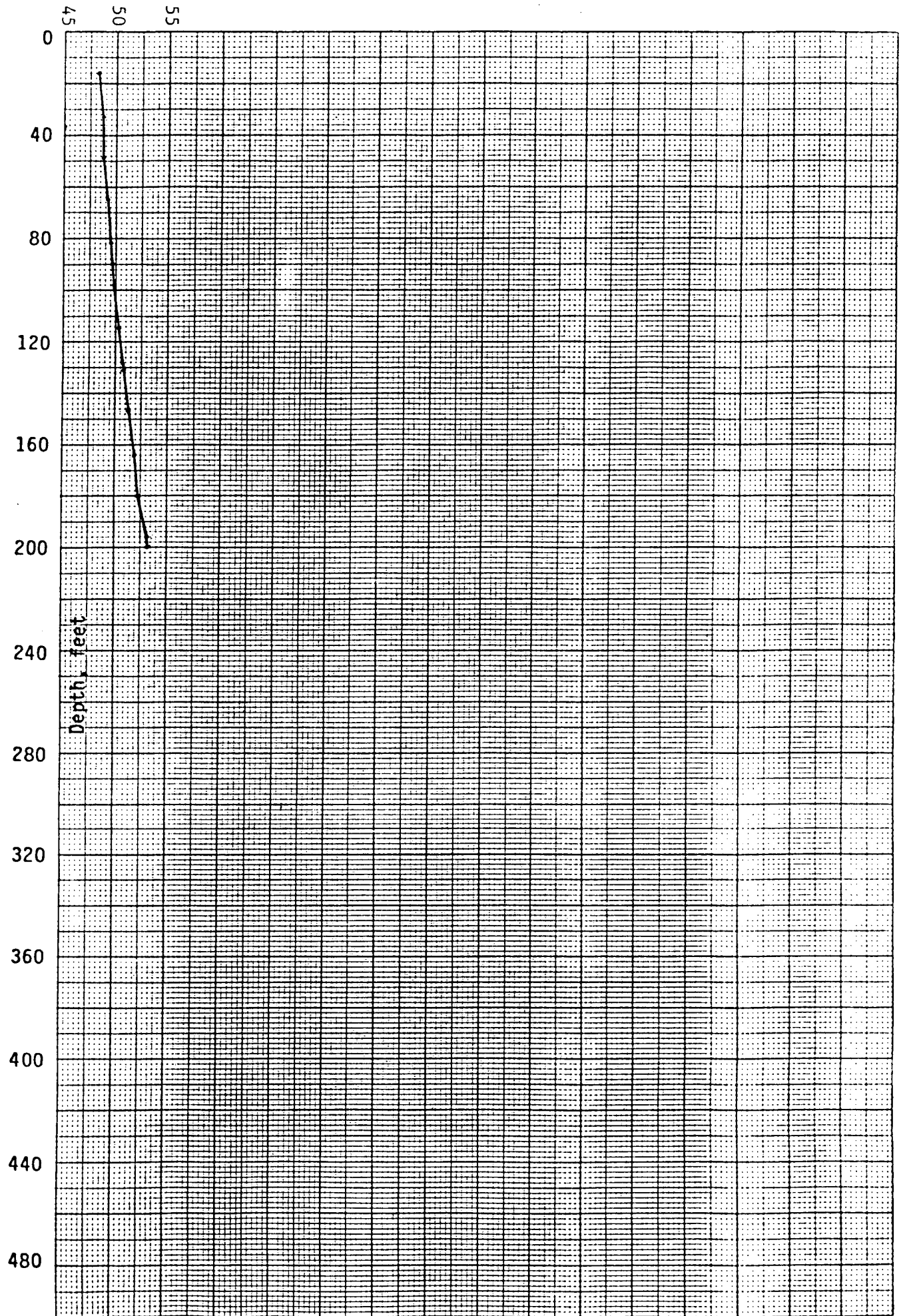
T. 16 S., R. 5 E., SE $\frac{1}{4}$ of SE $\frac{1}{4}$, Sec. 19

08/08/79

Elevation 1,520 feet

Logged by Oregon Department of Geology
and Mineral Industries

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
16.4	9.1	48.3
32.8	9.2	48.6
49.2	9.4	48.9
65.6	9.5	49.1
82.0	9.7	49.5
98.4	10.0	50.0
114.8	10.2	50.4
131.2	10.5	51.0
147.6	10.8	51.4
164.0	11.1	51.9
180.4	11.3	52.4
196.8	11.7	53.0
200.1	11.7	53.1



TEMPERATURE LOG

0-4

T. 16 S., R 5 E., SE $\frac{1}{2}$ of SE $\frac{1}{4}$, Sec. 19

08/08/79

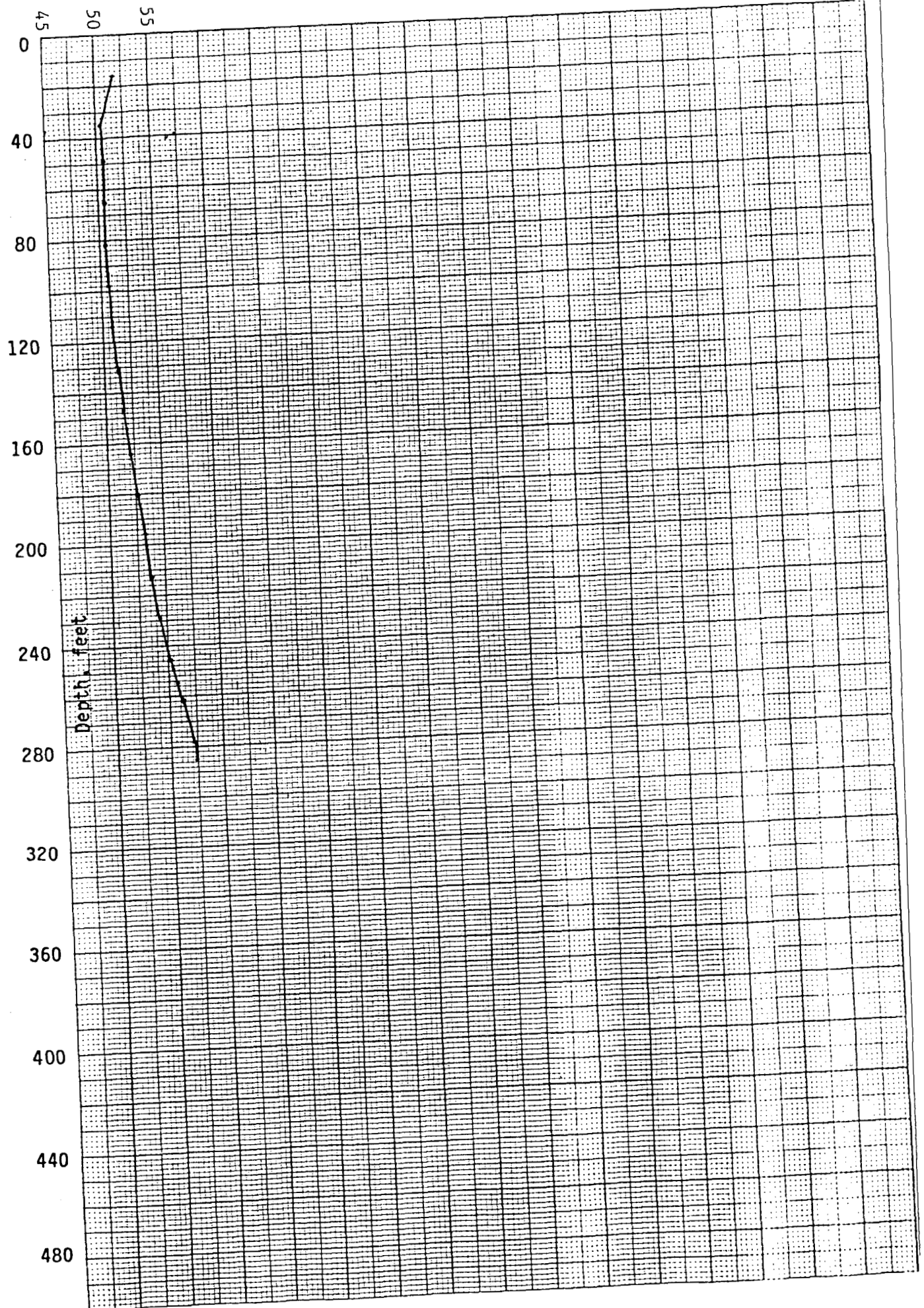
Elevation 1,440 feet

Logged by Oregon Department of Geology
and Mineral Industries

<u>Depth, in feet</u>	<u>°C</u>	<u>°F</u>
16.4	11.0	51.8
32.8	10.3	50.5
49.2	10.3	50.6
65.6	10.3	50.5
82.0	10.3	50.6
98.4	10.4	50.7
114.8	10.6	51.0
131.2	10.7	51.3
147.6	10.9	51.6
164.0	11.2	52.1
180.4	11.5	52.7
196.8	11.8	53.2
213.2	12.1	53.7
229.6	12.5	54.5
246.0	13.0	55.4
262.4	13.5	56.3
278.8	14.0	57.2
285.4	14.2	57.5

TEMPERATURE LOG °F

0-4 08/08/79



TEMPERATURE LOG

0-5

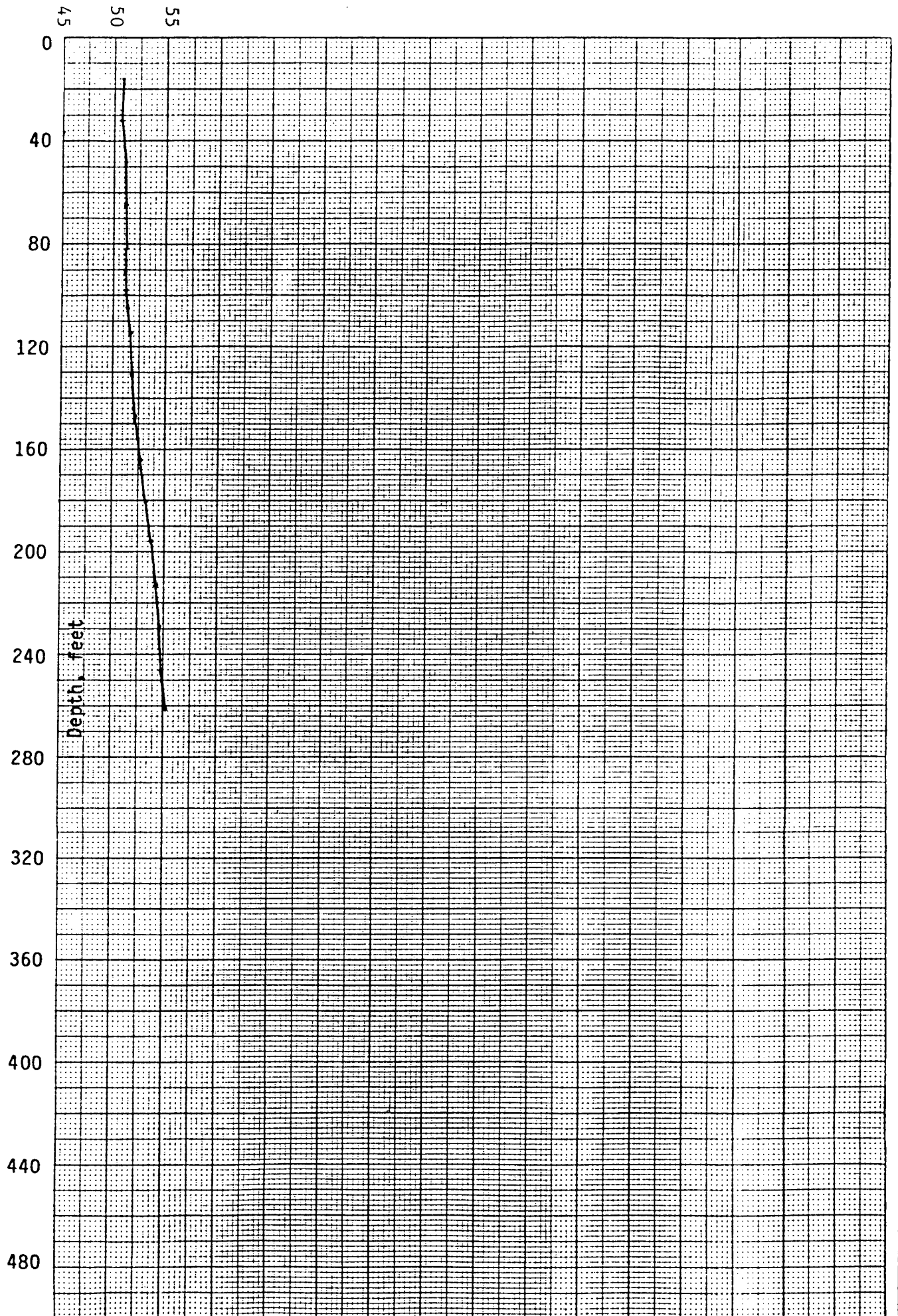
T. 16 S., R. 5 E., NW $\frac{1}{4}$ of NE $\frac{1}{4}$, Sec. 30

08/08/79

Elevation 1,240 feet

Logged by Oregon Department of Geology
and Mineral Industries

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
16.4	10.4	50.8
32.8	10.4	50.8
49.2	10.6	51.0
65.6	10.6	51.1
82.0	10.7	51.2
98.4	10.8	51.4
114.8	10.9	51.6
131.2	11.1	51.9
147.6	11.3	52.3
164.0	11.5	52.8
180.4	11.8	53.3
196.8	12.2	53.9
213.2	12.4	54.3
229.6	12.6	54.7
246.0	12.7	54.9
261.6	12.9	55.2



TEMPERATURE LOG

0-6

T. 16 S., R. 6 E., NW ¼ of NW ¼, Sec. 27

09/29/76

Elevation 1,760 feet

Logged by Oregon Department of Geology
and Mineral Industries

<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>	<u>Depth,</u> <u>in feet</u>	<u>°C</u>	<u>°F</u>
16.4	8.1	46.6	262.4	15.6	60.1
32.8	8.4	47.1	278.8	15.8	60.5
49.2	8.9	48.1	295.2	16.3	61.4
65.6	9.3	48.8	311.6	16.6	62.0
82.0	9.9	49.7	328.0	17.1	62.7
98.4	10.4	50.7	344.4	17.7	63.9
114.8	10.8	51.5	360.8	18.2	64.8
131.2	11.3	52.3	377.2	17.7	65.7
147.6	11.8	53.3	393.6	19.2	66.5
164.0	12.3	54.2	410.0	19.6	67.3
180.4	12.9	55.2	426.4	20.1	68.1
196.8	13.3	56.0	442.8	20.4	68.8
213.2	14.0	57.2	459.2	20.8	69.5
229.6	14.6	58.2	475.6	21.2	70.2
246.0	15.0	59.0	492.0	21.6	70.8

