OFR
Dec 79
NV/Bell/
EPP-8

EARTH POWER PRODUCTION COMPANY
522 SOUTH BOSTON AVENUE
P.O.BOX 1566, TULSA, OKLA.74101
918-587-9704

August 24, 1979

Mr. Joseph N. Fiore, Project Engineer,
Geothermal Branch Engineering
The Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Dear Joe:

Please be advised that the drilling operations pursuant to our Contract #DE-AC08-79ET27007 were completed July 31, 1979. Some additional temperature logging was accomplished during August.

The deliverables required pursuant to our contract are the temperature logs, drilling and completion histories, and drill cutting samples. The samples will be sent next week to Mr. Ross at the University of Utah; the temperature data and drilling and completion histories are enclosed herewith.

The data covers 4638' of cased hole. You previously reimbursed us for 1581' out of the 4500' for which we are entitled to be reimbursed at a rate of $19.95 per foot.

We herewith request that you reimburse us for 2919' at $19.95 per foot for a total amount of $58,234.05.

Your attention to this matter is appreciated.

Sincerely yours,

Ronald C. Barr
President
Enclosures

cc: Mr. H. P. Ross w/enclosures

DATE	DEPTH	SUMMARY OF OPERATIONS
5 May 79	0-88	Rig up. Dig mud pits. Spud with 12¼" bit at 3:15 p.m. Drive 20 ft. 14" casing in soft clay. Begin drilling with 12¼" bit below conductor pipe. Lost circulation at 25 ft. Add cottonseed hulls and Fibertex to mud. Circulation recovered. Depth is 88 ft. at 8:00 p.m. Trip out of hole.
6 May 79	88-154	Trip into hole. Drilling in basaltic gravels with occasional clay layers. Return circulation good. Initial mud return temperature = 145°F, dropping to 80°F as circulation continues. Lost circulation at 115 ft. Static water level drops from 3 ft. to 8 ft. below ground level. Add LCM to mud system. Circulation partially recovered. Severe lost circulation at 151 ft. Make up fresh mud pits. Pump in mud and LCM slowly. No recovery. Static water level at 5 ft. Mix up new pits. No recovery. Out of mud. Rig up to drill with foam. Trip up the hole to 40 ft. Well blows out when air is turned on. Much steam and hot water. Kill well by pumping 1500 gals. cold water.
7 May 79	154-154	Out of mud. Well apparently flowed overnight. Well blows out at 11:00 a.m. and dies spontaneously. Pump 3000 gals. of cold water to cool hole. Mud arrives 10:30 p.m.
8 May 79	154-166	Mix up new mud pits. Trip into hole. 15 ft. of fill up on bottom. Cannot keep hole clean because of low viscosity. Mud weight of 9 lbs./gal. or more results in lost circulation. Static water level at 8 ft. Trip out of hole at 166 ft. Decide to case to 166 ft.
9 May 79	166	Trip into hole. 3 ft. of fill up on bottom. Prepare to case. Begin running casing. Run 158 ft. of 8-5/8" T&C, K-55 casing. Rig up to cement casing. Cement thru casing with 38 sax Portland Type I-II low alkali neat cement and water to make 440 gals. No return to surface. W.O.C.
10 May 79	166	Probe down annulus to 151 ft. with plastic pipe. No sign of cement. Come out of hole

DATE	DEPTH	SUMMARY OF OPERATIONS
		with plastic pipe. Drop 120 ft. of pipe. Fish out pipe. Run in annulus with iron pipe. Hole open to 149 ft. Prepare to cement. Cement thru iron pipe in annulus at 149 ft. Stage 3, 200 gal. slugs of cement. W.O.C.
11 May 79	166-10	Run iron pipe down annulus. Annulus bridged at 20 ft. Try to wash out bridge. Cannot break thru bridge. Pressure up on casing. Casing leaking at 100 psi. Cement 12 sax down annulus. Mix up cement to pump down annulus (25 sax cement with 3 sax hulls). Pump cement down casing. Casing comes up out of hole 2½ ft. Decide to abandon hole because of bad cement job. Move rig 15 ft. west. Spud new hole with 12¼" bit; set 10 ft. of 14" conductor.
12 May 79	10-130	Mix up mud pits. Drilling with 12¼" bit. Lost circulation at 126 ft. Mix up new pits with hulls and Fibertex. Cannot recover circulation. Trip out of hole.
13 May 79	130-153	Mix up pits. Trip into hole. 15 ft. of fill up on bottom. Slight return flow begins at 136 ft. Prepare to case at 153 ft.
14 May 79	153-156	Trip into hole. Hole is clean. Drill to 156 ft. to make extra hole for casing. Trip out of hole. Set 153' 6" of 8-5/8" T&C, K-55 casing at 155 ft. Cement baskets at 150 and 140 ft. Prepare to cement. Cement thru casing with 24 sax neat cement. Cement down annulus with 1" pipe with 26 sax. W.O.C. 6 Hrs. Cement down annulus with 24 sax. W.O.C. 8 Hrs.
15 May 79	156	Cement down annulus with 22 sax neat cement and 2 sax hulls. W.O.C. 6 Hrs. Probe down annulus. Cement at 35 ft. and still soft. W.O.C. 7 Hrs. Cement down annulus with 44 sax cement and 3 sax hulls. W.O.C. 8 Hrs.
16 May 79	156	Probe down annulus. Cement at 26 ft. and hard. Cement down annulus with 20 sax cement and 2 sax hulls. Cement returns to surface, approximately 50 gals. Cement down annulus of previously abandoned hole with 12 sax. Prepare to nipple up.

DATE	DEPTH	
16 May 79 (cont'd)		Wellhead as installed from casing up: a) 900 series flange screw into 8-5/8" casing collar, b) 900-600 series drilling spool 2" line pipe side outlets, c) Double manual schaffer 2000-3000 B.O.P. with blind rams on bottom and 2-7/8" pipe rams on top, d) 600 series companion flange, e) flow nipple. Test B.O.P. Close blind rams. Pressure up to 250 psi. Pressure drops to 221 psi after 10 minutes. Close 2-7/8" rams on drill pipe. Pressure up to 250 psi. Pressure drops to 225 after 10 minutes. Test passes.
17 May 79	156-181	Trip into hole. Top of cement at 110 ft. Begin drilling out cement with 6-3/4" bit. 161 ft. lost circulation. Mix up new pits with hulls and Fibertex. Trucks arrive at noon with mud, LCM, drill pipe and collars. Drilling with no returns. Trip up into casing.
18 May 79	181-261	Trip into hole. Drilling with no returns. Occasional 2-3 ft. cavern from 181-201 ft. Bottom of hole staying clean with 33-35 vis. Trip up into casing
19 May 79	261-381	Trip into hole. Hole bridged at 185 ft. Wash out bridge. No fill up on bottom. Consuming ~6000 gals. hr. of mud drilling with no returns. Drilling at 25 ft./hr. at 281 ft. 320-381 soft rock drilling at 40-60 ft./hr. Trip up into casing.
20 May 79	381-519	Trip into hole. Mix mud. Hole bridged at 171 and 188 ft. Drilling with no returns. Bottom of hole staying clean. Trip up into casing.
21 May 79	519-610	Trip into hole. Drilling with no returns. Trip out of hole.
22 May 79	610-721	New 6-3/4" bit. Trip into hole. Drilling with no returns. Water truck cannot keep up with lost circulation. Trip up into casing.

DATE	DEPTH	
23 May 79	721-819	Trip into hole. Drilling with no returns. Trip out of hole with plugged bit. Trip into hole. Drilling with no returns. Trip up into casing.
24 May 79	819-881	Trip into hole. Drilling with no returns. Trip out of hole. Rig down. Build fence around drill site. Move equipment.
25 May 79		Rig in Reno for maintenance on auxiliary transmission.
4 June 79	881-1044	Rig up. Mix up new pits. Begin tripping into hole at 2:15 p.m. Hole bridged at 165, 171, 185 and 240 ft. Drilling with no returns at 20 ft./hr. Static water level at 5 ft. when not drilling and at 8-9 ft. when drilling. Drilling thru interlayered hard and soft: Hard rock is 20 ft./hr. for 10-15 ft. then 3-5 ft. of 40 ft./hr. material. Trip up 60 ft. of bottom and rotate.
5 June 79	1044-1581	Drill with no returns. Trip out of hole.
6 June 79	1581	Standby for logging truck. Century Geophysical truck arrives at 2:30 p.m. to run Gamma-SP-Resistivity. Hole bridged at 210 ft. Loggers probe not working. No log. Run 1528½ ft. of 2-3/8" API tubing. Wellhead consists of homemade casing hammer and 2" Hi pressure ball valve on 2-3/8" tubing.
7 June 79		Rig down. Clean up site.

DATE	DEPTH	SUMMARY OF OPERATIONS
10 June 79	0-400	Rig up. Spud 9-7/8" hole with air at 11:15 a.m. Large cavities forming in hole. Hole won't stay clean. Set 10 ft. of 8-5/8" casing. Drill with 6-3/4" bit. Depth is 120 ft. at 2:30 p.m. Drilling with air but hole is too wet to stay clean. Mud up. Drilling is fast in interlayered sandstones. Thin air fall tuff at 110 ft. Depth is 400 ft. at midnight.
11 June 79	400-500	Depth is 500 ft. at 2:30 a.m. Trip out of hole. Rig shut down from 3:00 a.m. until noon. At noon, run 463 ft. of 2-3/8" tubing. Standby for temperature survey.
12 June 79	0-209	Pull 2-3/8" tubing after temperature survey. Pull 8-5/8" conductor. Ream hole with 12-1/4" bit to 209 ft. Run 202 ft. of 8-5/8" T&C casing set at 205 ft. Cement thru casing with 72 sax Portland Type I-II cement. Plug down at 11:00 p.m. Clean out mud pumps.
13 June 79	209	Cement 25 ft. down (6 ft. above top casing collar). Cement with 6 sax to surface. Nipple up to 6" double manual BOP; blind rams on bottom, 2-7/8" pipe rams on top. Pressure up to 250 psi on blind rams. Pressure drops to 242 after 30 minutes. Go in hole with drill pipe. Pressure up on pipe rams to 225 psi. Pressure steady at 225 for 30 minutes. BOP test passes. Begin drilling out cement at 2:30 p.m. Top of cement @ 100 ft. Drill out cement to 160'. Stop to pump out mud pits. Haul contaminated mud to Denio dump.
14 June 79	209-785	Drill cement to 209 ft. with 6" bit. Clean out mud pits once more. Mix up fresh pits. Wash to 505 ft. Hole is fairly clean. Depth is 605 ft. at noon. Depth is 780 ft. at 10:00 p.m. Bit not cutting.

DATE	DEPTH	SUMMARY OF OPERATIONS
15 June 79	780	Trip for new bit. Bearings frozen and bit worn flat. Out of 6" bits. Re-enter hole with 6-1/4" bit. Wash to 505 ft. Ream to 780 ft. by noon. Mud pump clutch shot. Rig is down.
16 June 79	780	Rig down. Work on clutches.
17 June 79	780	Rig down.
18 June 79	780	Rig down.
19 June 79	780-1020	Rig back in operation at 4:00 p.m. Trip into hole with 6" bit. Making mud at 900 ft. At 1020 ft. mud too thick to pump. Pump out pits.
20 June 79	1020-1200	Pump out mud pits. Mix up fresh pits. Drilling again at 4:00 a.m. Depth is 1120 at 8:00 a.m. Drawworks clutch overheated. Trip out of hole. Work on drawworks clutch. Trip into hole at 8:00 p.m. Drilling ahead at 9:00 p.m. Depth is 1200 ft. at midnight.
21 June 79	1200-1550	Drilling ahead. Intermittently hard and soft layers. Hole still making mud. Depth is 1520 at noon. Pump out pits. Mix up fresh pits.
22 June 79	1550-1680	Trip out at 1:00 a.m. for new bit. Trip in with 5-5/8" bit. On bottom at 5:45 a.m. Depth is 1680 ft. @ 10:00 a.m. Trip out of hole. Mix up fresh pit to condition hole. Condition hole for 4 hours.
23 June 79	1680	Trip out of hole. Haul tubing to site. Run 1670 ft. of 2-3/8" tubing.

DATE	DEPTH	SUMMARY OF OPERATIONS
28 June 79	0-40	Set up water pipeline from Continental Lake. Repair road to site. Rig up. Mix mud. Spud at 5:30 p.m. in coarse gravels and cobbles with 6-3/4" bit.
29 June 79	0-120	Drilling pilot hole with 6-3/4" bit. Hole not staying clean due to large cuttings and gravel. Moderate lost circulation. Depth is 300 ft. at 7:45 p.m. Trip out of hole. Ream hole with 9-7/8" bit. Hole is re-amed to 120 ft. at midnight.
30 June 79	120-220	Hole is reamed to 220 ft. at 1:30 a.m. Run 203 ft. of 7" T&C casing hung at 205 ft. Cement basket at 90ft. Cement thru casing with 56 sax Portland Type I-II. Cement returns ~ 35 Gals. to surface. Cement job done at 7:00 a.m. W.O.C. Nipple up at 5:00 p.m. to double manual B.O.P. with blind rams on bottom and 2-7/8" pipe rams on top. Haul mud. Change oil pump. At 10:15 p.m: pressure up on pipe rams on B.O.P. to 250 psi; pressure drops to 234 after 10 Mins. Trip into hole and begin drilling out cement
1 July 79	220-445	Drill out cement to 210' with 6" bit. Wash to 300 ft. Encounter hard basalt at 340. Depth is 350 at noon. Trip out for new bit. Trip in. Interlayered hard basalt and cinders. Depth is 445 at midnight.
2 July 79	445-620	Trip out for new bit. Trip in. Hard formation at 450 ft. Drilling faster at 475. Depth is 580 ft. at noon. Trip out for new bit. Trip in. Depth is 620' at midnight.
3 July 79	620-1000	Trip out at 620 ft. New bit. Trip in. Very hard to 710'. Intermittent hard to 820'. Very hard to 880'. Depth is 880 at noon. Depth is 970' at 8:00 p.m. Mud return temperature is 80°F. Depth is 1000 at 10:00 p.m. Trip out of hole.

DATE	DEPTH	SUMMARY OF OPERATIONS
4 July 79	1000	Holiday.
5 July 79	1000-1200	Start up again at 6:00 a.m. Rebuild swivel. Trip into hole. Wash to 400. Losing circulation. Mix up new pits with LCM. Circulation recovered. On bottom at noon. Depth is 1050' @ 2:10 p.m. Mud return temperature is 91°F. Depth is 1200 ft. at midnight.
6 July 79	1200-1487	Drilling thru intermittent hard basalts ~2-5 ft. thick. Lost circulation at 1240'. Mix up new pits with LCM. Circulation recovered. Very hard formation 1355-1405 ft. Depth is 1420 ft. at noon. Depth is 1487 ft. at 4:30 p.m. Mud return temperature is 96°F. Mud pump breaks down. Trip out of hole.
7 July 79	1487	Haul tubing to site. Run 1410 ft. of 2-3/8" tubing. Rig down.
18 July 79	1487	Add 30 ft. of 2-3/8" tubing to bring total to 1440 ft.

DRILLING HISTORY

Baltazor 1500-1, Humboldt County, Nevada

5 May - 5 June 79

1.	OPERATOR:	Earth Power Production Company Tulsa, Oklahoma
2.	CONTRACTOR:	American Geothermal Drilling Co. Tulsa, Oklahoma
3.	WELL LOCATION:	T.46N, R.28E, Sec. 14 - NW NE NW Elevation: 4218'
4.	SPUD DATE:	5 May 79
5.	COMPLETION DATE:	5 June 79
6.	RIG DESCRIPTION:	Portadrill Model 524, Serial #662, 60,000 lb. mast, 5½x8 Gardner-Denver mud pump, Atlas Copco 125 psi @ 330 CFM air compressor. 2000 ft. 2-7/8" IF drill pipe. 80 ft. 4½" drill collars.
7.	TOTAL DEPTH:	1581' Cased to 1528½' with 2-3/8" API tubing.

DRILLING HISTORY

McGee 1500-2, Humboldt County, Nevada

10 June - 23 June 79

1.	OPERATOR:	Earth Power Production Company Tulsa, Oklahoma
2.	CONTRACTOR:	American Geothermal Drilling Co. Tulsa, Oklahoma
3.	WELL LOCATION:	T.45N, R.27E, Sec. 26 - NE NE Elevation: 4610'
4.	SPUD DATE:	10 June 79
5.	COMPLETION DATE:	23 June 79
6.	RIG DESCRIPTION:	Portadrill Model 524, Serial #662, 60,000 lb. mast, 5½x8 Gardner-Denver mud pump, Atlas Copco 125 psi @ 330 CFM air compressor. 2000 ft. 2-7/8" IF drill pipe. 80 ft. 4½" drill collars.
7.	TOTAL DEPTH:	1680' Cased to 1670' with 2-3/8" tubing.

DRILLING HISTORY

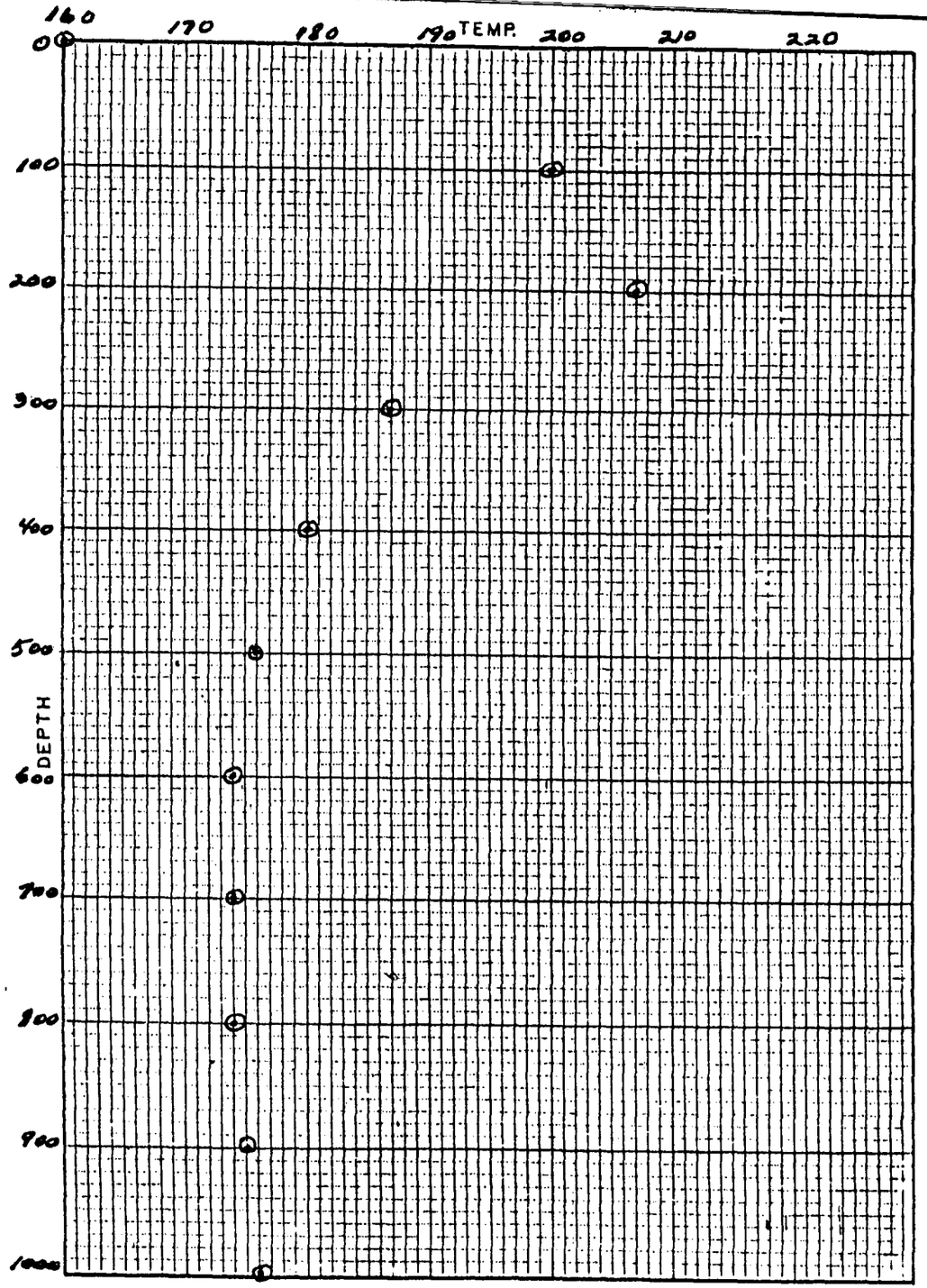
Baltazor 1500-2, Humboldt County, Nevada

28 June - 7 July 79

1.	OPERATOR:	Earth Power Production Company Tulsa, Oklahoma
2.	CONTRACTOR:	American Geothermal Drilling Co. Tulsa, Oklahoma
3.	WELL LOCATION:	T.46N, R.28E, Sec. 14 - NE SW Elevation: 4250'
4.	SPUD DATE:	28 June 79
5.	COMPLETION DATE:	7 July 79 (Added 30 ft. of tubing on 18 July 79)
6.	RIG DESCRIPTION:	Portadrill Model 524, Serial $662, 60,000 lb. mast, 5½x8 Gardner-Denver mud pump, Atlas Copco 125 psi @ 330 CFM air compressor. 2000 ft. 2-7/8" IF drill pipe. 80 ft. 4½" drill collars.
7.	TOTAL DEPTH:	1487' Cased to 1440 with 2-3/8" tubing.

Baltazor HOLE # 1500-1

DEPTH	TEMP.	DEPTH	TEMP.
0	160.9	500	176.7
20	167.9	520	175.8
40	178.9	540	175.6
60	188.4	560	175.3
80	195.8	580	175.1
100	200.4	600	174.9
120	204.1	620	174.7
140	207.4	640	174.7
160	210.1	660	174.4
180	207.6	680	174.0
200	207.7	700	174.0
220	200.8	720	173.8
240	193.5	740	173.8
260	189.3	760	174.0
280	187.5	780	174.0
300	187.3	800	174.2
320	187.1	820	174.4
340	185.7	840	174.7
360	183.5	860	174.7
380	181.9	880	174.9
400	180.8	900	175.6
420	179.6	920	175.6
440	178.5	940	175.8
460	178.0	960	175.8
480	177.8	980	175.8



LITHOLOGY

15 Min Hang @ 1398'

0 Min	182.8
2	183.0
4	183.2
6	183.2
8	183.2
10	183.2
12	183.2
14	183.2
15	183.2

Note: Hole bridged at 1398'

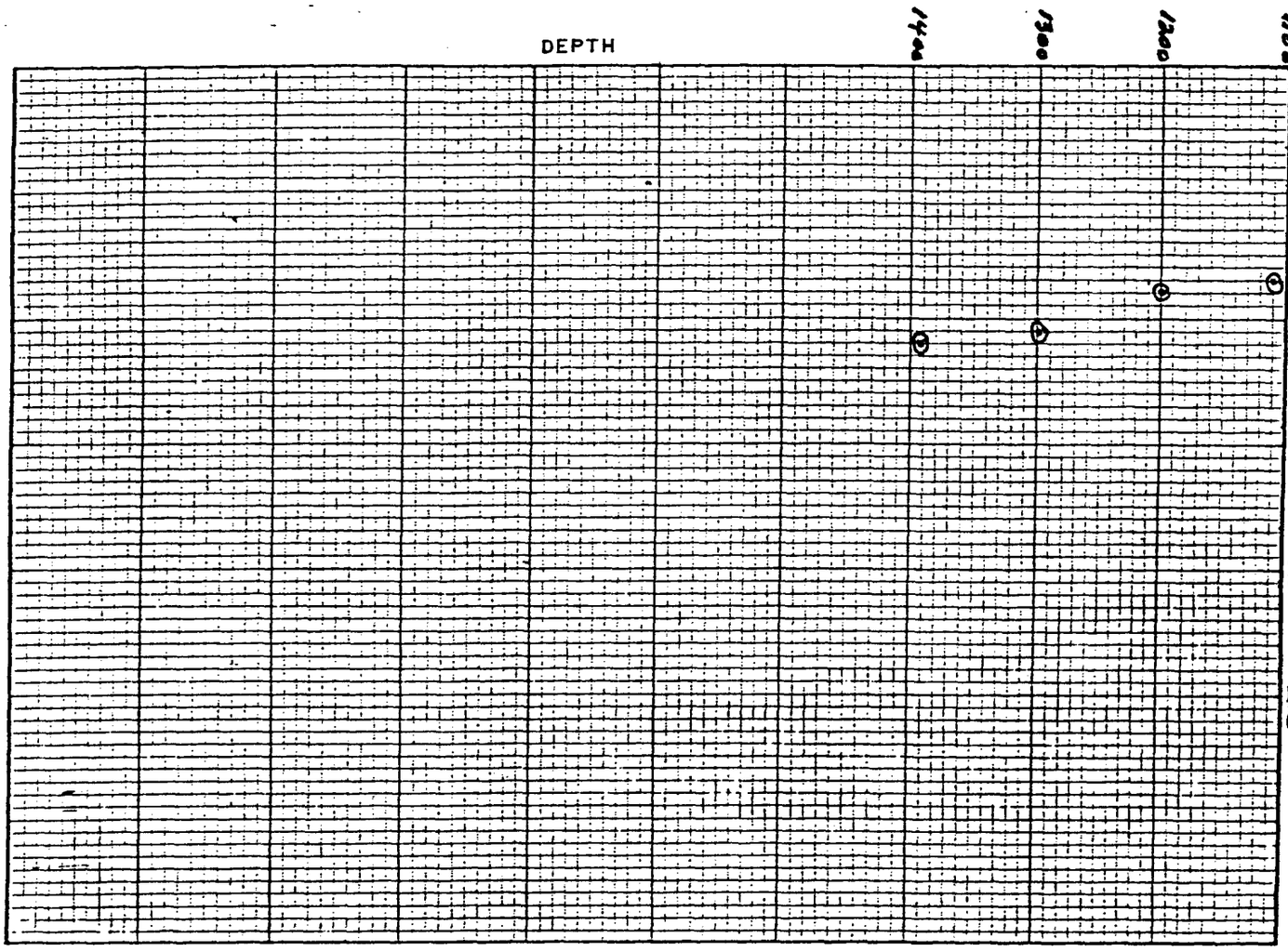
PROSPECT Baltazor
LOCATION Humboldt Co. Nevada
SURF. ELEV.
DATE DRLD. 5 June 79

GRADIENT
T.D. 1581'
TEMP. AT T.D. 182.8
SURVEY DATE 25 June 79
SURVEY BY Agnew & Sweet

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

Page 2

DEPTH	TEMP.	DEPTH	TEMP.
1000	176.0		
1020	175.5		
1040	176.9		
1060	177.1		
1080	177.4		
1100	177.6		
1120	177.8		
1140	178.0		
1160	178.3		
1180	178.7		
1200	178.9		
1220	179.6		
1240	180.1		
1260	180.5		
1280	181.0		
1300	181.2		
1320	181.7		
1340	181.9		
1360	182.3		
1380	182.6		
1398	182.8		



LITHOLOGY

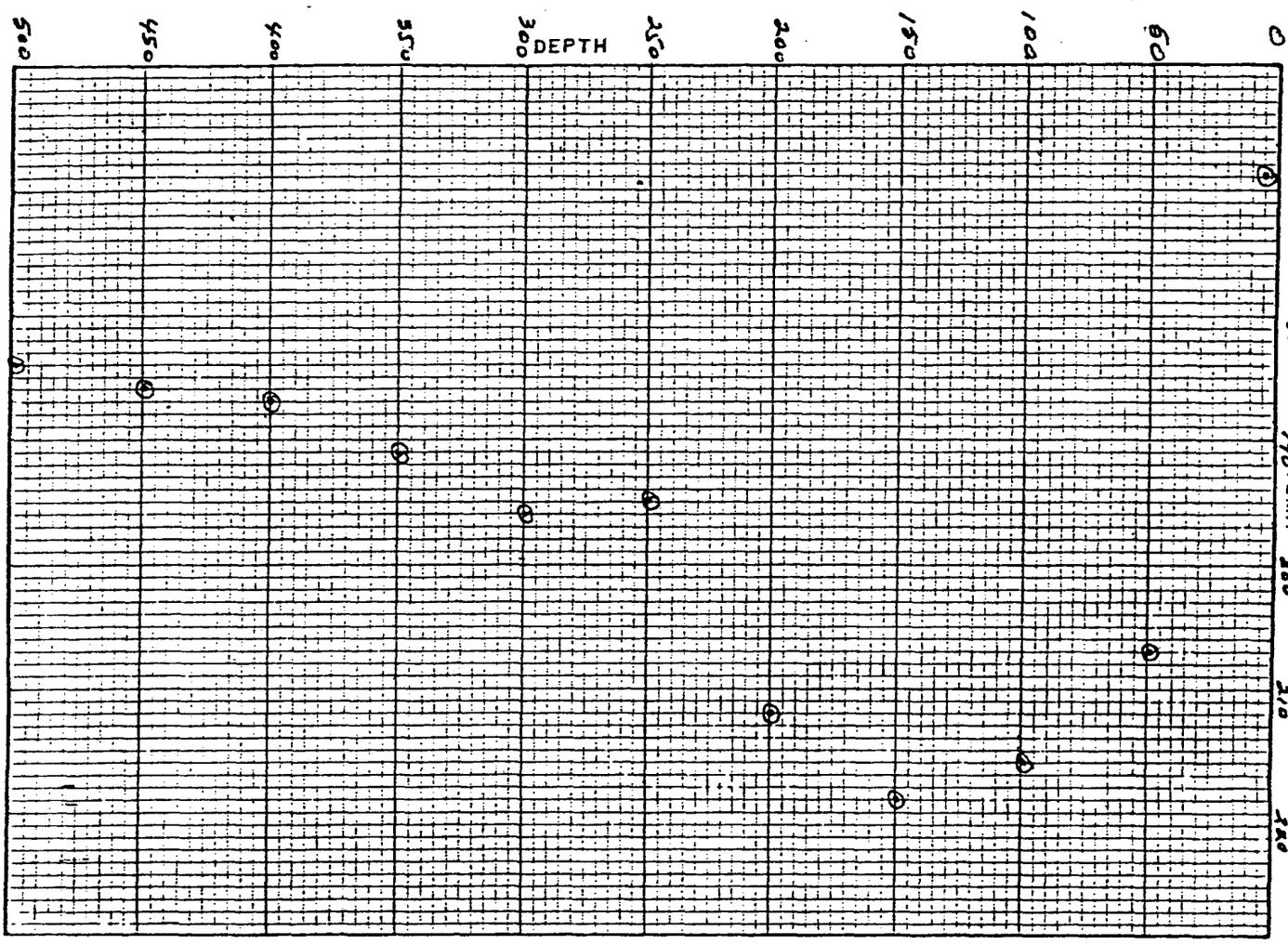
Baltazar HOLE # CSDDH-1

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

PROSPECT Baltazar
LOCATION Humboldt Co., Nevada
SURF. ELEV.
DATE DRLD. 5 JUNE 79

GRADIENT
T. D. 1581'
TEMP. AT T.D. 182.8
SURVEY DATE 25 JUNE 79
SURVEY BY AGNEW + SWEET

DEPTH	TEMP.	DEPTH	TEMP.
0	169.3	250	193.2
10	171.7		195.6
	187.2		196.0
	196.5		196.4
	202.3		196.6
50	207.0	300	196.7
	210.1		196.2
	213.0		195.4
	214.6		194.0
	216.0		192.3
100	216.8	350	191.0
	217.2		189.6
	217.8		189.2
	218.4		188.6
	218.8		188.2
150	219.2	400	187.4
	219.3		186.9
	218.8		186.5
	216.4		186.3
	214.2		186.1
200	212.4	450	186.2
	209.7		185.5
	203.5		185.1
	199.9		184.9
	194.6		184.6



LITHOLOGY HOLE # 15C-1

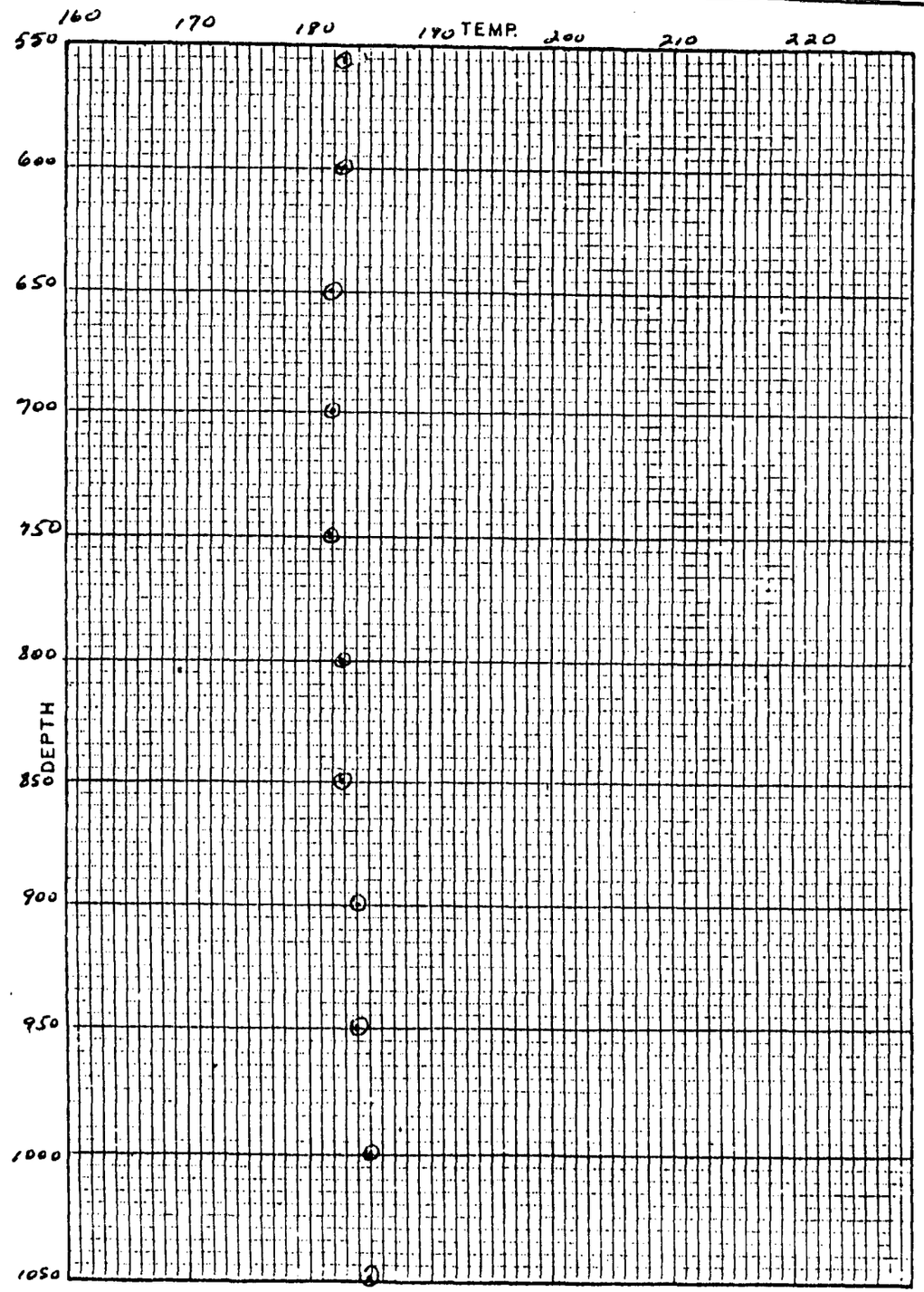
EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

PROSPECT Baltazor
LOCATION Humboldt Co, Nevada
SURF. ELEV.
DATE DRLD. 7 July 79

GRADIENT
T. D. 1581'
TEMP. AT T.D. 195.0
SURVEY DATE 26 July 79
SURVEY BY EPPC

Page 2.

DEPTH	TEMP.	DEPTH	TEMP.
500	184.4	750	182.7
	184.3		182.8
	184.2		182.9
	184.0		183.0
	183.8		183.0
550	183.8	800	183.0
	183.7		183.1
	183.6		183.2
	183.5		183.2
	183.4		183.4
600	183.4	850	183.6
	183.2		183.6
	183.0		183.7
	183.0		183.8
	182.9		183.9
650	182.7	900	184.0
	182.6		184.1
	182.5		184.1
	182.2		184.2
	182.1		184.2
700	182.4	950	184.2
	182.5		184.2
	182.6		184.6
	182.6		184.8
	182.6		185.0



Bartlesville HOLE # 1500-1

LITHOLOGY

PROSPECT Bartlesville
LOCATION Bamberger Co, Nowata

GRADIENT 1581'
T.D. 195.0
TEMP. AT T.D. 26 July 79
SURVEY DATE EPRC
SURVEY BY

SURF. ELEV.
DATE DRLD. 7 July 79

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

DEPTH	TEMP.	DEPTH	TEMP.
1000	185.1	1250	189.9
	185.2		189.0
	185.3		189.3
	185.4		189.4
	185.6		189.5
1050	185.7	1300	189.7
	185.8		189.9
	186.0		190.1
	186.1		190.4
	186.3		190.6
1100	186.4	1350	190.7
	186.5		190.8
	186.8		191.0
	186.9		191.3
	187.1		191.5
1150	187.2	1400	191.7
	187.3		191.9
	187.4		192.0
	187.7		192.2
	187.8		192.5
1200	188.0	1450	192.7
	188.1		192.9
	188.2		193.1
	188.4		193.4
	188.7		193.7

LITHOLOGY HOLE # 15-21

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

PROSPECT Battle Mtn
LOCATION Humboldt Co., Nevada
SURF. ELEV.
DATE DRLD. 7 July 79

GRADIENT
T. D. 1581
TEMP. AT T.D. 195.0
SURVEY DATE 26 July 79
SURVEY BY EPPC

DEPTH	TEMP.	DEPTH	TEMP.
1500	194.4		
	194.2		
	194.6		
	194.8		
TD 1581	195.0		

DEPTH

TEMP.

LITHOLOGY

Ballenger HOLE # 1500-1

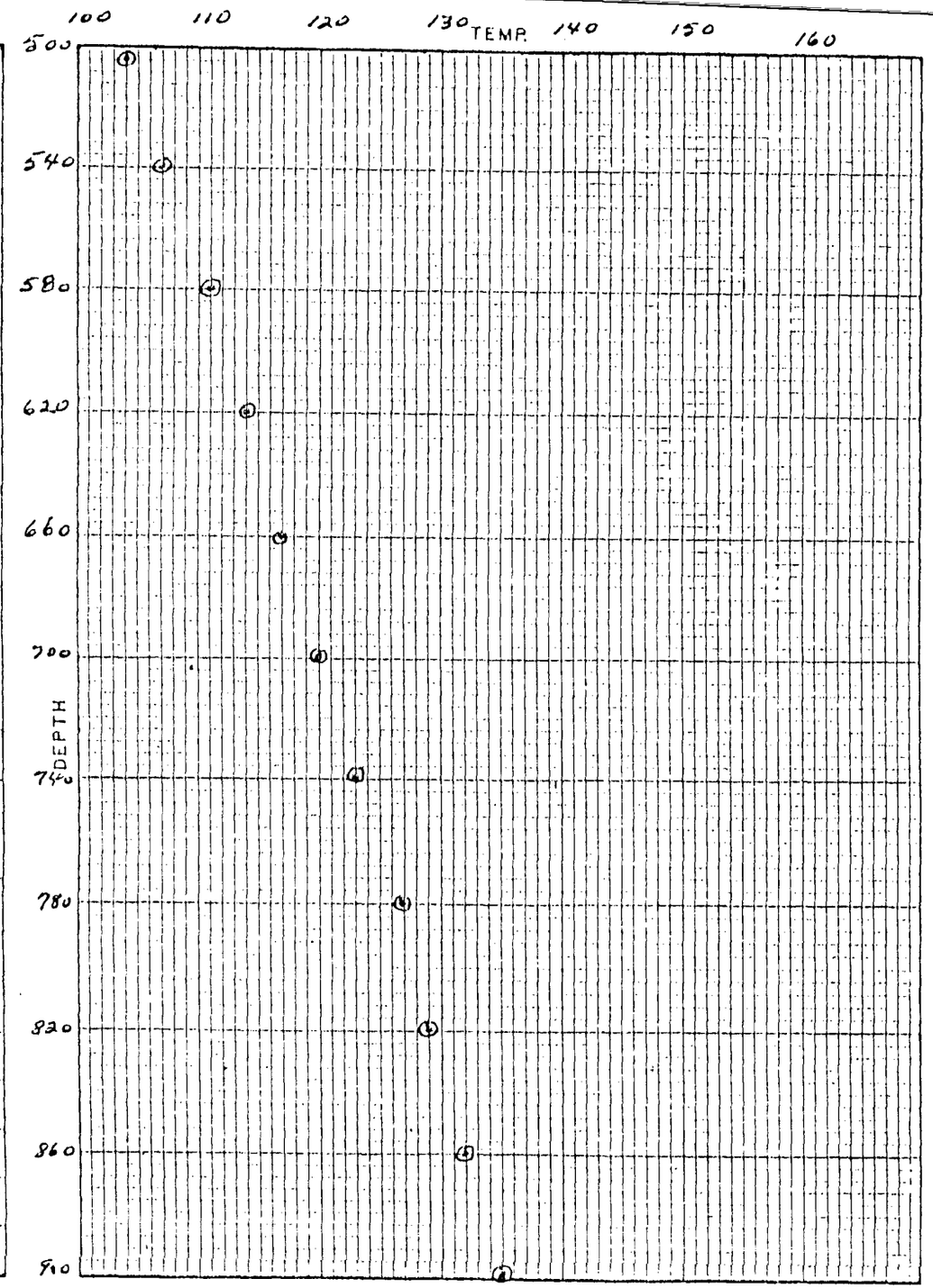
EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

PROSPECT Ballenger
LOCATION Humboldt Co., Nevada
SURF. ELEV.
DATE DRLD. 7 July 79

GRADIENT
T. D. 1581
TEMP. AT T.D. 195.0
SURVEY DATE 26 July 79
SURVEY BY EPPC

McGee HOLE # 1500-2

DEPTH	TEMP.	DEPTH	TEMP.
0-			
460	-77	940	137.8
460	100.5	960	138.8
480	102.2	980	140.0
500	104.1	1000	141.6
520	105.6	1020	143.0
540	107.7	1040	144.6
560	109.4	1060	145.3
580	111.3	1080	147.6
600	113.0	1100	148.3
620	114.6	1120	150.1
640	116.0	1140	151.4
660	117.8	1160	152.6
680	118.7	1180	154.1
700	120.1	1200	155.9
720	122.9	1220	156.4
740	123.6	1240	157.1
760	124.5	1260	159.3
780	127.1	1280	160.7
800	128.3	1300	161.6
820	129.9	1320	162.0
840	130.8	1340	162.7
860	132.0	1360	163.4
880	133.6	1380	164.1
900	135.3	TD 1394	166.5
920	136.0		



LITHOLOGY

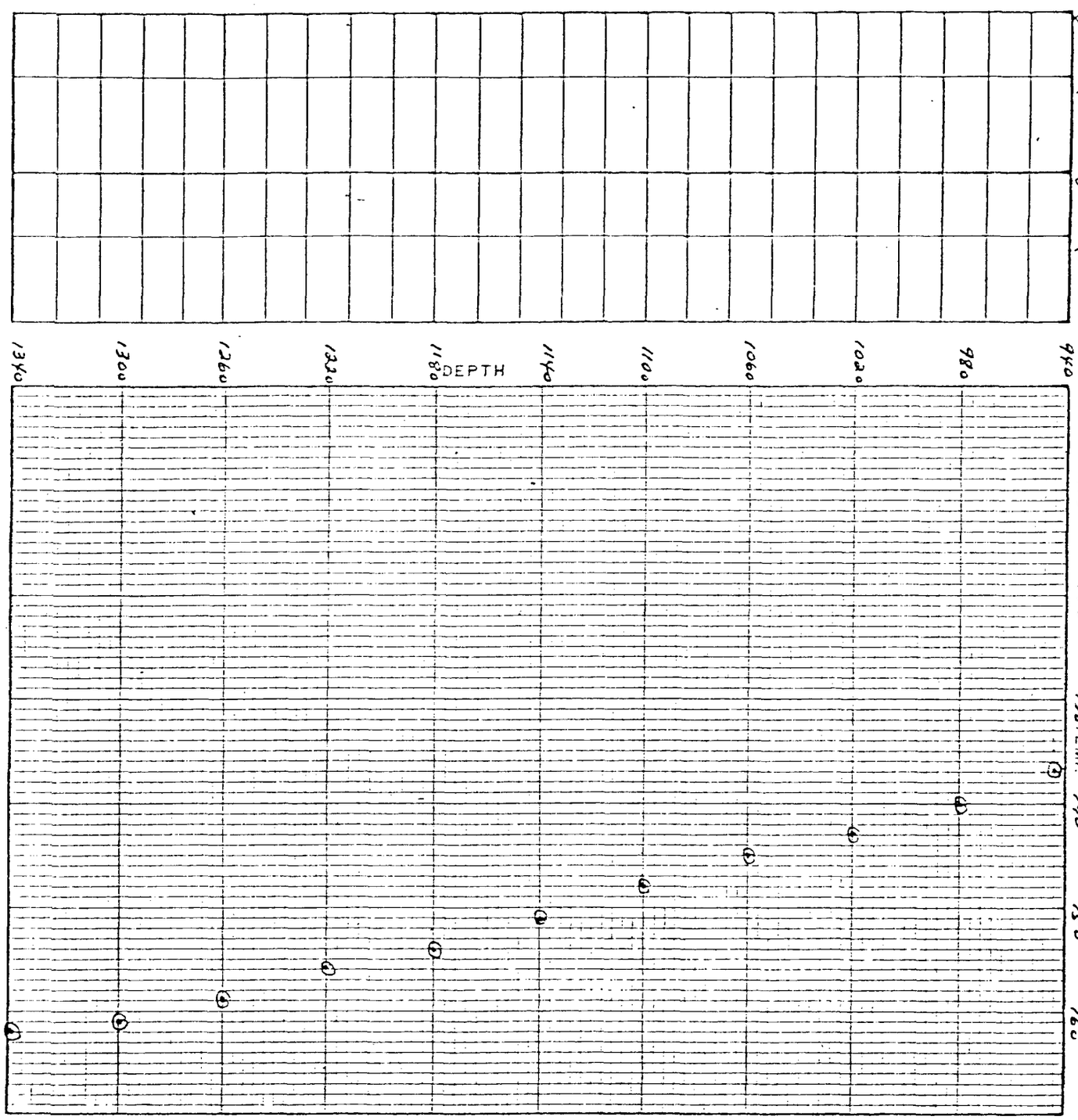
20 min Hang @ 1394'

0 Mins	166.5
2	167.2
4	167.4
6	167.7
8	167.9
10	168.1
12	168.4
14	168.6
16	168.8
18	168.8
20	168.8

PROSPECT McGee
LOCATION Humboldt Co., Nevada
SURF. ELEV.
DATE DRLD. 23 June 79

GRADIENT 1680'
T.D.
TEMP. AT T.D. 166.5
SURVEY DATE 25 JUNE 79
SURVEY BY AGNEW + SWEET

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA



LITHOLOGY

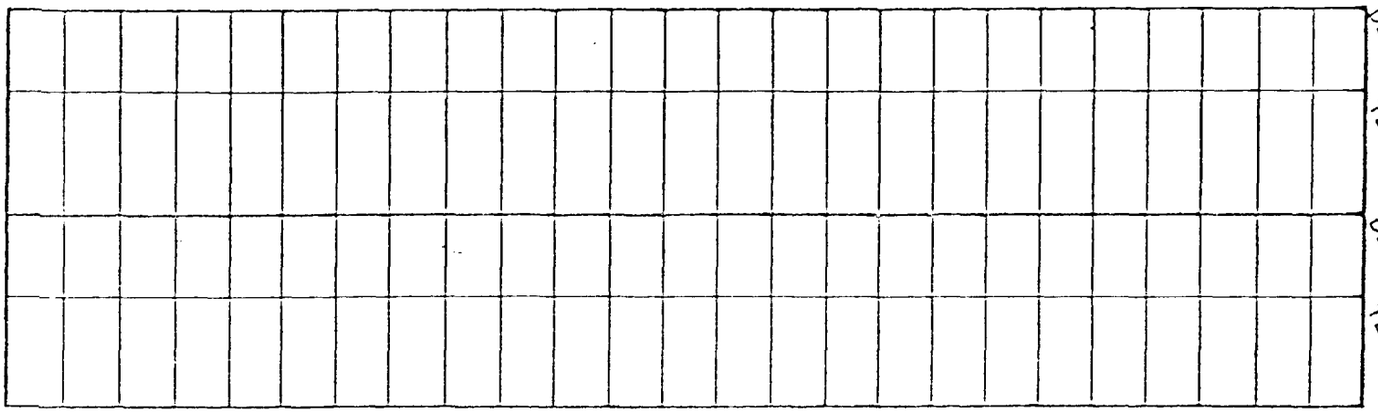
HOLE # 1500-82

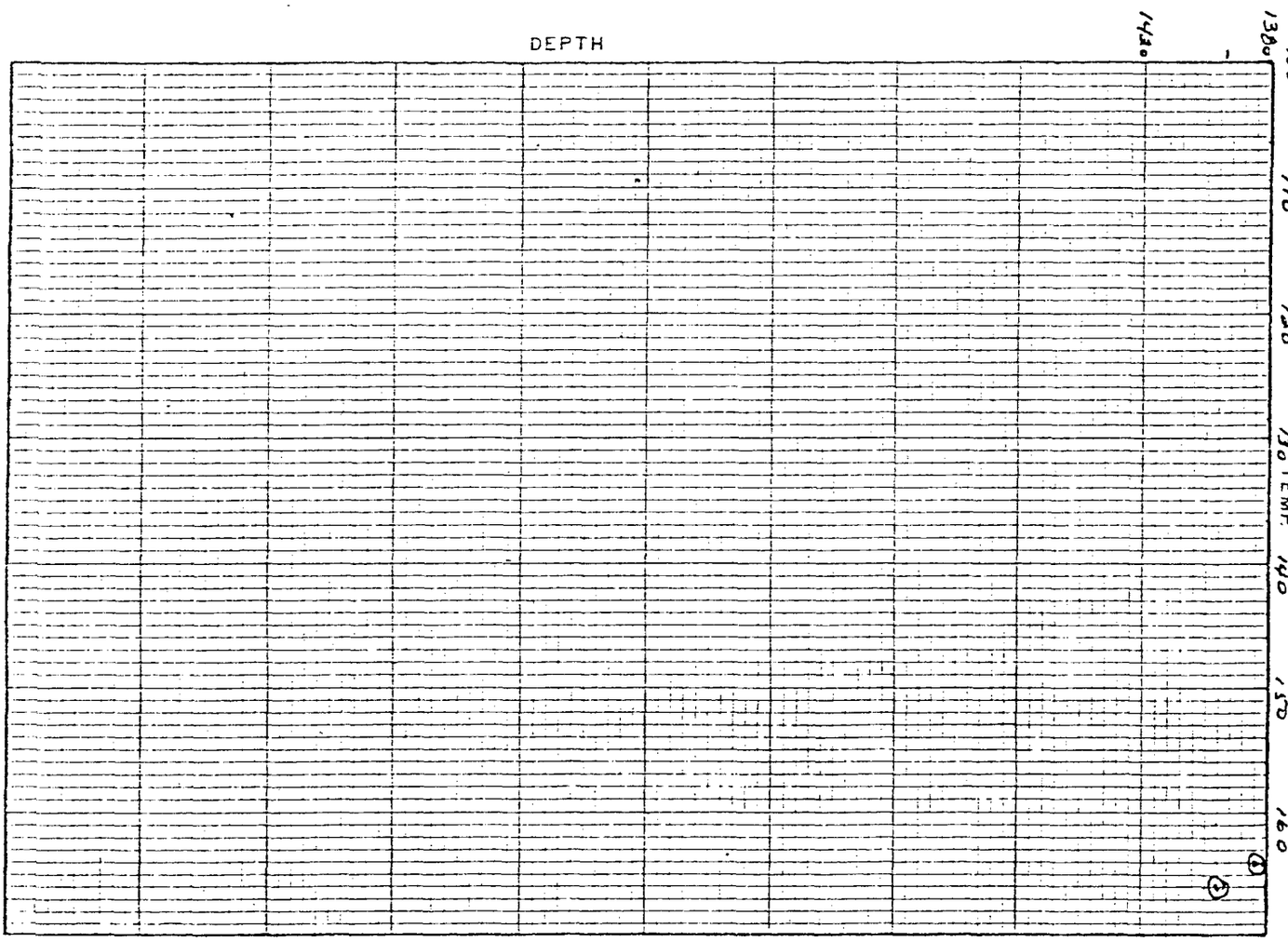
EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

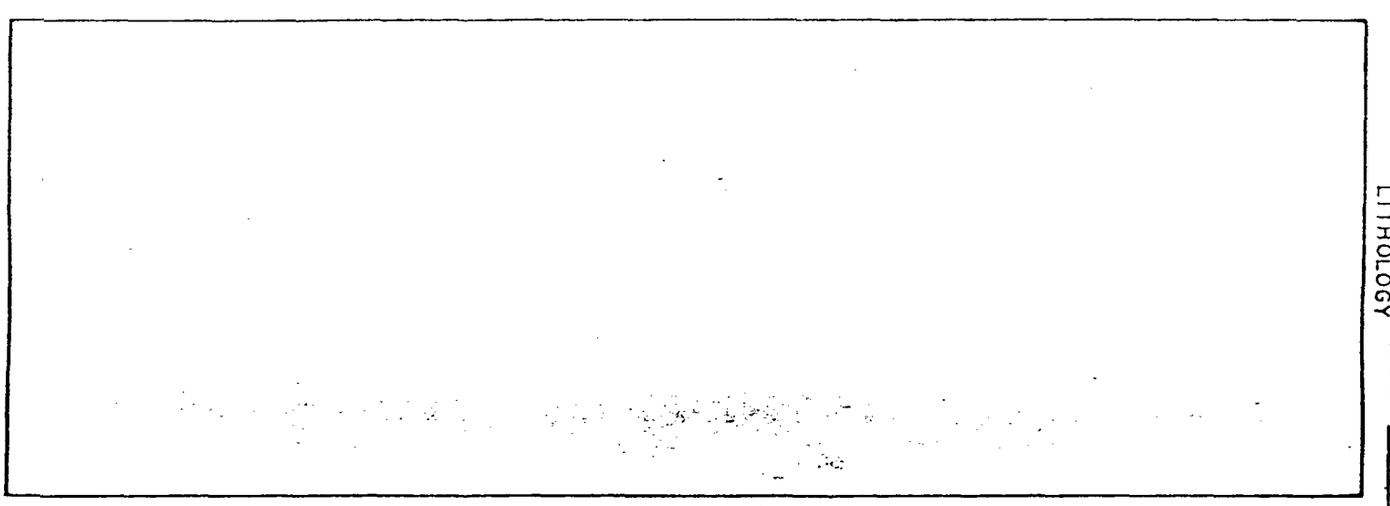
PROSPECT McGee
LOCATION Humboldt Co., Nevada
SURF. ELEV.
DATE DRLD. 23 JUNE 79

GRADIENT
T. D. 1680'
TEMP. AT T.D. 166.5
SURVEY DATE 25 JUNE 79
SURVEY BY AGNEW + SWEET

Fig 3







HOLE # 2500-2

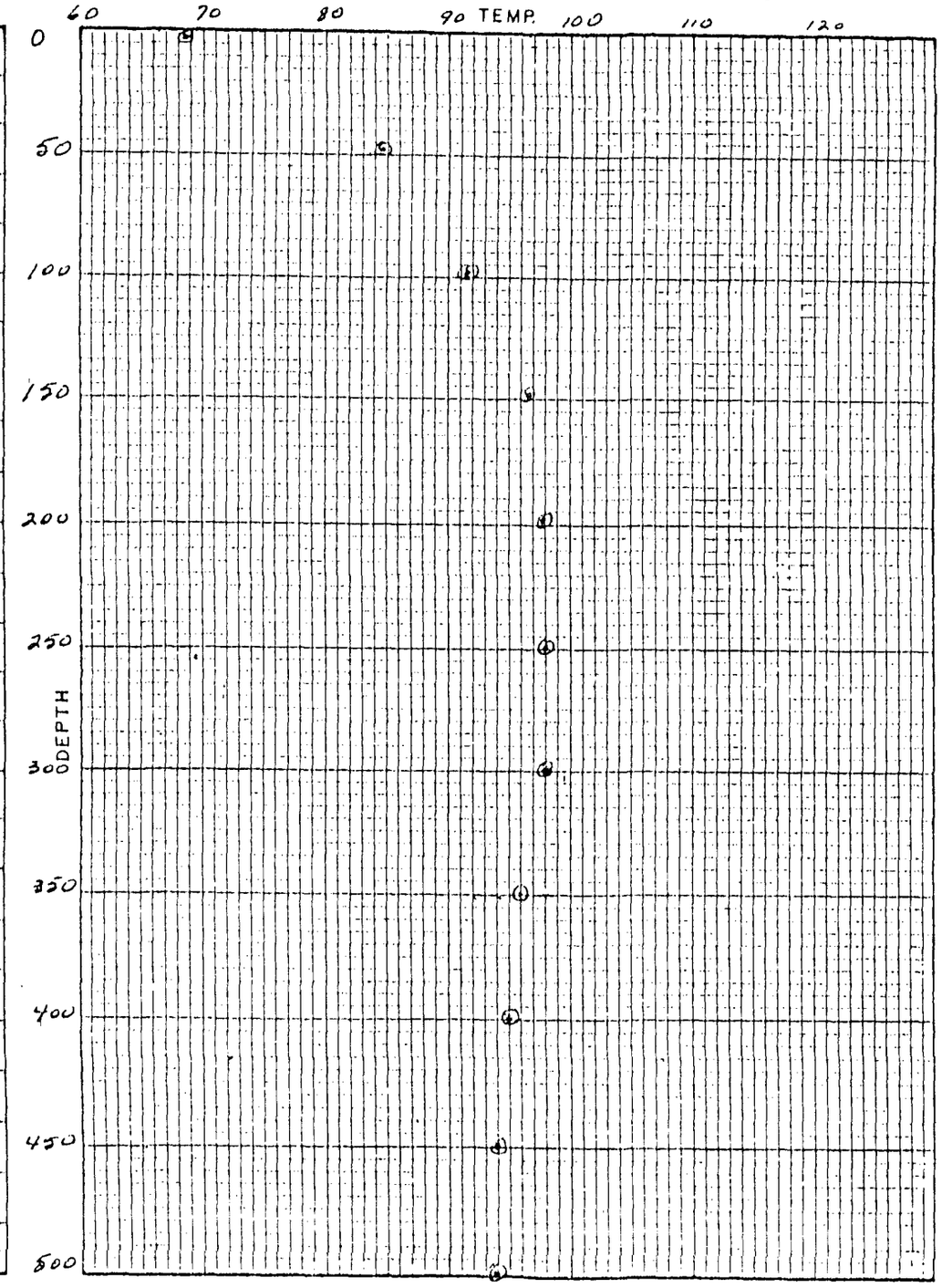
EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

PROSPECT McGee
LOCATION Humboldt Co., Nevada
SURF. ELEV. _____
DATE DRLD. 23 JUNE 79

GRADIENT _____
T.D. 1680'
TEMP. AT T.D. 166.5
SURVEY DATE 25 JUNE 79
SURVEY BY AGNEW & SWEET

Baltazar LITHOLOGY HOLE # 1500-2

DEPTH	TEMP.	DEPTH	TEMP.
10	69.5		98.9
	70.3		98.8
	72.1		98.7
	74.0		98.3
50	85.5	300	98.1
	86.6		98.0
	88.0		97.7
	90.0		97.4
	91.2		97.0
100	92.6	350	96.8
	93.9		96.5
	94.6		96.3
	95.5		96.0
	96.4		95.8
150	97.0	400	95.2
	97.4		94.8
	97.8		94.9
	97.9		95.0
	98.0		95.0
200	88.3	450	94.3
	98.5		92.4
	98.6		91.8
	98.6		92.5
	98.8		93.4
250	98.9	500	94.2



Temps every 10'

PROSPECT Baltazor
LOCATION Humboldt Co., Nevada
SURF. ELEV.
DATE DRLD. 7 July 79

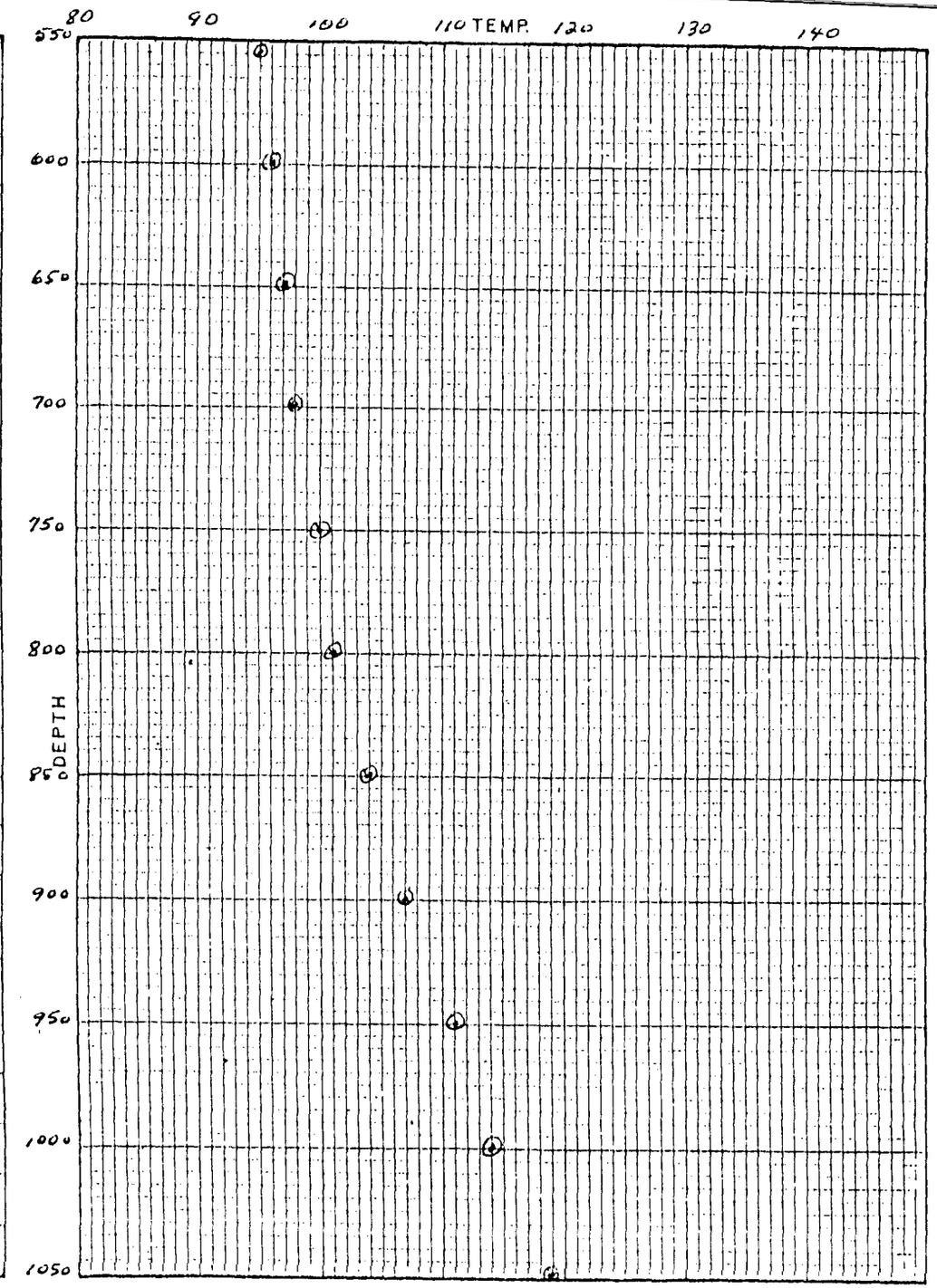
GRADIENT 1487'
T.D.
TEMP. AT T.D. 147.3
SURVEY DATE
SURVEY BY

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

Pg. 2

Bullseye HOLE # 1200-2

DEPTH	TEMP.	DEPTH	TEMP.
510	94.6		100.5
	95.0		100.8
	95.2		101.4
	95.4		102.0
550	95.4	800	102.5
	95.5		102.9
	95.5		103.9
	96.0		104.3
	96.2		104.6
600	96.2	850	104.8
	96.5		105.1
	96.7		105.5
	96.9		105.5
	97.1		106.2
650	97.3	900	107.6
	97.4		108.4
	97.6		109.4
	97.8		110.1
	98.1		110.8
700	98.4	950	111.4
	98.8		112.0
	99.0		112.7
	99.4		113.4
	99.4		114.1
750	100.0	1000	114.9



LITHOLOGY

PROSPECT Bullseye
LOCATION Dunedin WSW Co., Florida

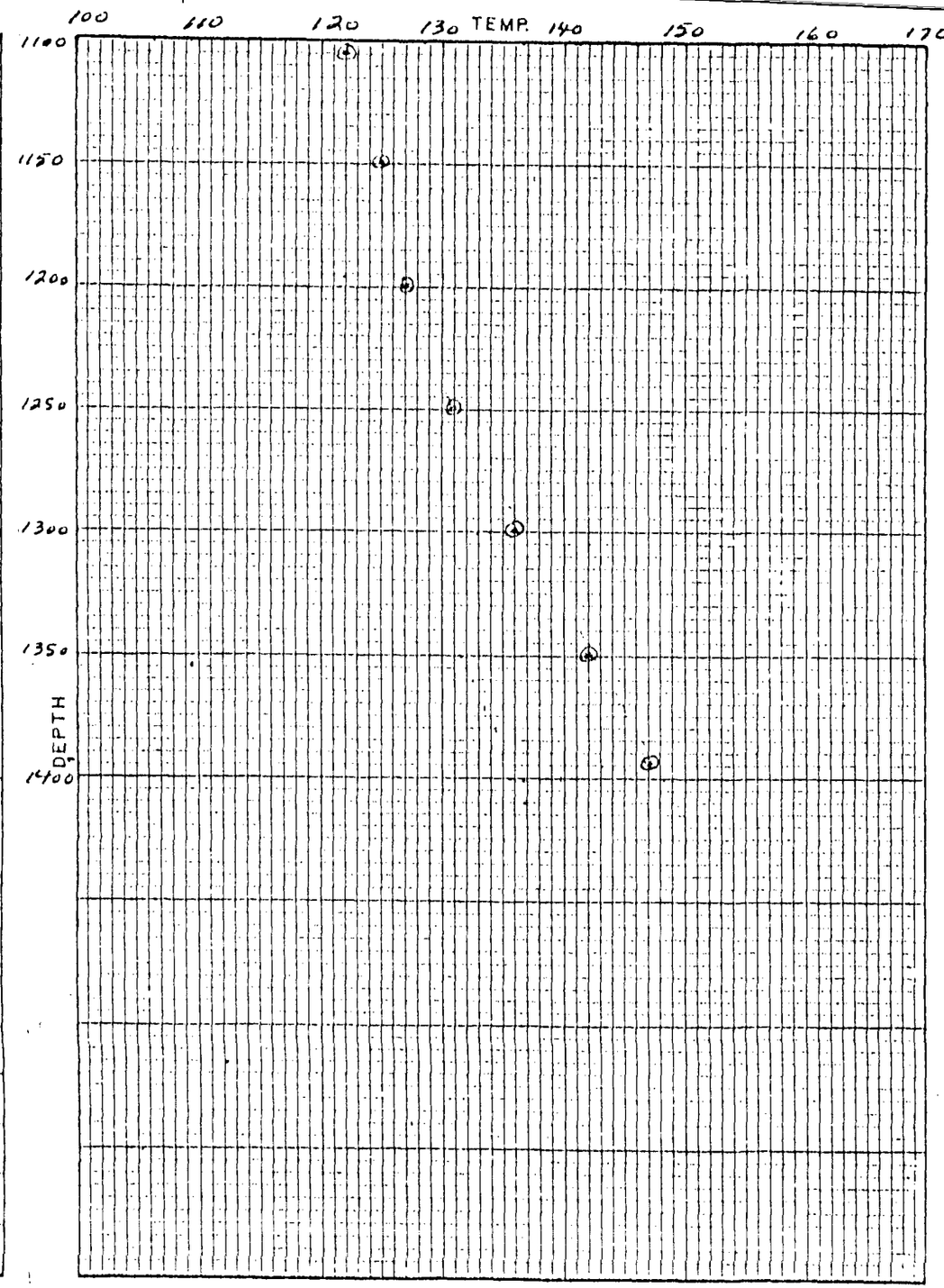
GRADIENT 1487'
T.D. 147.3
TEMP. AT T.D.
SURVEY DATE
SURVEY BY

SURF. ELEV.
DATE DRLD. 2 July 79

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

Page 3

DEPTH	TEMP.	DEPTH	TEMP.
1010	115.7		132.5
	116.5		133.4
	117.3		135.2
	118.2		136.0
1050	119.0	1300	136.9
	119.6		137.9
	120.4		138.9
	121.0		140.1
	121.8		141.4
1100	122.3	1350	142.7
	123.0		143.6
	123.6		144.8
	124.2		146.1
	124.7		147.1
1150	125.2	TD 1395	147.3
	125.5		
	125.8		
	126.4		
	126.8		
1200	127.3		
	128.1		
	129.2		
	130.1		
	131.2		
1250	131.6		



Bellazer

LITHOLOGY

HOLE # 1500-2

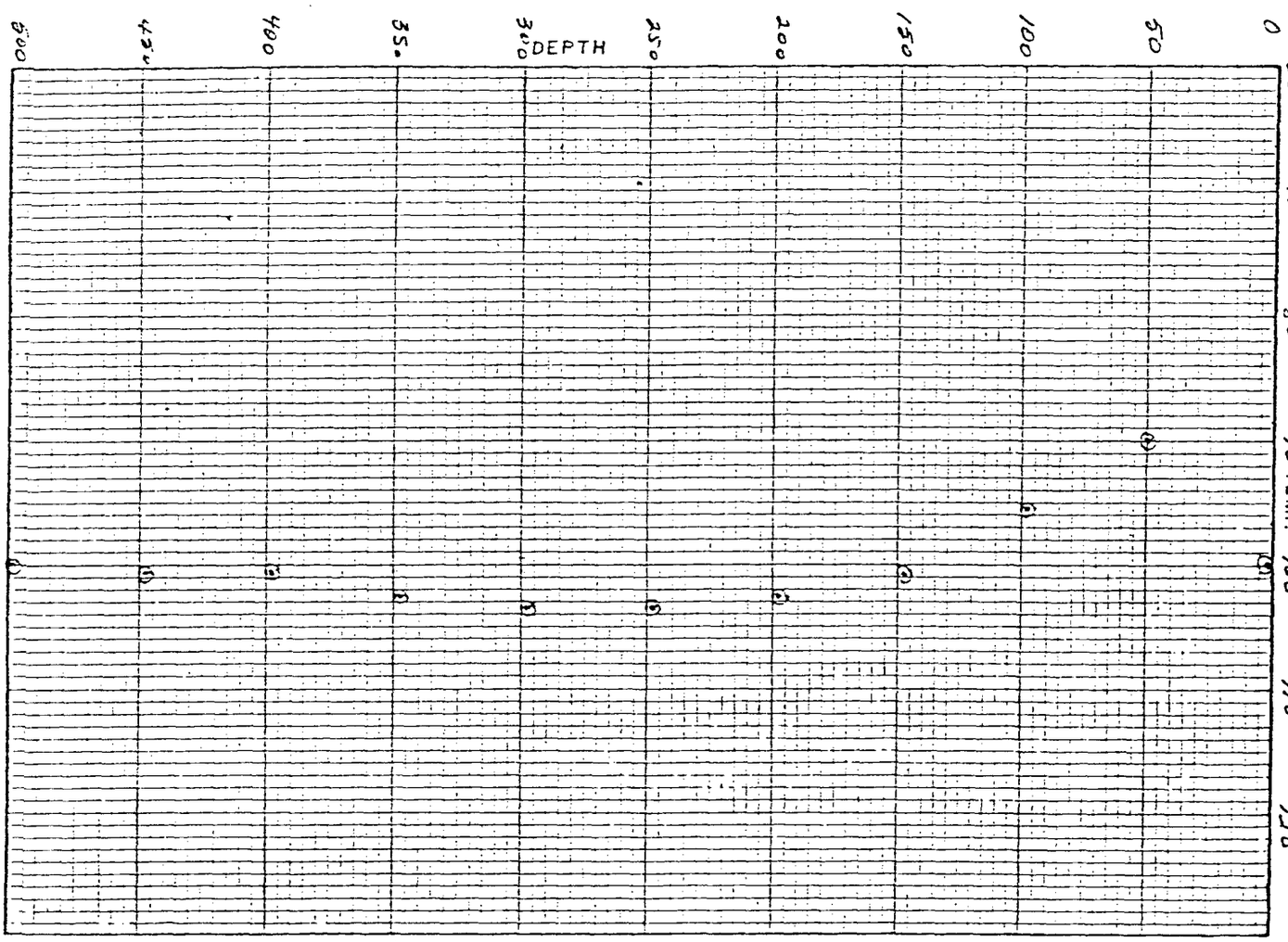
PROSPECT Bellazer
LOCATION Humboldt Co., Nevada

GRADIENT 1487'
T.D. 147.3
TEMP. AT T.D.
SURVEY DATE
SURVEY BY

SURF. ELEV.
DATE DRLD. 7 July 79

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

DEPTH	TEMP.	DEPTH	TEMP.
0	100.4	250	104.9
	95.4		105.0
	92.0		105.0
	89.0		104.9
	88.6		104.8
50	90.5	300	104.4
	91.8		104.2
	92.6		104.0
	93.7		103.7
	95.2		103.4
100	96.8	350	103.1
	98.2		102.8
	99.0		102.6
	99.9		102.3
	100.9		102.0
150	101.6	400	101.8
	102.2		101.4
	102.8		101.1
	103.2		101.2
	103.5		101.3
200	103.8	450	101.2
	104.1		100.4
	104.4		98.2
	104.5		98.2
	104.7		99.0



LITHOLOGY

HOLE # Baltazar 1-2

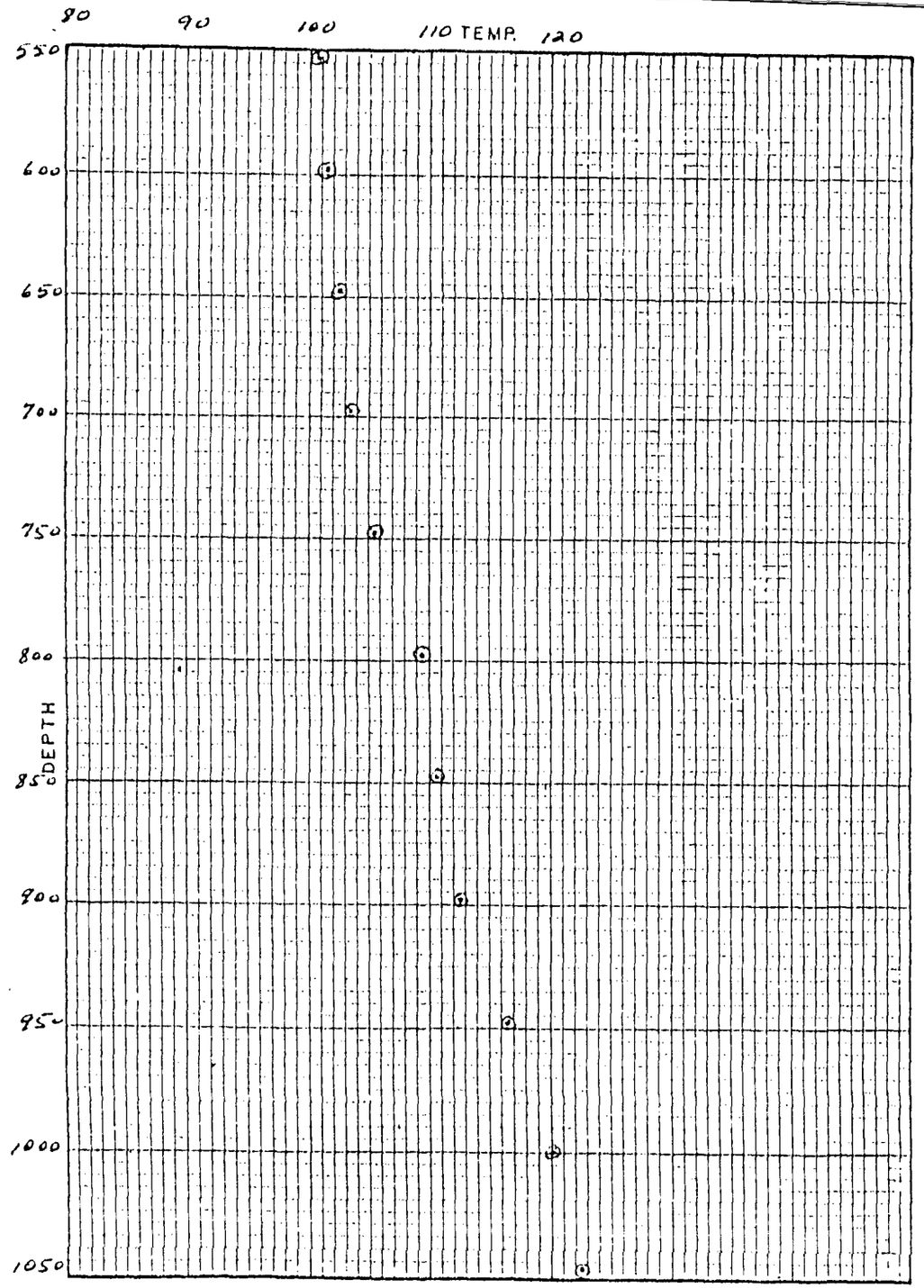
EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

PROSPECT Baltazar
LOCATION Humboldt Co., Nevada
SURF. ELEV.
DATE DRLD. 7 July 79

GRADIENT
T.D. 1487'
TEMP. AT T.D. 154.3
SURVEY DATE 27 July 79
SURVEY BY EPPC

Page 2

DEPTH	TEMP.	DEPTH	TEMP.
500	100.3	750	106.9
	101.0		107.1
	101.3		107.6
	101.5		107.8
	101.6		108.3
550	101.7	800	109.1
	101.8		109.4
	101.9		109.6
	102.1		110.1
	102.5		110.9
600	102.7	950	111.3
	102.9		111.4
	103.0		111.7
	103.1		113.1
	103.2		113.4
650	103.5	900	113.6
	103.7		114.9
	103.8		115.9
	104.1		116.8
	104.4		117.5
700	104.8	950	117.8
	105.2		118.2
	105.6		118.8
	106.0		119.2
	106.4		120.0



Barrington HOLE # 1500-2

LITHOLOGY

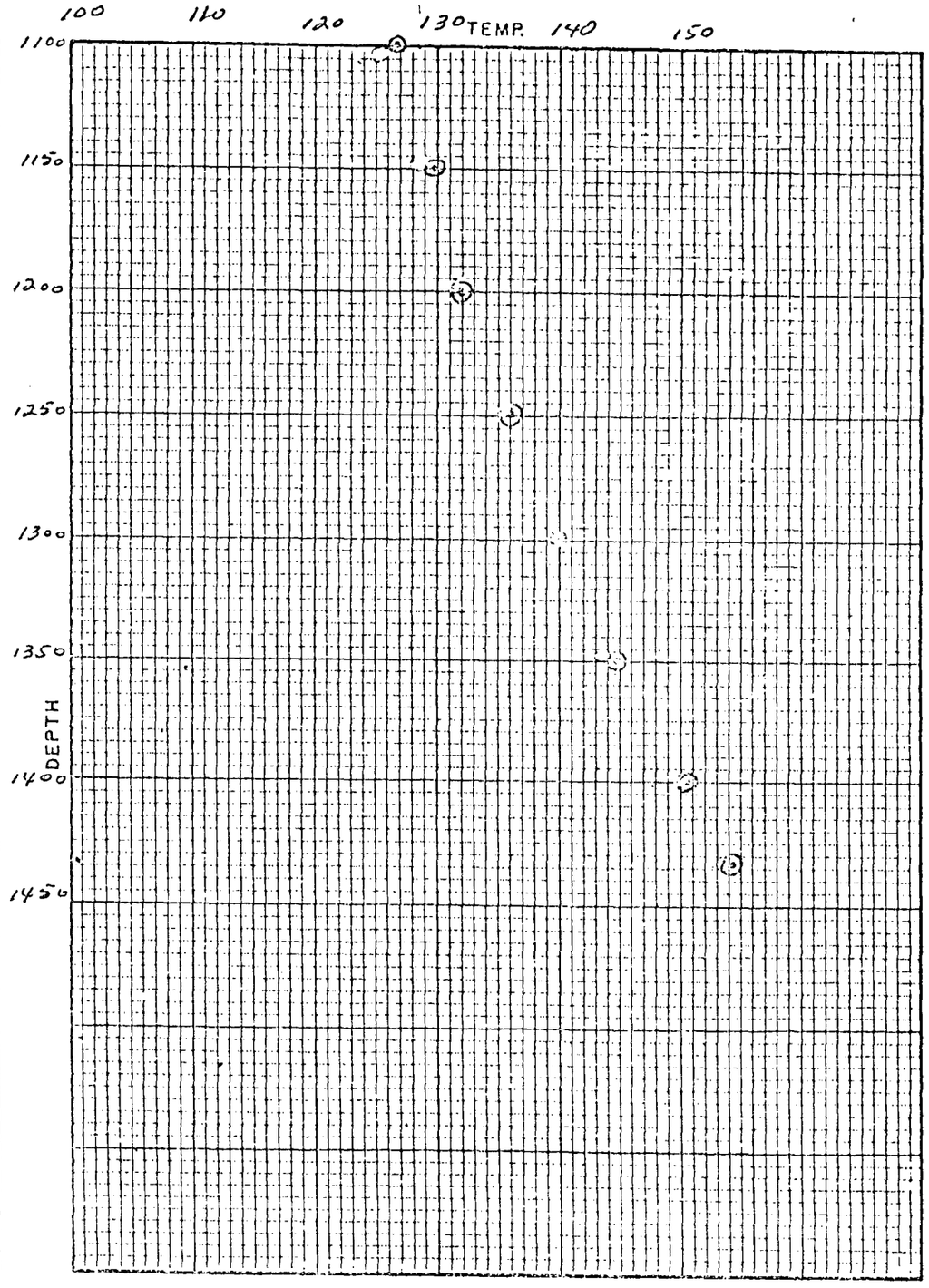
PROSPECT Barrington
LOCATION Gun Barrel Co., Mercer

GRADIENT 1487'
T.D. 154.3
TEMP. AT T.D. 27 July 79
SURVEY DATE EPOC
SURVEY BY

SURF. ELEV.
DATE DRLD. 7 July 79

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

DEPTH	TEMP.	DEPTH	TEMP.
1000	120.4	1250	136.0
	120.9		136.2
	121.6		136.9
	122.5		138.0
	123.0		139.0
1050	123.4	1300	140.0
	124.0		141.0
	125.0		142.0
	125.6		143.1
	126.1		143.8
1100	126.9	1350	144.9
	127.5		145.9
	128.1		147.2
	128.7		148.2
	129.3		149.5
1150	129.8	1400	150.6
	130.1		151.9
	130.5		153.0
	131.2		154.1
	131.6	TD 1434	154.3
1200	132.0		
	132.4		
	133.1		
	134.1		
	134.8		



Baltazar HOLE # 1500-2
LITHOLOGY

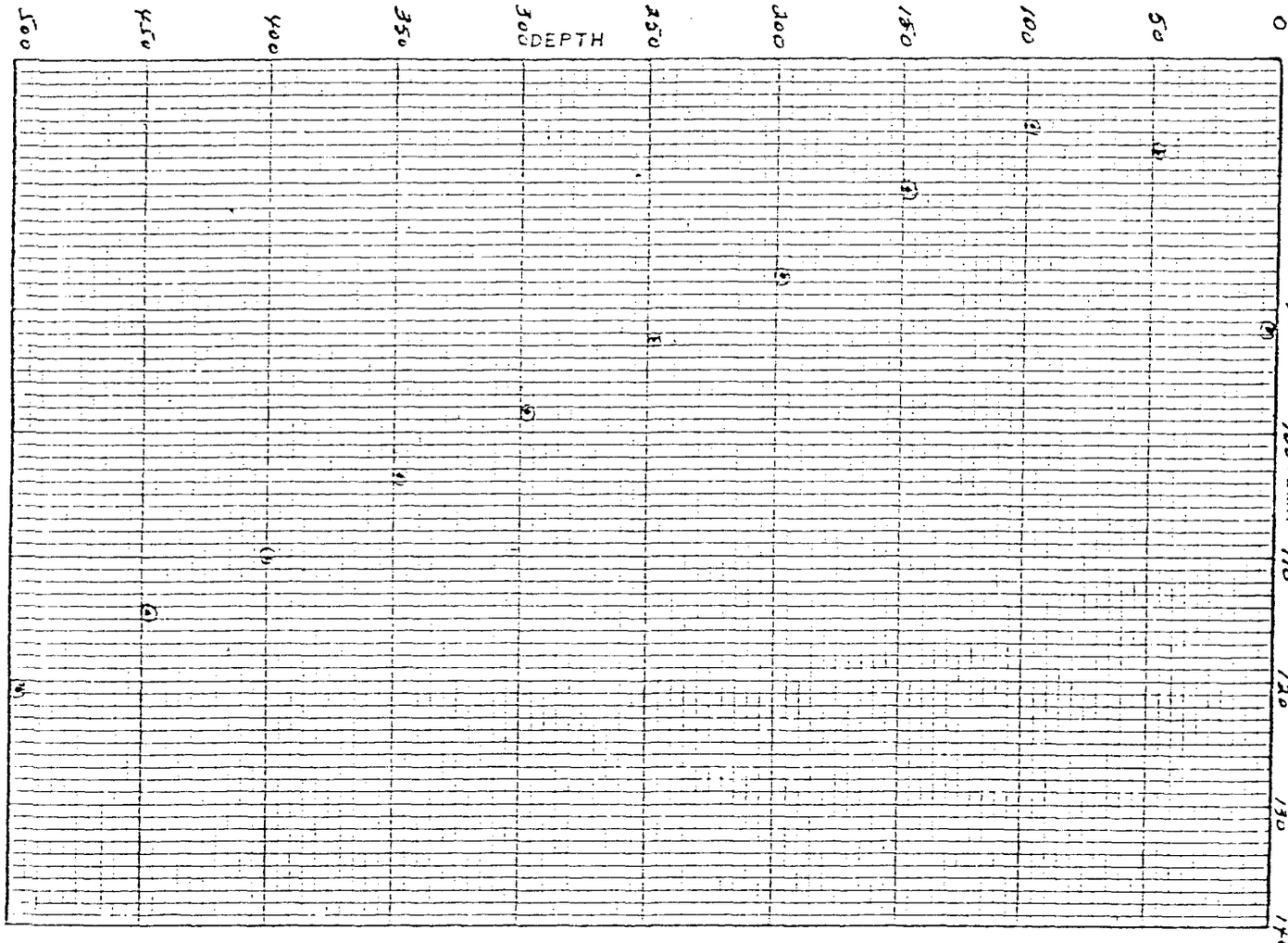
PROSPECT Baltazar
LOCATION Humboldt Co., Nevada

GRADIENT 14.87°
T.D. 1434'
TEMP. AT T.D. 154.3
SURVEY DATE 27 July 79
SURVEY BY EPPC

SURF. ELEV.
DATE DRLD. 7 July 79

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

DEPTH	TEMP.	DEPTH	TEMP.
0	92.5	250	93.3
10	85.5		94.2
	82.3		95.4
	81.0		92.1
	79.7		91.2
50	78.5	300	99.0
	77.5		100.2
	77.0		101.3
	76.7		102.5
	76.5		103.4
100	76.4	350	104.5
	76.4		105.5
	76.5		106.8
	76.2		107.9
	76.9		109.1
150	81.4	400	110.1
	82.7		111.2
	83.9		112.4
	85.4		113.7
	87.0		114.8
200	88.3	450	115.8
	89.4		116.8
	90.0		118.1
	90.8		118.4
	92.1		119.9



LITHOLOGY

McGee HOLE # 1200-2

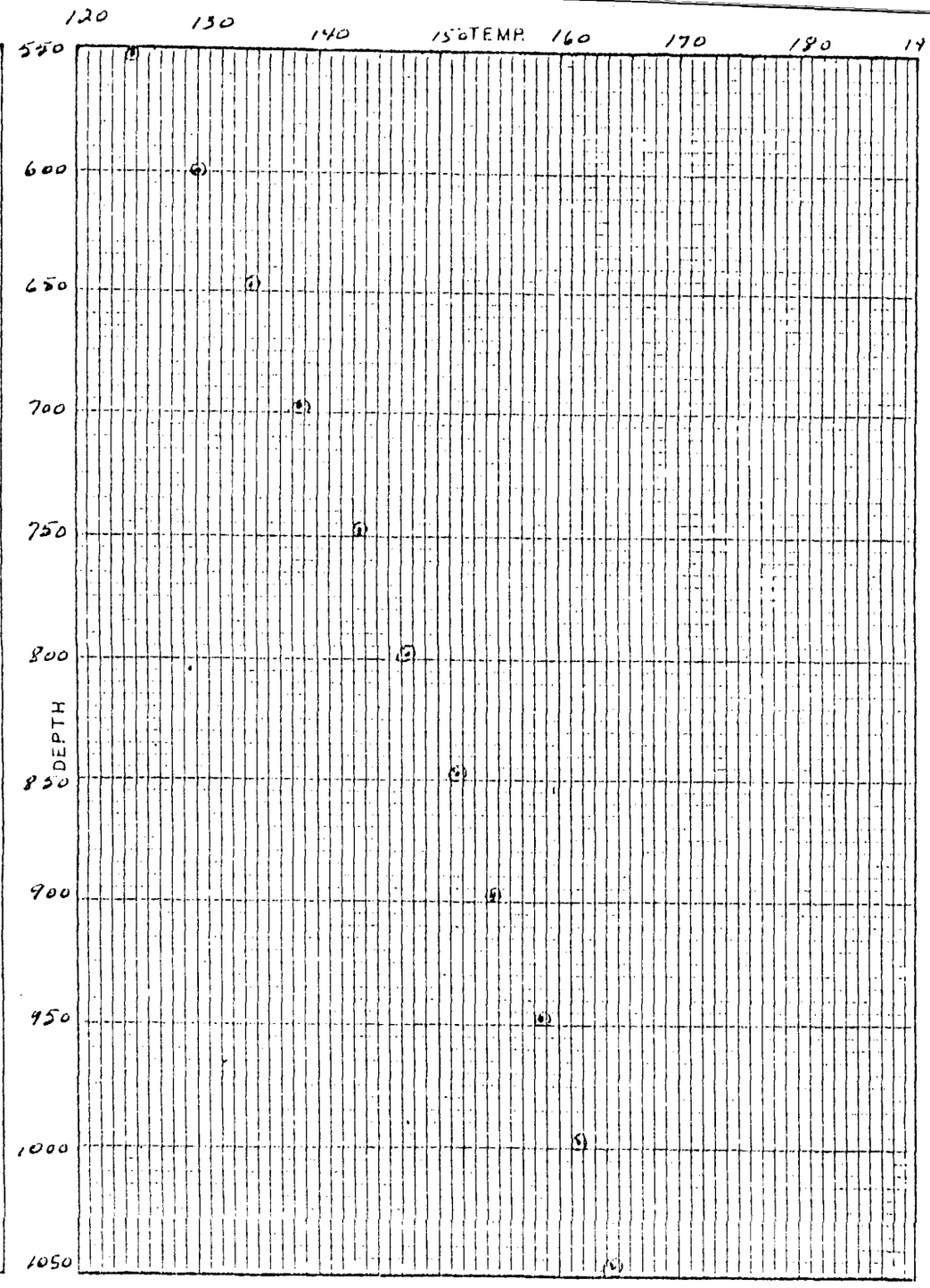
EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

PROSPECT McGee
LOCATION Humboldt Co., Nevada
SURF. ELEV.
DATE DRLD. 23 JUNE 79

GRADIENT
T.D. 1680'
TEMP. AT T.D. 200.2
SURVEY DATE 27 July 79
SURVEY BY EPPC

Page 2

DEPTH	TEMP.	DEPTH	TEMP.
500	121.0	750	144.1
	122.0		145.0
	123.2		145.8
	123.8		146.2
	124.6		147.0
550	125.7	800	148.0
	127.1		148.9
	127.6		149.8
	128.8		150.3
	130.8		151.4
600	130.8	850	152.2
	131.6		152.5
	133.0		153.6
	134.0		154.8
	134.6		155.3
650	135.5	900	155.6
	136.5		156.0
	137.1		157.0
	138.3		158.0
	138.9		159.1
700	139.7	950	159.7
	140.7		160.1
	141.4		160.5
	142.4		161.0
	143.1		161.6



LITHOLOGY HOLE # 1500-2

PROSPECT McGee
LOCATION Lumbolt Co., Nevada

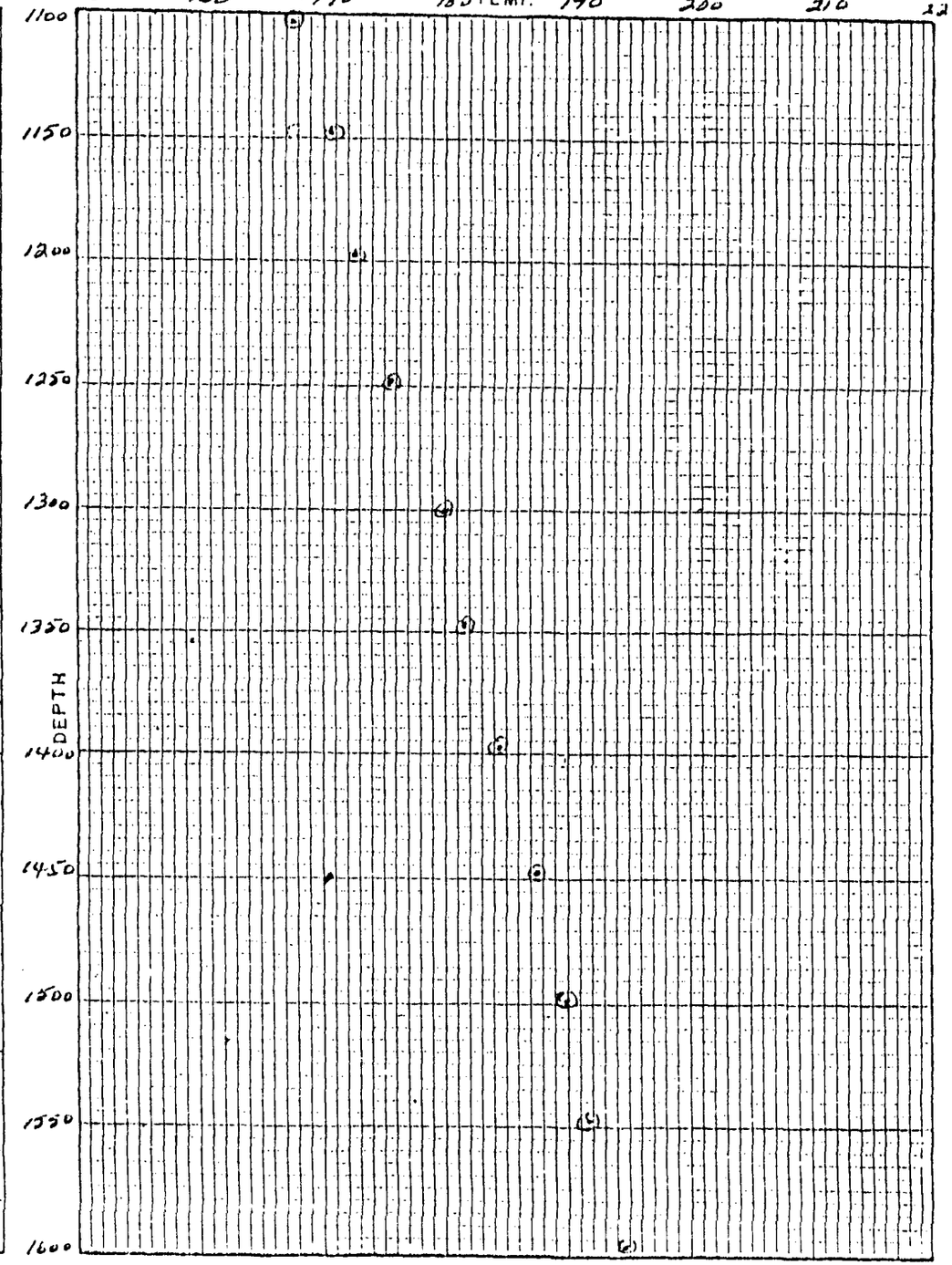
GRADIENT
T.D. 1680'
TEMP. AT T.D. 200 2
SURVEY DATE 27 JULY 79
SURVEY BY EPOC

SURF. ELEV.
DATE DRLD. 23 JUNE 79

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

Page 3

DEPTH	TEMP.	DEPTH	TEMP.
1000	162.2	1450	176.8
	163.1		177.8
	163.6		178.6
	164.2		179.5
	164.7		180.0
1050	165.4	1500	180.6
	166.2		180.9
	166.8		181.3
	167.3		181.7
	168.0		182.2
1100	168.4	1550	182.8
	169.1		183.3
	169.8		184.1
	170.5		184.2
	171.1		185.2
1150	171.7	1600	185.6
	172.1		186.1
	172.5		186.7
	173.0		186.9
	173.6		187.6
1200	173.9	1650	188.1
	174.5		188.4
	175.0		189.0
	175.2		189.4
	176.2		190.1



111 CPJ&E HOLE # 1500-2
LITHOLOGY

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

PROSPECT McGee
LOCATION Plumbelt Co., Nevada
SURF. ELEV.
DATE DRLD. 23 JUNE 79

GRADIENT
T.D. 1680'
TEMP. AT T.D. 200.2
SURVEY DATE 27 JULY 79
SURVEY BY EPPC

DEPTH	TEMP.	DEPTH	TEMP.
1500	190.6		
	190.1		
	191.5		
	192.3		
	192.7		
1550	192.9		
	193.0		
	193.7		
	194.3		
	194.8		
1600	195.5		
	196.2		
	196.8		
	197.1		
	197.5		
1650	198.4		
	198.9		
	199.3		
	200.0		
TD 1684	200.2		

DEPTH

1700 1650 1600 1550 1500 TEMP. 200

LITHOLOGY HOLE # 1500-2

EARTH POWER
PRODUCTION COMPANY
TULSA, OKLAHOMA

PROSPECT McGee
LOCATION Humboldt Co., Nevada
SURF. ELEV.
DATE DRLD. 23 JUNE 79

GRADIENT
T. D. 1680'
TEMP. AT T.D. 200.2
SURVEY DATE 27 July 79
SURVEY BY EPPC